

Mitigation Action Plan for the Whistling Ridge Energy Project

Measure	Implementation Timeline	Implementation Responsibility
<i>Earth (geology, soils, topography, and geologic hazards)</i>		
Prior to Project construction, confirm subsurface soil and rock types and strength properties through a detailed geotechnical investigation of the specific locations of all wind Project elements, including wind turbines, access roads, underground trenching corridors, electrical grounding systems, and the substation and Operations and Maintenance facility locations.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
If detailed geotechnical investigations indicate potential for slope instability at Project facilities, ensure that design of these facilities included proper engineering to account for this risk or relocate the facilities on-site to avoid this risk.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), Erosion and Sedimentation Control Plan, and Environmental Protection Control Plan to lessen soil erosion and improve water quality of stormwater run-off through stabilization practices, structural practices, and stormwater management. For the Wind Project facilities, these Plans would be developed and approved by EFSEC prior to construction or modification of any roads or facilities. EFSEC may require the Applicant (WRE) to obtain coverage under Ecology's Construction Stormwater General Permit because the Project would disturb more than 1 acre of land.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Conduct a visual inspection of Project facilities following any abnormal seismic activity. These inspections would look for signs of incipient mass movement in areas identified as potentially susceptible to such failures.	Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement all stormwater pollution prevention activities prior to any clearing and site preparation. Measures would include installation of a stabilized construction entrance, wheel wash, silt fences, hay bales, temporary and/or permanent water conveyance systems, and installation of temporary and/or permanent retention ponds. Control dust as needed by spraying water on dry, exposed soil.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Limit clearing, excavation and grading to those areas of the Project Area absolutely necessary for construction of the Project. Areas outside the construction limits would be marked in the field and equipment would not be allowed to enter these areas or to disturb existing vegetation.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Inspect any installed run-off and erosion control structures at a frequency sufficient to provide adequate environmental protection. Such inspections would increase in frequency during rainfall periods.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)

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<p>Build all structures on the site in accordance with the seismic design provisions of the 2006 version of the International Building Code, and the American Society of Civil Engineers 07-05 standard. Foundations and buildings would be designed for Seismic Zone 2, and the values listed in the table below would be used for seismic design of the Project in accordance with Section 1613.5.3 of the 2006 International Building Code. The occupancy category of the proposed structure is assumed III as per Section 1613.5.6 of the 2006 International Building Code.</p> <p style="text-align: center;">2006 International Building Code Seismic Design Values</p> <table border="1" data-bbox="216 505 1094 870"> <thead> <tr> <th>Parameter</th> <th>Value</th> <th>2006 IBC/ASCE 7-05 Reference</th> </tr> </thead> <tbody> <tr> <td>Soil Profile Site Class</td> <td>C</td> <td>Table 1613.5.2</td> </tr> <tr> <td>0.2 Second Spectral Acceleration S_s</td> <td>0.60 g</td> <td>Figure 1613.5 (1)</td> </tr> <tr> <td>1.0 Second Spectral Acceleration S₁</td> <td>0.20 g</td> <td>Figure 1613.5 (2)</td> </tr> <tr> <td>Peak Ground Acceleration (0.4SDs)</td> <td>0.186 g</td> <td>ASCE 7-05 equation 11.4-5</td> </tr> <tr> <td>Site Coefficient F_a</td> <td>1.16</td> <td>Table 1613.5.3 (1)</td> </tr> <tr> <td>Site Coefficient F_v</td> <td>1.6</td> <td>Table 1613.5.3 (2)</td> </tr> <tr> <td>Seismic Design Category^a</td> <td>D</td> <td>Tables 1613.5.6 (1) & (2)</td> </tr> </tbody> </table> <p>ASCE – American Society of Civil Engineers IBC – International Building Code ^a Assumes Seismic Use Group III</p>	Parameter	Value	2006 IBC/ASCE 7-05 Reference	Soil Profile Site Class	C	Table 1613.5.2	0.2 Second Spectral Acceleration S _s	0.60 g	Figure 1613.5 (1)	1.0 Second Spectral Acceleration S ₁	0.20 g	Figure 1613.5 (2)	Peak Ground Acceleration (0.4SDs)	0.186 g	ASCE 7-05 equation 11.4-5	Site Coefficient F _a	1.16	Table 1613.5.3 (1)	Site Coefficient F _v	1.6	Table 1613.5.3 (2)	Seismic Design Category ^a	D	Tables 1613.5.6 (1) & (2)	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
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Store additional erosion control supplies, including sandbags and channel-lining materials, on site for emergency use.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)																								
Divert surface runoff around and away from cut and fill slopes using pipes and/or protected channels. If the runoff is from disturbed areas, it would be directed to a sediment trap prior to discharge.	During and after construction	BPA (interconnection facilities) and WRE (Wind Project facilities)																								
Construct all Project roads to be gravel surfaced with a low profile. Road construction would be performed in multiple passes starting with the rough grading and leveling of the roadway areas, if necessary. Once rough grade is achieved, a fabric layer would be installed, base rock would be trucked in, spread and compacted to create a road base. A capping rock would then be spread over the road base and roll-compacted to finished grade.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)																								
Placement of all spoils piles would be regulated by the conditions of the stormwater permits.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)																								

