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WHISTLING RIDGE ENERGY LLC  
DAUTIS D. PEARSON  
PREFILED REBUTTAL TESTIMONY  
EXHIBIT NO. 9.02r

BEFORE THE STATE OF WASHINGTON  
ENERGY FACILITY SITE EVALUATION COUNCIL

In the Matter of Application No. 2009-01: WHISTLING RIDGE ENERGY LLC; WHISTLING RIDGE ENERGY PROJECT	EXHIBIT NO. 9.02r
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**APPLICANT'S PREFILED REBUTTAL TESTIMONY**

**WITNESS #10: DAUTIS D. PEARSON**

- Q Please describe the purpose of your rebuttal testimony.
- A I am providing this rebuttal testimony to respond to Dean Apostol's testimony (Friends/SOSA Exhibit Nos. 21.00-21.07).
- Q Are you able to answer questions under cross-examination regarding your testimony?
- A Yes.
- Q Let's first address Mr. Apostol's testimony concerning certain factual aspects of the Whistling Ridge Energy Project (Project), followed by his criticisms of the visual

1 impact methodology used in the Application for Site Certification (ASC) and his  
2 broad generalizations about the visual impacts of wind energy development, and then  
3 ending with his specific comments concerning just a few of the 21 viewpoints  
4 analyzed in the ASC. Mr. Apostol testified that “[w]ind energy projects are land  
5 extensive, with single turbines needing 50 or more acres of free space around them,  
6 depending on the topography.” (Page 3, line 17.) Does Mr. Apostol’s statement  
7 accurately reflect the Project as described in the ASC?  
8

9 A No. I am not sure how carefully Mr. Apostol read the ASC, because Table 2.1-1 in  
10 the ASC clearly provides that within the turbine string corridors (*i.e.*, a 650-foot  
11 corridor measured on either side of an imaginary line connecting each turbine in a  
12 string) a total of 25.4 acres would be permanently impacted by the clearance zone  
13 around each turbine and the placement of permanent infrastructure inside the corridor  
14 but outside of the clearance zone. Figure 2.3-4 in the ASC illustrates that timber  
15 would be managed differently in selected areas within a 500-foot radius circle around  
16 each turbine. Even if no timber could be grown within that entire 500-foot radius  
17 circle (which is not the case here), the resulting area of “free space” would amount to  
18 roughly 18 acres, not the 50 acres to which Mr. Apostol testified.  
19

20 Q Mr. Apostol testified that the ASC left a number of questions unanswered. Most of  
21 these questions deal with the visual simulations, which you did not create, but Mr.  
22 Apostol did testify that the ASC did not address “what will be the extent of short-term  
23 and permanent forest clearings around the turbines? Typically wind turbines need a  
24 lot of free space around them to reduce turbulence and blade interference. How far  
25 will this clearing extend from each turbine?” (Page 27, lines 6-7.) Do you agree that  
26 the ASC did not address these questions?

1 A I am not sure how carefully Mr. Apostol read the ASC, because Figure 2.3-4 in the  
2 ASC illustrates how the Project would affect timber management in selected areas  
3 within a 500-foot radius circle around each turbine.  
4

5 Q Moving to another of his “unanswered” questions, Mr. Apostol testified that

6 “[t]he scale of commercial turbines continues to increase year by year.  
7 Taller turbines than the ones depicted would be even more visible and  
8 higher contrast. If this Application is approved, will the size of the  
9 turbines be restricted to those depicted in the images? Or could the  
10 Applicant substitute larger turbines?”

11 (Page 27, lines 13-14.) Was this issue addressed in the ASC?

12 A If you read the ASC and Tom Watson’s prior testimony, Section 2.3.3.1 of the ASC  
13 describes how the Project’s wind turbines would be up to 426 feet tall. If the Council  
14 recommends approval of the ASC, I understand that the maximum height of the wind  
15 turbines that could be constructed would be 426 feet. Tom Watson stated in his  
16 testimony:

17 “In preparing the visual simulations, the turbine model used was the  
18 2.5-MW Clipper Liberty model C93, because this model provides the  
19 maximum height that would be put on the Project site and would be a  
20 “worst case” scenario for the visual simulations. This model has an  
21 overall height to nacelle of 80 m (262 feet) and blade diameter of 93 m  
22 (305 feet), and a blade length of 45.2 m (153 feet). The overall height  
23 to the tip of a stationary, vertical blade is 126.5 m (415 feet). The  
24 actual turbine size has not been determined, but potential turbines are  
25 estimated to have a height to nacelle of 262 feet and blade length  
26 between 129 and 164 feet.”

27 (Exhibit No. 8.00, page 7, lines 17-24.) In other words, the simulations modeled a  
28 415-foot-tall wind turbine, and the ASC only allows for up to a 426-foot-tall turbine.  
29 In my opinion, this 11-foot difference between the simulations and the maximum  
30 height allowed under the ASC does not affect the visual impact analysis. The

1 question that Mr. Apostol testified was left unanswered in the ASC was in fact  
2 answered.

3

4 Q Mr. Apostol criticized the ASC for not containing “any meaningful mitigation for the  
5 visual impacts” of the Project. (Page 30, line 4.) Mr. Apostol then stated that the  
6 Applicant “should evaluate . . . use of alternative turbine colors and use of newly  
7 available radar-activated lights.” (Page 30, line 7.) How do you respond to these  
8 statements?

9

10 A If you read the ASC, the last paragraph on Page 4.2-72 describes how alternative  
11 turbine colors were assessed and found to cause greater visual impacts. Furthermore,  
12 Section 4.2.3.4 (Mitigation Measures) of the ASC states that “a non-reflective flat  
13 gray or light color is recommended to minimize aesthetic impacts.” The Applicant  
14 has already evaluated different turbine colors and believes that “a non-reflective flat  
15 gray or light color” would minimize visual impacts.

16 As for Mr. Apostol’s recommendation that radar-activated lights should have  
17 been evaluated in the ASC, radar-activated lighting had not even been approved by  
18 the FAA when the ASC was submitted in 2009. In my opinion, there is no basis for  
19 criticizing the ASC for failing to address a mitigation measure before the FAA had  
20 even approved it. Because concerns exist today about radar-activated lighting system  
21 vendors’ ability to provide adequate assurances concerning system failure, it is  
22 unclear whether this is a viable mitigation measure yet.

23 Before I leave this issue of FAA-required lighting, Mr. Apostol testified that  
24 one of the key factors in assessing the visual impacts of wind turbines is that FAA-  
25 required lighting “makes wind turbines highly contrasting when the lights are on.”  
26 (Page 5, lines 20-21.) This statement appears to ignore the context of the existing

1 environment in the Columbia Gorge, which already contains lighting on massive  
2 hydro-electric dams, high-voltage transmission lines, antennas, highways, in cities,  
3 etc. The existing environment is important, because a visual impact assessment must  
4 take into consideration the degree of visual change from the existing environment in  
5 order to appropriately establish the contrast. If you look at the juxtaposition of the  
6 Project area to population centers, roadways, and the river, the degree to which lights  
7 from the Project may be visible is minimal and in some areas completely out of the  
8 viewer’s line of sight. While areas close to the turbines may be affected more by the  
9 lighting, many areas will be out of view of the lights.

