United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Washington, D.C. 20240
http://www.blm.gov

DECISION MEMORANDUM FOR THE SECRETARY

FROM: Robert Abbey
Director, Bureau of Land Management

SUBJECT: Record of Decision – North Steens 230kV Tranmission Line Project

INTRODUCTION

The applicant, Echanis, LLC, a subsidiary of Columbia Energy Partners (CEP), applied for a rights-of-way (ROW) to construct and operate a transmission line across public land with the intention of conveying wind-driven power from a proposed project on private lands located adjacent to the Steens Mountain Cooperative Management and Protection Area (CMPA) in Harney County, Oregon. The proposed wind energy project on private lands, the Echanis Wind Energy Project, would not be developed without a transmission line ROW from the Bureau of Land Management (BLM) across public lands. The BLM Selected Alternative would result in the right to construct and operate a 230 kilovolt (kV) transmission line across approximately 12.1 miles of public land administered by BLM. The applicant's proposed route would have crossed the Malheur National Wildlife Refuge (NWR). The Selected Alternative would avoid a crossing of the NWR. The proposed wind energy project on private lands would generate up to 104 megawatts (MW) of electricity.

The Selected Alternative was evaluated in the Final Environmental Impact Statement (EIS). The Notice of Availability of the Final EIS for the North Steens 230kV Tranmission Line Project was published in the *Federal Register* on October 21, 2011 (76 FR 65509 and 65531).

The ROW grant decision authorizes the construction, operation, maintenance, and termination of the Transmission Project on approximately 246.24 acres of BLM-administered lands in Harney County, Oregon, which represents the maximum amount of area that will be authorized for the Project. This total acreage includes:

1) A transmission line ROW - 150 feet wide by 63,888 feet long (12.1 miles) encumbering 220.55 acres of public land;
2) ROW for new transmission line access roads - 16 feet wide by 24,024 feet long (4.55 miles) encumbering 8.82 acres of public land;
3) ROW for improvement of existing roads (main Echanis road) - 40 feet wide by 7,819 feet long (1.48 miles) encumbering 7.18 acres of public land
4) ROW for overland transmission line access roads - 8 feet wide by 38,913.6 feet long (7.37 miles) encumbering 6.94 acres of public land; and

5) Additional temporary ROW for eleven conductor pulling/tensioning sites - 100 feet by 100 feet or 0.25 acre each encumbering a total of 2.75 acres of public land.

BACKGROUND

In 2009, Echanis LLC filed an application with the BLM for ROW for construction, operation, and maintenance of a double-circuit 230kV overhead electric transmission line and associated facilities on public lands. The proposed transmission line, known as the North Steens 230kV Tranmission Line Project, would transport electrical power generated at the proposed Echanis Wind Project to Harney Electric Cooperative. In December 2009, Echanis LLC filed a separate application with the United States Fish and Wildlife Service (FWS) to obtain rights for the proposed transmission line to cross portions of the Malheur NWR.

The Echanis Project would be a separate but related 104-MW wind energy facility that would be constructed on a 10,500-acre, privately-owned tract near Diamond, Oregon. The ROW Applicant, CEP, LLC of Vancouver, Washington, received a Conditional Use Permit (CUP) from the Harney County Planning Commission for the development of the Echanis Project in April 2007. The permit would allow for a maximum generating capacity of 104 MWs from 40 to 69 wind turbine generators. The CEP has secured a 20-year power sales agreement with Southern California Edison for energy generation at the wind facility.

Another separate but related application for two wind projects on private lands adjacent to the proposed Echanis Project was submitted to Harney County in 2008 (East Ridge and West Ridge Projects). In 2009, the applicant formally withdrew the application. In mid-November 2011, CEP announced its cancellation of the East and West Ridge projects on private property citing business, regulatory, and environmental concerns.

The BLM and FWS prepared an EIS as part of the ROW grant application review process. The EIS included the Echanis Project on private lands as a connected action and analyzed impacts associated with it as indirect effects. The EIS did not consider the other two potential wind projects as connected actions, but the projects were still analyzed as reasonably foreseeable future actions in the cumulative effects analysis because, while reasonably foreseeable, no formal proposals were pending before Harney County or the Oregon Energy Facility Siting Council.

POSITION OF INTERESTED PARTIES

The BLM received approximately 900 public comments from over 250 commenters on the North Steens 230kV Transmission Line Draft EIS. The public and other agency comments covered an array of National Environmental Policy Act (NEPA) issues such as connected actions, range of alternatives, effects analysis, and mitigation measures for multiple resources. Comments also questioned the application of the Steens Act.

- The Oregon Natural Desert Association, Defenders of Wildlife, Oregon Chapter of the Sierra Club, Western Watersheds Project, Audubon Society of Portland, WildEarth Guardians, Center for Biological Diversity, Western Environmental Law Center, The Nature Conservancy, and local environmental groups expressed opposition to the project outlining

deficiencies in NEPA analysis and concerns that the connected action and reasonably foreseeable future actions could result in adverse effects to the CMPA and Malheur NWR.

- Harney County and some adjacent landowners expressed support for the project and connected action on private lands as a potential opportunity to boost economic development in a very economically-depressed region.

- The Burns Paiute Tribe, a cooperating agency, and the Oregon State Historic Preservation Office entered into a programmatic agreement with the BLM Burns District and Malheur NWR to facilitate and ensure that, if granted, compliance with Section 106 of the National Historic Preservation Act would occur. The Environmental Protection Agency, FWS, and Oregon Department of Fish and Wildlife (ODFW) also provided comments.

DECISION OPTIONS

The Final EIS considered a No Action Alternative, a proposed route, two deviations of the proposed route, a preferred route, and a 115kV construction alternative.

1. Alternative A – No Action
2. Alternative B - West Route (Proposed Alternative) – 230kV
    a. South Diamond Lane Route 230kV option
    b. Hog Wallow Route 230kV option
    c. 115-kV option
3. Alternative C – North Route (Preferred Alternative) – 230kV
    a. 115kV option

In addition to the Best Management Practices (BMP) and Project Design Features (PDF) designed to reduce potential impacts, the Final EIS proposed and analyzed mitigation measures throughout each resource section. The mitigation measures, highlighted below, address impacts to priority species or special management areas and will be implemented by BLM or Harney County to avoid, minimize, or compensate for adverse impacts of the Decision:

Mitigation for impacts to Greater Sage-Grouse and Greater Sage-Grouse habitat

- The Oregon BLM worked with ODFW, FWS and Harney County to incorporate the most updated ODFW sage-grouse mitigation framework into the Final EIS and draft Habitat Mitigation Plan. Since the Final EIS, the Oregon BLM continued to work with ODFW, FWS, and Harney County to identify criteria for a final Habitat Mitigation Plan. Based on the criteria for a Habitat Mitigation Plan, BLM will require approximately 2,412.6 acres of sage-grouse habitat mitigation due to the effects to sagebrush and sage-grouse habitat resulting from the Transmission Project, a portion of the main Echanis access road on public land, and Echanis noise effects on the public lands adjacent to the project. The BLM will use the Habitat Mitigation Plan criteria to identify locations for the mitigation and type of conservation actions. The final Habitat Mitigation Plan will be completed and approved before a Notice to Proceed will be issued for the transmission line ROW.

- Harney County will use the Habitat Mitigation Plan criteria to finalize the quantity (current estimates around 8,473 acres of mitigation) and to identify a location and type of conservation actions for impacts to private lands to be incorporated into Harney County's CUP.

Mitigation for visible and audible Impacts to the Steens Mountain Cooperative Management and Protection Area, Wilderness, Wilderness Study Areas (WSAs) and Visual Resources:

- Although the transmission line and connected action, the Echanis Wind Project, would result in visible and audible impacts, the most substantial impacts would result from the private land action, the Echanis Wind Project. The presence of wind turbines would change the scenic character of adjacent BLM lands with a Visual Resources Management Class I and II rating. The wind turbines along the Steens ridgeline would be visible from four Key Observation Points (KOP) and in the distant background from three KOPs. The CMPA's East Rim Overlook (KOP 61) would be moderately impacted due to the presence of wind turbines and East Steens County Road would experience low to high visual impacts (KOP 47, Table 3.9-2). The Mann Lake Recreation Site (KOP 46) would be highly impacted. The opportunities to experience the values of solitude and primitive and unconfined recreation in Lower Stonehouse and High Steens WSAs would diminish. The PDFs, BMPs and Harney County CUP requirements would reduce the potential visual impacts from the Echanis project. The coloration of all exterior components of the wind turbines will be off-white or light gray for the blades and for the towers and nacelles. The finish of all of these exterior components shall be flat, semi-gloss or galvanized, so as not to present significant glare. While the Federal Aviation Administration (FAA) requires structures over 200 feet be equipped with red or white flashing lights mounted on the nacelle of a wind turbine to avoid aircraft collisions during day and night, any non-FAA required outdoor lighting would be hooded and directed so as not to shine directly upon adjoining property or public roads. To reduce noise impacts, the wind turbines would not exceed allowable statistical noise levels in any one hour, as measured at off-site sensitivity receptors, under applicable Oregon Department of Environmental Quality noise standards.

Avian and Bat Protection Plan/Eagle Conservation Plan (ABPP/ECP):

- The CEP worked directly with the FWS to create an ABPP/ECP covering potential impacts to and mitigation for raptors, particularly golden eagles, migratory birds, and bats. The FWS provided BLM with a Letter of Acknowledgement for the ABPP/ECP on December 9, 2011.

Future projects in or immediately adjacent to the Steens Mountain Cooperative Management and Protection Area

- The Final EIS analyzed three reasonably foreseeable future wind farm developments (East Ridge, West Ridge and Riddle Mountain on Oregon State lands). The CEP announced recently they are no longer pursuing the West Ridge and East Ridge projects. However, language in the Record of Decision/ROW Grant would enable BLM to reserve

the right to refuse use of the ROW to service future projects in or immediately adjacent to the CMPA if BLM finds the impacts to be unacceptable and reserves the right to suspend/terminate the ROW if future mitigation is not consistent with or more protective than that of the Echanis Project.

115kV and 230kV Options

- An additional alternative option analyzed in the FEIS includes constructing the transmission line along any one of the alternative alignments, but only authorizing a single, three-phase 115-kV circuit. The BLM has concluded that selection of an 115kV option would unnecessarily restrict other options and opportunities to connect renewable energy projects outside the CMPA (e.g. Riddle Mountain Project) or where a Federal action may be required for any future project. In this regard the selection of the 230kV option is consistent with the objective of Secretarial Order 3285 A1. Further, there is little difference in permanent impacts of 115kV compared to the 230kV configuration since the size and number of towers, access roads, tensioning sites, and other transmission components would be similar. The CEP has provided documentation that electric line loss for the Selected Alternative is significant and that limiting the Transmission Project to a 115 kV configuration jeopardizes the overall economic viability of the project due to these losses in transmission efficiency.

RECOMMENDATION

I recommend approval of the decision regarding the North Steens 230kV Tranmission Line project. Your approval of this decision constitutes the final decision of the Department of the Interior and, in accordance with the regulations at 43 CFR 4.410(a)(3), is not subject to appeal under Departmental regulations at 43 CFR Part 4. Any challenge to this decision, including the BLM Authorized Officer's issuance of the ROWs as approved by this decision, must be brought in Federal District Court.

DECISION BY THE SECRETARY

APPROVE: X

DISAPPROVE: ___

COMMENTS:

DEC 2 8 2011

Ken Salazar

Ken Salazar

RECORD OF DECISION

North Steens 230kV Transmission Line Project

Harney County, Oregon

Lead Agency:
United States Department of the Interior
Bureau of Land Management

Environmental Impact Statement FES 11-31
Case File Number: OR-65891

North Steens 230kV Transmission Line Project
Decision: Grant Right-of-Way

United States Department of the Interior
Bureau of Land Management
Burns District Office
28910 Highway 20 West
Hines, Oregon 97738

December 2011

Cooperating Agencies:
Bonneville Power Administration
Burns Paiute Tribe
Harney County
Malheur National Wildlife Refuge-U.S. Fish and Wildlife Service
Oregon Department of Fish and Wildlife
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service-Ecological Services

DOI Control Number: FES-11-31

BLM Publication Index Number: BLM/OR/WA/PL-12/010+1793

NEPA Tracking Number: DOI-BLM-OR-B060-2010-0035-EIS

TABLE OF CONTENTS

LIST OF ATTACHMENTS

Attachment A: Project Design Features and Best Management Practices, North Steens 230kV Transmission Line Project, OR-65891

Attachment B: Stipulations, North Steens 230kV Transmission Line Project, OR-65891

Attachment C-1: Overview Map 1 - Transmission Line Right-Of-Way, OR-65891

Attachment C-2: Overview Map 2 - Transmission Line Access Roads, OR-65891

Attachment D: Principles and Standards for Development of a Habitat Mitigation Plan

Attachment E: Eagle Conservation Plan and Bird and Bat Conservation Strategies for the Echanis Wind Facility and The North Transmission Route Alternative (ABPP/ECP)

Attachment F: Programmatic Agreement Relative to Section 106, National Historic Preservation Act, North Steens 230kV Transmission Line Project

Attachment G: Mitigation, Project Design Features and Best Management Practices for The Echanis Wind Energy Project

LIST OF ABBREVIATIONS

(ABPP/ECP) Avian and Bat Protection Plan/Eagle Conservation Plan
(ACEC) Area of Critical Environmental Concern
(APE) Areas of Potential Effect
(APLIC) Avian Power Line Interaction Committee
(BGEPA) Bald and Golden Eagle Protection Act
(BLM) Bureau of Land Management
(BMP) Best Management Practices
(BPA) Bonneville Power Administration
(CEP) Columbia Energy Partners LLC
(CMPA) Steens Mountain Cooperative Management and Protection Area
(COA) Conservation Opportunity Area
(CUP) Conditional Use Permit
(CWM) Compensatory Wetland Mitigation
(DEIS) Draft Environmental Impact Statement
(DEQ) Department of Environmental Quality
(DoD) Department of Defense
(DOI) United States Department of Interior
(EIS) Environmental Impact Statement
(EPA) Environmental Protection Agency
(ESC) Erosion and Sediment Control
(FCR) field contact representative
(FEIS) Final Environmental Impact Statement
(FLPMA) Federal Land Policy and Management Act
(FWS) U.S. Fish and Wildlife Service
(GHG) Greenhouse Gas
(HEC) Harney Electric Cooperative
(HMA) Herd Management Areas
(HMP) Habitat Mitigation Plan
(IMP) Interim Management Policy
(KOP) Key Observation Points
(LAC) Local Advisory Committee
(LIT) Local Implementation Team
(LWC) lands with wilderness characteristics
(MBTA) Migratory Bird Treaty Act
(MNWR) Malheur National Wildlife Refuge *as the Organization*
(MPS) Mitigation Principles and Standards
(NEPA) National Environmental Policy Act
(NHPA) National Historic Preservation Act
(NOA) Notices of Availability
(NOI) Notice of Intent
(NRHP) National Register of Historic Places
(NTP) Notice to Proceed
(NWR) Malheur National Wildlife Refuge *as the place*
(O&M) operations and maintenance

(ODFW) Oregon Department of Fish and Wildlife
(PA) Programmatic Agreement
(PAR) Property Analysis Record
(PDF) Project Design Features
(POD) Plan of Development
(RI) radio interference
(RMP) Resource Management Plan
(ROD) Record of Decision
(ROW) right-of-way
(RPS) Renewable Energy Portfolio Standards
(SGCS) Greater Sage-grouse Conservation Assessment and Strategy for Oregon
(SGMF) Sage Grouse Mitigation Framework or
(SHPO) State Historic Preservation Office
(TAC) Technical Advisory Committee
(Transmission Project) North Steens 230kV Transmission Line Project
(TVI) television interference
(USACE) Army Corps of Engineers
(VRM) Visual Resource Management
(WSA) Wilderness Study Areas
(WSR) Wild and Scenic Rivers

Executive Summary

This document constitutes the Record of Decision (ROD) of the United States Department of Interior (DOI), Bureau of Land Management (BLM), for the North Steens 230kV Transmission Line Project (Transmission Project).

This ROD contains a right-of-way (ROW) grant decision under Title V of the Federal Land Policy and Management Act (FLPMA). This decision was analyzed in the *North Steens 230kV Transmission Line Project Final Environmental Impact Statement* (FEIS), which became available on October 21, 2011 upon publication of the Environmental Protection Agency (EPA)'s Notice of Availability (NOA) published in the Federal Register.