Measure	Implementation Timeline	Implementation Responsibility
Spread soil and rock that is excavated through grading across the site to the natural grade and reseed with native grasses or seeds to control erosion by water and wind.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Crush larger cobbles into smaller rock for use as backfill or road material or dispose of materials offsite. Those materials that cannot be reused on site would be disposed of in accordance with Skamania County and Ecology regulations for clean fill materials.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
<i>Air Quality</i>		
Ensure that all vehicles used during construction comply with applicable Federal and state air quality regulations.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement operational measures, such as limiting engine idling time and shutting down equipment when not in use, to reduce air emissions.	Post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement active dust suppression on unpaved construction access roads, parking areas and staging areas, using water-based dust suppression materials in compliance with state and local regulations.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement a dust control program to minimize any potential disturbance from construction-related dust. Dust suppression would be accomplished through application of either water or a water-based, environmentally safe dust palliative such as lignin. The use of a dust palliative such as lignin (a non-toxic, non-hazardous compound derived from trees) would result in the use of substantially less water for dust suppression and therefore less traffic from water trucks to the construction site. The final decision regarding dust suppression techniques would be made by the Construction Contractor in consultation with local authorities.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Limit traffic speeds on unpaved Project roads to 25 mph to minimize dust.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Encourage carpooling among construction workers to minimize construction-related traffic and associated emissions.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Replant or gravel disturbed areas to reduce wind-blown dust.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement erosion control measures to limit deposition of silt to roadways.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)

Measure	Implementation Timeline	Implementation Responsibility
Water Resources		
Prepare and implement a SWPPP prior to construction of the proposed Project to lessen soil erosion and improve water quality of stormwater run-off. The SWPPP would be developed to prevent movement of sediment off-site to adjacent water bodies during short term or temporary soil disturbance at construction sites. The plan addresses stabilization practices, structural practices and stormwater management (as outlined by Section 402(p) of the Federal Clean Water Act and Chapter 90.48 RCW of the State of Washington's Water Pollution Control Act).	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Identify all areas of potential chemical storage during construction, including any herbicides, and provide appropriate control measures within the SWPPP.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Control the sequence and methods of construction activities to limit erosion. Clearing, excavation, and grading would be limited to the minimum areas necessary for construction of the Project, and would not be performed far in advance of facility construction.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Design slopes to be graded no steeper than 3 feet horizontal (H) to 1 foot vertical (V).	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Protect slopes less than 3H:1V with silt fencing as appropriate. Silt fences would be installed in locations where they would trap silt eroded from slopes during construction and prior to reestablishing vegetation. The maximum flow path to each silt fence would be approximately 100 feet. No concentrated flows greater than 1 cubic foot per second would be directed toward any fence for the 25-year storm. Silt fences would be maintained throughout the construction period and beyond, until disturbed surfaces had been stabilized with vegetation. Silt fence construction would be determined by local construction conditions during final design of the facilities.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Design sediment control measures used during construction based on 10-year design storm specifications. Water quality measures (other than sediment removal) would be based on the 6-month, 24-hour design storm.	Prior to and during construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Utilize appropriately designed sediment traps to intercept stormwater runoff and allow sediment to settle, thereby minimizing the amount of sediment flowing off site. Sediment traps would be sized for the specific disturbed area, for bare soil conditions, and typically for 75 percent sediment removal efficiency.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement and emphasize erosion controls over sediment controls through non-quantitative construction activities such as: <ul style="list-style-type: none"> • Straw mulching and vegetating disturbed surfaces; • Retaining original vegetation wherever possible; • Timing grading operations to dry seasons; • Directing surface runoff away from denuded areas; • Keeping runoff velocities low through minimization of slope steepness and length; and • Providing and maintaining stabilized construction entrances. 	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Grade control structures, such as rock check dams, hay bale check dams, dikes, and swales, would be used where appropriate to reduce runoff velocity, as well as to direct surface runoff around and away from cut-and-fill slopes. Swales and dikes also would be used to direct surface water on top of the filled pad toward sediment traps and away from flowing over the bank.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)