10  
11 Q Turning to the methodology used to assess visual impacts in the ASC, Mr. Apostol  
12 testified that

13 “the FHWA method is not a suitable method for evaluating the visual  
14 impacts of wind energy projects in general, and this project in  
15 particular. The FHWA visual impact system was designed to be used  
16 only for assessing impacts from highway related development. It  
contains no process or method for assessing the visual contrast  
presented by wind turbines or other energy facilities (such as power  
lines).”

17 (Page 7, lines 10-12 (emphasis omitted).) Although it is not entirely clear whether  
18 Mr. Apostol advocated use of the BLM’s Visual Resource Management (VRM) or  
19 the U.S. Forest Service’s (USFS) Scenery Management System (SMS) methodology,  
20 how do you respond to Mr. Apostol’s critique?

21  
22 A The FHWA methodology is based on the VRM and the SMS methodologies, and it  
23 was developed with these agencies’ assistance. It was developed to assess impacts  
24 for linear or corridor projects that may move through differing and diverse landscapes  
25 that might have changing uses and changing perspectives. This methodology is  
26 appropriate for this Project, because the FHWA methodology considers structures,

1 facilities, and roads associated with linear or corridor projects, and the turbine strings  
2 of wind energy projects constitute linear or corridor projects.

3 The FHWA methodology uses the same language and attention to contrast  
4 that is a part of all visual assessment methodologies. The FHWA methodology  
5 includes landscape characterization (landscape character in SMS parlance), landscape  
6 units (scenic quality rating units in VRM parlance), view shed (foreground,  
7 background, etc. as used in both VRM and SMS), observer viewpoints (key  
8 observation points as used in both VRM and SMS), and identification of the visual  
9 character of the area based on the same attributes of form, line, color, and texture that  
10 are part of both VRM and SMS methodologies. The VRM and SMS methodologies  
11 are more appropriately used at a landscape or planning level to establish goals and  
12 objectives that can be used to evaluate project level actions. Although BLM has  
13 guidance for wind projects, the process is still contingent upon the public policy  
14 choices that are made about how to manage public land from a visual standpoint.  
15 This Project is not on public land, and no public policy choices have been made about  
16 how to manage the Project site from a visual standpoint.

17 Mr. Apostol’s testimony that the FHWA methodology cannot be adapted to be  
18 used for other corridor-type projects is strictly opinion. The FHWA methodology has  
19 been used on the other proposed wind energy developments that the Council has  
20 reviewed (*i.e.*, Kittitas Valley, Desert Claim, and Wild Horse projects). Contrary to  
21 Mr. Apostol’s claim that the ASC is “reinventing the wheel” (page 8, line 15), the  
22 ASC is using a methodology that the Council has utilized in the past.

23

24 Q Mr. Apostol testified that the FHWA methodology

25 “was designed to be used *only for assessing impacts from highway*  
26 *related development. . . . This is stated in the very title of the FHWA*  
*manual: Visual Impact Assessment for Highway Projects, and is*

1 explicitly noted in the opening sentence on page one: “This field guide  
2 is intended to help those who prepare or review the coverage of visual  
3 impacts in environmental assessments *for highway projects*” (emphasis  
4 added).”

5 (Page 7, lines 11-14.) Does this criticism have any merit?

6 A No. This exact same criticism can be made of the two methodologies that Mr.  
7 Apostol testified would be more appropriate than the FHWA methodology. For  
8 example, the USFS’s Handbook states that it “defines a system, referred to hereafter  
9 as the Scenery Management System (SMS), *for the inventory and analysis of the*  
10 *aesthetic values of National Forest Lands.*” (Emphasis added.) Because the Project  
11 site is not in a national forest, under Mr. Apostol’s reasoning the necessary  
12 conclusion is that the SMS methodology should not be used to evaluate the Project’s  
13 visual impacts. Similarly, the BLM Manual 8400 states that “[t]he objective of  
14 Visual Resource Management is to manage *public lands* in a manner which will  
15 protect the quality of the scenic (visual) values of *these lands.*” (Emphases added.)  
16 Again, because the Project site is not on public land, under Mr. Apostol’s reasoning  
17 the necessary conclusion is that the VRM methodology should not be used to evaluate  
18 the Project’s visual impacts.<sup>1</sup>

19 Anyone can take select passages from any guidance, direction, or handbook  
20 and use them to support a particular opinion. In order to completely understand the  
21 appropriateness of a visual impact methodology, the reader must study the  
22 methodology and apply it to establish whether the methodology meets the objective  
23 of establishing existing environmental conditions and disclosing the impacts of the  
24 subject project on that environment. As described above, the FHWA methodology is  
25 the most appropriate way in which to achieve this goal for this Project.

26 <sup>1</sup> The BLM’s VRM methodology was used for the Steens Mountain project because  
that project involved BLM land.

1 Q Mr. Apostol testified that the first step in assessing scenic quality under the FHWA  
2 methodology should have been “to acknowledge that views from within the National  
3 Scenic Area, particularly those seen from designated Key Viewing Areas (KVAs) are  
4 at least high sensitivity by definition.” (Page 8, lines 10-11.) Is this statement  
5 accurate?  
6

7 A Absolutely not and in multiple ways. Mr. Apostol first mischaracterized the language  
8 he quoted from the FHWA Handbook.<sup>2</sup> The page from the FHWA Handbook that  
9 Mr. Apostol quoted is reproduced in its entirety in Exhibit No. 9.03r. It appears in a  
10 section entitled “Approaches to Assessing Visual Quality,” and it is readily apparent  
11 that the language Mr. Apostol quoted is not describing the first *step* in the FHWA  
12 methodology, but rather the first of four different *approaches* to assessing the visual  
13 quality of a landscape. The first potential approach to addressing this question—  
14 which Mr. Apostol mischaracterized as the first step in the FHWA process—is simply  
15 to rely on official designations. The FHWA Handbook, however, dismisses this  
16 approach quite quickly. Ultimately, the FHWA Handbook uses the fourth described  
17 approach—evaluating visual quality based on visual relationships.

18 Then, and even more problematic, Mr. Apostol based the subsequent analysis  
19 in his testimony on this mischaracterization of the FHWA methodology. Mr. Apostol  
20 criticized the ASC for not “relying on tested principles” of visual impact assessment  
21 because it incorporated elements from both the FHWA and USFS methodologies.  
22 (Page 8, line 15.) This criticism is not only unfounded—because the Council has  
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24 <sup>2</sup> Mr. Apostol quoted the following from the FHWA Handbook: “are already  
25 officially designated – national parks and scenic rivers, for example. This may be considered  
26 proof of high visual quality, and a *first approach to establishing the visual quality of a  
project area is simply to check for designated scenic areas.*” (Page 8, lines 8-9.)

1 relied on this methodology in the past it has been tested—but Mr. Apostol himself  
2 began mixing and matching methodologies. He took the inappropriate results of his  
3 purported “first step” of the FHWA methodology—*i.e.*, that “designated Key  
4 Viewing Areas (KVAs) are at least high sensitivity by definition”—and applied it in  
5 his subsequent analysis, which uses either the BLM or USFS methodologies. Mr.  
6 Apostol did the very thing that he criticized the ASC for doing.