The BLM's decision is to issue new ROW grants to Echanis, LLC (Echanis) for a 230kV overhead electric transmission line, access roads, overland access routes, and temporary tensioning sites as described under Alternative C – North Route, in the FEIS.

The ROW grant will incorporate Best Management Practices (BMP)s and Project Design Features (PDF)s as provided in the applicant's Plan of Development (POD) and described in Appendix A of the FEIS. The grant will also include mitigation measures applicable to the Transmission Project as described under Alternative C – North Route, as well as incorporation of applicable elements of the *Echanis Wind Power Project: Principles and Standards for Development of a Habitat Mitigation Plan (HMP)* (Mitigation Principles and Standards or MPS), Echanis' HMP and Echanis' *Eagle Conservation Plan and Bird and Bat Conservation Strategies for the Echanis Wind Energy Facility and the North Transmission Route Alternative* (more commonly referred to as an Avian and Bat Protection Plan/Eagle Conservation Plan or ABPP/ECP). These applicable measures have been developed into specific, enforceable terms, conditions, and stipulations and will be incorporated into the authorized ROW grants.

This ROD authorizes only actions on BLM administered lands and applies to the BLM's ROW decisions on the Transmission Project. Other agencies are responsible for issuing their own decisions and any applicable authorizations for the Transmission Project and the associated Echanis Wind Energy Project located on private lands. These include, but are not limited to: Harney County (Land Use and Building permits), the U.S. Army Corps of Engineers (USACE) (Section 404 Permit pursuant to the Clean Water Act), Bonneville Power Administration (BPA) (Large Generator Interconnection Agreement) and U.S. Fish and Wildlife Service (FWS) [Take Permit pursuant to the Bald and Golden Eagle Protection Act (BGEPA)]. However, assumptions about the outcomes of these other decisions/authorizations informed the overall action addressed in this ROD. If these outcomes ultimately differ from assumptions and the final action is inconsistent from that addressed in the ROD, especially related to mitigation, BLM may suspend or terminate the ROW. Public involvement in the National Environmental Policy Act (NEPA) process began in July 2009, when the BLM and Malheur National Wildlife Refuge (MNWR)-FWS initiated project scoping involving local, State and Federal governments, agencies, Burns Paiute Tribe, interested individuals and other entities. Scoping was focused on requesting input

on issues, potential effects, and possible alternatives. In July 2010, BLM released a Draft Environmental Impact Statement (DEIS) and received over 256 comment letters, emails and other communications involving over 900 individual comments. On October 21, 2011, the BLM issued a FEIS, incorporating information received as a result of public comments and suggestions on the DEIS.

This decision required balancing demands for renewable energy, the need for energy security, and employment benefits with conservation of public land resources including wilderness, wildlife, recreation, visual and aesthetic resources within and adjacent to the nationally designated Steens Mountain Cooperative Management and Protection Area (CMPA). This decision is consistent with the goals of Secretarial Order 3285 A1 dated February 22, 2010, as amended, which directs DOI agencies and bureaus to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources including areas of national interest.

I. The Decision

This ROD approves the construction, operation and maintenance, and termination (which include decommissioning) of the proposed Transmission Project on BLM-administered public land in Harney County, Oregon, as analyzed in the *North Steens 230kV Transmission Line Project FEIS* and as noticed in the October 21, 2011, EPA and BLM *Federal Register* notices. This decision approves the Agency Preferred Alternative, Alternative C – North Route, as analyzed in the FEIS. The Agency Preferred Alternative is now referred to as the Selected Alternative in the ROD. By approving the Selected Alternative all other alternatives included in the FEIS are hereby rejected from further consideration. All references to the ROD in this document include all attachments and exhibits attached hereto which are incorporated into this ROD as fully and effectively as if they were set forth herein in their entirety.

The ROW grant decision authorizes the construction, operation, maintenance, and termination of the Transmission Project on approximately 246.24 acres of BLM-administered lands in Harney County, Oregon, which represents the maximum amount of area that will be authorized for the Transmission Project. This total acreage of ROW on public land includes: 1.) a transmission line ROW - 150 feet wide by 63,888 feet long (12.1 miles) encumbering 220.55 acres of public land; 2.) ROW for new transmission line access roads - 16 feet wide by 24,024 feet long (4.55 miles) encumbering 8.82 acres of public land; 3.) ROW for improvement of existing roads (main Echanis road) - 40 feet wide by 7819 feet long (1.48 miles) encumbering 7.18 acres of public land; 4.) ROW for overland transmission line access roads - 8 feet wide by 38,913.6 feet long (7.37 miles) encumbering 6.94 acres of public land; and 5.) additional temporary ROW for eleven conductor pulling/tensioning sites - 100 feet by 100 feet or 0.25 acre each encumbering a total of 2.75 acres of public land.

The ROD approves the transmission line and related access outlined above, hereafter referred to as "Transmission Project" but it does not include approval of the Echanis Wind Energy Project and its related facilities proposed on private land, referred to as the "Echanis Project". These facilities to be located on private land are subject to a Harney County Conditional Use Permit (CUP) No. 07-14 dated April 18, 2007.

The BLM approval will take the form of FLPMA ROW grants, issued in conformance with Title V of FLPMA (43 United States Code (USC) 1761-1771) which authorizes the BLM, acting on behalf of the Secretary of the Interior, to authorize ROWs on, over, under, and through the public lands for systems for generation, transmission, and distribution of electric energy. For this reason, these decisions and ROWs authorize actions only on BLM-administered public lands. The BLM's implementation of its statutory direction for ROW authorizations is detailed in 43 CFR Part 2800.

Pursuant to 43 C.F.R. § 2805.11(a)(1) to (5), which governs determinations for the lands to be included in a ROW, BLM finds that the lands described above are the minimum necessary to accommodate the Transmission Project This is the minimum area the ROW applicant can occupy and which is necessary for constructing, operating, maintaining, and

terminating the authorized facilities. For the reasons stated in this ROD, the Transmission Project design as well as the ROW terms and conditions ensure that the Transmission Project will be authorized in a manner to protect the public health and safety; prevent unnecessary damage the environment; and prevent unnecessary or undue degradation.

The BLM has determined that an action alternative, specifically the Selected Alternative, is in the public interest. The BLM finds that the Selected Alternative is preferable to the other action alternatives in that, overall, it presents the least environmental impact. For these same reasons the BLM has not selected Alternative A, the No Action Alternative. The BLM has also determined that the terms, conditions and stipulations included in the ROW grants are in the public interest pursuant to 43 CFR 2805.10(a)(1).

The FLPMA and its implementing regulations provide the BLM with the authority to require a project application to include information on an applicant's financial and technical capability to construct, operate, and maintain the Transmission Project applied for (43 CFR 2804.12(a)(5)). This technical capability can be demonstrated by international or domestic experience with wind energy projects or other types of electric energy-related projects on either federal or non-federal lands. Echanis, LLC a subsidiary of Columbia Energy Partners LLC (CEP) has provided a statement with their application indicating that they have finance agreements in place to fund the construction and operation of both the Echanis Project and Transmission Project. CEP also provided information showing they have domestic experience and involvement in wind and other renewable energy projects including the testing and preliminary development of a 200MW wind project at Arlington, Oregon. In CEP's 2009 Overview, CEP indicated that their portfolio included involvement in 1865MW of renewable projects. In addition, CEP has conducted and funded wind testing and a number of resource studies, inventories and reports in support of the application and Echanis Project. Based upon the information provided by Echanis, the BLM has determined that it has the technical and financial capability required to construct, operate and maintain, and terminate the approved Transmission Project.

The BLM uses SF 2800-14 (ROW Lease/Grant) as the instrument to authorize the ROW grants for the Transmission Project and includes the approved POD and all other terms, conditions, stipulations, and measures required as part of the grant authorizations. Consistent with BLM policy, the ROW grants to Echanis will include a performance bonding requirement to ensure compliance with the terms and conditions of the ROW grant; to ensure that the required mitigation on public land is implemented in accordance with the approved mitigation plans and specifications; and to ensure removal and rehabilitation of the lands when the ROW is terminated. BLM has determined that bonding is necessary for this ROW due to the scope and extent of the facilities on public lands, the sensitive resource involved and the expense to remove the structures.

The BLM will issue two separate ROW grants: The primary grant will be a new ROW grant to Echanis, LLC (hereafter referred to as "Echanis") for facilities necessary for long

term construction, operation, maintenance and termination of the Transmission Project including the 230kV overhead electric transmission line, new access roads, existing roads to be improved and overland access routes. The grant will allow Echanis the right to use, occupy, and develop the described public lands for the Selected Alternative, as identified and evaluated in the FEIS. A second, short-term grant will be issued for transmission line tensioning sites to be used only temporarily during the initial construction of the transmission line and during stringing or restringing of the line during line upgrades as proposed in the FEIS.

The Transmission Project is located in central Harney County, Oregon generally between the communities of Diamond and Crane, Oregon. The Transmission Project ROW grants will include a complete legal description and be graphically depicted on maps to be included as Exhibits A and B of each grant. Overview maps of the Transmission Project are included as Attachment C of this ROD.

The grants will be subject to Echanis' compliance with all applicable provisions of the BLM's ROW regulations contained in 43 CFR 2800 including bonding, cost reimbursement for monitoring, and payment of rent.

Echanis has estimated a 40 year operations life of the Echanis Project and related transmission line. When determining a reasonable term for a grant BLM will consider factors in addition to the useful life of the project. Pursuant to43 CFR 2805.11(b) these include the public purpose served, the useful life and cost of the project, time limitations imposed by other permits and licenses and the time necessary to accomplish the purpose of the grant. BLM policy as described in BLM Manual 2805.11.C.2. generally limits the maximum term of most ROWs to 30 years. Based upon the above factors BLM has determined that a 30 year term is reasonable and that the primary ROW grant issued to Echanis will be for a term of 30 years. The Holder may apply to renew the ROW consistent with 43 CFR 2807.22 and BLM will exercise its discretion to determine if the ROW should be renewed.

The temporary ROW grant for tensioning sites issued to Echanis will be issued for a term of three years, to begin upon issuance of a Notice to Proceed (NTP). The temporary ROW grant may be renewed for an additional 3-year term, upon written request of Echanis, when stringing or restringing is required to fully develop the transmission line to full 230kV capacity or when maintenance operations require tensioning sites.

Echanis may, on approval from the BLM, assign, in whole or in part, any right or interest in the grant to another party, including Harney Electric Cooperative as discussed in the FEIS in conformance with the 43 C.F.R. 2807.21. If BLM approves the assignment, the benefits and liabilities of the grant apply to the new holder, including compliance with the terms and conditions of the grant. Mitigation and other requirements would be assigned to the new holder, unless this obligation is specifically reserved by Echanis. In accordance with the regulations, BLM may modify the grant or add bonding and other requirements including additional terms and conditions when it approves the assignment.

Construction and commissioning of the Transmission Project may be phased as described in the FEIS (FEIS 2-6). However, initiation of construction as well as each upgrade phase will be conditioned on approval by the BLM in the form of an official NTP. If the approved Transmission Project does not progress to construction and operation, or if there is a substantial deviation in proposed use or location of the approved project, that proposal will be subject to potential additional NEPA review and BLM approval (40 C.F.R. 1502.9(c) and 43 C.F.R. 2807.20).

1. Mitigation Adopted by the BLM and Included in the Decision

A. Project Design Features and Best Management Practices

The Project Description, PDFs and BMPs applicable to the Transmission Project as described in the applicant's POD, in Section 2 and Appendix A of the FEIS, as well as applicable portions of Mitigation Plans as listed in Appendix F of the FEIS are also included in and required by this decision. These proposed project features applicable to the Transmission Project have been extracted from the above referenced sources and are listed in Attachment A, attached hereto. They are now binding as a part of the approved project design. Applicable mitigation being imposed by the BLM as conditions of approval is discussed in the following section.

B. Mitigation Required by BLM

In addition to analyzing an extensive list of PDFs and BMPs designed to reduce potential impacts, the FEIS proposed and analyzed the effects of a number of mitigation measures throughout each resource section. The BLM is requiring, as part of this ROW decision, all practicable mitigation measures applicable to the Transmission Project on public lands contained in the FEIS. These selected mitigation measures have been developed into specific enforceable terms, conditions and stipulations to be included in the ROW grants for the Transmission Project. They are attached as Attachment B. Pre-approved BLM guide stipulations have been used in this list where appropriate. The BLM has standard approved Guide Stipulations for ROWs that the BLM uses where appropriate. See BLM Manual 2805.12. As a part of this decision, BLM has determined that certain non-Guide stipulations to be included in the ROW grants are also appropriate, and the BLM hereby also approves these stipulations as required by BLM policy. See BLM Handbook 2805.12B. Both Guide and non-Guide stipulations are included in Attachment B.

In addition to the specific mitigation required above, the BLM will require that Echanis finalize an HMP in accordance with *Echanis Wind Power Project: Principles and Standards for Development of a HMP* (Mitigation Principles and Standards or MPS, Attachment D). These principles were developed pursuant to the *Greater Sage-grouse Conservation Assessment*

and Strategy for Oregon (SGCS) and *Implementing Habitat Mitigation for Greater Sage-Grouse under the Core Area Approach (Oregon Department of Fish and Wildlife (ODFW) Sage Grouse Mitigation Framework or SGMF*) in consultation with Echanis, ODFW, FWS, Harney County and the BLM. The HMP will:

- describe the actions to be taken by Echanis to mitigate for the impacts of the project on wildlife habitat, with particular emphasis on the habitat of the greater sage-grouse;
- require reassessment of the final mitigation if any project features are modified in the final project design, using methods consistent with the SGCS and SGMF;
- require that final mitigation acres will be completed based upon final project design prior to issuance of a NTP by BLM for the Transmission Project;
- include management actions necessary for achieving no net loss/net benefit mitigation which will be based on the MPS included in this ROD;
- include mitigation actions and locations that will be determined by the BLM and Harney County with recommendations provided by ODFW, FWS or by the Local Advisory Committee or Local Implementation Team. The criteria for identification of these actions and locations are included in Sections IV.A and B of the MPS.

Based on preliminary modeling and analysis in accordance with the SGCS and SGMF, BLM will require 2,412.6 acres of mitigation as a condition of the ROW due to effects to sagebrush and sage-grouse habitat resulting from the Transmission Project, a portion of the main Echanis access road on public land and Echanis noise effects on public lands adjacent to the project. Harney County will impose an additional estimated 8,473 acres of mitigation as a required by the CUP issued to Echanis. This acreage is based on effects from the Echanis Project and the private land portions of the transmission line and main Echanis access road. As noted above, this private acreage may be adjusted if any Project features are modified in the final Project design, using methods consistent with the SGCS and SGMF as well as criteria used to calculate the total mitigation acreage. The BLM assumes the final mitigation acreage requirements and HMP actions for private land impacts will imposed by Harney County into through the CUP for the Echanis Project. Implementation of enhancement actions will be underway within one year of start of Project construction. Twenty Five percent of total actions shall be underway within two years; another fifty

percent shall be underway within five years and the remainder no more than ten years after start of construction.

The BLM will require implementation of the ABPP/ECP that Echanis prepared and developed in conjunction with the FWS. The proponent has committed to implementing this ABPP/ECP. This commitment is therefore part of the proposed action to which the BLM is responding. The ABPP/ECP pursuant to the BGEPA and the Migratory Bird Treaty Act (MBTA) is attached as Attachment E. The ABPP/ECP will be the basis for which Echanis may apply for and FWS may issue an eagle take permit pursuant to the BGEPA. The take permit would apply to turbine operation associated with the Echanis Project and be enforceable by FWS.

As a condition of its ROW grant, the BLM will also require Echanis to fully comply with the terms of a Programmatic Agreement (PA) that will ensure the BLM's compliance with Section 106 of the NHPA. The BLM has developed and executed the PA in consultation with the Oregon State Historic Preservation Office (SHPO), the Burns Paiute Tribe, Malheur NWR and Harney County. A copy of the approved PA is attached as Attachment F.

A number of plans were suggested as mitigation or were included in Appendix A, BMPs and PDFs of the FEIS. Echanis has already developed several of these plans, most of which were in a draft form at the time the FEIS was released. The BLM will not issue a NTP for the Transmission Project until the following plans have been fully developed and finalized by Echanis and approved by the BLM. The ROW grant will contain a term and condition requiring submission and approval of these plans prior to the NTP. In the FEIS some of these plans were often referred to by differing names. The BLM has consolidated these names in the list below.