Measure	Implementation Timeline	Implementation Responsibility
Utilize the appropriate erosion control blankets designed for various weather conditions during the construction period, such as straw or jute matting or other suitable erosion control blankets, on any disturbed slopes to prevent erosion and control sediment migration.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Use quarry spall construction entrances to reduce migration of construction dirt to public roads. Placing the construction entrances is one of the first activities required at the site, but the rock bed also must be periodically replenished as it becomes dirty or migrates into the subgrade. All construction traffic would be directed to use the construction entrances.	During construction	WRE
Restore ground surfaces within fourteen days of the area's final disturbance. Interim surface protection measures, such as erosion control blankets or straw matting, also may be required prior to final disturbance and restoration if warranted by the potential for erosion.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
<p>Reduce potential for chemical pollution of surface waters during construction. Since source control is the most effective method of preventing chemical water pollution, careful control must be exercised over potentially polluting chemicals used on site during construction. Under the Spill Pollution, Control, and Countermeasure (SPCC) Plan, the general contractor would be responsible for planning, implementing, and maintaining Best Management Plans (BMPs) for:</p> <ul style="list-style-type: none"> • Neat and orderly storage of construction chemicals and spent containers in lined, bermed areas; • Prompt cleanup of construction phase spills; and • Regular disposal of construction garbage and debris. 	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train employees to utilize methods outlined by the SWPPP.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Dispose and contain garbage generated during construction properly.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Design and incorporate BMPs into final construction plans and specifications so that operational impacts to water resources would be minor.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Construct appropriate stormwater hydraulic and treatment facilities making sure that routine maintenance and chemical pollution prevention through source control are utilized for permanent stormwater management.	Post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
<p>Utilize the following constructed permanent stormwater BMPs:</p> <ul style="list-style-type: none"> • Vegetated drainage ditches; • Culverts with stabilized inlets and outlets; • Permanent erosion and sedimentation control through site landscaping, grass, and other vegetative cover; and • Runoff treatment BMPs facilities would be designed to conform to the applicable Stormwater Management Manual. 	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)

Measure	Implementation Timeline	Implementation Responsibility
Adopt operational BMPs to implement good housekeeping, preventive and corrective maintenance procedures, steps for spill prevention and emergency cleanup, employee training programs, and inspection and record keeping practices as necessary to prevent stormwater pollution. Examples include: <ul style="list-style-type: none"> • Neat and orderly storage of chemicals under cover in the Operations and Maintenance facilities; • Prompt cleanup and removal of spillage; • Regular pickup and disposal of garbage and rubbish; and • Prevention of accumulations of liquid or solid chemicals on the ground or the floor. 	Post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train facility operators annually to in spill response and in the applicable pollution control laws and regulations.	Post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train staff to recognize areas that may be affected by a spill and potential drainage routes.	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train staff to report spills to appropriate individuals.	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train I staff on the appropriate material handling and storage procedures.	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Train staff to implement spill response procedures.	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)
Summarize in-house compliance inspections to be kept with the SWPPP, along with any notifications of non-compliance and reports on incidents such as spills. If the SWPPP for the Wind Project facilities has been followed but still proves inadequate to prevent stormwater pollution, Wind Project staff would amend the SWPPP and seek EFSEC concurrence with the improvements.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Utilize BMPs to include vegetated ditches or swales which would increase infiltration to protect groundwater.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Utilize a site development plan to protect groundwater from the on-site storage of chemicals (if any).	During and post construction and throughout Project operation	BPA (interconnection facilities) and WRE (Wind Project facilities)

