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Whistling Ridge Energy Project · Scenic Impact

Jurgen A. Hess Testimony at Washington Energy Facility Site Evaluation Council hearing
Underwood, WA, January 5, 2011

I'm a landscape architect with 42 years experience in visual resource management. I directed US Forest Service planning for the Columbia River Gorge National Scenic Area. Now a consulting environmental planner, prior to analyzing the Whistling Ridge Project I did an analysis of the Hood River County Middle Mountain wind energy proposal and was on a May, 2010 regional panel addressing various aspects of wind energy projects in the Columbia Gorge. A related biography is at the end of this document.

I have no monetary interest in the Whistling Ridge project and am not being paid for my work on the project. My interests are protecting Columbia Gorge scenery and natural resources and to ensure that visual simulation is done according to the highest standards of accuracy.

This report addresses 3 aspects of potential scenic impact: 1) Key Viewing Areas (KVA's), 2) visual simulations and 3) visual impact.

KVA's

Key viewing areas are important public vantage points within the National Scenic Area from which the public views landscapes. The US Forest Service and the Columbia River Gorge Commission developed the KVA list and reviewed it numerous times with the public to gain understanding and acceptance. Relevant KVA's for the Whistling Ridge project are the Columbia River, I-84, Historic Columbia River Highway, Cook-Underwood Road, Panorama Point Park and Washington State Route 141.

All of the KVA's have equal value and there is no differentiation of varying levels of importance. While I-84 does get a mix of different kinds of travelers, a high proportion of people traveling that route have an interest in scenery. The project consultant's studies should assess all KVA's equally.

While at the National Scenic Area I established 37 Visual Monitoring Points covering the length of the Scenic Area. One of those points is on the Historic Columbia River Highway loops just east of Hood River. That point should be used instead of Viewpoint 19 as that point has a better view of the proposed project and the Forest Service has photos taken over time from that viewpoint.

Visual Simulations

Lens Focal Length

To portray what the project would look like visual simulations should accurately reflect what a viewer might see. Camera lens focal length should simulate actual human eye vision. In my work and the work of other Forest Service and BLM landscape architects and the studies of Scotland architect Alan McDonald (*The*

Visual Issue, Architech Animation Studies, UK Ltd. April 2007) the now commonly accepted standard is that the 35 mm camera focal length of 75-80mm accurately portrays the human eye's vision. Use of a smaller focal length makes the image look smaller and farther away with less visual impact. To determine the actual lens focal length of digital single lens reflex cameras the sensor size must be determined and a ratio factor comparing the sensor size to full frame sized sensors must be applied. Consultant Tom Watson used a Canon EOS40D camera which has an APS sized sensor (22.2 x 14.8mm); therefore a factor of 1.6 must be applied to the lens focal length to get the accurate focal length. See my Sensor Size and Ratio Diagram page 5 and *Nature Photography, p. 95, Chris Weston, Focal Press 2008*. In the following chart I show the actual camera focal length for each Viewpoint. Viewpoints 19, 20 and 23 are not within the focal length range reflecting human eye vision. Those photomontages should be redone.

Show All Project Impacts

The wind towers will require tree clearing around them to maximize wind flow for generation efficiency. This tree clearing will alter the ridge top landscape appearance and look like a linear clearcut. This clearing is not shown in the visual simulations. The visual simulations must be redone to show this clearing.

FAA requires night-time lights on top of the wind towers. Normally these lights are flashing red; the lights have a high visual impact. A visual simulation needs to be done to show these red flashing lights.

Simulations Must Use Best Photography Conditions

Photos used for simulations must be of very high quality. The best lighting conditions and most critical camera viewpoint must be used. Clouds, backlighting, haze and poor photo reproduction can all adversely impact the ability to accurately portray the proposed wind towers. Those conditions can falsely show low contrast and impact. Photos for Viewpoints 8, 11, 12, 14, 17, 18, 19 and 20 have this problem and must be redone under better lighting and sky conditions.

Show Blade Movement

Movement attracts the human eye. That's a universally accepted norm. I have studied the many east Gorge wind towers and determined that blade movement is a significant factor in assessing visual contrast. Blade movement visual impact is almost impossible to mitigate. Making blades and towers less visible causes problems with birds and bats. Blade movement must be shown in visual simulations. The best way to do that is with videos. I did that at the May, 2010 panel presentation and am providing a 12 second video to your review panel of the Highway 14 east Gorge wind towers. I hope you will all view that video. Whistling Ridge project developers need to produce a video of wind towers with blades in motion. This could be posted on a website for the public the review.

Visual Impact—My Assessment

Project consultants should be required to use the Forest Service or BLM visual resource system methodology for assessing visual impact. I am most familiar with the Forest Service system (see *Landscape Esthetics, A Handbook for Scenery Management, USDA, Forest Service, Agriculture Handbook No. 701*). The Forest Service system assesses a projects impact by determining contrast with natural form, line, color and texture.

The system has been used on high voltage power lines, structures and wind towers by the BLM and Forest Service.

My visual impact assessment of the Whistling Ridge wind towers, on the following page, uses factors of tower forms and white colors, blade movement and the position of the towers on ridgelines as seen from KVA's.

Conclusion

Due to numerous errors in the visual simulations, an accurate portrayal of the wind towers has not been done. The identified problem photomontages and visual simulations need to be redone.