- *Construction POD*

- *Hazardous and Solid Waste Management Plan* – Includes Hazardous Substance Control and Emergency Response Plan, Emergency Response Plan, Waste Management Plan, Spill Prevention and Response Plan, Hazardous Materials Management Plan referenced in the FEIS.

- *Erosion and Sediment Control Plan*

- *Restoration and Re-Vegetation Plan* – Includes Re-vegetation Plan, Restoration and Re-vegetation Plan, Reclamation Plan and Restoration Plan referenced in the FEIS.

- *Weed Management and Control Plan* – Includes Integrated Pest Management Plan, Noxious Weed Management Plan, Weed Management Plan, Weed Management and Control Plan, Weed Management Control and Response Plan referenced in the FEIS.

- *Compensatory Wetland Mitigation (CWM) Plan*

- *HMP* – Includes and has been combined with Sage-grouse Mitigation Plan, Monitoring and Management Plan, Wildlife Monitoring and Mitigation Plan referenced in the FEIS and will be updated in accordance with the SGCS, SGMF and MPS(Attachment D).

- *Construction Compliance and Monitoring Plan* – In addition to an overall construction and monitoring plan, this plan shall include a Construction Monitoring Plan referenced in the PA relative to compliance with Section 106 of the National Historic Preservation Act (NHPA).

- *Transportation Plan* – Includes a Traffic Management Plan referenced in the FEIS.

- *Dust Control Plan*

- *Coordination Plan* – Required by the above referenced PA only if identification and evaluation of cultural and historical resources cannot be accomplished prior to the initiation of construction.

- *Treatment Plan* – Required by the above referenced PA only if eligible cultural or historical resources cannot be avoided by development of the project.

- *Decommissioning Plan* – A conceptual decommissioning plan will be required to be included in the Construction POD. A detailed decommissioning plan will be required at the time of decommissioning of the Transmission Project and termination of the ROW.

The ROW is conditioned on implementation of the above mitigation measures, plans and agreements and issuance of all other necessary local, state, and federal approvals, authorizations, and permits.

This decision responds to the Echanis application OR-65891 only. As a result of BLM's NEPA review of the impacts to the public lands and resources from the OR-65891 transmission line application, BLM has concerns that some, but not all, reasonably foreseeable renewable energy

projects may pose threats to the CMPA that cannot be sufficiently mitigated. See e.g. FEIS at 3.19-52, 63-65, 67, 69, and 70. Some of these projects could potentially be authorized and built on private lands with no further federal authorization. This is of concern to the BLM because, while the BLM supports renewable energy development, projects that impact public land resources but which have no federal authorization may not take into account the sensitive nature of BLM's conservation management responsibilities, including protecting wilderness values from certain impacts, including visual and audible impacts. Authorizing this 230 kV transmission line would, arguably, facilitate development and associated impacts to areas that BLM considers sensitive. Pursuant to 43 CFR § 2805.10(a)(1), BLM may include, in a ROW grant, "any terms, conditions, and stipulations that BLM determines to be in the public interest" and pursuant to 43 CFR § 2807.20(a), a ROW holder must seek a grant amendment "when there is a proposed substantial deviation in location or use." To address the above concerns and regulations, the ROW will include the following condition:

> BLM is authorizing the ROW to serve the Echanis Project analyzed in the FEIS. Should a project be proposed that is located within the exterior boundary of the Steens Mountain Cooperative Management and Protection Area, or affecting the public land resources of that Area, and that would connect to the transmission line authorized under this ROW, the BLM will consider this new proposal a substantial deviation in use and require an amended application for use of the ROW. In addition, the BLM may, to the extent consistent with law, decline use of the right of way to service this additional project if BLM finds the impacts of this project to public lands unacceptable. The holder of this ROW shall obtain prior authorization by the BLM for any project connection to the transmission line within the exterior boundary of the Steens Mountain Cooperative Management and Protection Area, or affecting the public land resources of that Area. If the holder of this ROW fails to obtain such authorization, the BLM may suspend or terminate the ROW if the holder of the ROW connects any additional project to the transmission line, including projects that may not be consistent with the mitigation for the Echanis Wind Energy Project and associated power transmission system.

By incorporation of these measures all practicable means within BLMs jurisdiction have been adopted and included in the Selected Alternative to avoid or minimize environmental harm. These measures, terms, and conditions are determined to be in the public interest pursuant to 43 CFR 2805.10(a)(1).

2. Mitigation Recommended by the BLM to Other Regulatory Agencies

In the FEIS, the BLM analyzed the non-Federal connected action of the Echanis Project on private lands. For this non-Federal action, the FEIS discussed effects and mitigation measures such as those to address noise impacts from the Echanis Project to sage-grouse located on adjacent public land. In addition, the FEIS suggested mitigation measures to address impacts to private lands that would result from Echanis Project. Harney County has jurisdiction over the future construction and development on private lands through its CUP. The BLM recommends that and bases the decisions in this ROD on the assumption that Harney County will impose Echanis' Final HMP and other suggested mitigation applicable to the Echanis Project into its CUP approval.

The BLM further recommends Harney County and Echanis adopt and incorporate any PDFs, BMPs and mitigation measures identified in the FEIS and this ROD applicable to the Echanis Project and other private land components of the Echanis Project and that are not yet part of the CUP.

Additionally, BLM recommends Harney County adopt the conservation and mitigation commitments for private lands contained in the ABPP/ECP. The BLM also recommends FWS also require compliance on private lands with this plan in any eagle take permit they may issue for the Echanis Project.

3. Additional Mitigation Measures

In accordance with 40 CFR 1501.2, the BLM considered the proposed mitigation as described throughout the FEIS as well as PDFs, BMPs and Mitigation Plans including a final HMP and the ABPP/ECP. As referenced above, BLM will require all practicable mitigation and BMPs and PDFs applicable to the Transmission Project as outlined in Attachments A and B along with applicable portions of the final HMP and ABPP/ECP. However, BLM will not administer in its ROW grants stipulations clearly applicable only to the Echanis Project or other private land components of the overall project. BLM will leave that administration to the relevant governmental entities with jurisdiction. A list of BMPs, PDFs and mitigation measures within this latter category is included within Attachment G.

As noted in Attachment G, the first set of BMPs and PDFs in Attachment G is being required as conditions of approval by Harney County in the CUP authorizing the Echanis Project. Further, as discussed below, Echanis has included mitigation as part of its proposal to Harney County for the Echanis Project wind turbines and transmission line on private land. Harney County approved the project with conditions in CUP 07-14 dated April 18, 2007. Harney County has jurisdiction to require and enforce mitigation through this CUP. As provided for in Condition No. 8 of the CUP, Harney County has also agreed to impose additional mitigation contained in the final HMP to minimize private land effects. These conditions of approval and incorporation of the updated mitigation (e.g. mitigating for turbine impacts to sage-grouse habitat on private land and

mitigating for visual and audible impacts from the turbines) are part of the proposed action BLM has considered as a connected action and indirect effect of granting a ROW. Consequently, this ROW is granted only for the proposed Echanis Project as described with the additional mitigation in the County permit. Echanis' adopting the HMP as part of the action is a condition precedent for BLM's granting and continuing to authorize the ROW. Should the proponent not follow through on mitigation, BLM may suspend or terminate the ROW.

4. Monitoring the Decision

The grant will include a stipulation that Echanis implement a construction compliance and monitoring plan to ensure construction activities on BLM-administered lands satisfy the requirements of the ROW grants, PDFs, BMPs, as well as any conditions required through any of the Transmission Project's Federal, state, or local permits for actions related to the Transmission Project. The grants will also require Echanis to retain copies of all applicable construction permits onsite and to educate construction personnel on avoidance of sensitive areas, compliance and monitoring requirements. Upon identification of a non-compliance issue on public land, or discovery of archaeological resources, Echanis will notify the BLM immediately and work with the responsible contractors or workers to correct the problem. Echanis will provide monthly written reports to the BLM documenting compliance and reporting any environmental problems as well as corrective actions taken to resolve these problems.

Several of the mitigation plans and agreements referenced in the FEIS have specific monitoring requirements and protocols which specify both construction and long-term monitoring. Plan provisions applicable to the Transmission Project including applicable monitoring requirements are being made a condition of the ROW grants. Mitigation plans and agreements which contain specific monitoring requirements include:

- ABPP/ECP for the Echanis Wind Energy Facility and the Selected Alternative – Provides for avian fatality and raptor nest monitoring, protocols, analysis, and adaptive responses for the Echanis Project as well as the Transmission Project.

- HMP – Provides for comprehensive monitoring of mitigation areas including baseline habitat quality, enhancement actions, and sage-grouse and other wildlife responses to mitigation.

- Weed Management and Control Plan – Provides for baseline inventory and annual monitoring of noxious weeds for the overall project.

- Revegetation Plan – Specifies annual monitoring of treated disturbed areas and improved habitat areas.

- PA relative to Section 106 of the NHPA - This agreement requires development of a Construction Monitoring Plan to ensure identification, analysis and treatment of unanticipated discoveries of cultural or historic resources. The Agreement also provides for a Coordination Plan to ensure baseline cultural resource inventories, evaluation and treatment in circumstances where pre-construction cultural resource investigations are not feasible.

A number of monitoring provisions applicable to the Transmission Project are also included in the BMPs, PDFs and mitigation measures described in the FEIS and will be included in the ROW grants.

II. Rationale for the Decision

1. Summary

This decision is based on the degree to which the Selected Alternative meets the Purpose and Need for the action (FEIS Page 1-3). The Purpose and Need, as discussed below, reflects BLM's multiple use mandates. Additionally, as discussed below, several national and state initiatives call for an increased supply of domestic renewable energy. Any of the various alternatives and their options including Alternative A – the no action alternative, would meet BLM's need which is to respond to Echanis' application for a utility ROW across public lands managed by BLM. This need for the BLM action arises from the FLPMA of 1976 that establishes a multiple-use mandate for management of Federal lands, including energy generation and transmission facilities as outlined in 43 CFR 2800. The purpose of the BLM's action is to grant, grant with conditions, or deny Echanis' application for use of public land to construct, operate, and maintain a new 230kV transmission line.

The Selected Alternative would accomplish the objectives of the purpose and need, and by enabling the Echanis Project, would help meet federal and state objectives for renewable energy development. The Selected Alternative provides the best balance between improving renewable energy capacity in the nation while reducing adverse impacts as compared to other action alternatives. Additionally, during the analysis of the project and development of the decision, the BLM consulted extensively with several parties to identify and implement measures that would minimize impacts to natural and cultural resources.

Pursuant to 43 CFR § 2805.10, if BLM issues a grant, BLM may include terms, conditions, and stipulations it determines to be in the public interest. This includes modifying the proposed use or changing the route or location of the facilities on public land. Pursuant to 43 CFR § 2801.2, it is BLM's objective to grant ROWs and to control their use on public lands in a manner that:

a) Protects the natural resources associated with public lands and adjacent lands, whether private or administered by a government entity;

Discussion: In its decision to adopt the Selected Alternative, BLM has attempted to protect a variety of natural resource values on public, private and National Wildlife Refuge lands through extensive PDFs, BMPs and mitigation (discussed herein).

(b) Prevents unnecessary or undue degradation to public lands;

Discussion: PDFs, BMPs and mitigation plans and measures have been incorporated into the proposal and will be required as conditions of approval in the ROW grants approving the Selected Alternative to prevent any unnecessary or undue degradation to public lands.

(c) Promotes the use of ROWs in common considering engineering and technological compatibility, national security, and land use plans;

Discussion: Approval of the Selected Alternative will locate a portion of the Transmission Project within a corridor associated with State Highway 78. Public lands along this section are designated a ROW corridor in the Three Rivers Resource Management Plan (RMP). Although much of this section of the project is in private ownership and is technically not a designated corridor, the Selected Alternative still provides values associated with corridor designations including combining impacts and other benefits. None of the other alternatives utilize existing designated corridors.

and, (d) Coordinates, to the fullest extent possible, all BLM actions under the regulations in this part with state and local governments, interested individuals, and appropriate quasi-public entities.

BLM has, throughout the Environmental Impact Statement (EIS) and ROW process, fully engaged a number of agencies, individuals, and organizations and considered their views, concerns and comments in arriving at this decision.

The FLPMA specifically provides that in managing the use, occupancy, and development of the public lands, the Secretary shall take any action necessary to prevent unnecessary or undue degradation of the lands (43 USC 1732(b)). The process for development and analysis of the project included extensive efforts on the part of BLM, the applicant, Harney County, ODFW, FWS, Malheur NWR, the Burns Paiute Tribe and other agencies, as well as the general public, in order to identify a project that accomplishes the purpose and need and other project objectives, while preventing, to the extent possible, any unnecessary or undue degradation of the lands. These efforts include development of mitigation plans including an ABPP/ECP and HMP which would minimize effects or compensate for a number of wildlife species.

Additional discussion regarding BLM's consideration of these objectives follows.

2. Rationale To Select An Action Alternative Enabling The Echanis Wind Energy Project

In arriving at the decision to approve the ROW, the BLM considered the analysis in the FEIS of a non-Federal connected action, the Echanis Wind Energy Project and other private land components of the overall project. Although located on private land, the BLM may consider the Echanis Project effects in deciding whether to grant, grant with conditions, or deny Echanis' ROW application for use of public land. *See* 43 CFR 2801.2(a) cited above. Effects from the Echanis Project can also be considered by the BLM in its determination of whether or not the proposed use is in the public interest. *See* 43 CFR 2804.26(a)(2) – if the proposed use is not in the public interest, BLM may deny the ROW.

The Echanis Project will result in a variety of effects to adjacent public land resources including wilderness, recreation, visual and aesthetic resources and wildlife. BLM has weighed these effects against the climate, employment and energy security benefits of approving the ROW which would enable the Echanis Project. For example, the Echanis Project will produce 463,000 megawatt hours of renewable wind energy primarily during the winter months complementing other northwest wind power generation, most of which peaks during the summer. Power generation from the Echanis Project will avoid release of 194,000 metric tons of carbon dioxide equivalents and other harmful pollutants produced from fossil fuels each year. Development of the Echanis Project, including related transmission, will result in creation of as many as 219 temporary jobs and approximately 16 permanent jobs in economically depressed Harney County, as well as result in significant tax benefits for the County. The BLM has also considered how its decision helps achieve State and National policy regarding renewable energy objectives including Secretarial Order 3285 A1 of February 22, 2010 which directs DOI agencies and bureaus to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources. Additionally, the Energy Policy Act of 2005 (EPAct) (Title II, Section 211) establishes a goal for the Secretary of the Interior to approve 10,000 MWs of electricity from non-hydropower renewable energy projects located on public lands. BLM would help meet the objectives of Secretarial Order 3285 A1 by approving necessary transmission capability for the Echanis Project resulting in an increased supply and transmission of wholesale electric renewable power available to utilities for retail sales in the states of California and Oregon.

Echanis has made commitments to minimize the effects of both the Echanis Project and the Transmission Project by including in their application for a ROW a POD that includes BMPs, PDFs and mitigation plans Additional assurances relating mitigation for impacts of the Echanis Project and the transmission line on

private land will be through the Harney County CUP. Additional assurances relating to the provisions of the ABPP/ECP will be through the FWS's enforcement authority under the BEGPA and the MBTA.

Based on these commitments, permitting authorities and requirements, the BLM finds it reasonably foreseeable that the effects resulting from the Echanis Project will be minimized and the Echanis Project will be implemented as described.

Further detail discussion regarding the effects, mitigation and decision factors along with additional rationale for key issues relating to the Echanis Project follows in *"Specific Issues and Decision Factors"* below.

3. Rationale for the Decision Relative to Transmission Line Alternatives

The BLM has decided to modify the proposal by choosing the Selected Alternative having a different route from that proposed by Echanis LLC, and BLM has included terms, conditions and stipulations in the grant to better serve the public interest, protect resources and meet the objectives of 43 CFR §2801.2 discussed above. The Selected Alternative meets the purpose and need for the action and is consistent with the multiple use mandate of the FLPMA.

