

1.0 SUMMARY

1.1 INTRODUCTION

Chapter 1 provides a summary of the Final Supplemental Environmental Impact Statement (Final SEIS) for the revised Desert Claim Wind Power Project, which is proposed by Desert Claim Wind Power LLC (Desert Claim). The summary briefly describes relevant background information, including the environmental review process and the Applicant's objectives. The major features of the Proposed Action, and alternatives to the proposal, are next described. The significant environmental impacts expected to occur as a result of the Proposed Action and alternative are summarized in a table. Cumulative impacts are also identified. Mitigation measures, which could avoid, minimize, reduce, or compensate for impacts are described. Finally, significant impacts that cannot be avoided if the proposal is implemented are identified.

Chapter 2 of the SEIS includes a complete description of the Proposed Action, including changes that have been made to the Project since it was first proposed to Kittitas County in 2003. The No Action Alternative is also described. A potential off-site alternative, in addition to those described in the 2004 Final EIS, is discussed but is not found to be reasonable; this alternative is not considered in detail in the SEIS. This chapter also describes the steps in the SEPA process, ongoing consultation, and stipulations and agreements that have resulted in additional commitments for mitigation.

Chapter 3 describes the affected environment, significant impacts, including the cumulative impacts of the Project and other approved wind power projects in the general vicinity, and mitigation measures. Significant impacts that cannot be avoided are identified. This chapter of the Final SEIS incorporates changes and clarifications to the analysis, and additions or clarifications of mitigation measures; these changes reflect comments received on the Draft SEIS and agreements with state agencies and tribes.

Chapter 4 includes comment letters and testimony that were provided on the Draft SEIS and provides responses to those comments.

Chapter 5 lists references used in the SEIS.

Chapter 6 lists the agencies, organizations, and individuals who received copies of the Final SEIS.

1.2 ENVIRONMENTAL REVIEW PROCESS

This SEIS has been prepared for and at the direction of the Washington State Energy Facility Site Evaluation Council (EFSEC), consistent with the State Environmental Policy Act (SEPA, RCW 43.21C) and rules adopted by EFSEC to implement SEPA (Washington Administrative Code [WAC] 463-47). It supplements the information contained in the Final EIS published by Kittitas County in 2004 for a larger (120 turbine) but similar Desert Claim wind power project. Desert Claim submitted an Application for Site Certification (ASC) to EFSEC in November 2006. After reviewing the ASC and the Final EIS, EFSEC determined that an SEIS was appropriate for the revised proposal. EFSEC published a Notice of Adoption and Determination of Significance on March 19, 2007, and established the scope of the SEIS, which is limited to the following environmental issues: Wetlands, streams, wildlife, cultural resources, and aesthetics/visual impacts. A revised Application was submitted in February 2009. A Draft SEIS was published on April 2, 2009, and written comments on the Draft SEIS were received until May 4, 2009. EFSEC also held a public meeting in Ellensburg on April 23, 2009, to receive public comments on the Draft SEIS.

Following publication of the Draft SEIS, the Applicant consulted with the Yakama Nation, the Counsel for the Environment (CFE), and the Washington Department of Fish & Wildlife (WDFW). These consultations resulted in agreements regarding additional studies, mitigation measures and plans that will be implemented regarding habitat, wildlife, and historic and cultural resources.

1.3 APPLICANT'S OBJECTIVES

enXco, the owner of Desert Claim Wind Power LLC, is a privately held company based in California that develops, builds, operates, and manages commercial scale wind energy projects throughout the United States and other countries. The company currently has approximately 1,375 megawatts (MW) of wind power projects in operation, and projects totaling another 4,200 MW under development.

The primary objective of the Desert Claim proposal is to develop a commercially viable wind energy facility with a total nameplate capacity of at least 190 MW and a maximum of 95 wind turbines, plus necessary support facilities. Site-specific criteria needed to support this objective include sufficient wind resource to achieve the desired goal for generation; access to sufficient available capacity on an existing electrical transmission system; lack of significant constraints posed by environmentally sensitive resources or recreational areas; and relatively large tracts of open land that are available for sale or lease.

