2. RESPONSES TO KEY ISSUES

A. PROJECT DEFINITION AND ADDITIONAL ANALYSES

Issue Summary:

Section 2.2 of the Draft EIS defined and evaluated the following three proposed action scenarios for the KVWPP:

- **Lower End Scenario**: The lower end scenario represents the project configuration with the fewest proposed turbines. Using turbines with a nameplate capacity of 3 megawatts (MW) each, this scenario would have up to 82 turbines for a total nameplate capacity of 246 MW. The maximum height of turbines in the lower end scenario would be 410 feet.

- **Middle Scenario**: The middle scenario represents the project configuration that would be chosen based on current pricing and performance for wind turbine technology currently on the market. Using turbines with a nameplate capacity of 1.5 MW each, this scenario would have 121 turbines for a total nameplate capacity of 181.5 MW. The maximum height of turbines in the middle scenario would be 330 feet.

- **Upper End Scenario**: The upper end scenario represents the project configuration with the most proposed turbines. Using turbines with a nameplate capacity of 1.3 MW each, this scenario would have up to 150 turbines for a total nameplate capacity of 195 MW. The maximum height of turbines in the upper end scenario would be 260 feet.

Several commenters noted that the project defined and analyzed in the Draft EIS is different than the proposal presented in the January 2003 Application for Site Certification (ASC). Specifically, the ASC proposes 121 turbines with a maximum height of 410 feet, whereas the Draft EIS defines the project as between 82 and 150 turbines ranging in height from 260 to 410 feet.

Some commenters also noted that the Draft EIS does not address the specific impacts of all three scenarios. For example, several commenters expressed concern that the Draft EIS analyses are modeled around 1.3 MW turbines, which are substantially smaller (260 feet) than turbines proposed in the lower end scenario (410 feet).

Response:

The project description presented in the Applicant's January 2003 ASC fully disclosed the potential variances in wind turbine dimensions and layout. This range of dimensions (e.g., rotor diameters would range from 197 to 295 feet and the maximum tip height would be 410 feet) is shown in ASC Figure 2.3.6-1 and described in ASC Section 2.3.12. The intent of the ASC was to provide environmental clearances that give the Applicant flexibility to build between 82 3-MW turbines that are 410 feet tall and 150 1.3-MW turbines that are 260 feet tall.

There was no discrepancy between the project as defined in the ASC and the Draft EIS—only more detailed clarification and evaluation. The Draft EIS further refined the project's variability.
in turbine number and size by defining three discrete design scenarios and identifying differences between the three scenarios. For example, the footprint at each turbine pad would vary depending on the size of the wind turbine. Large turbines would require larger foundations and larger crane pads to support the crane equipment for turbine construction. The Draft EIS fully analyzed the entire range of potential impacts and describes all environmental effects for the different sizes and types of wind turbines under each of the three proposed action scenarios.

As noted in Volume 1 of the Final EIS, Chapter 1, Introduction, in late 2005 – early 2006 the Applicant revised the layout and ultimately reduced the project to a maximum of 65 turbines in the 1.5 to 3 MW range. The applicant produced new analyses in support of this project for visual, noise and shadow flicker impacts.

The various updated environmental studies completed for this project, including those completed prior to submission of the ASC in January 2003, remain adequate to evaluate the proposed action scenarios as now described in Chapter 2 of the Final EIS. For example, the wildlife, vegetation, and cultural resources fieldwork conducted prior to the ASC addressed the total area covered by the proposed project elements. As described in Section 2.2.1 of the Draft EIS, the project would be comprised of turbines arranged in numerous “strings,” labeled A through J, for a maximum of 23 miles of turbine strings. Even with the revisions to the layout, the location of the 10 turbine strings remains constant regardless of the size of turbine to be chosen; only the density of turbines sited within each string might be adjusted to accommodate a maximum of 65-turbines overall. Therefore, the footprint data at the project site (e.g., vegetation types, presence of cultural resources) identified in earlier environmental studies, and updated as necessary for the project layout revisions, adequately represent the full range of potential impacts under the proposed action scenarios.

To further address public concerns raised on this topic, the following additional analyses have been integrated into the Final EIS.

**Shadow-Flicker**

Section 3.4 of the Draft EIS presents the results of shadow-flicker modeling conducted for a scenario representing up to 65 440-foot turbines. This is the scenario where the highest impacts are expected. If a 330-foot turbine was selected, the shadow flicker impacts would be lower in both intensity and duration.

Shadow-flicker data in Table 3.4-2 has been updated. In some instances, the number of hours of shadow-flicker predicted at a particular receptor had been miscalculated in the Draft EIS, as explained below.