Measure	Implementation Timeline	Implementation Responsibility
<i>Biological Resources</i>		
Avoid and minimize the use of overhead collector lines, which create areas where birds may congregate and perch, thus decreasing the potential for turbine collisions.	During Project design	WRE
Use tubular turbine towers, avoiding the lattice type towers which creates areas where birds may congregate and perch, thus decreasing the potential for turbine collisions.	During Project design	WRE
Use un-guyed meteorological towers, reducing the potential for bird collision with wires.	During Project design	WRE
Minimize the use of turbine lighting in the Project Area, thereby reducing the potential for birds and bats to be disoriented by lights or attracted to turbines.	During Project design and throughout Project operations	WRE
Use newer generation up-wind turbines.	During Project design	WRE
Utilize certified “weed free” straw bales during construction to avoid introduction of noxious weeds.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Re-seed all temporarily disturbed areas with an appropriate mix of native plant species as soon as possible after construction is completed to accelerate the re-vegetation of these areas and to avoid the establishment and spread of noxious weed species.	Post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement a noxious weed control program, in coordination with the Skamania County Noxious Weed Control Board, to control the spread and prevent the introduction of noxious weed species.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Conduct raptor nest surveys prior to construction during the breeding season (approximately April to July) in order to avoid or minimize impacts to any raptors potentially nesting in or near the Project Area. Construction activities requiring the surveys would include those that would remove forested areas and/or require the use of heavy equipment substantial enough to potentially disturb nesting activities.	Prior to construction	WRE
Implement a two year minimum post-construction avian mortality study.	Post construction	WRE
Convene a Technical Advisory Committee to evaluate the mitigation and monitoring program and determine the need for further studies or mitigation measures. The Technical Advisory Committee would be composed of representatives from WDFW, USFWS, Skamania County, and the Applicant. The role of the Technical Advisory Committee would be to coordinate appropriate mitigation measures, monitor impacts to wildlife and habitat, and address issues that arise regarding wildlife impacts during construction and operation of the Project, including potential adaptive management opportunities. The post-construction monitoring plan would be developed in coordination with the Technical Advisory Committee.	Prior to, during, and post construction, and throughout Project operations	WRE
Coordinate with WDFW for potential impacts to big game species (deer and elk), if appropriate.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Prepare a SWPPP for both the construction and operation phases of the project and submit the SWPPP for the Wind Project facilities to EFSEC for approval.	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)

Measure	Implementation Timeline	Implementation Responsibility
Public Health and Safety		
Report conditions affecting the safety of the Project to EFSEC, including any condition, event, or action that might compromise the safety, stability, or integrity of any facility or the ability of any equipment to function safely; or that might otherwise adversely affect life, health, or property.	During and post construction, and throughout Project operations	WRE
<p>Prepare Emergency Plans for the Project containing the following components:</p> <ul style="list-style-type: none"> • <i>Fire Protection and Prevention Plan.</i> A Fire Protection and Prevention Plan would be developed by the Applicant for the Wind Project facilities for EFSEC approval and by BPA for the interconnection facilities. These plans would be implemented, in coordination with the Skamania County Fire Marshall and appropriate agencies. As part of the plan, the construction manager would be responsible for staying abreast of fire conditions in the Project Area by contacting DNR and implementing any necessary fire precautions. • <i>Personal Injury Response Plan.</i> Procedures would be developed for construction, operation and maintenance of the Project to describe procedures to be followed in the event of a personal injury, including who is to be alerted, contacting 911, how to alert others in the immediate vicinity, remaining with the employee, and administering first aid until medical assistance arrives. • <i>Safety Plan.</i> Prior to the commencement of any construction work, the construction contractor would be required to prepare a Safety Plan that would apply to all contractor and subcontractor personnel working at the site. The plan would be designed to ensure compliance with all laws, ordinances, regulations, and standards concerning health and safety. The contractor would assign a safety manager with the authority to issue a “stop work” notice when health and safety issues arise. • <i>SPCC Plan.</i> While storage of chemicals on site would be minimal, the Project could require an SPCC Plan that would protect groundwater. The SPCC Plan would apply to both construction and operation if hazardous materials were stored on site in quantities sufficient to trigger the plan requirement. • <i>Hazardous Waste Management Plan.</i> Hazardous materials to be used or stored on site would be limited to small quantities of materials used for maintenance (cleaning and painting), lubrication of equipment, and possibly fuel. During construction, the construction contractor would be required to prepare a Hazardous Waste Management Plan that complies with state and federal hazardous waste management laws for handling, storage, and disposal. A similar plan would be prepared and implemented for operation. 	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Develop agreements related to emergency planning with Skamania County Department of Emergency Management prior to Project construction. This agreement would be provided to EFSEC and attached to the Emergency Plan prior to implementation.	Prior to construction	WRE