1.4 PROPOSAL AND ALTERNATIVES

1.4.1 Revised Desert Claim Proposal

Wind energy production requires five basic functions, including electricity generation, energy transfer, power collection, an electrical substation, and transmission facilities. The facilities proposed to accomplish these functions, and to meet the Applicant's objectives, are described below.

Project Area. The Project Area is comprised of 5,200 acres of land: 2,551 acres to be leased from four private landowners, 1,529 acres to be leased from the Department of Natural Resources, and 1,120 acres to be owned by an affiliate of the Applicant. The contiguous Project Area is located approximately 8 miles northwest of Ellensburg.

Wind Turbines. Desert Claim would include a maximum of 95 wind turbines, each with a nameplate generating capacity of 2 MW. Total height of the turbine with the tip pointing up is 410 feet. Total generating capacity of the Project would be 190 MW, which is sufficient to serve between 42,750 and 57,000 homes. The proposed turbine layout incorporates safety setbacks from buildings, public roads, utility corridors, and project boundaries, and a minimum 1,640-foot separation from residences outside the Project Area.

Power Collection System. Power generated by turbines would be collected by approximately 27 miles of cables located primarily underground. The collection system would generally be placed within roads and would avoid, bridge or tunnel beneath wetlands and streams.

Substation. One substation, occupying approximately 2 acres, would be constructed to step-up the power collected from turbines. The preferred location is adjacent to the Puget Sound Energy (PSE) Rocky Reach transmission line. An alternative location is identified adjacent to the Bonneville Power Administration (BPA) transmission line. The substation area would be gravel covered and fenced.

Meteorological (Met) Towers. Four permanent towers would be constructed to measure wind speed and collect other met data. The met towers would be freestanding, 212-foot tall open steel structures set on concrete foundations

Access Roads. A system of single-lane gravel roads, 27 miles in length, would be constructed to provide access to all turbines for maintenance. Roads would bridge or span wetlands and streams where they cannot be avoided.

Operations. An approximate 5,000 square foot operations facility would be constructed. It would include offices for operating and monitoring the Project, enclosed space for equipment storage and maintenance, and parking for employees and visitors. The facility would occupy a 2-acre site.

Construction. Construction of the Project is estimated to require approximately 10 months and would employ a workforce of 120 to 180 workers.

1.4.2 No Action

Under the No Action Alternative the proposed Desert Claim Wind Power Project and all associated features including the turbines, access roads, utility trenches, and substations would not be constructed. There would be no adverse environmental impacts from development of the wind power facility within the Desert Claim Project Area. However, on-site agricultural and rural residential activities would continue for the foreseeable future under current zoning. The potential for residential development in the Project Area, to the extent permitted by existing zoning, and the potential for conflicts with existing agricultural activities, would continue. Conversion of some privately-owned lands to rural residential uses could displace existing uses and affect rural character over time.

1.4.3 Off-Site Alternatives

Two off-site alternatives were evaluated in the Desert Claim Final EIS. These alternatives have not changed and are not repeated in the SEIS.

1.4.4 Alternatives Considered But Not Carried Forward

Kittitas County's Pre-Identified Wind Farm Area, identified in Kittitas County Code 17.61A.035, was evaluated as the site of a potential alternative. While the area is large (approximately 285,120 acres), much of the area is in federal ownership (Yakima Firing Center 92,160 acres), managed by the State of Washington for wildlife and habitat conservation (136,746 acres), or approved for the Wild Horse and Vantage wind power projects (14,630 acres). The remaining lands are contiguous to the I-90 corridor, in fragmented/non-contiguous parcels, or in locations where wind resources are unsatisfactory. Moreover, the Applicant has no leases or property rights in this area. On balance, these constraints are considered to be substantial and would severely limit the potential to site a wind power project. As a result, this area is not considered to be a reasonable off-site alternative and is not evaluated in detail in the SEIS.

1.5 SUMMARY COMPARISON OF ENVIRONMENTAL IMPACTS

Table 1.5-1 below briefly and generally compares the expected impacts of the Desert Claim proposal to the No Action alternative. The table is a general summary and is based on the detailed discussion in Chapter 3 of the SEIS. Interested readers should consult the detailed discussion for more information.