7  
8 Q You mentioned that Mr. Apostol inappropriately claimed that “designated Key  
9 Viewing Areas (KVAs) are at least high sensitivity by definition.” (Page 8, line 11.)  
10 Are there other inappropriate assumptions in Mr. Apostol’s testimony?

11  
12 A Mr. Apostol’s testimony is replete with inappropriate assumptions that undermine the  
13 validity of his conclusions. First, there’s the one that I mentioned about KVAs  
14 having high viewer sensitivity “by definition.” Mr. Apostol repeated that assumption,  
15 in one form or another, *ad nauseum* throughout his testimony.<sup>3</sup> There is nothing in  
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17 <sup>3</sup> For example, see page 14, line 6 (“*All KVAs are by definition high sensitivity.*”);  
18 page 14, lines 17-18 (“A KVA, by definition, is a high sensitivity viewpoint, regardless of  
19 the distance to the object viewed.”); page 15, line 2 (“Viewer sensitivity, as previously  
20 stated, should be presumed to be high for any KVA.”); page 15, line 8 (“[O]nce a viewpoint  
21 has been designated as sensitive (*e.g.*, a KVA) there is no reason to reevaluate its sensitivity.  
22 Its sensitivity has already been determined.”); page 23, line 6 (“[T]he visual sensitivity from  
23 this Key Viewing Area within a Federally designated National Scenic Area is by definition  
24 high”); page 14, lines 11-12 (“[V]iewers from KVAs and similarly *designated viewpoints*  
25 and view corridors are highly sensitive to scenic quality. There is no need to reevaluate this  
26 question. It’s a given.”); page 24, line 19 (“As a designated KVA and a State Park, the  
viewers from this location would have very high sensitivity irrespective of the Applicant’s  
analysis.”); page 25, lines 7-8 (“The following point bears repeating: all KVAs should be  
considered to have high sensitivity. This is inherent in their designation as Key Viewing  
Areas. There is no reason to reanalyze sensitivity from designated KVAs.”); page 25, line  
18 (“[S]ensitivity is high, not moderate. This conclusion is supported by the much more  
comprehensive inventories performed by the Forest Service and Gorge Commission , and by  
the designation of this viewpoint as a KVA.”); page 26, line 5 (“Again, the viewpoint is  
highly sensitive because of its designation.”); page 27, line 1 (“Panorama Point is also a Key  
Viewing Area, which warrants a high sensitivity rating.”).

1 the written information obtained from the USFS about the creation of the Scenic Area  
2 inventories (Exhibit No. 9.04r) that suggests the KVAs should be assumed to have  
3 high viewer sensitivity. That information evidences that KVAs were identified in the  
4 drafting of the Interim Guidelines for the Scenic Area *before* the USFS’s inventories  
5 were completed, and the Interim Guidelines provide that KVAs were selected because  
6 they were “[a]reas from which large numbers of people view the National Scenic  
7 Area portions of the Gorge.” (Exhibit No. 9.05r.) As the ASC recognized, the  
8 number of viewers is a factor in assessing viewer sensitivity, but it is not the only  
9 factor; the type of viewers, viewing conditions, and quality of the view must also be  
10 considered. (ASC page 4.2-30.) In short, although KVAs play an important role in  
11 regulating development within the Scenic Area, it is inappropriate for purposes of a  
12 visual impact assessment for a project located outside the Scenic Area to simply  
13 assume that KVAs have “by definition” high viewer sensitivity.<sup>4</sup>

14 In numerous places Mr. Apostol inappropriately assumes that wind turbines  
15 have high contrast independent of any real consideration of the landscape.<sup>5</sup> However,  
16 unless you consider the landscape in which wind turbines are proposed/located, there  
17 is nothing to contrast the wind turbines against. Mr. Apostol backpedals somewhat  
18 from his assumption that wind turbines inherently result in high contrast when

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19 <sup>4</sup> Mr. Apostol states that “Roads, trails, and viewpoints with high levels of use, and  
20 those with viewers who are most sensitive to landscape quality, were designated as Key  
21 Viewing Areas (KVAs).” (Page 11, lines 3-5.) However, I find no indication in the Interim  
22 Guidelines or in the written information obtained from the USFS about the creation of the  
23 Scenic Area inventories that an assessment of high viewer sensitivity preceded the  
24 designation of KVAs.

25 <sup>5</sup> For example, see page 3, line 21 (“*Due to their large scale and unique appearance,*  
26 *modern wind turbines by their very nature result in high visual contrast to most*  
*landscapes.*”); page 4, lines 2-3 (“They are inherently visually dominant due to their huge  
scale, unique appearance, high color contrast, moving parts and the need for lighting for  
aviation safety.”); page 4, lines 8-9 (“They are sleek, industrial facilities, large enough,  
different enough, and high contrast enough, to transform landscapes from predominantly  
natural or rural into an industrial scene.”).

1 commenting on individual viewpoint simulations, but Mr. Apostol's testimony quite  
2 clearly indicates that he believes high contrast should be assumed.

3  
4 Q What is the result of all these assumptions?

5  
6 A A predetermined outcome. A visual impact assessment requires an evaluation of the  
7 visual quality of the existing landscape and of viewer sensitivity, which is used to  
8 assess the visual contrast of the proposed development and determine the likely visual  
9 impacts. Mr. Apostol assumed the landscape has a high scenic quality because the  
10 Project site is adjacent to the Scenic Area, assumed viewer sensitivity is high from all  
11 KVAs, and assumed that wind turbines inherently result in high contrast. The only  
12 possible conclusion from these unfounded assumptions is that the Project will likely  
13 have high visual impacts. As Mr. Apostol states, "A development that has moderate  
14 or high contrast seen from a sensitive viewpoint or corridor would by definition have  
15 a high impact." (Page 13, lines 5-6.) Mr. Apostol's assumptions predetermine the  
16 outcome, thereby rendering the visual impact assessment effectively unnecessary.

17  
18 Q Mr. Apostol testified that the visual inventories of the Scenic Area that the USFS did  
19 back in the late 1980s (Exhibit No. 21.06) should have been used in assessing the  
20 likely visual impacts of this Project. (Page 10, lines 11-20.) Do you agree?

21  
22 A Because the Project site is not within the Scenic Area, these inventories do not cover  
23 the Project site, and the written information obtained from the USFS about the  
24 creation of these Scenic Area inventories does not indicate that these inventories  
25 were intended to be used to assess development proposed outside the Scenic Area,  
26 such as the Project site. (In the interest of full disclosure, although the USFS did not

1 provide the documents about the completed inventories found in Exhibit No. 9.04r as  
2 a single, organized document, they have been arranged as a single document in an  
3 order that corresponds with the maps in Mr. Apostol’s Exhibit No. 21.06.)

4 That said, these inventories correspond with information in the ASC and  
5 actually support the visual impact analysis in the ASC.