Measure	Implementation Timeline	Implementation Responsibility
<p>Comply with all applicable local, state, and federal safety, health, and environmental laws, ordinances, regulations, and standards. Some of the main laws, ordinances, regulations and standards that would be reflected in the design, construction, and operation of the Project are as follows:</p> <ul style="list-style-type: none"> • Occupational Safety And Health Act of 1970 (29 USC 651, et seq.) and 29 CFR 1910, Occupational Safety and Health Standards; • Uniform Fire Code; • Americans with Disabilities Act; • Uniform Fire Code Standards; • Uniform Building Code; • National Fire Protection Association design standards for the requirements of fire protection systems; • National Institute For Occupational Safety And Health requirements that safety equipment carry markings, numbers, or certificates of approval for stated standards; • American Society of Mechanical Engineers plant design standards. <p>American National Standards Institute plant design standards:</p> <ul style="list-style-type: none"> • National Electric Safety Code; • American Concrete Institute Standards; • American Institute of Steel Construction Standards; • National Electric Code. 	<p>Prior to, during, and post construction, and throughout Project operations</p>	<p>BPA (interconnection facilities) and WRE (Wind Project facilities)</p>
<p>Utilize the following measures to mitigate the risk of fire or explosion:</p> <ul style="list-style-type: none"> • The construction manager would be responsible for staying abreast of fire conditions in the Project Area by contacting DNR and implementing any necessary fire precautions; • A Fire Protection and Prevention Plan would be developed for the Wind Project facilities for EFSEC approval and implemented by the Applicant, in coordination with the Skamania County Fire Marshall and appropriate agencies; • Equip the wind turbine generators and the substation with lightning protection systems. <p>The <i>Fire and Explosion Risk Mitigation Table</i> in Attachment 1 to this MAP lists sources of potential fire and explosion along with measures to mitigate the risk of either occurring.</p>	<p>Prior to, during, and post construction</p>	<p>BPA (interconnection facilities) and WRE (Wind Project facilities)</p>
<p>Require that all on-site operations employees would be responsible for contributing to ongoing fire prevention in the Project Area through the following programs:</p> <ul style="list-style-type: none"> • Operational Safety Program; • Operations Written Safety Program; • Emergency Action Plan; • Fire Prevention Plan. 	<p>Post construction, and throughout Project operations</p>	<p>BPA (interconnection facilities) and WRE (Wind Project facilities)</p>