Table 1.5-1. Summary of Environmental Impacts

Element of the Environment	Revised Desert Claim Project	No Action Alternative
Water Resources		
Streams	No temporary or permanent impacts are anticipated to occur. Project access roads or the power collection system would cross on-site streams or irrigation ditches by bridging, boring underneath, bridging or using power poles, as appropriate.	While a wind power facility would not be constructed, impacts to streams in conjunction with rural residential development or ongoing agricultural activities could occur and could result in direct and indirect impacts to streams.
Plants and Animals		
Vegetation	<p>Approximately 86.4 acres of vegetation in the Project Area would be permanently disturbed by proposed facilities, and 230.8 acres would be temporarily disturbed. An additional 19.5 acres would be disturbed by construction staging and storage; these areas have not been located at this time. Total disturbance (temporary and permanent) would be 317.2 acres. Disturbance would be less than for the original Desert Claim proposal.</p> <p>Most disturbances would occur in grassland and shrub-steppe habitat types; small areas of agricultural land, riparian forest, riparian shrub, open water and wet meadow would also be disturbed. If unmitigated, this loss of habitat could affect some species of wildlife. The Applicant has proposed to mitigate these impacts according to the WDFW guidelines and an agreement with the agency.</p> <p>A formal survey for federally-listed rare plants (Ute-ladies tresses) was conducted in July 2009 and did not identify the presence of rare plants. State-listed species are not expected to be present because habitat requirements of these plants are not present and the site has been extensively disturbed. Additional survey work and consultation with the Yakama Nation will be conducted in conjunction with micro-siting to identify traditional and medicinal plants.</p>	While a wind power facility would not be constructed, residential development or ongoing agricultural activities could result in direct and indirect impacts to vegetation.

Table 1.5-1. Summary of Environmental Impacts (continued)

Element of the Environment	Revised Desert Claim Project	No Action Alternative
Wetlands	No impacts to wetlands or buffers would occur. Impacts would be avoided through placement and micro-siting of turbines, or by spanning wetlands	While a wind power facility would not be constructed, impacts to wetlands in conjunction with rural residential development or ongoing agricultural activities could occur and could result in direct and indirect impacts to wetlands.
Wildlife	<p>Most impacts to wildlife from construction and operation would be as described in the 2004 Final EIS and the 2006 ASC for the project. These would include loss of some existing habitat, primarily grassland and shrub-steppe; some mortality, disturbance, and displacement of wildlife during construction; and limited, intermittent disturbance of wildlife as a result of ongoing maintenance activity. As noted in the Final EIS, these effects would be minor.</p> <p>Mortality estimates for birds and bats are based on recent studies of existing wind facilities in the Columbia Plateau eco-region and the size of the Project in MW. Total avian mortality (raptors, passerine and waterfowl) is estimated to be between 171 and 608 birds per year, with passerines comprising the largest percentage. These mortalities are not expected to have a significant effect on the populations of the species evaluated, either for Desert Claim alone or in combination with other approved wind power facilities.</p> <p>Impacts to resident and non-migratory species of bats would be minor, assuming that Desert Claim results in mortality rates similar to other Columbia Plateau wind power projects. Using a per MW estimate, bat mortality is estimated to range from 76 to 475 bats per year.</p>	No impacts to existing wildlife populations would occur as a result of wind energy development on the Project site. Existing wildlife conditions on the Project site would be unchanged, subject to ongoing local changes from ongoing agricultural activities, rural residential development, and broader regional trends affecting wildlife.

Table 1.5-1. Summary of Environmental Impacts (continued)

Element of the Environment	Revised Desert Claim Project	No Action Alternative
Historic Resources	Thirty sites and 103 isolates were identified within the revised Desert Claim site area. If the Project were constructed according to the current layout, without any effort to avoid these resources during the final design and micrositing, 26 sites and isolates would be impacted by the Project. However, the Applicant proposes to avoid significant cultural resources during final design and micro-siting, where practical, and implement other measures to mitigate impacts when complete avoidance is not practical. Additional survey work and consultation with the Yakama Nation will be conducted in conjunction with micro-siting to identify Traditional Cultural Properties and sites associated with culturally important events and people.	Although the proposed wind power facility would not be constructed and no Project-related impacts to cultural resources would occur, past and current effects to cultural resources, such as from ongoing surface erosion and weathering and agricultural activities, would continue for the foreseeable future. Conversion of land for low density rural residential uses could occur over the long term and could result in direct and indirect impacts to cultural resources.
Aesthetics	The location of impacts has changed in some instances as a result of revisions to the Project Area, the reduced number of turbines, and the greater separation between turbines and adjacent residences. Twenty-four simulations – showing visual characteristics with and without the proposed wind facility – were created, compared to 19 for the Final EIS proposal. The greatest impact would be experienced by observers closest to turbines. Overall, changes to the Project (e.g., contiguous Project Area, reduced number of turbines, increased separation from residences) would reduce Project impacts for most viewer groups compared to the original Project proposal considered in the Final EIS.	Visual quality of the surrounding area would not change directly, but would continue to be influenced by existing land uses and potential changes to land use.