The Selected Alternative is the action alternative that minimizes or avoids the most biological, visual, recreation, cultural, and hydrological resources and includes the following advantages over any other action alternative:

- The Selected Alternative avoids most water related issues and has fewer stream crossings than Alternative B and, unlike Alternative B which crosses the Blitzen Valley, has no crossings of floodplains.

- Although the Selected Alternative is much longer than Alternative B, the Selected Alternative crosses more disturbed lands, parallels existing roads and infrastructure and utilizes existing corridors, limiting new disturbance to vegetation, soils and wildlife habitat.

- The Selected Alternative avoids Malheur NWR and the Blitzen Valley minimizing potential significant collision mortality for a number of key avian species.

- The Selected Alternative avoids areas with higher visual quality and related recreation, visitation and transportation uses including Highway 205, Malheur NWR and Diamond Lane. The Selected Alternative is mostly located in areas of fewer visitations, less visual quality or where numerous intrusions and development already exists.

- The Selected Alternative has fewer identified cultural and historical resources than Alternative B and less potential for unanticipated discovery of additional resources.

- The Selected Alternative is in conformance with the BLM's land use plan direction for the area. Alternative B would not conform to VRM objectives contained in the Andrews Management Unit RMP.

Further detailed discussion regarding the effects, mitigation, decision factors and differences between transmission alternatives along with additional rationale for key issues is in "Specific Issues and Decision Factors" below.

An additional alternative option analyzed in the FEIS includes constructing the transmission line along any one of the alternative alignments, but only authorizing a single, three-phase 115-kV circuit. BLM has concluded that selection of an 115kV option would unnecessarily restrict other options and opportunities to connect renewable energy projects outside the CMPA (e.g. Riddle Mountain Project) or where a Federal action may be required for any future project. In this regard the selection of the 230kV option is consistent with the objective of Secretarial Order 3285 A1 which directs DOI agencies and bureaus to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources. Further, there is little difference in permanent impacts of 115kV compared to the 230kV configuration since the size and number of towers, access roads, tensioning sites, and other transmission components would be similar. Moreover, it is BLM's understanding that a 115kV line would result in more electrical transmission loss of energy (line loss) as compared to a 230kV line. Echanis' transmission consultant estimates that if the line is built with the 115kV circuitry only, the line could experience four times the electrical line loss on the North Route over that which would result if Echanis were allowed to build at the 230kV capacity. CEP has indicated that limiting the Transmission Project to a 115 kV configuration for the North route jeopardizes the overall economic viability due to these losses in transmission efficiency. For these reasons, BLM is authorizing the 230kV double circuit transmission line, as proposed for the Selected Alternative.

The Selected Alternative for the Transmission Project is in conformance with the BLM's land use plan direction for the area contained in the Three Rivers RMP and within the Andrews Management Unit RMP (FEIS Page 1-10). The Selected Alternative achieves the realty goals and objectives of both plans by meeting the public and private need for use authorizations including those authorizations necessary for renewable energy development, while maintaining and improving resource values and public land administration. The Selected Alternative also meets the broader RMP goals by emphasizing resource use, protection and environmental health while balancing cultural, economic, ecological and social values.

For the foregoing reasons, BLM has determined that an action alternative, specifically the Selected Alternative is in the public interest.

BLM finds that the Selected Alternative is preferable to the other action alternatives in that, overall, it presents the least environmental impact. For these same reasons BLM has not selected Alternative A, the No Action alternative. BLM has also determined that the terms, conditions and stipulations included in the ROW grants are in the public interest pursuant to 43 CFR 2805.10(a) (1).

In addition to considering FLPMA objectives and requirements for managing public lands and ROWs across public land, BLM has weighed a number of factors in balancing provisions of the CMPA Act (Steens Act). Section 122 of the Act provides:

(a) POLICY- Development on public and private lands within the boundaries of the CMPA which is different from the current character and uses of the lands is inconsistent with the purposes of this Act.

(b) USE OF NON-DEVELOPMENT AND CONSERVATION EASEMENTS - The Secretary (of Interior, acting through the BLM) may enter into a non-development easement or conservation easement with willing landowners to further the purposes of this Act.

(c) CONSERVATION INCENTIVE PAYMENTS - The Secretary may provide technical assistance, cost-share payments, incentive payments, and education to a private landowner in the CMPA who enters into a contract with the Secretary to protect or enhance ecological resources on the private land covered by the contract if those protections or enhancements benefit public lands.

(d) RELATION TO PROPERTY RIGHTS AND STATE AND LOCAL LAW - Nothing in this Act is intended to affect rights or interests in real property or supersede State law.

The factors relative to the Steens Act contributing to BLM's decision include:

- 5.9 miles of the transmission line and associated access roads within the CMPA are wholly within private lands.
- No portion of the Echanis Wind Energy Development is within the boundary of the CMPA.

No portion of the Transmission Project is on Federal lands within the CMPA.

- The Echanis Project was approved by Harney County through a CUP prior to receipt of the ROW application by BLM.

Although the policy expressed in Section 122(a) of the Steens Act discourages development of 5.9 miles of transmission line on private land in the CMPA, BLM must also consider
Section 122(d). While Congress has discouraged certain private land development, Congress has declined to expressly regulate private property under the Steens Act section 122(d). Reading the provisions of Section 122 in total, Congress has authorized incentive payments and conservation easements where there is a willing seller and sufficient appropriated funds to achieve the objectives in section 122(a). Absent use of these tools, BLM cannot find in the present case that Congress has precluded the private land development. BLM's experience has been that it does not have sufficient appropriations to provide for incentive payments or easements even on priority private land inholdings in the CMPA.

4. Specific Issues and Decision Factors

The following discussion below summarizes the effects to key resources, issues and decision factors leading to a decision to approve the Selected Alternative. In the discussion below any references to Alternative B includes the Hogwallow and South Diamond Lane Options of Alternative B. The effects of the Echanis Project are common to all action alternatives for the Transmission Project and will be treated separately. The discussion is limited to those key resources which are vital in the consideration of the decision or where there are sufficient differences between alternatives to weigh in the decision-making process.

A. Water, Wetland, Riparian and Fisheries Issues

1. Echanis Project

The Echanis turbines and related facilities at the Echanis site will not affect any wetlands and will be located outside of any water courses or 100-year floodplains. The primary facility of the Echanis Project affecting water, riparian, fisheries and wetland values will be the main access road leading to the Project. The road will cross five perennial and intermittent streams, two of which are fish bearing including Kiger Creek and Mud Creek. Although stream crossings will be with a bridge and culverts, construction, maintenance and use of the road has potential for sedimentation in streams with resultant effects to fish where they occur. Approximately 2.4 acres of wetlands and riparian vegetation will be altered by construction and maintenance equipment working within and adjacent to these areas.

Mitigation and compensation mechanisms required by Harney County in their CUP along with other Federal and State permitting requirements will minimize most effects to water resources and wetland and riparian values. These requirements include:

- Harney County's CUP requirement for Echanis to secure National Pollutant Discharge and Elimination System Stormwater Discharge Permit from the Oregon Department of Environmental Quality (DEQ) prior to construction.

- A Compensatory Wetland Mitigation Plan completed as part of Echanis Joint Permit under Section 404 of the Cleanwater Act and Oregon's Removal/Fill Law required by the U.S. Army Corps of Engineers and the Oregon Department of State Lands..

2. Transmission Project

The Selected Alternative will result in fewer stream (including fish bearing streams), wetland and riparian crossings than Alternative B and no crossings of a 100-year floodplain. Alternative B would require a crossing of the Blitzen River floodplain. Regardless of the alternative, these features will be spanned by the transmission line and streams and riparian areas will be avoided.

For Alternative B, two existing road crossings of perennial and intermittent streams would be required for construction and maintenance of the transmission line. For the Selected Alternative there will only be one overland route crossing of a perennial stream containing a small wetland resource and no new or improved access road crossings. These wetland effects would be mitigated and compensated by a required permit under Section 404 of the Clean Water Act. Where constructed or improved roads parallel or cross riparian areas or wetlands, temporary, construction-related effects could be experienced, including the effects of equipment working within and adjacent to these areas. Permanent effects will include reduced interception and infiltration of precipitation with increased runoff due to roads with potential to impact floodplains through increased flooding and erosion.

Clearly, the Selected Alternative is advantageous over Alternative B because water related issues are limited along this route. Any residual effect would be further minimized or compensated by

BMPs, PDFs(FEIS 3.2-27 and 3.4-25) and Stipulations as identified in FEIS which will become a requirement of the ROW grant.

B. Soils and Vegetation

1. Echanis Project

The Echanis Project will result in the loss of approximately 93 acres of vegetation with corresponding soil disturbance including about 54.0 acres for new or improved access roads, 2.4 acres for turbines, 1.8 acres for the substation, and 1.3 acres for the overhead electrical lines. Construction of the Echanis Project and any of the Alternatives has the potential to increase soil erosion due to larger amounts of runoff during construction and clearing. Soils also have the potential of being affected by potential spill of harmful materials during construction. All Action Alternatives also have the potential to increase runoff due to roads and impervious surfaces.

Several measures included in the application and approval the Echanis CUP will minimize effects to soils and vegetation. These include:

- The requirement for Echanis to secure National Pollutant Discharge and Elimination System Stormwater Discharge Permit from the Oregon DEQ prior to construction.
- The requirement to develop a Weed Management and Control Response Plan in consultation with the Harney County Weed Board.
- The requirement to comply with all Federal, State and local laws relative to the handling, storage, use and disposal of those hazardous materials.
- Echanis' commitment through their CUP application and subsequent approval by Harney County to develop a Restoration and Rehabilitation Plan.

2. Transmission Project

At approximately 46 miles long (all ownerships), the Selected Alternative is significantly longer than Alternative B which is 29 miles long. For this reason, the Selected Alternative involves more direct effects to soils and vegetation in terms of acres than

Alternative B. However, a greater proportion of the Selected Alternative, over 25 percent, will cross previously disturbed lands including agricultural lands and annual grasslands located along State Highway 78 between Princeton and Crane, Oregon. Further, the Selected Alternative parallels several existing roads and highways including State Highway 78 which will limit the amount of additional disturbance from development of access. These factors offset any advantage Alternative B has over the Selected Alternative in terms of distance and acreage making overall effects to soils and vegetation similar for both Alternatives. Any residual effects to soils and vegetation of the Selected Alternative would be further minimized or compensated by BMPs, PDFs and Stipulations, which includes provisions for a Restoration and Re-Vegetation Plan, a Weed Management and Control Plan, and other mitigation plans which will become requirements of the ROW grant.

C. Wildlife

1. Echanis Project

a. General Wildlife

Residual effects from construction of the Proposed Action and Alternatives will include habitat loss, dispersal of wildlife from construction areas, displacement, and mortality from vehicle collisions. Residual effects that will last at least as long as the life of the Project (an expected 40 years) will include a reduction in the availability of wildlife habitat for foraging, courtship and breeding, rearing young, and cover for many general wildlife species including special status species. Noise and human activities associated with operations will displace individuals throughout the year, and during the spring maintenance vehicles could disrupt breeding of some species. Less mobile or burrowing non-game species will be susceptible to mortality from increased vehicular use on the Echanis Project site.

b. Big Game

The Echanis Project will result in the loss of less than one percent of habitat in the game management units for mule deer winter range, elk winter range, pronghorn antelope range, and bighorn sheep habitat.

c. Sage-grouse

Greater sage-grouse will be displaced from their spring and summer habitats at the Echanis Project during maintenance activities, and will greatly reduce their time spent near the access roads and wind turbines. Direct mortality from collisions with wind turbines will likely be very low, because few deaths have been documented (FWS 2008). No leks are known to occur within 3 miles of the proposed turbine locations on the Echanis site, so courtship and breeding will not likely be affected by the Project except for the Little Kiger lek which is located as close as 1.2 miles from the main Echanis access road.

The effect of the presence of turbines in late brood-rearing habitat is not certain at this time. Greater sage-grouse will be displaced from an area beyond the turbine footprint, but for how far and during which seasons has not been adequately researched. The presence of roads will not necessarily reduce greater sage-grouse use, but the timing and amount of road use will determine the extent that greater sage-grouse and other wildlife will avoid the road. Increased vehicle use at the Echanis Project could lead to a slight increase in direct mortality from collisions.

Until empirical data are available that quantify the effects of such turbine developments on greater sage-grouse populations, interim guidance from the ODFW is being used to quantify areas of impact of Project features on greater sage-grouse (Hagen 2011b). As discussed herein, this ODFW guidance forms the basis for mitigation for sage grouse and sagebrush dependent species. The basis for ODFWs guidance is the "no net loss and with a net benefit" policy. This policy provides that habitat mitigation should be through reliable in-kind, in-proximity habitat mitigation to achieve no net loss of either pre-development habitat quantity or quality. The mechanisms for mitigation described in this ROD are designed to achieve this goal.

d. Golden Eagles and other Special Status Raptors

Golden eagles were present at both the Echanis Project site and immediately west of the Echanis site, but were observed over canyons and away from ridges where turbines are proposed. Given the potential for a lethal

collision of a golden eagle with wind development components, a Programmatic BGEPA permit will be required from the FWS to provide operational coverage for the Echanis Project. In consultation with FWS Echanis has developed an ABPP/ECP for the Echanis Project Site. The FWS has acknowledged that Echanis cooperated in the development of the ABPP/ECP which addresses golden eagle issues. This plan will be used to ensure consistency with both the MBTA and the BGEPA. This plan applies to species covered under the MBTA and BGEPA.

Direct effects to golden eagles from Echanis Project activities will result from disturbance and mortality. Actions that resulted in disturbance from the development of the Echanis Project will include the effects of construction of the turbines and associated infrastructure and potential loss of habitat in golden eagle territory. The mortality estimate for the Echanis Project due to golden eagles collision with turbines is estimated to be approximately 3.4 to 5.1 golden eagles per year (Echanis 2011).

One bald eagle was observed in the fall during its southern migration over the Echanis Project site, but the bald eagles' preference for sites near water will make it likely to occur only as a migrant at the Echanis Project site. Bald eagle winter roost areas are not present on the Echanis Project site.

The ABPP/ECP will minimize effects to eagles through the use of avoidance, minimization and mitigation measures per the Draft Eagle Conservation Plan Guidance issued by the Service in January 2011. To achieve these goals, the ABPP/ECP provides for a.) Site selection and development undertaken with respect to the Echanis Project; b.) Advanced Conservation Practices to be employed before, during, and after the construction of the Project; and c.) Compensatory mitigation for any remaining, unavoidable take of eagles.

No suitable habitat exists on the Echanis Project site or main access road for the burrowing owl, and no northern goshawks or ferruginous hawks were observed during field surveys. Ferruginous hawks are unlikely to be present except during migrations. No raptor nests for any special status species were found within 2 miles of the Echanis Project site.

e. Other Special Status Species

Estimates of bird fatalities from the Echanis Project range from 24 to 690 birds annually, with 19 to 538 (about 78 percent) of these being passerine species. The estimate of fatalities for other species include 0 to 22 raptors annually, 28 to 235 bats annually (mostly hoary and silver-haired bats), and minimal waterfowl and shorebirds. These bird and bat fatality estimates are consistent with fatality data from existing wind farm developments in the Pacific Northwest.

There is a low likelihood that the six special status passerine species (yellow-breasted chat, willow flycatcher, olive-sided flycatcher, black rosy finch, and Lewis' woodpecker) could be affected by collisions with the turbines at the Echanis Project site. During spring or fall migration these species could be at a greater risk of collisions with turbines.

Although no wind developments are known to have been constructed in mountain quail habitat, it is possible that the Echanis Project could cause a low level of mortality for mountain quail from collisions with turbines, because other game bird fatalities have been found at other wind developments. Increased collisions with vehicles from maintenance and other operational traffic could occur, although it is likely to be undetectable.

The FEIS estimates that bat mortality from the Echanis Project will range from 28 to 235 bat deaths per year. Hoary bats and silver-haired bats would most likely comprise the majority of the bat fatalities on-site. The big brown bat and little brown bat are also present in the Echanis Project area. However, they have comprised a small proportion (less than or equal to 10 percent) of total bat mortality at other wind developments in the Pacific Northwest (Arnett et al. 2008). If bat mortality thresholds in the ABPP/ECP are exceeded (2.56 bats per turbine per year or mortality of 10 bats at any one turbine in a given year), one or more of the adaptive management measures discussed in the ABPP/ECP would be initiated to minimize bat mortality.