6 • The Visual Attributes map (Exhibit No. 21.06, pages 1-2) identifies the area  
7 within the Scenic Area that is adjacent to the Project site as being forested,  
8 which corresponds with the discussion in the ASC of the area’s existing  
9 conditions. (ASC page 4.2-33.) Note that this area was not identified as  
10 “special,” which means that it was not an area with such unusual or  
11 outstanding landforms or vegetation that the USFS felt further study was  
12 unnecessary. (Exhibit No. 9.04r, page 3.)

13 • The Landscape Diversity map (Exhibit No. 21.06, page 3) identifies the area  
14 within the Scenic Area that is adjacent to the Project site as having either  
15 distinctive landscape diversity or outstanding landscape diversity. The  
16 discussion of existing conditions in the ASC similarly recognized the great  
17 landscape diversity in the area. For example, the landscape features visible  
18 from Viewpoint 14: Viento State Park are described as “diverse and intact and  
19 the contrasts of the features have a high level of unity. This view is the open  
20 waters of the Columbia River in the foreground with rock features and  
21 vegetation in the middle ground and a background of mountains which  
22 provides an overall pleasing composition that is inviting to the viewer.” (Page  
23 4.2-61 in the ASC.)

24 • Because the Seen Areas from Key Viewing Areas map (Exhibit No. 21.06,  
25 page 4), like all the USFS inventories, does not cover the Project site, it does  
26 not provide anywhere near as much information as

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- Figure 4.2-5 (Locations of Simulation Viewpoints) in the ASC, which identifies areas within the Scenic Area from which turbines could be seen and the general number of turbines that would be visible from these areas (based purely on topography with no accounting for screening due to vegetation or other features);
- Exhibit No. 8.04r, which identifies the number of turbines visible from the Columbia River based on a line-of-sight analysis accounting for screening due to topography and existing stands of trees on ridgelines between the Project site and the Columbia River;
- Exhibit No. 8.05r, which identifies stretches of I-84 from which the Project would be visible after accounting for screening due to topography, vegetation, and structures; and
- Exhibit No. 8.06r, which identifies stretches of the Historic Columbia River Highway between Hood River and Mosier from which the Project would be visible after accounting for screening due to topography and vegetation.

That said, the Seen Areas from Key Viewing Areas map does indicate that the area within the Scenic Area that is adjacent to the Project site (*i.e.*, closer to KVAs in the Scenic Area) is either in the “Middleground Background” or is not seen from KVAs. According to the information from the USFS, areas seen as middleground views from KVAs are less important than areas seen in the foreground from KVAs (Exhibit No. 9.04r, page 7). Because the Project site is farther away from KVAs than the areas identified as “Middleground Background” on this inventory map, the Seen Areas from Key Viewing Areas map suggests that the Project site is of less importance to the views from the KVAs.

- 1 • The Landscape Significance map (Exhibit No. 21.06, page 5) identifies the  
2 area within the Scenic Area that is adjacent to the Project site as of second or  
3 third order of significance. In other words, these are not the most significant  
4 landscapes in the Scenic Area. The existing scenic quality ratings in the ASC  
5 agree that the area around the Project site generally has above average but not  
6 the highest level of scenic value. (See Table 4.2-5 in ASC.)
- 7 • The Visual Absorption Capability map (Exhibit No. 21.06, page 6) identifies  
8 the area within the Scenic Area that is adjacent to the Project site as having a  
9 moderate to high capability to absorb features or structures that are not  
10 common on the landscape. This is reflected in the anticipated level of visual  
11 impact in the ASC, which concluded that these areas would provide some  
12 absorption capability depending on the viewer distance. (See Table 4.2-5.)
- 13 • The Landscape Sensitivity map (Exhibit No. 21.06, page 7) rates the area  
14 within the Scenic Area that is adjacent to the Project site as having minimal to  
15 moderate landscape sensitivity. According to the information from the USFS,  
16 this means that these lands are not the most sensitive or critical lands when  
17 considering development. (Exhibit No. 9.04r, page 8.) This corresponds with  
18 the visual sensitivity ratings in the ASC, which overwhelmingly fell between  
19 “low” and “moderate.” (See Table 4.2-5.)

20 Thus, even though these USFS inventory maps were not used for the analysis in the  
21 ASC because they do not cover the Project site, the analysis in the ASC corresponds  
22 very well with the information provided in these maps.

23  
24 Q Do you agree with Mr. Apostol’s statements that, ignoring the fact that the Project  
25 site is outside the Scenic Area and thus not subject to the Scenic Area Management  
26 Plan, the Visual Quality Objectives (VQOs) in the Management Plan (*i.e.*, the

1 “visually subordinate” standard) can be used to help measure the visual impacts of the  
2 Project? (Page 10, lines 6-20.)

3

4 A Absolutely not. The VQOs in the Management Plan should not be applied to  
5 development outside the Scenic Area for at least one very important reason.  
6 Applying these VQOs to development on the Project site is inconsistent with SMS  
7 methodology. Mr. Apostol correctly recognized that VQOs are a goal for managing a  
8 scenic landscape. (Page 10, line 3.) The Management Plan, for example, defines  
9 VQOs as “a set of visual management goals established by the Forest Service to  
10 achieve a desired visual objective.” However, no visual objective has been  
11 established for the Project site. Applying a visual objective established for one area  
12 to another area simply because they are adjacent is inappropriate under the SMS  
13 methodology. For example, it is not uncommon for timber harvest units to be located  
14 near the borders of wilderness areas within national forests. The VQOs for these two  
15 areas may be “preservation” in the wilderness area and “modification” in the harvest  
16 areas. The wilderness area’s VQO, however, is not applied to actions in the timber  
17 harvest unit, even though such actions may well be visible from the wilderness area.  
18 Similarly, the VQO of “visually subordinate” is specific to the area for which it was  
19 established as the goal, and it does not extend outside the Scenic Area and onto the  
20 Project site.

21

22 Q Recognizing that it is not consistent with the SMS methodology to apply the Scenic  
23 Area VQO of “visually subordinate” to areas that are outside the Scenic Area, one  
24 follow-up question: Mr. Apostol testified that

25

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“it is very hard for projects that break the skyline or that have bright  
lighting to be visually subordinate. Projects like Whistling Ridge, with  
multiple structures extending well above the skyline, are assumed to

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not be visually subordinate, which is why they are prohibited outright within the Scenic Area itself.”

(Page 11, lines 14-15.) Please address the visual effects of wind turbines that “break the skyline.”

A Generally speaking, turbines that break the skyline can have a relatively high level of contrast when the viewer is close to the turbines, as demonstrated by Viewpoint 23: Asplund Road End simulation. However, as viewing distance increases mitigating factors such surrounding peaks, relative scale, surrounding trees and atmospheric haze come more and more into effect. Together these factors can lessen the contrast and the impact. The viewing angle is also a key component of both the existence and magnitude of skyline impact.

Furthermore, the level of contrast necessarily depends upon the scenic quality of the view and viewer sensitivity. Areas both inside and outside of the Scenic Area have a multitude of natural horizontal and vertical lines and “artificial” lines created by transmission corridors, timber harvest units, and travelways, as illustrated in Viewpoint 5: Willard and Viewpoint 16: Fairview Road. Corridors for timber harvest units are generally left between the ridgeline and harvest unit to create a visual horizontal line between the two accentuating the ridgeline. These types of lines are visible from the Scenic Area and from multiple areas at the same elevation as the Project area. These include public and private lands to the north, east, and west. Natural and artificial lines can lessen the contrast of wind turbines that break the skyline. In other words, the visual contrast resulting from wind turbines breaking the skyline depends upon the particular characteristics of the view. Mr. Apostol’s sweeping generalization is inaccurate.