1.6 CUMULATIVE IMPACTS

The cumulative impact analysis considers the impacts of the three previously approved wind power facilities and the Desert Claim Project. Projects considered include the proposed Desert Claim Project, and the approved Kittitas Valley, Wild Horse, and Vantage projects.

1.6.1 Water Resources

1.6.1.1 Streams

No impacts are identified for the Desert Claim, Kittitas Valley, or Wild Horse projects. The Vantage Wind Power Project could entail a small but un-quantified amount of fill in one seasonal drainage. Each project would implement mitigation measures in the form of

construction Best Management Practices (BMPs) to minimize sedimentation and potential water quality impacts. Cumulative impacts are not expected to be significant.

1.6.2 Plants and Animals

1.6.2.1 Vegetation

Wetlands

No temporary or permanent wetland impacts are expected to occur as a result of the revised Desert Claim proposal. Impacts identified for the Kittitas Valley Project (DEIS Addendum 2005) would be limited to 165 square feet (.00375 acre) of intrusion in two small wetlands in conjunction with road construction. No wetlands were identified on the Wild Horse site and no impacts would occur. Similarly, no wetland impacts were identified for the Vantage Wind Power Project.

1.6.2.2 Wildlife

For the entire Columbia Plateau Ecoregion, there are 47 existing and proposed wind energy facilities with a combined capacity of 6,700 MW. If all of these facilities were constructed, cumulative avian mortality estimates are as follows: raptors – 469 annually; all other birds – 14,070 annually; and bats – 7,907 annually. Local populations of these species are abundant and would not be significantly affected. Cumulative impacts to the bald eagle, golden eagle, loggerhead shrike, and sage thrasher are not expected.

1.6.3 Historic Resources

In general, impacts to cultural resources have been or would be avoided by each of the approved or proposed wind power projects through site planning and micro-siting of individual turbines, or would be mitigated through approved data recovery programs. With mitigation, no significant impacts to cultural resources are expected to occur as a result of the revised Desert Claim proposal. Likewise, with mitigation, no significant impacts to cultural resources were identified for the Kittitas Valley Wind Power Project (Final EIS 2005), the Wild Horse Wind Power Project (originally approved and expanded), or the Vantage Wind Power Project.

1.6.4 Aesthetics

Three approved or constructed wind power projects are located in Kittitas County: Kittitas Valley, approximately 0.5 mile from the Desert Claim site; Wild Horse, approximately 16 miles to the east; and Vantage, approximately 19 miles to the east. Turbines from the Wild Horse and Vantage projects could be barely discernible from the Desert Claim site and would have little or no effect on views.

Visitors and residents will be aware that there are numerous wind turbines in the greater Kittitas Valley area; some will likely be tourist attractions. There would be a change in the baseline visual conditions of areas in which turbines are visible. Perceptions of the rural and agricultural character of the area may change to some degree. There may be a few locations where all four wind power projects could be visible in the distance.

Visual simulations were created from four viewpoints where both the Desert Claim and Kittitas Valley projects could be seen. The simulations indicate that cumulative visual impacts of both projects would not be significantly greater than those of Desert Claim alone.

1.7 MITIGATION MEASURES

1.7.1 Water Resources

1.7.1.1 Streams

Mitigation measures – such as bridging or boring – have been incorporated into the proposal so that no significant impacts to streams would occur. As identified in the Desert Claim Final EIS, these include developing and implementing construction BMPs, a Temporary Erosion and Sedimentation Control Plan (TESCP), and a Stormwater Pollution Prevention Plan (SWPPP) to minimize erosion, sedimentation and impacts to water quality. No additional mitigation measures are required.