Shadow cannot occur simultaneously on both the east and west sides of a given residence because the sun rises in the east and sets in the west. For these cases, the calculated hours of shadow-flicker are added together because shadow would occur first at one receptor (e.g., the east window of a residence) and then at another receptor (e.g., the west window of a residence) with no overlap.
For shadow-flicker impacts at receptors located in other orientations, such as to the east and south, the situation is different. Under these circumstances, shadow generated by the turbines can occur at two different receptors at the same time, resulting in overlap (this condition is referred to as “overlapping shadow-flicker”). The Draft EIS analysis incorrectly added together the shadow-flicker hours from these two directions. In reality, the combined shadow-flicker impact from turbines located to the east and south would be more than the number of shadow-flicker hours at one receptor but less than the total hours at both receptors.

A computer model was used to determine the collective effect of shadow-flicker hours per year and number of days per year at receptors with predicted overlapping shadow-flicker. The detailed tables and the plots in the individual shadow-flicker reports reveal the exact overlap at receptors where the turbines are located in an east-south orientation. The combined shadow-flicker hours and days for each receptor are summarized in Table 3.4-2 in the Final EIS.

Noise

Several commenters asked whether the noise results presented in the Draft EIS, which are based on the turbine size for the middle scenario, would also apply to the larger turbine (i.e., lower end) and smaller turbine (i.e., upper end) scenarios. Section 3.12 of the Final EIS now includes the worst-case scenario for noise impacts, based on the largest 410-foot turbine scenario.

The following discussion provides additional analysis on why no measurable difference would be expected if a smaller turbine was chosen. The analysis is based on maximum sound levels of wind turbines in operation in the U.S. that most closely resemble those that would be used in the 410-foot turbine scenario.

The “NM 82 wind turbine,” which has an 82-meter (269-foot) rotor diameter, is the turbine model representative of the 440-foot turbine scenario. The Applicant is seeking approval for turbines up to 90 meters (295 feet) in rotor diameter; however, turbines in this size range are currently in the prototype stage. The Applicant has stated in the ASC that only turbines that are commercially proven through extensive operating experience will be selected for use in this project. Therefore, it is logical to evaluate the noise impact of the largest turbines in commercial operation in the U.S., which are in the 80- to 82-meter (262- to 269-foot) rotor diameter size range. The NM 82 wind turbine has a maximum sound level of 103.3 dB. This is 0.7 dB quieter than the 104 dB listed in the noise model in the Draft EIS for the commercially available turbines, such as a 330-foot turbine. Because the larger 440-foot turbines are installed on taller towers compared to the 330-foot turbines the noise impact of the NM 82 turbine would be the same or less than the noise modeling for a 330-foot turbine scenario.
B. PROPERTY VALUES

Issue Summary:

Several commenters expressed concern that the proximity of the proposed wind turbines to existing residences would decrease property values. They further commented that the property value studies summarized in Section 3.7 of the Draft EIS are outdated, flawed, and biased because they are not site-specific to the proposed project and were conducted by groups that promote the agenda of wind developers.

Response:

The EIS authors reviewed and summarized the best available technical data on the subject of wind power facilities and property values at the time the Draft EIS was prepared. There are no other published, peer-reviewed studies on this subject available for comparison with the proposed KVWPP site. Reviewed data included the most recent comprehensive study written and published by the Renewable Energy Policy Project (REPP) entitled *The Effect of Wind Development on Local Property Values* (May 2003). REPP is a non-profit policy and research organization that receives funding from several sources, including the U.S. Department of Energy and Environmental Protection Agency.

There are different opinions regarding the reliability of the REPP study for predicting property values. For example, prefilled testimony (see Exhibit 100) asserts the REPP study is not an accurate indicator of the project's impacts on property values in Kittitas County. This witness claims that data used in the REPP study are not comparable to conditions in Kittitas County, and that the study's assumption of land values is inconsistent with what a real estate professional would experience in the local market. The witness concludes that construction of wind turbines at the project site will have a detrimental effect on property values within the viewshed (Weaver, Prefiled Testimony, Exhibit 100).

The REPP study acknowledges that, in general, property values respond to a large number of factors. The sole purpose of the REPP study was to determine whether existing data could be interpreted as supporting the claim that wind development harms property values. The REPP study was not offered as a predictor of property values at and around the KVWPP site (Sterzinger, Prefiled Testimony, Exhibit 35). However, it does provide general insight on this subject that can be applied to other wind power developments, regardless of their size and location.