Measure	Implementation Timeline	Implementation Responsibility
<p>Develop on-site emergency plans for the Project in case of a major natural disaster or accident relating to or affecting the Project. The plans would describe the emergency response procedures to be implemented during various emergency situations that may affect the Project or surrounding community or environment. In addition to the above measures, the Applicant would:</p> <ul style="list-style-type: none"> • Provide detailed maps that show all access roads to the Project; • Provide keys to a master lock system that would enable emergency personnel to unlock access road gates that would otherwise limit access to the Project; • Use spark arresters on all power equipment, e.g., cutting torches and cutting tools; • Inform workers at the Project Area of emergency contact phone numbers and train them in emergency response procedures; • Carry fire extinguishers in all maintenance vehicles; • Coordinate with DNR when the fire danger is high; • Comply with equipment rules and regulations required by DNR for work conducted in wildland/forested lands. 	<p>Prior to construction, and throughout Project operations</p>	<p>BPA (interconnection facilities) and WRE (Wind Project facilities)</p>
<p>Prepare and implement the following traffic safety plans and measures:</p> <ul style="list-style-type: none"> • Prepare a Transportation Management Plan (TMP) that would direct and obligate the contractor to implement procedures to minimize traffic impacts would be prepared in consultation with both WSDOT and Skamania County and submitted to EFSEC for approval. Include requirements for coordination of project-related construction traffic and WSDOT planned construction projects, along with requirements for coordination of project-related construction traffic and Skamania County, City of Bingen, and City of White Salmon summer recreational traffic. • Comply with State and County permitting requirements for over-size and over-weight vehicles. • Notify land owners in the Project vicinity prior to construction of transportation routes that would be used for construction equipment and labor. • Use approved State and/or County advanced warning construction signs prior to and during construction. • Use certified flaggers when necessary to direct traffic when over-size and over-weight trucks either enter or exit public roads, to minimize risk of accidents. • Employ pilot cars both in front of and behind all trucks transporting over-size or over-weight loads on all public roadways. • Restrict traffic flow for no more than 20 minutes during the construction phase. • Use three pilot cars, two in front and one in the rear, for all loads over 10 feet wide traveling on SR 14 traveling from east of the proposed Project Area between MP 76.77 and 76.91. Require the two front pilot cars to maintain a minimum 500-foot separation. The lead pilot car in front of the load would warn oncoming traffic of the over-size load, and the pilot car immediately in front of the over-size load would be responsible to stop all oncoming traffic. 	<p>Prior to and during construction</p>	<p>Generally only WRE, except where also applicable to BPA (see <i>Transportation</i> section of this MAP)</p>
<p>Noise</p>		
<p>Equip all noise-producing Project equipment and vehicles using internal combustion engines with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc-welders, air compressors) would be equipped with shrouds and noise control features that are readily available for that type of equipment.</p>	<p>During and post construction</p>	<p>BPA (interconnection facilities) and WRE (Wind Project facilities)</p>

Measure	Implementation Timeline	Implementation Responsibility
Regulate all mobile or fixed noise-producing equipment used on the Project for noise output governed by local, state, or federal agency regulations, to comply with such regulations while in the course of Project activity.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Designate that the use of noise-producing signals, including horns, whistles, electronic alarms, sirens, and bells, would be for safety warning purposes only. Unless required for such safety purposes, and as allowable by applicable regulations, no construction-related public address, loudspeaker, or music system would be audible at any adjacent noise sensitive land use.	During and post construction and throughout Project operations	BPA (interconnection facilities) and WRE (Wind Project facilities)
Implement a noise complaint process and hotline number for the surrounding community. The Applicant would have the responsibility and authority to receive and resolve noise complaints.	During and post construction and throughout Project operations	WRE
Visual Resources		
Ensure that a non-reflective flat neutral gray or light color is used for the turbines so that visual impacts would be minimized. The primary mitigation measure available for visual impacts is the choice of color for the turbines. Although a brown turbine color would reduce visual contrast in views where the turbines are seen against the landscape, it would also accentuate the visibility of the turbines where they would be seen against the sky. In addition, the brown color would have a greater contrast when snow is on the ground. Because the turbines are most frequently seen against the sky, particularly in close-range views where visual concerns are the greatest, a non-reflective flat neutral gray or light color would be ideal.	Project design, during and post construction, and throughout Project operations	WRE
Comply with Federal Aviation Administration requirements for safety lighting. Lights typically used to meet Federal Aviation Administration requirements would to some extent be shielded from ground level view by using a constrained (3–5 degree) vertical beam. The Federal Aviation Administration would independently review the lighting of individual turbines during the micro-siting process and consult on mitigation. However, the Project must comply with the safety lighting requirement.	Prior to construction	WRE
Cultural Resources		
Utilize BMPs to minimize impacts to any additional cultural or historic resources that may be encountered during construction of the proposed Project. These BMPs include preparation and use of an Inadvertent Discovery Plan, which would establish procedures to deal with unanticipated discovery of cultural resources before and during construction. The plan, among other provisions, would require immediate work stoppage and appropriate notification in the event of discovery of previously unknown cultural materials. The plan also would specify protocols for the treatment of human remains that fulfill the requirements of the Native American Graves Protection and Repatriation Act in the event that human remains and/or funerary items are encountered during construction or operation of the Project.	Prior to and during construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Design the locations of road, turbine, and transformer to avoid and minimize impacts during construction regular maintenance operations.	During Project design	WRE
Although Chemawa Hill was identified as a Traditional Cultural Property (TCP) within the Applicant's Area of Potential Effect (APE), the Applicant has worked with the Yakama Nation to site fewer towers on Chemawa Hill and is committed to working with the Yakama Nation during the proposed Project..	During and post construction and throughout Project operations	WRE