1.7.2 Plants and Animals

1.7.2.1 Vegetation

Mitigation measures described in the Desert Claim Final EIS are generally sufficient to address impacts to vegetation. These include or involve use of BMPs during construction to minimize the disturbance footprint; timing construction activities to reduce impacts; plans and standards for site reclamation and restoration; use of standard measures to control the spread of noxious weeds; and acquisition of new habitat to replace permanent shrub steppe and grassland habitat impacts, based on WDFW mitigation ratios. Subsequent to the publication of the Draft SEIS, the Applicant executed an Agreement with WDFW and a Stipulation with the CFE. Collectively, these documents specify additional measures, and provide more detailed specification of measures originally proposed, to mitigate potential impacts to vegetation and habitat.

1.7.3 Wetlands

Mitigation measures have been incorporated into the proposal so that no wetland impacts would occur. No additional mitigation measures are required. Any work adjacent to wetlands would adhere to applicable federal, state and local regulations and would be addressed in the

Department of Ecology Stormwater Discharge Permit, SWPPP, and TESCP. The Agreement with WDFW and the Stipulation with the CFE, as discussed above, also incorporate measures to mitigate potential impacts to wetlands.

1.7.4 Wildlife

Mitigation measures identified in the Desert Claim Final EIS are generally adequate to address identified impacts. The Agreement with WDFW and the Stipulation with the CFE, as discussed above, also incorporate additional measures to mitigate potential impacts to wildlife. Agreed-upon measures include use of BMPs during construction to minimize potential disturbance; timing construction to reduce impacts; use of standard design measures to minimize wildlife interactions; additional pre-construction or pre-operation surveys for bats and specified bird species; post-construction monitoring programs focused on birds and bats; and formation of a Technical Advisory Committee (TAC) to review studies and monitoring data and recommend appropriate actions to EFSEC.

1.7.5 Historic Resources

Direct impacts to most identified sites and resources could be avoided by micro-siting turbines or modifying the alignments of roads or electrical collection system components in specific locations. The boundaries of identified resources should be staked in the field and flagged as no disturbance areas. The site markings should be removed following construction to avoid disclosure of resource locations. The Applicant engaged in additional consultation with the Yakama Nation regarding identification of Traditional Cultural Properties (TCPs) and sites associated with culturally important events and people. The Applicant and the Yakama Nation have reached agreement on a Memorandum of Understanding (MOU) addressing these topics.

If avoidance is not practical because another resource (e.g., wetland, stream) would be impacted, or there are other constraints on siting, the Applicant will prepare an Archaeological Resources Protection, Treatment, Mitigation and Monitoring Plan in consultation with Department of Archaeology and Historic Preservation (DAHP). The plan could include data recovery excavations, research and/or recording of scientific and historic information.

Based on consultation with DAHP, potential impacts to the historic character of the surrounding landscape could be mitigated by documenting the existing cultural landscape and developing a landscape history prior to commencement of construction. The Applicant should execute a Memorandum of Agreement (MOA) with DAHP to identify the scope of this documentation and analysis.

Additional management efforts should be undertaken to address potential impacts to archaeological resources. Appropriate measures could include relocating resources out of the

direct impact area, and updating of inventory forms to reflect the moves. Where resources cannot be moved (e.g., an irrigation ditch and stock pond), additional documentation of physical characteristics should occur.

An unanticipated discovery plan should be developed prior to construction. This would include protocols for notification, evaluation and treatment of any archaeological or human remains that might be discovered during construction.

1.7.6 Aesthetics

A number of mitigation measures have been incorporated into the revised Desert Claim Project and have reduced impacts compared to the Final EIS proposal. These include: a contiguous, slightly smaller project area, located further from the Ellensburg population center; reduction in the number of turbines (from 120 to 95) and lower turbine density; an evenly spaced turbine array, without significant gaps or isolated groupings; use of turbines of a consistent type and height; a minimum separation between turbines and adjacent residences of at least 4 times the tip height (there are only 7 residences outside the Project Area that are less than 2,500 feet from a turbine, and the closest is 1,687 feet from the nearest turbine); elimination of daytime strobes; and reduction in the number of turbines required to be lit at night.