Several commenters expressed concerns that the property value studies summarized in the EIS were not relevant because they did not address the site-specific issues found at the project site. In response to these comments, a study was conducted at and around the project site to address whether the proposed KVWPP might affect property values near the wind turbines. The scope of this study included a review of Realtor multiple listings, County Assessor records on property sales in the area, and several interviews with local Kittitas County real estate brokers and appraisers regarding specific transactions and the anticipated effect of the project on the area.
The study reviewed and analyzed changes in property values over a six-year period—four years before the KVWPP was announced and the two years thereafter—relying on appreciation rates extracted from paired sales. A paired sale is an observation of the sale and resale value of the same property over time. The study also relied on anecdotal observations from local brokers regarding the reactions of property-specific buyers when they were informed about the proposed wind turbines.

The study found that paired sales in the area surrounding the KVWPP were appreciating at rates well above that of the county in general and the city of Ellensburg, both for the four-year pre-announcement period and the two-year post-announcement period. The study concluded that the project would have no impact on property values of undeveloped properties or on the future sale and value of developed properties. For more information, see De Lacy, Prefiled Testimony, Exhibit 36.

Finally, during the Adjudicative Hearings conducted in September 2006, an additional study completed in April 2006 came to light (ECONorthwest 2006; Hoen 2006). Hoen analyzed 280 arms-length single-family home sales using a hedonic model. Sales were studies within 5 miles of a 20-turbine wind farm in Madison County, New York for the period 1996-2005. The study author visited each home in the sample to determine the exact level of turbine visibility. The study also controlled for the exact distance between the homes and the turbines. The study concluded that, all other factors being equal, there was no statistically significant measurable effect on property values based on the view of and distance from the turbines.

Property values were analyzed in the Draft EIS, exceeding the minimum requirements established under State Environmental Policy Act (SEPA) regulations. The SEPA rules (WAC 197-11-448) do not require agencies to address concerns such as property values, general welfare, social, economic, and other considerations. Property values, taxes, and prospective legal costs fall within the realm of “social policy analysis (such as fiscal and welfare policies...),” which is specifically identified in WAC 197-11-448 (3) as an example of information that is not required in an EIS.

While it may be appropriate for EFSEC, under its own regulations, to consider issues such as economic impacts on property values during project approval, this information is not necessary nor is it required in the Draft or Final EIS. EFSEC will make a decision regarding the project’s effect on local property values based on the evidence presented in the public record, including the summary of previous property value studies, the site-specific property value analysis, comments on the Draft EIS and Supplemental Draft EIS, and testimony presented by witnesses during the adjudicative proceedings.

C. Initiative I-747 and Property Taxes

Issue Summary:

During the EIS scoping process, many comments were received on the issue of tax revenues generated by the proposed project. For example, one commenter requested that the EIS describe how a “compatible” commercial use would be taxed on land currently designated as open range.
The same commenter also asked if project area lands would be reclassified to reflect the new commercial use, and requested a discussion of how the tax base would increase and if increased tax revenues would stay in the area. Another commenter asked if property taxes would go down if the project were built under I-747. Classification of the project area for taxing purposes is a decision made by the Kittitas County Assessor. Potential tax revenues generated by the proposed project, and the effects of I-747, are discussed below.

Response:

The 2002 ECONorthwest study acknowledged that a possible effect of the added tax base would be to reduce other taxes, thereby reducing the projected increase in tax revenue discussed above. Washington State Initiative I-747, approved in 2001, limits a taxing authority’s total property tax revenue increases to 1% per year. There are exemptions for new construction and excess levies approved by the voters. If the assessed value in a district increases dramatically, levy rates would likely have to be decreased in order to meet the requirements of I-747. It is anticipated that this would be the case with the addition of the project to the local property tax base because the project would represent an increase of much more than 1% in total assessed value for the local districts. Assuming the property tax levies were reduced, it would result in lower property taxes for other taxpayers in the County (EFSEC 2004b).

The issue of the effect of I-747 on project revenues was raised in comments on the Draft EIS (see Organization Letter 6 in Volume 2). In the fall of 2004 the Economic Development Group of Kittitas County developed an analysis that assumes the allocation of total project costs/value between real and personal property would be 80% personal property and 20% real property (new construction). Therefore, only new construction (the real property portion of the project) would produce new tax revenue. Under these assumptions, the new calculation shows that the proposed project would only generate approximately $351,110 of new annual tax revenue.

However, effective June 2006, Substitute Senate Bill 6141 clarified that 100% of the project would be regarded as new construction (Strand 2006a, 2006b; Washington State Legislature 2006). Since I-747 exempts new construction from the 1% tax limit the issues surrounding the impacts of I-747 on taxation of the project become moot. In August 2006, an updated economic analysis for the project as revised to 65-turbines also became available (ECONorthwest 2006). As presented in Section 3.7, Socioeconomics, of the Final EIS, the 65-turbine project would represent an estimated project value of $190 thousand dollars, with an estimated tax revenue of $1,508,325 in the first year of operations.