Measure	Implementation Timeline	Implementation Responsibility
Transportation		
Prepare and implement a Transportation Management Plan to direct and obligate the contractor to implement procedures to minimize traffic impacts in consultation with both Washington State Department of Transportation (WSDOT) and Skamania County. Submit plan to EFSEC for approval and include requirements for coordination of project-related construction traffic and WSDOT planned construction projects, along with requirements for coordination of project-related construction traffic and Skamania County, City of Bingen, and City of White Salmon summer recreational traffic.	Prior to construction	WRE
Comply with State and County permitting requirements for over-size and over-weight vehicles.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Notify land owners in the Project vicinity prior to construction of transportation routes that would be used for construction equipment and labor.	Prior to construction	WRE
Place approved State and/or County advanced warning construction signs prior to and during construction.	Prior to and during construction	WRE
Use certified flaggers when necessary to direct traffic when over-size and over-weight trucks either enter or exit public roads, to minimize risk of accidents.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Avoid restricting traffic flow for more than 20 minutes during the construction phase.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Use pilot cars both in front of and behind all trucks transporting over-size or over-weight loads on all public roadways. For all loads over 10 feet wide traveling on SR 14 from east of the proposed Project Area between MP 76.77 and MP 76.91, use three pilot cars, two in front and one in the rear. The two front pilot cars would be required to maintain a minimum 500 feet of separation. The lead pilot car would warn oncoming traffic of the over-size load, and the pilot car immediately in front of the over-size load would be responsible for stopping all oncoming traffic.	During construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Design and build all access road improvements or new construction according to WSDOT and Washington State access management standards.	During construction	WRE
Conduct pre- and post-haul construction visual assessments of roadway surface conditions to identify weak or deteriorated areas along the haul route that may require repair as a result of project-related traffic. Following the end of construction, repair all pavement sections affected by project-related traffic as needed to pre-construction conditions or better.	During and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Perform all snow removal from Project access roads in a safe manner that does not degrade roadway conditions.	During and post construction	WRE
Public Services and Utilities		
Mitigate potential impacts to public services and utilities by using tax revenues generated by the Project.	Throughout Project operation	WRE