There will be high to very high scenic impacts from the wind towers—both in Washington and Oregon. Columbia Gorge visitors and residents will be impacted.

Please don't '*whistle in the dark*' when it comes to the Whistling Ridge Energy Project. Ask for the best possible visual simulations and assessments. Go on a field trip to the eastern Gorge. In just three short years the beautiful ridge line slopes surrounding Maryhill Museum have been transformed into an industrial landscape.

Whistling Ridge Energy Project

Visual Simulation Lens Focal Length, Photomontage Quality and Scenic Impact Analysis

Assessment by Jurgen A. Hess, Environmental Planner, hess@gorge.net

January 3, 2011

Note: this analysis is based on Tom Watson, GeoDataScape, use of the Canon EOS40D digital single lens reflex camera¹, the photomontages in the Whistling Ridge report and assessment of scenic impact from KVA's.

Viewpoint	Stated FL ² mm	Actual FL ³ mm	Photomontage Quality ⁴	Scenic Impact ⁵
1 Pucker Huddle	70	112	OK	Moderate
2 Strawberry Mtn.	67	107	OK	Very high
3 Husum	68	109	OK	Very high
4 Cook-Underwood Road	70	112	Good lighting	Very high
5 Willard	70	112	OK	Very high
7 Mill A	67	107	OK	Very high
8 Windance	50	80	Too low contrast, clouds obscure	Moderate to high
10 Panarama Point	50	80	OK	Moderate
11 I-84 Westbound	55	88	Looking into sun, low contrast	Very high
12 Koberg Beach	70	112	Looking into sun, low contrast	High
13 I-84 Eastbound	60	96	Good lighting	High
14 Viento SP	64	102	Ridgeline clouds obscure impact	Very high
15 Frankton Rd	50	80	Good lighting	Very high
16 Fairview Rd	50	80	Good lighting	High
17 Providence Hosp.	51	82	Too low contrast, ridgeline clouds	Moderate to high
18 Rosauers	50	80	Too low contrast, ridgeline clouds	Moderate
19 Columbia R. Hy.	40	64	Very low contrast, ridgeline clouds	Moderate
20 State R. 35	40	64	Low contrast, ridgeline clouds	Very high
21 Kollock-K.&S. Rd	48	77	OK	Very high
22 Cook U./King Rd	48	77	Good lighting	Very high
23 Ausplund Rd End	34	54	Good lighting	Very high

¹ Jurgen Hess 4/30/10 phone conversation with Tom Watson regarding the camera he uses for visual photomontages.

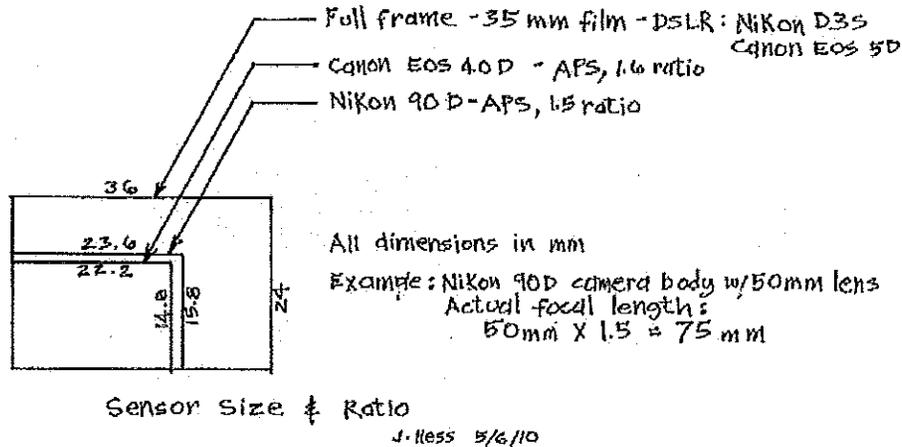
² FL= lens focal length in mm from Whistling Ridge GeoDataScape report.

³ Focal length based on Canon EOS40D camera APS digital sensor size and 1.6 ratio factor for calculating actual lens focal length in mm.

⁴ Low contrast photo, looking into sun (backlighting), ridgeline clouds can falsely obscure visual impact. It is important to have frontal lighting, a high contrast photo taken at the correct time of day to show realistic impact at the most critical condition.

⁵ Jurgen Hess impact assessment based on the proposed towers having high contrast of form, white color and blade movement on the ridgelines as viewed from important KVA's.

Digital Single Lens Reflex Camera Sensor Size and Ratio Diagram



Jurgen A. Hess biography

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Jurgen is a registered consulting landscape architect and environmental planner from Hood River, Oregon. He worked 34 years for the US Forest Service and specialized in visual resource and natural resource management. He was an expert scenic resource witness on the controversial Bea house, across from Multnomah Falls. He's done many computer visual simulations and was on a national team designing visual standards for all Forest Service developments. Jurgen directed the development of the Columbia River Gorge National Scenic Area Management Plan for the US Forest Service which included inventories and standards for protecting scenic resources. He served on the Hood River City Planning Commission for eight years and the Columbia River Gorge Commission representing the Secretary of Agriculture. He is a member of the Society of Ecological Restoration. Jurgen frequently speaks on visual resource and land use issues and digital photography applications. In May, 2010 he was on a panel addressing wind energy projects in the Columbia River Gorge.