Although a number of effects to wildlife from the Echanis Project are anticipated, mitigation and compensation for

most of these effects are assured through local, State and other Federal regulatory processes. For example, mitigation for most sagebrush dependent species will be required through a HMP which will be updated and imposed as a part of Harney County's CUP for Echanis. The ABPP/ECP, required as part of an application for an eagle take permit by FWS, will provide for mitigation and, if necessary, compensation for most avian and bat species. The residual effects from construction of the Echanis Project would include habitat loss, dispersal of wildlife from construction areas, displacement, and mortality from vehicle collisions.

2. Transmission Project

a. Big Game

All alternatives have similar effects and cross similar amounts of key habitats including elk and mule deer winter range. The exception is the Selected Alternative will affect a larger acreage of antelope winter range than Alternative B, 370.8 acres versus 95.6 acres. However, these acres were calculated based on all habitat within the 150-foot ROW. The actual permanent disturbance to these key habitats from development of the Selected Alternative is: 53.8 acres of mule deer winter range, 24.7 acres of elk winter range and 11.3 acres of antelope winter range. Actual permanent disturbance for Alternative B would be: 41.7 acres of mule deer winter range, 24.7 acres of elk winter range and 4.8 acres of antelope winter range.

b. Greater Sage-grouse

The Selected Alternative and Alternative B have similar effects to greater sage-grouse including displacement due to permanent features, habitat fragmentation, potential mortality from collisions with vehicles and increased predation. The Selected Alternative is slightly closer to the Little Kiger Lek than Alternative B. However, in both alternatives, two drainages and an intervening ridge prevent direct line of site from the lek. Because of this topographical screening it is anticipated that for Alternative B none of the transmission line would be visible and for the Selected Alternative only the upper portions of the towers and lines would be visible from the lek. The Selected Alternative crosses a greater area of juniper woodland and

grassland than Alternative B where sage-grouse nesting is not expected.

c. Golden Eagles and other Special Status Raptors

All transmission alternatives have similar affects to golden eagles and other raptors including the potential for collision with above-ground towers or lines, electrocution, disturbance (particularly of breeding attempts) during construction, and habitat loss. Raptors are known to occur along the entire length of all action alternatives but the probability is low that raptors will collide with the transmission line because of line spacing (APLIC 1994). Raptor species have excellent eyesight and tend not to fly during low light conditions (e.g., dusk and inclement weather) further minimizing the risk of collision with the transmission line. Any probability of collisions increases where Alternative B borders or crosses the Malheur NWR because raptors are more likely to use wetland areas for foraging. Implementation of *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006)* as provided for in PDFs will ensure that the probability of raptor electrocution is negligible and use of construction timing restrictions and buffers will ensure avoidance of raptor nest disturbance.

d. Special Status Waterfowl and Shorebirds

Special status water birds including western least bittern, white-faced ibis, black tern, trumpeter swan, snowy egret, Franklin's gull, and American white pelican are prone to collisions with transmission lines. Mortality would occur where Alternative B would cross the MNWR which contains highly valued waterfowl habitat and is situated along a migratory pathway. The Selected Alternative has a distinct advantage over Alternative B in this regard because it does not cross lands containing extensive amounts of these unique habitat characteristics.

e. Other Special Status Species

Effects to other special status species including pygmy rabbits, special status passerines and woodpeckers and mountain quail are similar through all alternatives. Effects include loss of habitat from transmission and access footprint disturbance, potential direct vehicle mortality,

collision hazard from the transmission line, and displacement from suitable habitat. These effects are minor and in most cases are undetectable.

One of the most significant benefits of the Selected Alternative is that it avoids the Blitzen Valley and Malheur NWR thereby minimizing the potential for collision related mortality for a number of key avian species including waterfowl and shorebird species, golden eagles and other special status raptors. Based on ongoing consultation with the ODFW and FWS, many wildlife resources in the area are avoided by the Selected Alternative or the impacts are substantially mitigated. Any residual effect associated with the Selected Alternative would be further minimized or compensated by BMPs, PDFs and Stipulations, which will become a requirement of the ROW grant. This includes imposition of a HMP and ABPP/ECP applicable to the Transmission Project.

D. Visual and Aesthetics, Recreation, Wilderness, Wilderness Study Areas, Other Lands with Wilderness Characteristics, and Wild and Scenic Rivers

1. Echanis Project

The primary permanent effect on Wilderness, Wilderness Study Area (WSA), lands with wilderness characteristics (LWC), and Wild and Scenic Rivers (WSR) will be the visibility and noise of the Echanis Project and the private segments of the transmission line. No portion of the Echanis Project or transmission line will be located within designated Wilderness, WSR, WSA, and LWC or on public lands within the CMPA. To reduce visual effects, Condition No. 11 of the Harney County's CUP for the Echanis Project requires that all exterior components of the wind turbines be painted off-white or light gray with a flat, semi-gloss or galvanized finish.

The Echanis Project will be visible from key recreation areas within the CMPA, including portions of East Steens Road, Mann Lake Recreation Site (3.5 miles from the Project) and East Rim Overlook (7.6 miles from the Project). Visual effects of the Echanis Project will be moderate to high from Mann Lake, the East Rim Overlook, and at least one location along the East Steens Road. The Echanis Project will be prominent along the ridgeline above the Mann Lake Recreation Site and East Steens Road.

The Echanis Project will be located on private lands not subject to BLM's visual resource management (VRM) objectives. Therefore, these private lands have not been inventoried or classified in accordance with BLM VRM standards. The Echanis Project, however, will affect the scenic view quality from adjacent BLM-administered VRM Class II lands and

the character of the adjacent scenery and cultural modifications near these lands will also change. Further, the visual effect of the Echanis Project will be high to moderate from several Key Observation Points (KOP) located on surrounding BLM lands.

To meet the security and safety-oriented objectives, the Federal Aviation Administration (FAA) requires the mounting of red or white flashing lights on top of structures over 200 feet tall to avoid aircraft collisions during the day and night. To minimize light pollution caused by red or white flashing obstruction strobes, the Applicant will utilize a system that simultaneously flashes all obstruction lights and utilizes a narrow vertical beam. Nighttime light pollution from lighting at the Echanis substation and the operations and maintenance (O&M) facility will be minimal.

The only WSR situated within a 5-mile viewshed analysis area is the Kiger Creek WSR. Located over 2 miles from the southern tip of the Echanis Project, the lands situated within the designated boundary of Kiger Creek WSR will not be affected by Project operational noise and will not have views of the operating wind turbines due to topographic screening provided by the walls of the Kiger Gorge.

The Steens Mountain Wilderness, five WSAs, and one LWC, fall within the boundaries of the viewshed analysis area. The Project will be visible from portions of the northernmost part of Steens Mountain Wilderness. Based upon the Geographic Information System viewshed analysis, approximately 668 acres (0.4 percent) of Steens Mountain Wilderness will have foreground to middle ground views of the Echanis Project, while approximately 822 acres (0.5 percent) of the wilderness area will have foreground to middle ground views of the transmission line on private land (FEIS Figure 3.13-1 and Figure 3.13-2). Opportunities for solitude will be diminished on those parts of Steens Mountain Wilderness with views of the Echanis Project. However, opportunities for primitive and unconfined recreation will not be diminished or restricted due to the visibility of the Echanis Project nor will the wilderness' natural condition be affected because no part of the project will be located within the wilderness boundary. Similarly, the Project will affect the scenery located outside of the wilderness area, and potentially affect vegetation, habitat, wildlife, and historic properties within the Analysis Area, but will not affect any of these resources within the wilderness area itself.

Notable visual effects will occur from the Echanis Project within portions of five WSAs and one LWC. Wind turbines will be located within a few hundred meters of Lower Stonehouse WSA, about 0.5 mile from High Steens WSA, about 3.0 miles from West Peak WSA, 4.0 miles from Stonehouse WSA, 4.5 miles from Heath Lake WSA, and approximately 200 meters from Lower Stonehouse LWC. Noise levels in Lower Stonehouse WSA and LWC will exceed ambient levels and could exceed Oregon DEQ standards from the close proximity of the wind turbines. Turbine noise and visibility at Lower Stonehouse WSA and LWC will

diminish opportunities for solitude. To minimize noise effects, Echanis will comply with the conditions of approval in Harney County's CUP requiring the Echanis Project to be operated so that noise levels do not exceed Oregon DEQ standards. Visibility of the Echanis Project will also be diminished somewhat by the CUP requirement for the turbines to be painted off-white or light gray in flat, semi-gloss or galvanized finish. Even with the these mitigation measures, the Lower Stonehouse WSA and LWC would likely still have unobstructed views the Echanis Project and would be subject to noise in excess of ambient noise levels lasting for the life of the Echanis Project.

2. Transmission Project

There is no designated Wilderness, WSA, LWC or WSR existing within five miles of Transmission Project on public land. Five miles was chosen as the Analysis Area in the FEIS because it would include foreground to middleground views, as defined by the BLM's VRM methodology, and it is the area where changes would be more noticeable and more likely to trigger public concern (BLM Manual 8410). For this reason, regardless of alternative, there will be a minor, if any, effect to these special areas from any transmission facilities located on public land.

From a visual resources perspective, the Selected Alternative has a distinct advantage over Alternative B. Alternative B crosses public lands designated as VRM Class II and III with nearly a quarter being VRM Class II where the BLM's management objective is to retain the existing landscape character. The BLM VRM Class II objectives provide that the level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. If Alternative B were selected it, would not meet this VRM objective because the Transmission Project would have moderate visual contrast and a moderate effect to the landscape character. Further, most of Alternative B is located near State Highway 205 and Diamond Lane, (designated Backcountry Byways); routes the majority of visitors utilize to access Steens Mountain and Malheur NWR.

The Selected Alternative crosses mostly VRM Class III and IV lands, with only a very minor portion (0.09 mile) crossing VRM Class II lands. Note the FEIS Executive Summary (FEIS at ES-12) indicates both alternatives do not meet BLM VRM II objectives. Regarding the Selected Alternative, this statement is in error because for VRM Class II areas crossed by the Selected Alternative, the visual contrast is weak and the overall visual effect to the landscape character is low. This is because of the generally lower scenic quality ratings and distance from KOPs to the affected VRM

Class II areas crossed by the Selected Alternative. Therefore, the Selected Alternative is in conformance with the Andrews Management Unit and Three Rivers RMP because it meets their VRM Class II objectives while Alternative B does not meet those objectives (See FEIS 3.9.1.1 for a discussion of BLM VRM policy and methodology).

Both alternatives will be visible to recreational visitors to the area and intersect or parallel a number of recreational routes and attractions. Both Alternatives have a common alignment where they cross a portion of the CMPA on private lands. These private lands are remote and undeveloped. Because of private lands, public recreational access to this area of the CMPA is somewhat limited. The Selected Alternative is advantageous because in comparison, Alternative B would cross the Malheur NWR, which received nearly 60,000 visitor use days in 2006. Malheur NWR is an internationally famous wildlife observation and photography destination, as well as having a number of other recreational opportunities. Alternative B also intersects the High Desert Trail, the Blitzen Valley Auto Tour Route and the High Desert Discovery Scenic Byway (Highway 205) and parallels South Diamond Lane. Alternative B would remain visible near the town of Diamond and would be distantly visible from Buena Vista Overlook. The Selected Alternative will parallel the Diamond Loop Backcountry Byway and Highway 78 where numerous farms, ranches and other manmade features currently exist. It will be approximately 3 miles from the Kiger Wild Horse Viewing Area, 2 miles from the Peter French Round Barn and cross approximately 7 miles of the Kiger Mustang Area of Critical Environmental Concern (ACEC). The objectives of the ACEC however, are generally related to wild horse characteristics (see discussion below under Wild Horse and Burros/ACEC) and, in the vicinity of the Selected Alternative, the ACEC does not have any stringent constraints or management objectives related to visual resources or recreation. In this area, most lands are designated VRM Class IV by the Three Rivers RMP.

A key aspect of BLM's decision to choose the Selected Alternative is to protect important viewsheds and areas of visitation along Highway 205, Diamond Lane, the Blitzen Valley and Malheur NWR by routing the transmission line into areas with less visitation, less visual quality or, in the case along Highway 78, where numerous intrusions and development already exists.

E. Cultural Resources

1. Echanis Project

In consultation with the Oregon SHPO, Areas of Potential Effect (APE) for cultural and historical resources have been established for both the

Echanis Project and the Transmission Project. APEs are areas broader than the footprint of the project that are surveyed and analyzed for cultural and historical resources to ensure that there is no direct, indirect or inadvertent effects to those resources. Within the Echanis Project APE, there were no architectural/historical resources discovered, but two prehistoric sites and one historic cultural feature was discovered. As noted in the discussion below these sites have not been evaluated for their eligibility for the National Register of Historic Places (NRHP). The sites could be adversely affected by construction of the main access road to the Echanis Project site, placement of turbines, installation of the overhead and underground power collection system, construction of onsite access roads (i.e., string roads), and increased human activity from ongoing O&M. The sites and historic feature will be avoided, if possible, by relocating or reconfiguring Echanis Project facilities or along the alignment of the main access road. If avoidance is not possible, further testing and formal evaluations for eligibility for listing in the NRHP will be conducted for each identified resource and mitigation measures will be determined.

2. Transmission Project

Eighteen archaeological sites within Alternative B APE could experience permanent adverse effects through direct disturbance and/or indirect visual effects. Permanent adverse effects could result from the installation of transmission poles, construction of access roads, and increased human activity from regular long-term maintenance activities.

Five architectural/historical resources were identified in the APE for Alternative B. None of these resources have been formally evaluated. Construction activities could create noise and vibrations that would affect architectural/historical resources and stockpiling construction materials and equipment would cause short-term visual effects. Permanent adverse effects could result from the installation of transmission poles, and increased human activity from regular long-term maintenance activities.

Ten archaeological sites within the Selected Alternative APE could experience similar effects as Alternative B.

Twenty-one architectural/historical resources were identified in the APE for the Selected Alternative. None of these resources have been formally evaluated. Construction activities will not be expected to cause direct adverse effects to any of these architectural/historical resources because they are located a distance from the Selected Alternative and/or along existing roadways and near other human developments. Visual effects from the presence of the transmission line could have an effect on a number of these resources

After the initial cultural resource surveys were completed, in consultation with the Oregon SHPO, it was determined that a larger APE was necessary for the project. Further, several miles of private lands along the

transmission route alternatives have not been inventoried for cultural resources because access arrangements have not been secured by Echanis across those lands. The BLM, MNWR, and the Oregon SHPO, along with the Burns Paiute Tribe and Harney County as concurring parties, have entered into a PA (see Attachment F) which will provide for inventory of un-surveyed lands, NRHP evaluation of discovered resources for eligibility for NRHP, avoidance of eligible resources, treatment of eligible resources which cannot be avoided and treatment of undiscovered resources and human remains prior to or during any construction activity. This agreement will ensure that the BLM as the lead Federal agency complies with Section 106 of the NHPA and 36 CFR Part 800 on all project lands. As a condition of its ROW grant, the BLM will require Echanis to fully comply with and implement the terms of a PA to ensure that the BLM meets its obligations under the NHPA.

A number of archaeological and architectural/historical resources within the Echanis Project and the Selected Alternative were determined eligible, potentially eligible or not eligible in the FEIS. These eligibility determinations were published in error. None of the archaeological sites in the Echanis Project or archaeological sites and architectural/historical resources in the North Route have been formally evaluated by BLM in consultation with the Oregon SHPO. The applicant will provide a Construction POD detailing precise locations of project components prior to a NTP. Potential conflicts between cultural resources and construction locations will be determined at that time. If all archaeological sites and architectural/historical resources can be avoided through final project design, formal evaluations will not be necessary and these resources will be further protected through project monitoring. In accordance with the PA developed for the project, if resources cannot be avoided based upon final project design, formal evaluations will be required. Formal evaluations will provide the data to determine National Register eligibility. Impacts to eligible sites will be mitigated through various means in consultation with the Oregon SHPO and the Burns Paiute Tribe.

Overall, the Selected Alternative is advantageous over Alternative B because there are generally fewer cultural and historical sites along the route. Most sites will be avoided by spanning or other means. Additionally, archaeological sites discovered along the Selected Alternative are generally smaller in size that those along Alternative B making spanning or other avoidance techniques easier to accomplish. As previously stated, the PA provides for inventory, identification, evaluation, and, if necessary, avoidance and treatment of any previously documented and undiscovered cultural and historic resources or human remains. If avoidance is not possible, the BLM will require in its ROW grant, through the PA, treatment and mitigation of any resource before construction is permitted at that location.