Measure	Implementation Timeline	Implementation Responsibility
Provide all local police, fire, and emergency medical agencies with emergency response information for the Project, including employee contact information, procedures for rescue operations to the nacelles, and location of rescue basket. The Applicant would provide applicable emergency response information to local agencies prior to Project construction and would review and update employee contact information annually and provide any changes to the appropriate agencies.	Prior to, during, and post construction, and throughout Project operations	BPA (interconnection facilities) and WRE (Wind Project facilities)
Utilize fire precautions for staying abreast of fire conditions in the Project Area by contacting Department of Natural Resources (DNR). A Fire Protection and Prevention Plan would be developed by the Applicant for the Wind Project facilities for EFSEC approval and by BPA for the interconnection facilities. These plans would be implemented, in coordination with the Skamania County Fire Marshall and appropriate agencies. Both the wind turbine generators and the substation would be equipped with lightning protection systems. See Attachment 1 of this MAP for sources for potential fire and explosion along with measures to mitigate the risk of either occurring.	Prior to, during, and post construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Maintain the use of a full-time security plan during Project construction to reduce the potential need for increased police services to the Project Area.	Prior to and during construction	WRE
<p>Prepare emergency plans to protect the public health, safety, and environment on and off the Project Area in the case of a major natural disaster or industrial accident relating to or affecting the Project. The construction specifications would require that the contractors prepare and implement a Construction Health and Safety Program that included an emergency plan. The Construction Health and Safety Program would include the following provisions:</p> <ul style="list-style-type: none"> • Construction Injury and Illness Prevention Plan; • Construction Written Safety Program; • Construction Personnel Protective Devices; • Construction On-Site Fire Suppression Prevention; and • Construction Off-Site Fire Suppression Support. 	Prior to construction	BPA (interconnection facilities) and WRE (Wind Project facilities)
Install the water well supplying the Operations and Maintenance facility, at either of the two sites under consideration, by a well contractor licensed pursuant to Chapter 173-162 WAC, in compliance with the requirements and standards of Chapter 173-160 WAC, and consistent with Skamania County Community Development Department and Ecology requirements for the new wells.	During construction	WRE
Coordinate and comply with the Skamania County Community Development Department Environmental Health Division, and comply with all County and State septic tank and subsurface disposal field design, installation, and maintenance requirements	During and post construction	WRE
Socioeconomic		
Impact to the local economy and social structure of the proposed Project is expected to be beneficial, in the form of additional jobs, increased sales, and increased tax revenues. Temporary increases in population during construction are likely to be minor in view of the availability of housing, transient accommodations, and other public services in the region.	During and after construction	WRE
Ensure that the applicant uses the local labor pool to the greatest extent possible; advertise positions locally and to employ local workers to the greatest extent possible.	During and post construction, and throughout Project operation	WRE

Attachment 1: Fire and Explosion Risk Mitigation Table

Construction or Operation	Potential Fire or Explosion Source	Mitigation Measures
Construction and Operation	General Fire Protection	<ul style="list-style-type: none"> • All on-site service vehicles fitted with fire extinguishers. • Fire station boxes with shovels, water tank sprayers, etc. installed at multiple locations on site along roadways during summer fire season. • Minimum of one water truck with sprayers must be present on each turbine string road with construction activities during fire season.
Construction and Operation	Dry vegetation in contact with hot exhaust catalytic converters under vehicles	<ul style="list-style-type: none"> • No gas powered vehicles allowed outside of graveled areas. • Mainly diesel vehicles (i.e. w/o catalytic converters) used on site. • Use of high clearance vehicles on site if used off-road.
Construction and Operation	Smoking	<ul style="list-style-type: none"> • Restricted to designated areas (outdoor gravel covered areas).
Construction and Operation	Explosives used during excavation	<ul style="list-style-type: none"> • Only state-licensed explosive specialist contractors are allowed to perform this work—explosives require special detonation equipment with safety lockouts. • Clear vegetation from the general footprint area surrounding the excavation zone to be blasted. • Standby water spray trucks and fire suppression equipment to be present during blasting activities.
Construction and Operation	Electrical fires	<ul style="list-style-type: none"> • Use generally high clearance vehicles on site. • No gas powered vehicles allowed outside of graveled areas. • All major construction equipment used is to be diesel powered (i.e., without catalytic converters).
Construction and Operation	Lightning	<ul style="list-style-type: none"> • Specially engineered lightning protection and grounding systems used at wind turbines and at substation. • Footprint areas around turbines and substation are graveled with no vegetation.
Construction	Portable generators – hot exhaust	<ul style="list-style-type: none"> • Generators not allowed to operate on open grass areas. • All portable generators to be fitted with spark arrestors on exhaust system.
Construction	Torches or field welding equipment	<ul style="list-style-type: none"> • Immediate surrounding area would be wetted with water sprayer. • Fire suppression equipment to be present at location of welder/torch activity.
Construction and Operation	Electrical arcing	<ul style="list-style-type: none"> • Electrical designs and construction specifications meet or exceed requirements of the National Electric Code and National Fire Protection Agency.