1                   And, as I've described before, another problem with Mr. Apostol's critique is  
2                   that the "visually subordinate" VQO cannot be automatically applied to projects  
3                   outside the Scenic Area.

4  
5   Q    Mr. Apostol testified that the existing visual landscape surrounding the Project site  
6           includes "dramatic mountain and gorge vistas, steep rocky cliffs, pastoral lands, open  
7           space areas, recreational lands, and the Columbia River. Landforms in the vicinity  
8           are steep, complex and dissected by deep ravines." (Page 3, line 9.) As an evaluation  
9           of the existing landscape forms the basis for a visual impact assessment, is there  
10          anything missing from this description?

11  
12   A    Mr. Apostol's description effectively ignores the commercial and industrial  
13          components of the landscape, which need to be understood in order to put the Project  
14          setting in proper context. Massive hydro-electric dams, high-voltage transmission  
15          lines, and multiple transportation facilities (*i.e.*, two railroads, a state highway, a  
16          federal interstate highway, and bridges spanning the Columbia River) are landscape  
17          components that need to be recognized. Significant commercial and industrial  
18          modifications have occurred throughout this landscape, and the mark of human  
19          development cannot be discarded in assessing the existing visual landscape.

20  
21   Q    Do you agree with Mr. Apostol's conclusion that the ASC failed to properly analyze  
22          the impacted area's landscape character? (Page 9, line 10.)

23  
24   A    Absolutely not. The landscape character of the Project site and the regional context  
25          are outlined in Section 4.2.3.2 (Existing Environment) of the ASC with a description  
26          of the Project site's proximity to the Scenic Area and SR 141, a recognized scenic

1 roadway. Additionally, the six classes of landscape scenic quality ratings described  
2 in Table 4.2-4 of the ASC are similar to the four classes used in the BLM's VRM  
3 methodology to establish and disclose the existing visual environment. The  
4 methodology used to establish those ratings or classifications is based on the same  
5 process that the BLM and USFS uses to establish classifications and/or visual quality  
6 objectives. The elements used in all three methodologies are the same. They all  
7 establish scenic quality and visual sensitivity looking at line, color, form, texture,  
8 patterns, etc. The types of viewers, viewer duration, and distance and viewer  
9 sensitivity are all considered regardless of which methodology is used. All of these  
10 features are taken into consideration in the visual assessments in the ASC.  
11

12 Q Mr. Apostol testified that the ASC erred by considering distance when assessing  
13 viewer sensitivity. (Page 14, lines 14-19; page 23, lines 4-5.) According to Mr.  
14 Apostol, viewer

15 "sensitivity is not related to distance. A KVA, by definition, is a high  
16 sensitivity viewpoint, regardless of the distance to the object viewed.  
17 Viewpoints are inherently sensitive or not, regardless of the distance to  
18 a development. What is changed by distance is the degree of contrast  
19 experienced. At greater distances, contrast is reduced and thus visual  
20 impacts normally decrease."

21 (Page 14, lines 17-19.) How do you respond?

22 A I agree with Mr. Apostol that distance is a factor in assessing contrast, but Mr.  
23 Apostol is simply wrong when he testified that viewer sensitivity is not related to  
24 distance. For example, BLM Manual H-8410-1 provides that

25 "distance zone delineations provide valuable information  
26 that can be very useful in the sensitivity analysis. For  
example, the foreground-middleground zones are more  
visible to the public and changes are more noticeable and  
are more likely to trigger public concern. Also, the

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boundaries of the distance zones are very useful in helping to establish sensitivity rating units.”

This makes logical sense. Sensitivity to an object, for instance a light, will generally be greater when the object is only one foot away than it will be at 200 feet.

Q Mr. Apostol began his testimony with a number of general statements about wind energy development and visual impacts. For example, he stated that

“[r]esearch and practice have shown that most people within our cultural context prefer natural landscapes that exhibit complexity and diversity at large scales. Simple, flat, bland landscapes are less valued for scenery. Think of the difference between places like the Columbia Gorge and Oregon Coast and places like central Nebraska. The first two are highly valued for their scenic attributes, while the latter one is not.”

(Page 4, lines 18-19). Do you agree with this statement?

A In my opinion, this statement is very subjective. What people want, see, or believe is as diverse as the landscapes themselves. People’s perception of landscapes differs due to several factors, including the environment with which we are accustomed. As a group, people from sparsely populated areas have a much different prospective than people from a heavily populated areas. Also, older generations have seen a very different historic landscape than younger generations, and probably view landscape changes differently. Additionally, to preemptively conclude that the central Nebraska plains are “simple, flat, and bland” is to ignore the attributes of scenic quality (*e.g.*, form, line, color, and texture) when establishing the visual environment. Mr. Apostol himself may not value the scenic attributes of central Nebraska plains, but his personal view should not be construed as necessarily reflective of an accepted public perception.

1 Q Do you have any comment about Mr. Apostol’s statement that “[v]alued landscapes  
2 will be transformed from open, rural or wild to what is essentially an industrial  
3 appearance” by wind energy development? (Page 3, line 18.)  
4

5 A If Mr. Apostol is referring to the Columbia Gorge, his use of the “open, rural or wild”  
6 to describe the landscape only captures a small portion of the Gorge and is not  
7 representative of the Gorge as a whole. As I described before, the Gorge is full of  
8 human intervention, from massive hydro-electric dams and high-voltage power lines  
9 to commercial timber harvests and urban areas that are home to thousands of people.  
10 That is not to say the Columbia Gorge lacks scenic qualities, but I disagree with his  
11 “open, rural or wild” characterization, especially as it pertains to the vicinity of the  
12 Project site. Second, his statement that wind farms create “essentially an industrial  
13 appearance” is a recurring theme in Mr. Apostol’s testimony. Elsewhere in his  
14 testimony he similarly states that wind energy development “transform[s] landscapes  
15 from predominantly natural or rural into an industrial scene.” (Page 4, line 9.) Such  
16 statements may well reveal Mr. Apostol’s personal biases but should not be construed  
17 as necessarily reflective of an accepted public perception.

18 I note that some people may well consider the multiple high-voltage  
19 transmission lines that currently cross the Project site to have already created an  
20 “industrial scene.”  
21

22 Q Mr. Apostol also identified a number of “key factors in assessing the visual impact of  
23 wind turbines,” including that

24 “[w]ind turbines appear more coherent in simple, open, low relief  
25 landscapes like farm, prairie or rangeland. They appear out of place in  
26 highly complex landscapes with lots of vertical relief and diverse  
vegetation patterns, like those of the Columbia Gorge.”

1 (Page 5, lines 13-14.) Do you agree that this is a key factor in doing a visual impact  
2 assessment of a wind energy development?

3

4 A No. Treating this as a factor in a visual impact analysis effectively predetermines the  
5 outcome. This could be a conclusion *after* doing a visual impact analysis, but it  
6 cannot be a factor used in the analysis.