F. Wild Horse and Burros/ Areas of Critical Environmental Concern

1. Echanis Project

All Echanis Project features are located on private land and thus, do not encroach upon any Herd Management Areas (HMA) or ACECs.

2. Transmission Project

Alternative B would extend 0.83 miles into the east unit of the Warm Springs HMA. In addition, a new interconnection station and 2.17 miles of new road would be located within this HMA requiring 18.56 acres of ROW. This amounts to .004 percent of the total acreage in the HMA. Because vegetation would not be removed on most of the transmission line ROW, most of this acreage would remain available for forage and shelter for wild horses and burros. The Selected Alternative will cross 4.46 miles of the Kiger HMA along with 3.48 miles of access road requiring 87.86 acres of ROW within the HMA amounting to .327 percent of the HMA. Like Alternative B most of this acreage will remain available for wild horse forage and shelter.

Under either alternative no permanent effects will occur to perennial or intermittent streams, natural ponds, reservoirs or springs used by wild horses and burros because the transmission line will span these features. The primary temporary effect of both alternatives will be avoidance of the area by horses during construction or major maintenance operations. However, BLM horse observation data indicates horses do not frequent those portions of both HMAs crossed by either alternative. Although horses could temporarily be disturbed by construction activity if they are in the area, there will be little long-term effect to the horses themselves or to horse populations under either alternative.

The Selected Alternative also crosses 7.27 miles of Kiger Mustang ACEC. The ACEC was designated in 1992 by the Three Rivers RMP. A large portion of this distance, approximately three miles is on private lands which were conveyed out Federal ownership through a legislated land exchange in 2002 subsequent to the area's designation as an ACEC. In addition to other management prescriptions, Kiger Mustang ACEC is designated as a "ROW avoidance area" in the Three Rivers RMP and the ACEC Management Plan. As defined in these plans ROWs may be granted in avoidance zones if they are compatible with the purpose for which the area was designated and no feasible alternative exists.

As expressed in the ACEC Management Plan, the primary objective of the ACEC is to perpetuate and protect the dun color factor and conformation characteristics of the wild horses within the HMA. Secondary objectives for the area identified in the ACEC management plan include providing educational opportunities to increase public knowledge of wild horses and BLM's role in managing wild horses. An additional objective includes ensuring that lands within the Stonehouse WSA be managed for

wilderness values in accordance with the BLM's Interim Management Policy for Areas under Wilderness Review.

The alignment of the Selected Alternative will be on the far westerly side of the ACEC in an area where BLM horse observation data indicates horses do not frequent (FEIS Figure 3.12-1). Further, although horses may be temporarily disturbed by construction activity, there will be little lasting effect to the horses themselves and no effect to the viability of the horses or BLM's ability to perpetuate and protect the dun color factor and conformation characteristics of the Kiger herd. The grant of ROW will also be compatible with other objectives because the ROW will not affect the BLM's direction to provide educational opportunities and increase public knowledge of wild horses and the BLM's role in managing wild horses. Finally, there will be no effects to wilderness values within the Kiger Mustang ACEC because the Selected Alternative does not traverse the Stonehouse WSA portion of the ACEC which is in a separate unit of the ACEC nearly 10 miles to the east.

In the FEIS, the BLM considered, but eliminated from detailed analysis, four additional transmission line route alternatives, which were found from the outset to be infeasible due to a variety of reasons. In addition to the Selected Alternative, the FEIS considered three other action alternatives - Alternative B and two route options all crossing Malheur NWR. Under the National Wildlife Refuge System Administration Act (43 USC 668dd), uses on national wildlife refuges cannot be authorized, unless the use is found to be a compatible use. Further, if a proposed use is considered an economic use, such as a transmission line, the regulations at 50 CFR 29.21 provide that the refuge can only authorize economic uses that contribute to and are compatible with the National Wildlife Refuge and National Wildlife System purposes.

Although the MNWR has not completed a formal compatibility determination, MNWR has indicated to the BLM that, based upon the data collected near Alternative B and the FEIS analysis, that "it is highly unlikely constructing and operating a transmission line crossing MNWR could be approved" considering the laws, regulations and policies governing management of the National Wildlife Refuge System.

Micro-siting the alignment of the Selected Alternative in the vicinity of the ACEC in an attempt to avoid horses or the ACEC will have similar or greater effects than the proposed alignment. Other routes would locate the transmission line more central to the ACEC where horses are more frequent and would make management activities, such as horse gathering and censusing by aircraft, more difficult.

Given the above factors, any of the action alternatives considered and rejected or those alternatives analyzed in detail in the FEIS have either been determined infeasible or will likely be found infeasible if further pursued.

The BLM has determined the Selected Alternative meets both criteria necessary to grant a ROW for the Selected Alternative within Kiger Mustang ACEC and the decision conforms to the Three Rivers RMP.

Considering this determination relative to the ACEC, neither the Selected Alternative nor Alternative B provides any distinct advantage over one another relative to Wild Horse and Burro or ACEC issues. Both alternatives will result in similar affects to horses which are limited and temporary in nature. Any residual effects to the horses are further minimized by a requirement in the ROW grant to conduct pre-construction surveys and, if found, avoid foaling mares during construction.

G. Social and Economic Factors

1. Echanis Project

Total temporary employment effects during the nine-month Echanis Project construction are estimated to be 145 jobs (direct, indirect, and induced). Long-term operation and maintenance of the Echanis Project is expected to generate 15 permanent jobs (10 direct jobs and 5 induced jobs) over the next 40 years.

Total income as a result of the Echanis Project in Harney County including labor income, income for project related goods and services, and construction employee spending for personal goods and services is expected to rise during the construction period by approximately $5.0 million. Long-term income during the 40-year operations phase is expected to increase by an estimated $1.3 million annually. Long term income includes Echanis O&M employee payroll, lease payments and increased household spending. In present value terms, both construction and O&M income over the life of the Project will increase by approximately $34.0 million.

No property value effects to private lands within or adjacent to the wind farm are expected due to proximity/viewshed impairment because any negative effects from impairment will be offset by lease payments to the landowner.

Overall, the effect of the Echanis Project on community services is expected to be negligible. It is expected the increase in public service demands will either have been funded directly by the Applicant or will be met locally by public service providers paid by the Applicant. Therefore, the net fiscal effects are expected to equal the additional tax revenues generated by the Echanis Project.

Increased real estate tax revenues were estimated to be $60,000 annually, starting in the first year of operation, and will escalate at three percent annually thereafter, reaching $190,000 in year 40. Over a hypothetical 40-year life of the Project, this will amount to a total of $4.5 million in real estate taxes, with a net present value of $2.3 million. The $4.5 million in

increased real estate taxes combined with an estimated $35.5 million in increased personal property taxes will be equivalent to an annualized payment of $1.6 million per year.

No disproportionate effects were identified for minority or low-income populations as a result of the Echanis Project. However, the project will result in a change in the character of the area from a rural, undeveloped, and open landscape to a slightly developed one, thereby representing a change to the lifestyle and social values held for the Project Area.

2. Transmission Project

Construction and commissioning of Alternative B would generate 130 temporary jobs (direct, indirect, and induced and additional to the Echanis Project), while the Selected Alternative will generate approximately 74 additional temporary jobs. One permanent job will be created for long-term maintenance and operation of either Transmission Project alternative.

No homes are nearby (within 500 feet) Alternative B, further suggesting there would be no effects on residential home values. The property value effects of the Selected Alternative will likely be the same or slightly greater than the effects of Alternative B since seven homes will be located within 500 feet of the Selected Alternative alignment and thus could be affected by the transmission line.

A key consideration in approval of the ROW is the economic benefits attributable to both the Transmission and Echanis Projects. The project would have a significant impact on employment opportunity in the County by providing as many as 235 temporary and permanent jobs. This is especially important considering the current high unemployment rate in Harney County (15.8 percent - October, 2011) with a rural population of only 7600.

H. Air Quality and Climate Change

1. Echanis Project

Once constructed, there will be no direct emissions of air pollutants from the Echanis Project. Because this electricity will be produced without burning carbon-based fuel, essentially no air pollutants will be generated per megawatt-hour of output (except for those related to O&M). Additionally, the Echanis Project will aid in reducing the need to generate electricity within the United States using fossil-fuel generating resources, which could indirectly lead to reduced emissions from fossil fuel-fired power plants. These are important factors the BLM has considered in its decision to approve the Transmission Project which will facilitate the Echanis Project.

The Echanis Project will have had an average annual generating capacity of approximately 463,000 megawatt-hours, which might otherwise cause to be emitted elsewhere about 194,000 metric tons of Carbon Dioxide

equivalents annually from mixed generating resources serving the Northwest region. In addition to Greenhouse Gas (GHG), criteria pollutants (volatile organic compounds, carbon monoxide, nitrogen oxides, sulfur oxides, respirable particulates, and fine particulates) from natural gas, coal, and biomass generating resources might be emitted elsewhere without the Echanis Project.

Short-term temporary construction effects from the Echanis Project could occur from criteria pollutants (combustion contaminants), fugitive dust (earthmoving and road usage), and GHG as a result of construction, O&M but will be below thresholds.

2. Transmission Project

Both alternatives have similar overall effects to air quality and climate change including release of pollutants (combustion contaminants), fugitive dust (earthmoving and road usage), and GHG as a result of construction, O&M. Alternative B would have a slight advantage over the Selected Alternative because construction related emissions would be for a shorter construction period (130 working days versus 210 days for the Selected Alternative) due to the differences in alternative length. However, this minor advantage is overshadowed by the overall beneficial effect to air quality and climate change of the Echanis Project.

I. State and National Energy Policy

The Echanis Project will result in an increased supply and transmission of wholesale electric renewable power available to utilities for retail sales in the states of California and Oregon. The Echanis Project will produce peak power during winter months, which will complement Columbia Gorge wind projects and potentially benefit the balancing required by BPA.

Both California and Oregon have similar statutes regarding Renewable Energy Portfolio Standards (RPS). The statutes in both states direct qualifying utilities to meet a percentage of their retail electricity needs with qualified renewable resources. California's RPS mandate requires utilities to provide 20 percent of retail sales of electricity from eligible renewable energy resources by 2010 through annual increases of at least one percent per year. Also in California, Executive Order S-14-08, expanded the requirement to all retail sellers of electricity to provide 33 percent of retail load through eligible renewable energy resources by 2020 (CPUC 2010).

Oregon's RPS requires the largest utilities to provide 25 percent of their retail sales of electricity from renewable sources of energy by 2025. There are intermediate goals for these large utilities of five percent by 2011, 15 percent by 2015, and 20 percent by 2020. Smaller utilities (i.e., those providing 1.5 to 3 percent) are required to provide 10 percent of their retail sales from renewable power sources by 2025, and the smallest utilities (i.e., those providing less than 1.5 percent) must provide five percent of their retail sales from renewable power sources by 2025.

Secretarial Order 3285 A1 for Renewable Energy states, "Agencies and bureaus within the Department will work collaboratively with each other, and with other Federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation's water, wildlife, and other natural resources." Amendment 1 to EO 3285 says the BLM will "develop BMPs for renewable energy and transmission projects on the public lands to ensure the most environmentally responsible development and delivery of renewable energy." Consistent with EO 3285, the BLM has worked collaboratively with other federal, state and local agencies and departments including the FWS, MNWR, ODFW, Harney County, Burns Paiute Tribe, BPA and USACE in development of the FEIS and project mitigation.

J. Designated Right-of-Way Corridors

There are no BLM designated corridors associated with the Echanis Project. Alternative B is not located in any BLM designated corridor except where it intersects two ROW corridors designated by the Three Rivers RMP associated with State Highway 205 and Harney Electric Cooperative's Hanley-Catlow 115-kV Transmission Line. Approximately 8 miles of the Selected Alternative will be immediately adjacent to State Highway 78. Highway 78 is a ROW corridor designated by the Three Rivers RMP where it crosses public land. Although less than a mile of the Selected Alternative along Highway 78 is within the designated corridor, the Alternative still has the advantage of consolidating impacts and other benefits associated with location of infrastructure within corridors along that 8-mile length.

K. Cumulative Effects

The FEIS cumulative effects analysis evaluated the Transmission Project, three other proposed wind energy projects, agency programs, and other selected projects. Of particular note are the cumulative effects from the East and West Ridge Wind Projects, and to a lesser degree, Riddle Mountain Wind Project. Significant cumulative effects were disclosed to wildlife, visual and aesthetics, wilderness, WSAs, the CMPA, WSRs and recreational values. For example, 668 acres of Steens Mountain Wilderness will have views of Echanis, whereas 4,740 acres would have East Ridge views and 2,294 acres would have West Ridge views. East Ridge and West Ridge would affect views (some to a moderate to high degree) from several KOPs on public lands, particularly along North Steens Loop Road and other high use recreation areas within the CMPA. As many as 88 raptors (including as many as many as 12 golden eagles), 938 bats, and 2,760 passerines could be killed annually if all four wind projects were developed. Most of the three other wind project areas would occupy low density sage-grouse habitat with some of the West Ridge project area encroaching into core habitat. CEP, the parent company of Echanis, announced this it is no longer pursuing the West Ridge and East Ridge projects. Moreover, the BLM has included a condition, discussed above, concerning energy projects located within or immediately adjacent to the exterior boundary of the CMPA. Riddle Mountain is

located considerably farther away from the Steens Mountain Wilderness and the CMPA.

III. Alternatives Considered

1. Alternatives Considered in Detail

The North Steens 230kV Transmission Line Project FEIS analyzed three alternatives:

• Alternative A – No Action - The No Action Alternative represents the reasonably foreseeable outcome that would result from denying the request for a ROW grant to Echanis, LLC to construct the proposed 230kV transmission line to transmit electrical power from the Echanis Project to the regional transmission grid. Because the Echanis Project is a connected action to a ROW grant, denial of the ROW grant would preclude development of the Echanis Project.

• Alternative B, the West Route (the Proposed Action) - Alternative B would include construction of a new double-circuit 230kV transmission line and interconnection with an existing HEC 115-kV transmission line, along with new and improved access roads necessary for access to the transmission line. This alternative represents the Applicant's "Proposed Action" (i.e., the proposed Project described in the Applicant's ROW application submitted to the BLM in December 2008 and to the FWS in December 2009). In addition to the proposed route for the transmission line, this alternative includes two optional routes (South Diamond Lane Route Option and Hog Wallow Route Option) at the western end of the proposed alignment that would also meet the Project's stated purpose and need. The transmission line would be located within a permanent 150-foot wide ROW along the entire route.

Alternative B would extend 28.87 miles from a new substation located on the Echanis Project south of Diamond, Oregon (Township 31 South, Range 34 East, Section 35) to a new interconnection station adjacent to HEC's existing 115-kV transmission line near Diamond Junction, Oregon (Township 29 South, Range 31 East, Section 34). The transmission line would cross public and private, including Federal land within the Malheur NWR between these two points.

• Alternative C, the North Route (Preferred Alternative now the Selected Alternative) –The Selected Alternative will include construction of a new double-circuit 230kV transmission line and interconnection with an existing HEC 115-kV transmission line, along with new and improved access roads necessary for access to the transmission line. The Selected Alternative will begin at a new substation located at the Echanis Project site and end at a new interconnection station constructed adjacent to the existing HEC 115-kV transmission line near Crane, Oregon. The Selected Alternative will be approximately 45.95 miles long, with approximately 33.66 miles crossing private land, approximately 12.10 miles crossing land administered by the BLM, and approximately 0.19 mile crossing state land. The transmission line will be located within a permanent 150-foot wide ROW along the entire route.

• An additional design option for Alternatives B and C include constructing the transmission line along any one of the alternative alignments, but only including a single three-phase (i.e., three conductors) 115-kV circuit. Under this option, no

authorization would be granted to install a future second circuit and the line would not be upgraded to a 230-kV capacity.

2. Alternatives Considered But Eliminated From Detailed Analysis

The Council on Environmental Quality NEPA regulations (40 C.F.R. 1502.14) state that an EIS must "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." The BLM NEPA Handbook (Handbook H-1790-1) further states that an action alternative can be eliminated from detailed analysis if the action alternative meets any of the following conditions:

- The alternative is ineffective (i.e., it would not respond to the purpose and need).
- The alternative is technically or economically infeasible given past and current practice and technology (this does not require cost-benefit analysis or speculation about an applicant's costs and profits).
- The alternative is inconsistent with the basic policy objectives for the management of the area.
- Implementation of the alternative is remote or speculative.
- The alternative is substantially similar in design to another alternative that is already being analyzed.
- The alternative has substantially similar effects to another alternative that is being analyzed.