Numerous additional mitigation measures are identified related to *visual integration* (e.g., using local materials and native landscaping for Project facilities, using low reflectivity, neutral colors for Project facilities to help them blend in); *ecological restoration* (e.g., replacing native vegetation in disturbed areas; *equipment maintenance* (e.g., promptly removing or repairing non-functioning turbines); and *information and education* (e.g., notify the local community of timing and duration of construction).

1.8 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

1.8.1 Water Resources

1.8.1.1 Streams

Potential temporary and permanent impacts to streams would be avoided. Therefore, no significant unavoidable adverse impacts to streams would occur as a result of the proposal.

1.8.2 Plants and Animals

1.8.2.1 Vegetation

There would be approximately 86 acres (less than 2 percent of the Project Area) of unavoidable displacement of existing vegetation with development of the Project. These impacts are not considered significant because they would not result in elimination of an entire vegetation type in

the Project Area, loss of 10 percent or more of a priority habitat in the Project Area, or a decrease in species richness resulting from the loss of a plant population in the Project Area. No significant unavoidable adverse impacts to rare plants from construction, operation or decommissioning of the proposed Project are expected. Similarly, the Project is not expected to result in significant unavoidable adverse impacts related to potential introduction or spread of noxious weeds.

1.8.2.2 Wetlands

All potential temporary and permanent wetland impacts would be avoided, and no significant unavoidable adverse impacts to wetlands would occur as a result of the proposal.

1.8.2.3 Wildlife

There would be unavoidable adverse impacts to several types of wildlife as a result of the Project. These would include temporary displacement of wildlife as a result of construction disturbance, loss of some individuals from immobile species during construction, loss of existing habitat within the construction footprint of the Project, and collision-related mortality of birds and bats during Project operation. These impacts are not considered significant based on consideration of the impact context, because the impacts would be temporary, limited in extent or intensity, and/or would be mitigated. With respect to bird and bat mortality, the analysis determined that the mortality levels estimated for the Project would not represent significant population-level impacts for the respective species affected. With the mitigation measures identified, no significant unavoidable adverse impacts to birds or other wildlife are expected.

1.8.3 Historic Resources

Construction and operation of the proposal could result in significant adverse impacts to historic and cultural resources. The Applicant has proposed to implement mitigation measures that would avoid such impacts and/or reduce them to a level of non-significance. Such measures include avoidance by relocation of Project facilities in specific locations, or implementing approved data recovery programs. With the identified mitigation, no significant unavoidable adverse impacts would occur.

1.8.4 Aesthetics

Some degree of visibility is inherent in a wind power facility; wind turbines are large objects and cannot be made invisible from all locations. Residents living closest to proposed turbines may experience the changes in the visual environment to be adverse and significant. Wind turbines would be visible in varying degrees, and with a lower degree of impact, from other locations more distant from the Project site.

1.9 CONSULTATION AND COORDINATION

The Desert Claim Final EIS identifies the public involvement and coordination activities that occurred in connection with the original Desert Claim proposal. Since that time, as the Project has been revised, the Applicant has continued to coordinate with EFSEC and agencies in connection with revising technical studies and addressing expressed concerns. EFSEC held several meetings in 2007 in connection with the revised ASC and issues relating to land use consistency. EFSEC also engaged a consultant to review the Desert Claim Final EIS and to provide an opinion on how to proceed with environmental review for the revised application (Golder Report). On March 19, 2007, EFSEC issued a notice of adoption and scoping notice, identifying that an SEIS would be prepared to address changes to the proposal and requesting comments. Consultation with the Yakama Nation has resulted in an agreement to execute an MOU to conduct additional surveys and evaluations of TCPs. Consultation with the CFE and WDFW has resulted in agreements and commitments to mitigation relating to wildlife resources and habitat impacts.

1.10 ISSUES TO BE RESOLVED

The issues identified for evaluation and resolution in the SEIS include wetlands, streams, plants and animals, historic resources, and aesthetics. This SEIS addresses how changes to the proposal affect the previous analysis of these potential impacts. Information contained in the Desert Claim Final EIS, which has been adopted for purposes of environmental review, adequately addresses other environmental concerns.