7 This sentiment about appearing out of place is echoed in Mr. Apostol's  
8 statement that wind turbines "do not aesthetically fit in many landscapes." (Page 4,  
9 line 12.) But this could be said in regard to much of the development that can be  
10 found within the Columbia Gorge including hydro-electric dams, high-voltage  
11 transmission lines, and transportation facilities. This perception is biased and  
12 subjective and is not necessarily the conclusion of the "casual viewer" of wind  
13 turbines. This statement may well reflect Mr. Apostol's perception of wind turbines,  
14 but should not be construed as necessarily reflective of an accepted public perception.

15

16 Q Mr. Apostol testified that

17 "[o]ne reason wind turbines look more at home on flat or gently rolling  
18 topography is the absence of conflict with prominent land forms. In  
19 prairie landscapes, it is more natural for the eye to keep sweeping  
across the wide horizon. Since there are no prominent landforms, the  
turbines do not stand out in the same way."

20 (Page 6, line 10.) Do you agree with this statement?

21

22 A No. Different landscapes have differing intrinsic abilities to absorb human alterations  
23 without loss of landscape character and without a reduction in scenic integrity.

24 Visual absorption capabilities depend on the landscape character attributes, landform  
25 complexity, and environmental factors (USFS, Landscape Aesthetics: A Handbook  
26 for Scenery Management, 32). The USFS Handbook suggests that visual complexity

1 areas, such as the Project site, will absorb visual impacts more than the less complex  
2 landscapes similar to prairie landscapes, where any change to the minimal diversity or  
3 inclusion of development is very apparent. Mr. Apostol himself recognized this when  
4 he testified that “[t]o the extent that landscape changes . . . contrast is reduced  
5 between proposed development and natural landscape character.” (Page 5, lines 2-3.)  
6 This leads, though, to the exact opposite conclusion (*i.e.*, wind turbines generally  
7 stand out *more* in prairie landscapes than in landscapes with visual complexity, like  
8 the Project site) than the one Mr. Apostol reached.

9 It is also very important to remind ourselves of the existing uses of the Project  
10 area: commercial forest uses and high-voltage transmission lines. The timber  
11 harvests in and around the Project area, including on public lands, tend to leave trees  
12 along the ridge tops, along road corridors, and between harvest units for wildlife  
13 corridors or visual screening of harvest areas. This accentuates the vertical and  
14 horizontal lines in the existing landscape and particularly along the ridge lines. The  
15 transmission lines and towers that cross the Project site also produce vertical and  
16 horizontal lines across the ridge lines. (*See* Viewpoints 5-7 in Exhibit No. 8.08r.)  
17 These human aspects of the existing landscape will also help absorb visual impacts of  
18 the Project.

19  
20 Q Mr. Apostol testified that

21 “much if not most of the public is uncomfortable with the scenic  
22 impacts of commercial-scale wind energy projects in natural or rural  
23 landscapes valued for their scenic qualities. They are accepting of  
24 wind energy development in less scenic areas because they are not as  
25 highly valued for scenery. This suggests that there are objective,  
26 commonly held perceptions of what is scenic and where commercial  
wind energy belongs and doesn’t belong with respect to scenic  
impacts.”

(Page 13, lines 16-18.) Do you agree with Mr. Apostol’s statement?

1 A No. Mr. Apostol seems to be saying that a visual impact analysis is not necessary  
2 here because we should simply assert that wind turbines in diverse or complex  
3 landscapes immediately have a significant visual impact but wind turbines in less  
4 complex, less scenic landscapes have no visual impact. I do not agree with Mr.  
5 Apostol's sweeping generalizations that arrive at conclusions before any analysis is  
6 complete.

7  
8 Q Mr. Apostol testified that

9 " [L]ess contrast generally means less of a visual impact. It's not hard to  
10 understand how large arrays of modern wind turbines dominate over  
11 the form, line, color and texture of scenic, natural, and cultural  
12 landscapes. It is extremely difficult to relate them to existing  
13 landforms, vegetation patterns, and natural lines in ways that reinforce  
14 or harmonize much less blend in."

15 (Page 5, lines 3-5.) Do you agree with this statement?

16 A I agree that less contrast generally does mean less impact, but I disagree with the  
17 conclusion that Mr. Apostol draws from this. The Columbia Gorge is filled with  
18 various industrial and commercial structures (*e.g.*, high-voltage transmission lines,  
19 highways, and railroads) that have repeating vertical and horizontal lines creating  
20 diverse linear features with a mixture of colors (*e.g.*, grays, browns, and tans of these  
21 structures) and textures (*e.g.*, concrete, riprap, steel). To many observers these  
22 features have likely become a part of the "natural" lines that harmonize or reinforce  
23 the visual landscape of the Gorge. In light of the existing presence of these industrial  
24 and commercial structures within the Gorge, the Project would not introduce visual  
25 features that are entirely new but rather would follow the features that are already  
26 there.

I also disagree with Mr. Apostol's blanket conclusion about highly complex  
landscapes. Highly complex landscapes have a greater tendency to visually absorb or

1 screen in comparison to farm, prairie, and rangeland areas, which tend to have much  
2 less varied form, line, color, and texture. This means that wind turbines located in  
3 flat terrain tend to be much more visible and contrasting with the landscape. Mr.  
4 Apostol admits as much when he testified that “[t]o the extent that landscape changes  
5 . . . , contrast is reduced between a proposed development and natural landscape  
6 character. *Less contrast generally means less of a visual impact.*” (Page 5, lines 2-3.)  
7 Mr. Apostol’s conclusion also ignores that topographic changes aid in visual  
8 screening and landscape absorption.

9  
10 Q Mr. Apostol testified that “[d]ue to their large scale and unique appearance, modern  
11 wind turbines by their very nature result in high visual contrast to most landscapes.”  
12 (Page 3, line 21.) Do you agree?

13  
14 A This statement presumes the result of a visual impact analysis without even doing the  
15 visual impact analysis. Furthermore, it completely omits any assessment of the  
16 landscape, which is the first step under ALL the visual impact methodologies.  
17 Finally, Mr. Apostol’s conclusions elsewhere in his testimony conflict with this  
18 statement. Assuming wind turbines inherently have “*high visual contrast in most*  
19 *landscapes*” and considering that “[h]igh contrast normally results in *high impacts*”  
20 (Page 3, lines 20-21), it is unclear to me how Mr. Apostol can conclude that wind  
21 turbines appear to be appropriately placed in “simple, open, low relief landscapes like  
22 farm, prairie or rangeland” (Page 5, lines 13-14) and appear “at home on flat or gently  
23 rolling topography” (Page 5, line 10).