The FEIS reviewed four alternatives that were originally considered by the Applicant, but were eliminated from further consideration.

A. Steens Mountain CMPA Route Alternative

The Steens Mountain CMPA Route Alternative would have extended from the Echanis substation to the new interconnection station adjacent to HEC's existing 115-kV transmission line near Diamond Junction. The transmission line would cross public and private land within the CMPA, as well as land within the Malheur NWR between those two points. The CMPA route would have been the shortest and most direct route of all of the alternatives considered. This alternative was eliminated from further consideration because it is inconsistent with the basic policy objectives for the management of the area. Section 113(f) of the Steens Act prohibits construction of facilities of the magnitude of the proposed transmission line on federal lands within the boundaries of the CMPA.

B. East Steens Road/Hwy 78 to Crane Route Alternative

The East Steens Road/Highway 78 to Crane Route Alternative would have been the longest route of all of the alternatives considered. The transmission line would have extended 70 miles from the Echanis substation, along East Steens Road and Highway 78 to Crane, Oregon, where the transmission line would have tied into an existing HEC 115-kV

transmission line
(Figure 2.0-12).

The CMPA prohibitions described above as well as the Interim Management Policy (IMP) for Lands under Wilderness Review (IMP, H-8550-1 1995) restrictions (IMP at page 29 and 30) would have barred further consideration of this alternative. In addition, this route would have experienced a substantial cumulative electric line loss. For these reasons, this alternative was inconsistent with the basic policy objectives for the management of the area and determined to be technically or economically infeasible and was therefore eliminated from further consideration.

C. East Steens Road to Fields Route Alternative

This alternative would have headed east from the Echanis substation and south along East Steens Road south to the Fields substation (a distance of about 42 miles). From the Fields substation the power would have been transmitted 106 miles north on the HEC 115-kV line to the BPA Harney line located south of Hines.

The primary disadvantage of this alternative was the substantial cumulative electric line loss that would occur between the Echanis Project site and the BPA Harney line (up to 37.5 percent) (Power Engineers 2009). In addition, at one location along this alternative there exists a narrow corridor between Steens Mountain Wilderness and a WSA, where making adjustments to the route to avoid resources and existing improvements would have made transmission routing difficult. Placing the alternative outside of this narrow corridor would be prohibited by wilderness and CMPA prohibitions, as well as by IMP restrictions. For these reasons, this alternative was determined to be technically or economically infeasible and inconsistent with the basic policy objectives for the management of the area and was therefore eliminated from further consideration.

D. West Route Underground Alternative

This alternative would have followed the alignment of Alternative B. However the 0.27-mile portion of the transmission line crossing Blitzen Valley would have been placed underground instead of spanning the valley with an aerial crossing.

The primary reason this alternative was eliminated from further consideration was because of the high construction costs (from undergrounding the portion of the line crossing Blitzen Valley). The Applicant estimated that it would cost 24 times more for the materials and labor to construct underground than an overhead span at this same location ($17,674,206 and $728,943, respectively) (Power Engineers 2010). The higher costs of underground construction are primarily due to the costs associated with installing, operating, and maintaining the pressurized oil filled conduit pipe required to house, insulate, and cool the conductors.

High cost micro-tunneling techniques would have been required to install the conduit pipe through areas of basalt rock. An additional concern with the underground alternative was the potential for line leakage of dielectric oil. Thus, the increased costs for constructing the underground line, operating the line once it was constructed, the potential future costs if an oil leak were to occur, and the environmental spill risks make this alternative technically or economically infeasible resulting in this alternative being eliminated from further consideration.

3. The Environmentally Preferable Alternative

The Council on Environmental Quality's 40 Most Asked [NEPA] Questions, question #6a, defines the environmentally preferable alternative as the one "that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

The NEPA's Section 101 [42 USC § 4331] includes in part: "...it is the continuing policy of the Federal Government...to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."

Alternative A – No Action, is identified as the environmentally preferable alternative. However, this alternative would not allow the development of renewable energy, which is a national priority and which also provides important environmental benefits. As such, Alternative A was not chosen by the BLM.

IV. Public Involvement

1. Scoping - July 2009 through September 2009

The Notice of Intent (NOI) to prepare an EIS for the North Steens 230-kV Transmission Line Project was published in the Federal Register on July 27, 2009. Publication of the NOI initiated a 30-day public scoping period that formally concluded on August 26, 2009. The scoping period was subsequently extended to September 18, 2009 to allow for additional comments and one additional public meeting.

In addition to the NOI, BLM and MNWR initiated a number of scoping processes to ensure robust public involvement on the project. These included:

• A scoping bulletin was prepared to provide the public with an overview of the proposed Project and to explain the scoping and environmental review process.

• A press release was issued which resulted in a number of articles in local and regional newspapers and publications.

• A scoping letter was prepared and sent to known interested parties and placed on the Burns District website.

• Five public meetings were held to inform the public and seek public input. Two of these meetings were held in Burns, Oregon, and one each in Frenchglen, Diamond and Bend, Oregon. Collectively, approximately 100 people attended these meetings.

At the close of the comment period, 101 letters or e-mails had been received from governmental agencies, environmental organizations, and interested citizens resulting in a total of 626 separate comments.

2. Draft EIS – July 2010 through September 2010

On July 16, 2010, the BLM and EPA published a NOA in the Federal Register formally releasing the DEIS and marking the beginning of the 45-day public review and comment period. In response to requests from governmental agencies, interest groups, and private citizens, the comment period was subsequently extended to September 17, 2010 to allow for submission of additional comments. The BLM held public meetings in Burns and Bend, Oregon to inform the interested and affected public and to obtain comments about the DEIS. Mailings, press releases and other public participation strategies were also utilized to notify the public and solicit comments on the DEIS. The DEIS was posted on the Burns District website and Compact Disks and hard copies of the document were also made available upon request.

As a result of these efforts the BLM received nearly 900 individual comments from 258 commenters on the DEIS.

3. Final EIS – October/November 2011

On October 21, 2011 EPA and BLM published NOAs in the Federal Register formally releasing the FEIS. The FEIS included responses to public comments and incorporated a number of revisions and additions into the FEIS based on public and agency comments. The FEIS availability period ended on November 21, 2011.

The BLM received four letters during the FEIS availability period from EPA, MNWR, Bend Field Office-FWS, and Oregon SHPO. Four e-mails from the general public were also received. The BLM analyzed these letters to determine if they contained substantive comments that were not already addressed in the responses to public comments received on the DEIS (see Appendix G in the FEIS) or that addressed a need for change in the FEIS.

No significant new information was presented in the letters that would require reissuance or supplementation of the FEIS.

V. Final Agency Action

1. Right-of-Way Authorization

It is my decision to approve a 230kV transmission line ROW including access roads, overland routes, and temporary tensioning sites to Echanis, LLC, subject to the terms, conditions, stipulations, POD, and environmental protection measures developed by the DOI and reflected in this ROD. The *Federal Register* notice for the FEIS for this project was published October 21, 2011. This decision is effective on the date this ROD is signed.
Approved by:

for Robert V. Abbey
Director
Bureau of Land Management

12/23/2011
Date

2. Secretarial Approval

I hereby approve this decision. My approval of this decision constitutes the final decision of the DOI and, in accordance with the regulations at 43 CFR 4.410(a)(3), is not subject to appeal under departmental regulations at 43 CFR 4. Any challenge to these decisions, including the BLM Authorized Officer's issuance of the ROW as approved by this decision, must be brought in the federal district court.

Approved by:

Ken Salazar

Secretary
U.S. Department of the Interior

DEC 28 2011
Date

Attachment A

Project Design Features and Best Management Practices for RECORD OF DECISION North Steens 230kV Transmission Line Project Case File Number: OR-65891

INTRODUCTION

The PDFs and BMPs listed below will be incorporated into the project design and implemented during construction and operation of the Transmission Project.

PROJECT DESIGN FEATURES AND BEST MANAGEMENT PRACTICES FOR THE TRANSMISSION PROJECT

The following PDFs and BMPs applicable to the Transmission Project were extracted from Appendix A of the FEIS for North Steens 230kv Transmission Line Project and are consistent with the "Standard Project Design Features and Environmental Protection Measures" described in the POD for the Echanis Substation to Diamond Junction 230kV Transmission Line Project or North Steens Mountain 230kV Transmission Line Project prepared by Columbia Energy Partners in February 2009 as revised August 2009 and May 2011. The transmission line facilities described in the POD will be designed and constructed by Echanis LLC.

The term "Holder" as used below refers to Echanis, LLC or its assigns. The term "Authorized Officer" refers to the BLM official responsible for managing compliance with the terms and conditions of the ROW grant.

Project Design Features and Best Management Practices

Construction and future O&M activities will be conducted in a manner that minimizes damage to the environment and complies with the stipulations in the ROW grant, applicable BLM resource management plans, NEPA regulations, and other applicable federal, state and local regulations and guidelines. The following PDFs and BMPs will be included as conditions of approval in the ROW grant(s) for the transmission line.

General PDFs and BMPs

- All construction vehicle movement outside of the ROW will be restricted to pre-designated access, contractor acquired access, or public roads.
- The limits of construction activities will be predetermined, with activity restricted to and confined within those limits. No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate surveyor construction activity limits. The ROW boundary will be flagged in environmentally sensitive areas described in the plan of development to alert construction personnel that those areas will be avoided.
- In construction areas where recontouring is not required, vegetation will be left in place wherever possible to avoid excessive root damage and allow for resprouting.

- In construction areas where ground disturbance is significant or where recontouring is required, surface restoration will occur as required by the landowner or land management agency. The method of restoration typically will consist of returning disturbed areas to their natural contour (to the extent practical), reseeding or re-vegetating with native plants (if required), installing cross drains for erosion control, placing water bars in the road, and filling ditches. Seed will be tested and certified weed-free using an All States Weed Test. Seed viability also will be tested at a certified lab approved by the authorized officer.
- Watering facilities (e.g., tanks, developed springs, water lines, wells, etc.) will be repaired or replaced to their pre-disturbed conditions as required by the landowner or land management agency if they are damaged or destroyed by construction activities.
- Prior to construction, all construction personnel will be instructed on the protection of cultural, paleontological, and ecological resources. To assist in this effort, the construction contract will address, a.) Federal and state laws regarding antiquities, fossils, and plants and wildlife, including collection and removal; and b.) The importance of these resources and the purpose and necessity of protecting them.
- An initial intensive cultural resource inventory survey will be conducted prior to construction. Impact avoidance and mitigation measures developed in consultation with appropriate land management and regulatory agencies and other interested parties will be implemented subsequent to the completion of the NEPA compliance document. In addition, supplemental surveys of appurtenant impact zones beyond the corridor will be undertaken as needed.
- Any cultural and/or paleontological resource discovered during construction by the Holder or any person working on the Holder's behalf on public or federal land will be reported immediately to the authorized officer. The Holder will suspend operations in the area until an evaluation is completed to prevent the loss of cultural or scientific values.
- All construction and maintenance activities will be conducted in a manner that will minimize disturbance to vegetation, drainage channels, and intermittent and perennial streambanks. In addition, dust-control measures will be utilized as necessary during construction in sensitive areas. All existing roads will be left in a condition equal to or better than their condition prior to the construction of the transmission line.
- All requirements of those entities having jurisdiction over air quality matters will be adhered to and any necessary permits for construction activities will be obtained. Open burning of construction trash (cleared trees, etc.) will not be allowed on BLM administered lands.
- Fences and gates, if damaged or destroyed by construction activities, will be repaired or replaced to their original predisturbed condition as required by the landowner or the land management agency. Temporary gates will be installed only with the permission of the landowner or the land management agency.
- During operation of the transmission line, the ROW will be maintained free of construction related non-biodegradable debris.
- Totally enclosed containment will be provided for all hazardous materials (if needed) .and trash. All construction waste including trash, litter, garbage, other solid waste, petroleum

products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials.

- Structures will be constructed to conform to *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006 (Avian Power Line Interaction Committee (APLIC) 2006).*
- Third-party environmental contractors will be used throughout the construction effort, from clearing through rehabilitation.
- The Holder will trim trees in preference to cutting trees, and will cut trees in preference to bulldozing them.
- Construction holes left open overnight will be covered to prevent livestock or wildlife from damage.
- The Holder will clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts prior to moving equipment onto public land to minimize introductions of noxious weeds.
- The Holder will respond to complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line will be patrolled on a regular basis so that damaged insulators or other line materials that could cause interference are repaired or replaced.
- The Holder will apply necessary mitigation to minimize problems of induced currents and voltages onto conductive objects sharing a ROW, to the mutual satisfaction of the parties involved.
- The proposed hardware and conductor will limit the audible noise, radio interference (RI), and television interference (TVI), due to corona. Tension will be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution will be exercised during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.

Approved Work Areas

- All construction and future O&M activities will occur within the Holder's permitted ROW. Activities that extend outside the permitted ROW on BLM land are not permitted without the approval of the BLM.
- In construction areas where recontouring is not required, disturbance will be limited to overland driving where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.
- In an effort to minimize the general environmental impacts of construction, structures will be placed to avoid sensitive features, especially riparian areas and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design.
- All waste products and food garbage from construction sites will be deposited in a covered waste receptacle and removed daily. Garbage will be hauled to a suitable disposal facility.

- Ground disturbance will be limited to that necessary to safely and efficiently install the proposed facilities.
- Existing improvements will be repaired or replaced to their condition prior to disturbance if they are damaged or destroyed by construction activities, as agreed to by the parties involved.
- Fences and gates will be installed, replaced, or repaired to their condition prior to disturbance if they are damaged or destroyed by construction activities, or as required by the Authorized Officer.
- Hazardous materials will not be drained onto the ground or into streams or drainage areas. Totally enclosed containment will be provided for all trash.
- Where blasting is required, appropriate safety guidelines will be followed, as required by state and federal regulations relating to blasting operations.
- Fire protection measures will be followed, as required by state and federal regulations, to prevent wildfires that may cause damage to wildlife habitat.
- Appropriate traffic control measures will be used to ensure public safety during construction. Prior notice will be given for any extended delays or road blockage.

Access roads will usually be inspected annually. Maintenance requirements will vary depending on the type of road, level of use, and condition of the road. Typically, maintenance will be conducted when road conditions threaten resource values or public safety or impede access for transmission-line maintenance personnel. In the event of a conflict between the Holder's requirements and the requirements of the BLM, the requirements of BLM will take precedence.

Vegetation Management

Vegetation can interfere with the flow of electric power, pose safety problems, and interfere with future O&M activities. Maintaining adequate clearance between vegetation and conductors is essential to safe and reliable operations. The rights-of-way for the Project are dominated by grassland and sagebrush vegetation communities and interference with conductors is not anticipated. However, if vegetation management is required, the Holder will generally schedule it according to maintenance cycles (e.g., 5- or 10-year cycles). Tall trees and shrubs will be trimmed and hazard trees removed. Hazard trees are those trees or snags likely to interfere with transmission lines or associated facilities. To minimize potential fire damage, the Holder will clear vegetation within a 10-foot radius around each pole and apply an approved herbicide within the area to minimize regrowth.

Noxious Weed Control

Under the requirements of the ROW grant, the Holder will be responsible for control of noxious weed species that result or will result from the construction, operation and maintenance of the improvements authorized under the grant. Therefore, a noxious weed control strategy has been developed to reduce the opportunity for weeds to invade new areas and to minimize the spread of weeds within the Project Area.

To decrease the potential for the introduction or spread of undesirable vegetation, the following BMPs and PDFs will be followed during construction and O&M activities:

- Personal vehicles, sanitary facilities, and work areas will be confined to areas specified in the POD. For construction and prolonged O&M projects, maintenance equipment, materials, and vehicles will be stored at the sites where activities will occur or at specified maintenance yards.
- The responsible party will clean all equipment that may operate off-road or disturb the ground before beginning construction and O&M activities within the Project Area. This process will clean tracks and other parts of the equipment that could trap soil and debris and will reduce the potential for introduction or spread of undesirable exotic vegetation. Preferably, the cleaning will occur at a Holder operation center, commercial car wash, or similar facility. Vehicles traveling only on established roads are not required to be cleaned.
- The transmission line and wind farm would be monitored and treated for noxious weeds annually. The Holder will minimize the use of herbicides to control plants, to the extent consistent with the required control.
- The Holder will prepare a revegetation plan in consultation with the BLM when necessary. The plan will specify appropriate re-vegetation timing, techniques, and seed mixes. Adherence to this plan will also help limit the spread and establishment of noxious weeds. Certified "noxious weed-free" seed will be used on all areas to be restored. Other construction material, such as fill, shall also be free of noxious weed seed.