24 ////

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1 Q Mr. Apostol states that wind turbines “are *very* large, out of scale with anything in the  
2 landscape” and that they “do not resemble any rural building or structure in  
3 existence.” (Page 4, lines 6-7.) Is this accurate?  
4

5 A I agree that wind turbines are very large, but one can only say they are out of scale  
6 with other buildings and structures in the Gorge if one does not consider the other  
7 buildings and structures in the Gorge. As I previously said, the Gorge contains  
8 massive hydro-electric dams, high-voltage transmission lines, and multiple  
9 transportation facilities (*i.e.*, two railroads, a state highway, and a federal interstate  
10 highway, and bridges spanning the Columbia River). In my opinion, the scale of  
11 these existing facilities is at least similar to that of wind turbines, and the towers for  
12 high-voltage transmission lines are not completely unlike wind turbine towers.  
13

14 Q Mr. Apostol testified that the rotating blades of wind turbines “draw[] more attention  
15 and increase[] visual contrast and thus impacts.” (Page 6, line 14.) Is there anything  
16 missing from this assessment?  
17

18 A The human eye is drawn to movement, but it is important to keep in mind that the  
19 speed of the movement and the distance between the viewer and the movement also  
20 affect visual contrast. As the speed decreases and the distance from the viewer  
21 increases, the visual contrast would tend to decrease. One also needs to consider the  
22 movement of the viewer, such as when the viewer is travelling on a highway. “As  
23 observer speed increases, the sharpness of lateral vision declines and the observer  
24 tends to focus along the line of travel.” (FHWA, Visual Impact Assessment for  
25 Highway Projects, 63.)  
26

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1 Q Do you agree with Mr. Apostol’s statement that “[i]t is safe to assume that to the  
2 extent moving parts and flashing lights extend above a visually prominent landform,  
3 scenic impacts will be compounded and will distract viewers from natural landforms  
4 or other attractive features well below the skyline”? (Page 7, line 2.)  
5

6 A This statement needs to be put into the context of the existing visual environment and  
7 the location of the Project site, which is above the visual plane of most viewers. The  
8 line of sight for most visitors in the Columbia Gorge is likely focused on the  
9 Columbia River itself and other features well below the skyline, such as hydro-  
10 electric dams, towns, roads, railroads, and vegetation. I do not agree that it is safe to  
11 assume moving parts of a turbine would necessarily compound visual impacts from  
12 such viewpoints or the viewpoints along the roadways.  
13

14 Q On page 16, line 12 through page 17, line 5 of his testimony, Mr. Apostol criticizes  
15 the italicized portion of the following quote from page 4.2-65 to 4.2-66 of the ASC:

16 “For purposes of this analysis, the term ‘significant’ may be defined as  
17 levels of visual impact that are rated ‘moderately high’ to ‘high’ from  
18 any given viewpoint. This does not mean that a particular location or  
19 the project as a whole poses a “significant” impact for the purposes of  
20 SEPA review. *Moreover, while a particular viewpoint may be  
21 characterized as having a ‘high’ impact, that impact may be  
22 experienced by a relatively small number of individuals, or relate to a  
23 small portion of the project, and it does not account for the overall  
24 benefits of the project.*”

25 In your opinion, is Mr. Apostol’s criticism warranted?  
26

23 A The idea behind the quoted text could have been expressed more clearly, and focusing  
24 on just the italicized portion, as Mr. Apostol did, while ignoring the rest does not  
25 help. Although Mr. Apostol’s response that “[t]he portion of the project that is *not*  
26 visible is irrelevant to an evaluation of visual impacts” is correct in terms of assessing

1 visual impacts from *one* viewpoint (page 16, lines 15-16), the quoted text in the ASC  
2 was directed at assessing visual impacts for the Project *as a whole*. When  
3 considering the entire Project, the fact that only portions of it may be visible from key  
4 observation points could influence the evaluation of the Project as a whole. In other  
5 words, a “significant” visual impact at one viewpoint does not mean that the Project  
6 as a whole would necessarily have a “significant” visual impact. The Council, in its  
7 review of the visual impacts analysis in the ASC, should be cognizant of this fact.  
8

9 Q Mr. Apostol testified that “[d]uration of view, particularly along KVA corridors,  
10 needs to be fully analyzed. Indications are that the view duration from I-84, the  
11 Columbia River, and the Historic Columbia River Highway will be lengthy, further  
12 exacerbating impacts.” (Page 28, line 9.) Do you agree?  
13

14 A I agree that view duration is relevant to assessing contrast. However, view duration  
15 along KVA corridors will not cause “further exacerbating impacts” for two reasons.  
16 First, as Exhibit No. 8.05r illustrates, view duration along I-84 is often intermittent  
17 and fleeting due to trees along the north side of the highway. For those two areas  
18 along eastbound I-84 where travelers would have more than an “eye blink” window  
19 through which to view the Project, Tom Watson has testified that only portions of two  
20 to three turbines would be visible. (Exhibit No. 8.03r, page 16). As for westbound  
21 I-84, there are “longer” stretches from which the Project would be visible to one  
22 degree or another, but all of these stretches are more than five miles from the nearest  
23 turbine, meaning that the turbines would appear to be quite small. (Exhibit No. 8.03r,  
24 page 4.)

25 Second, if we consider the I-84 corridor as a KVA, as Mr. Apostol would like  
26 us to, the duration of time that the Project is visible is quite small in relation to the

1 total time a person views the Scenic Area from this KVA. I-84 travels approximately  
2 82 miles through the Scenic Area from the mouth of the Sandy River to the mouth of  
3 the Deschutes River. At 65 miles per hour, that equals a total duration of  
4 approximately 75 minutes (including travel through urban exempt areas in the Scenic  
5 Area). Based on Exhibit No. 8.05r, turbines are visible from eastbound I-84 for less  
6 than 2 miles, if one aggregates all the various view windows. Thus, the duration of  
7 Project visibility on the I-84 KVA in the eastbound direction is less than two minutes.  
8 As for westbound I-84, Exhibit No. 8.05r indicates that turbines are visible for less  
9 than six miles, if one aggregates all the various view windows. Thus, the duration of  
10 Project visibility on the I-84 KVA in the westbound direction is less than six minutes.  
11 Consequently, if someone drove the entire length of this KVA in both directions, the  
12 Project would be visible for less than 5% of the time spent in the I-84 KVA corridor.  
13 The limited duration for which the Project would be visible from the I-84 KVA  
14 suggests that the static viewpoint simulations from this KVA may significantly  
15 overstate the likely visual impacts to this KVA corridor.

16  
17 Q Mr. Apostol testified that a visual impact assessment should use photographs that are  
18 “printed or viewed at a full page size, either 8 x 11 or 11 x 17 depending on the extent  
19 of the area being shown. If panoramic composites are created, even larger pages may  
20 be necessary.” (Page 20, lines 6-7.) He then criticized the ASC because the existing  
21 landscape photograph and simulation for each viewpoint were published on a single  
22 8½” x 11” page. How do you respond?

23  
24 A For purposes of the visual impact analysis and contrast ratings, the simulations were  
25 projected onto an approximately six-foot by four-foot wall. The small-sized  
26

1 simulations in the ASC were not used. I understand they were published in the ASC  
2 on 8½” x 11” paper to aid reproduction of the ASC.

3

4 Q Mr. Apostol testified that wirelines/wireframes are “a very helpful tool for analyzing  
5 impacts of wind projects.” (Page 22, line 12.) He then expressly relied on them  
6 when assessing visual impacts for four of the viewpoints he critiqued in his  
7 testimony, namely Viewpoint 11: I-84 Westbound (page 23, lines 16 and 20);  
8 Viewpoint 13: I-84 Eastbound (page 25, lines 11-13); Viewpoint 14: Viento State  
9 Park (page 25, line 25); and Viewpoint 19: Historic Columbia River Highway (page  
10 26, line 9). In your opinion, should wirelines be used in evaluating likely visual  
11 impacts of the Project?

12

13 A Absolutely not. It should be obvious that viewers do not see wirelines. Wirelines are  
14 useful for understanding position and relative scale, but should not be used as a basis  
15 for evaluating visual impacts. This is evident in Exhibit No. 9.06r, which is taken  
16 from the DEIS for the Project and shows the wireline and simulation for  
17 Viewpoint 11: I-84 Westbound. If the Project is built, no one will “see” this wireline  
18 image or anything close to it, such that it should not be used to assess visual impacts.

19

20 Q Mr. Apostol testified that one problem with the visual analysis in the ASC was that  
21 “[g]iven the scale of this project and the number of viewpoints potentially affected,  
22 additional viewpoints should have been analyzed.” (Page 19, line 12.) Do you agree  
23 that more viewpoints should have been selected?

24

25 A Project opponents almost always claim that additional viewpoints should have been  
26 analyzed. Here, 21 viewpoints were simulated for a project that extends for about 3.2

1 miles and for which the nearest viewpoint of any significance along a KVA corridor  
2 is 3.4 miles away from the nearest turbine. I note that for the Kittitas Valley Wind  
3 Energy Project, the ASC contained simulations from 16 viewpoints, the DEIS  
4 contained simulations from 11 of the 16 viewpoints in the ASC, the addendum to the  
5 DEIS contained revised simulations from 5 of the 11 viewpoints in the DEIS, and the  
6 FEIS contained simulations from 12 viewpoints.

7

8 Q Tom Watson has testified that the original simulations in the ASC were mistakenly  
9 created using a Project layout that did not exactly correspond to the Project layout in  
10 the ASC. (Exhibit No. 8.03r, page 4.) This error has been remedied in the  
11 simulations attached to Mr. Watson's rebuttal testimony as Exhibit No. 8.08r and in  
12 the simulations evaluated in the DEIS. Have you had an opportunity to review those  
13 simulations, and if so, do they change any of the impact analysis in the ASC?

14

15 A I have had the opportunity to review those simulations. In my opinion, the minor  
16 changes evident in those simulations do not change the impact analysis in the ASC.

17

18 Q Mr. Apostol testified that the white clouds in the simulation for Viewpoint 11: I-84  
19 Westbound "greatly reduces the contrast presented by the white turbines. The turbines  
20 would show stronger contrast against a blue or gray sky, both equally plausible in this  
21 location." (Page 23, line 2.) Do you agree?

22

23 A No. Tom Watson has provided a simulation of Viewpoint 11 with these clouds  
24 digitally removed (Exhibit No. 8.10r). In my opinion, this simulation shows that  
25 removing these clouds does not result in more contrast.

26

1           It is also important to consider that Viewpoint 11 is a static simulation, but  
2 viewers will be travelling at 65 miles per hour on a curvy interstate highway with  
3 concrete Jersey barriers on one side and guardrails on the other. They will not have  
4 the opportunity to ponder the viewpoint in quite the same way as viewers of this static  
5 simulation.

6  
7 Q   Mr. Apostol testified that the ASC’s viewer sensitivity assessment for Viewpoint 13:  
8 I-84 Eastbound erred by assuming that roadway viewers “have an inherent low  
9 sensitivity to scenic landscapes—even if views are fleeting.” (Page 25, line 3.) Did  
10 the ASC make this assumption?

11  
12 A   No. The ASC stated that

13           “[w]hen considering the distance of the project from this viewpoint  
14 (3 to 5 miles), the portion of the project that is visible from the  
15 viewpoint, the viewer types (roadway travelers with fleeting  
16 views), and the scenic quality rating [of moderately high], the level  
17 of sensitivity was rated as moderately low.”

18 Page 4.2-61. As that text describes, the ASC did not assume that roadway viewers  
19 have an inherently low visual sensitivity. Instead, this viewer sensitivity rating was  
20 based on a number of considerations, just one of which was the fact that viewers will  
21 be travelling at 65 miles per hour and have only fleeting views of the Project site from  
22 I-84 Eastbound. As Exhibit No. 8.05r illustrates, view duration along I-84 eastbound  
23 is primarily intermittent and fleeting due to trees along the north side of the highway.

24 Q   Mr. Apostol testified that Viewpoint 10: Panorama Point should have been  
25 acknowledged in the ASC as “a public park established specifically for its  
26 outstanding views of the landscape in all directions.” (Page 27, line 2-3.) How do  
you respond?

1 A Broad views in many directions are visible from Panorama Point, but there are also  
2 high-voltage transmission lines that run directly over the park and through the views  
3 that are visible in the foreground from the park. (See Exhibit No. 8.03r, page 25.)  
4 The assessment of the views of the Project area from this viewpoint appropriately  
5 included consideration of distance, viewer position, and viewer sensitivity.  
6

7 Q Mr. Apostol testified that “Energy companies are focused on maximizing productivity  
8 and minimizing costs. Thus, a one-size-fits-all approach is used, and custom design  
9 that fits a particular location is almost never considered.” (Page 4, lines 10-11.) In  
10 your experience, is Mr. Apostol’s characterization accurate?  
11

12 A No. Energy companies and developers are trying to minimize costs and maximize  
13 productivity based on where wind energy is the most productive. These are sites, like  
14 the Project site, that have a high potential to meet those objectives. However, every  
15 site is different, and the developers with whom I have been associated always  
16 consider the feasibility of various approaches to minimize environmental impacts  
17 (e.g., through minimization and restoration of construction impacts and the selection  
18 of turbine size and color), even though this increases the cost of the project. If  
19 developers were solely focused on maximizing productivity and minimizing costs as  
20 Mr. Apostol implies, such mitigation and design options would not even be  
21 considered.  
22

23 Q Please summarize your rebuttal testimony.  
24

25 A Mr. Apostol’s testimony does not evidence a careful reading of the ASC. It  
26 significantly mischaracterizes the FHWA methodology and then uses the results of

1 that mischaracterization (*i.e.*, that all KVAs are “by definition” high viewer  
2 sensitivity) as the foundation for his subsequent testimony. Coupling that assumption  
3 about viewer sensitivity with his other assumptions about high scenic value and  
4 inherently high contrast, Mr. Apostol renders any visual impact assessment  
5 superfluous by arriving at a predetermined outcome. Mr. Apostol’s testimony  
6 effectively ignores the significant human development that has impacted the scenic  
7 quality of the Gorge. Mr. Apostol claims that the Scenic Area VQO of “visually  
8 subordinate” should be applied to the Project site, which is outside the Scenic Area,  
9 even though this is inconsistent with the SMS methodology. The inventory maps that  
10 were completed for the Scenic Area, but not for the Project site, support the analysis  
11 in the ASC, as does the limited duration of Project visibility from the I-84 KVA  
12 corridor. Simply put, Mr. Apostol’s testimony is rife with errors and inconsistencies  
13 and appears to be intended to arrive at a predetermined outcome.

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