Revegetation and Restoration

- The Holder will provide all seed. Seed will meet the requirements of the Federal Seed Act and applicable Oregon State laws about seeds and noxious weeds. Only seed certified as "noxious weed free" will be used. If requested, the Holder will provide the BLM with evidence of seed certification. In addition, the seed must be appropriate to the geographic and elevation characteristics of the area to be seeded (2,870 to 3,480 feet). The actual seed mix applied may depend on the availability of seed but will have a minimum of 98.0 percent purity, 84.0 percent germination and 0.0 percent weed content. The Authorized Officer will approve any changes to the seed mix.
- The Holder, or its designated contractor, is to seed an area after construction or after ground disturbing O&M activities are completed. The best time to seed is in the fall (September to November). If fall seeding cannot be done, spring seeding should take place in February or March, as conditions dictate. Ground maintenance patrols will review the line periodically. Routine maintenance will include replacing damaged insulators as needed and tightening nuts and bolts. The Holder will follow its safety protocols with respect to line operation and maintenance. Maintenance activities require minimal and infrequent access. Such activities will typically be performed overland. Winter access if required can be performed overland except in the cases of heavy snowfall in which case over-snow vehicles will be utilized.
- The Holder will be responsible for repairing measurable damage to resources and roads resulting from construction and O&M activities. The primary objective will be to restore denuded areas, reduce the spread of noxious weeds, and reduce storm water runoff and soil erosion. Any measurable damage will be repaired as soon as weather, ground, and scheduling conditions permit. In some cases, reclamation methods may not be necessary, given the limited amount of soil compaction and vegetation destruction. The BLM will

decide the degree of reclamation needed for the construction project and for ground disturbing O&M activities.

- The Holder will follow the specifications outlined in this section when roads and other disturbed areas are re-vegetated. If the Holder no longer requires a road for patrolling and maintenance, the access road will be abandoned, re-vegetated, and stabilized by erosion control methods, if necessary.
- The Holder, or its designated contractor, will seed an area after construction or after ground disturbing O&M activities are completed. The preferred time to seed will be in the fall (September to November). If fall seeding cannot be done, spring seeding will take place in February or March, as conditions dictate.
- The Holder will also minimize the use of herbicides to control plants, but will undertake a plan to control noxious weeds resulting from the construction and operation of the Facilities. The Holder will treat vegetation and weeds under State and Federal herbicide application guidelines, in consultation with the BLM Weed Coordinator, MNWR Weed Personnel, and the Harney County Weed Supervisor. Application would occur in the appropriate season and phenology with an appropriately licensed two man crew. Vehicle-mounted sprayers (e.g., handgun, boom, and injector) would be used in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants would be used to treat small or scattered weed populations in rough terrain.

Streams, Riparian Areas, and Wetlands

The Holder will exercise care to ensure protection of all aquatic, riparian, and wetland habitat on BLM administered land. To minimize the amount of disturbance, structures locations will be chosen to avoid features such as riparian areas and watercourses and/or to allow conductors to clearly span the features, within limits of standard pole design. During future O&M activities, if woody vegetation within 100 feet of streams needs to be managed, it will be cut with a chainsaw. Herbaceous plants and low-growing shrubs will be left in place.

- Clearly mark wetland boundaries and buffers in the field until construction is complete;
- Conduct construction in wetland areas during the dry season, to minimize water flow through exposed soils;
- Use sediment barriers to prevent sediment flow into wetland and riparian areas;
- Prohibit the storage of hazardous materials and equipment refueling within 100 feet of any wetland, riparian areas, or water body (500 feet on BLM land);
- Restore disturbed areas to preconstruction contours, restore or replace damaged vegetation, and implement any required vegetation monitoring plans; and
- Develop and adhere to the Erosion and Sediment Control Plan.
- Riparian vegetation will be avoided to the extent compatible with construction objectives.
- If riparian vegetation has been trampled or otherwise disturbed, revegetation planting will include riparian meadow species.

- "End haul" construction methods will be considered for portions of the main access road to Echanis where the road parallels riparian and wetland areas. End haul construction refers to situations where a cut is made in a side slope and the spoils are hauled to a disposal site or used for fill in less critical areas. This method helps to avoid placing fill above water features and ensures downslope vegetation remains intact between the road and water feature to act as a buffer and sediment filter.

Sensitive Plants

The following PDFs and BMPs will help minimize construction and O&M effects on sensitive plant species identified during the environmental review of the Project:

- Prior to construction, all supervisory personnel will be instructed on the protection of natural resources, including sensitive plant species and habitats. The construction contract will address, a.) Federal and state laws regarding plants; b.) The importance of these resources; c.) The purpose and necessity of protecting them; and d.) Methods for protecting sensitive resources.
- Sensitive plant populations that occur within the ROW and work areas will be marked on the ground, where practical, to ensure that the species are avoided. If species are discovered during the work, the Holder will establish a spatial buffer zone and immediately contact the BLM. The Authorized Officer may evaluate the adequacy of the buffer on a case-by-case basis. Until the BLM authorizes the Holder to proceed, either orally or in writing, all activities will cease within the buffer zone. After the Project is complete, or no longer will poses a threat to the plant population, the marking (stakes) promptly be removed to protect the site's significance and location from unwanted attention.
- Sensitive plant populations near the ROW, but not within work areas, will be protected by marking the edges of the ROW and access roads in the general vicinity to ensure that workers do not leave those areas. If the plants are within work areas that have, or will have, ground disturbance, the Holder will establish a species appropriate buffer zone around the population. Marking will be immediately removed at the end of construction activities within that area. As needed, marking will be reinstated during the land rehabilitation period.
- For sensitive resource issues where marking is not appropriate, work in designated areas will be modified or curtailed during critical periods. The Authorized Officer, in advance of construction or maintenance, will approve sensitive areas and time frames. Emergency repair situations are excluded from this restriction.
- Contractors will be provided with maps showing avoidance areas; these will include established work zones as well as ROW areas where overland travel should be avoided.
- In the event any sensitive plants require relocation, permission will be obtained from BLM. If avoidance or relocation is not practical, the topsoil surrounding the plants will be salvaged, stored separately from subsoil and respread during the restoration process.

Sensitive Wildlife

Sensitive wildlife are wildlife species with the potential to occur near the Project that are designated either as threatened, endangered, candidate, species of concern by the FWS or as

BLM sensitive species. If these species are found to occur near construction or O&M activities, the Holder will implement the following PDFs and BMPs:

- Prior to construction, all supervisory personnel will be instructed on the protection of natural resources. To assist in this effort, the construction contract will address: (a) Federal and state laws regarding plants and wildlife; (b) the importance of these resources and the purpose and necessity of protecting them; and (c) methods for protecting sensitive resources (e.g., Endangered Species Act, MBTA, BGEPA, and BLM wildlife policy).
- If sensitive wildlife species are discovered during construction and O&M activities, and the animals are not directly within ground disturbance areas, they will be protected by marking the edges of the ROW and access roads in the general vicinity to ensure that workers do not leave those areas. If the animals are within work areas that have, or will have, ground disturbance, the Holder will establish a species and temporal appropriate buffer zone and then will contact BLM immediately. The Authorized Officer may evaluate the adequacy of the buffer on a case-by-case basis. Until BLM authorizes the Holder to proceed, either orally or in writing, all activities must cease within the buffer zone. After the Project is completed, or no longer poses a threat to the species, the marking (stakes) will be removed to protect the site's significance and location from unwanted attention. As needed, marking will be reinstated during the land rehabilitation period.
- For sensitive resource issues where marking is not appropriate, work in designated areas will be modified or curtailed during critical periods. The Authorized Officer, in advance of construction or maintenance, will approve sensitive areas and time frames. Emergency repair situations are excluded from this restriction.
- If sensitive wildlife species are killed or injured due to construction or O&M activities, the ODFW, the FWS, and the Authorized Officer will be notified.
- If construction activities affect wintering deer from December 1 to March 15, the Authorized Officer may restrict activities if impacts are deemed to be excessive.
- The Construction Manager will ensure all construction workers are knowledgeable of the legal harvest seasons, methods of take, and bag limits for deer, elk, pronghorn, upland game birds, and cottontail rabbits. All on-site personnel will be made aware that all birds of prey are protected by Federal and State laws.
- To facilitate identification of potential conflicts with sensitive wildlife species, the Holder will maintain a spatial database of known locations near access road and transmission-line ROW. This database will be updated following construction of the new line to protect sensitive wildlife during future O&M activities.
- With the exception of emergency repair situations, major O&M activities in designated areas with sensitive wildlife species will be modified or curtailed during sensitive periods (e.g., nesting and breeding periods). BLM will be notified in advance of major activities therefore, sensitive periods and areas of concern can be approved in advance of maintenance by the Authorized Officer.
- Contractors will be provided with maps showing avoidance areas; these will include established work zones as well as ROW areas where overland travel should be avoided.

- The Holder will conduct pre-construction surveys to identify raptor and migratory bird nests. Empty nests will be removed. If occupied nests are found, the Holder, in consultation with the BLM and or FWS, will establish a suitable buffer around the nest and avoid the area or relocate the nest.
- New structures will be built in accordance with raptor-safe standards specified in APLIC (2006).
- Small migratory bird nests in both grassland and sagebrush are difficult to locate and are only occupied for a few weeks in late spring. However, if an occupied nest is found within an active, or soon to be active, work zone it could be flagged and avoided, or possibly moved. The Authorized Officer will decide on a case by case basis.
- Echanis, LLC would implement a Habitat Mitigation Plan, under which it would mitigate the habitat impacts from the Project through the use of conservation easements and other offset mechanisms described in the ROD.

Raptor and Owl Protection

The ferruginous hawk, short-eared owl, and burrowing owl are the only raptor species of special concern likely to nest in the Project Area. These species will be present from about March through July. For the ferruginous hawk, young or eggs could be directly impacted if nests are abandoned or have to be removed by construction crews. This is a highly unlikely event as ferruginous hawks typically prefer to nest in juniper trees, on rock outcrops, and on the ground. Burrowing owls nest underground so eggs and young could be killed by heavy vehicles or any surface disturbance.

The Holder's biologists will conduct surveys prior to structure removal or rebuild, to identify potential conflict areas of raptor nesting territories in the immediate vicinity of the ROW. Nests under construction, but not yet with eggs that are present in an area scheduled for work during that nesting season will be removed. However if nests with eggs or young need to be moved the Holder will consult with the ODFW and the FWS to decide on the proper action and to obtain an additional permit to move the nest. In the event that a successful move was unlikely, construction activities in that area may be delayed or access roads rerouted as appropriate. The Authorized Officer will make this decision.

If occupied raptor territories are observed off of the poles, the extent of likely construction disturbance will be assessed. If necessary, spatial and temporal management buffers could protect occupied territories. White and Thurow (1985) recommended no activities within 250 meters of an occupied ferruginous hawk nest, and Richardson and Miller (1997) recommended no major actions within 800 meters of an occupied nest.

Burrowing owls are mostly crepuscular and nocturnal and will not likely be significantly disturbed by construction or O&M activities as long as their burrows were not directly impacted. A buffer of 100 meters will be established for occupied burrows. Buffers for other raptor species will be decided as needed by the BLM biologist and Authorized Officer.

Cultural Resources

Any cultural and/or paleontological resource [fossil(s) or historic or prehistoric site or object] discovered by the Holder, or its designated contractor, on BLM land will be immediately reported to the Authorized Officer. If new probable historic, cultural, or paleontological resources are discovered during construction, potentially destructive work within 300 feet of the find will be halted. Pursuant to 43 CFR 10.4(g), the holder of the authorization must notify the Authorized Officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), activities in the vicinity of the discovery must be stopped and protected for 30 days or until notified to proceed by the Authorized Officer. The Holder's construction inspector will immediately implement the following measures:

- Flagging will be erected to prohibit potentially destructive activities.
- The Holder's archaeologist will make a preliminary assessment of the newly discovered resource.
- If the archaeologist determines that the discovery represents a potential new site or an undocumented feature of a documented site, the BLM will be notified and processes identified by the respective agencies will be followed.
- Construction will not resume in the identified area until cleared by the archaeologist (private land) or Authorized Officer (public lands managed by the BLM).

PDFs and BMPs for cultural resources include the following:

- Prior to construction, all supervisory personnel will be instructed on the protection of cultural resources. The construction contract will address a.) Federal and state laws; b.) The importance of these resources; c.) The purpose and necessity of protecting them; and d.) Methods for protecting sensitive resources.
- <u>For sites to be avoided, the boundaries of identified cultural resources and buffer zones will be staked in the field and flagged as no-disturbance areas to avoid inadvertent disturbance during construction. These site markings will be removed following construction.</u>
- Construction crews and vehicles will be constrained to designated access roads and not allowed to travel cross-country near known sites. Where an access road intersects a site, the road sides will be posted to indicate that no off-road activity may occur. Marking will be coordinated with the BLM and installed by personnel appointed by the Holder. After construction or the O&M activity is complete or no longer poses a threat to the cultural resources, the stakes will promptly be removed to protect the site's significance and location from unwanted attention.
- Contractors will be provided with maps showing avoidance areas; these will include established work zones as well as ROW areas where overland travel should be avoided.
- The Holder will avoid, where possible, potential NRHP eligible archaeological resources and historic cultural features with the Project APE by relocating the transmission line, changing

pole placement, shifting the alignment of access roads, or narrowing the construction corridor.

- If avoidance is not possible, further testing and formal evaluations for eligibility for listing in the NRHP will be conducted for each resource.

- Formal evaluations will include further documentation and inventory and boundary delineation through testing.

Unanticipated Discovery of Human Remains

All human interments will be treated with the respect accorded them by state and federal laws applying to human remains. If the discoveries are unanticipated, state law does not distinguish between historic or prehistoric burials as far as what steps are required for initial notification or disinterment. If human remains are discovered on BLM administered lands during construction or future O&M activities, the Holder will stop all work in the immediate area to protect the integrity of the find and notify the county sheriff and BLM as soon as possible. In addition, the location of the find will be flagged or fenced off to protect it from further impacts. The BLM will determine what mitigation is necessary and, once the mitigation is complete, work can resume in the area.

Aesthetic Resources

The Holder will implement the following PDFs and BMPs to protect aesthetic resources:

- No paint or permanent discoloring agents will be applied to rocks or vegetation to indicate limits of survey or construction activity.
- Weathered steel poles, which have a rusted appearance, will be used for the 230 kV transmission line to reduce visual contrasts.
- Nonspecular conductors will be used to reduce visual impacts.
- All stakes and flagging will be removed from the construction area and disposed of in a State approved landfill.

Geology, Soils, Biological Soil Crusts, and Erosion

- An Erosion and Sediment Control Plan will be developed and implemented for the Project as required by the Oregon DEQ National Pollutant Discharge and Elimination System Stormwater Discharge Permit (Oregon DEQ 2005) and pursuant to Oregon Revised Statutes 468B.050 and Section 402 of the Federal Clean Water Act.
- Turbine, tower and other structure locations will be surveyed for active faults and landslide hazards prior to finalizing site locations. In addition, structures will be built to seismic specifications and landslide hazard precautions (Smith 2008).
- Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged. Any areas that will not be cleared will retain vegetation in place.

- Sediment control structures and application will be used to minimize erosion. Measures include stabilization of site entrances and access roads prior to earthwork and perimeter sediment control, e.g. sediment basins, traps and barriers.
- Construction vehicles will be restricted to access roads, public roads and the ROW. Roads will be cleared of mud and debris and tracking of sediment onto roads will be minimized. Work will temporarily stop if conditions are wet enough to cause ruts greater than three inches deep.
- Disturbed surfaces will be returned to original contours where possible and revegetation using salvaged native vegetation or BLM (or property owner) approved seed mixes will be performed following construction activities.
- Good housekeeping measures will be implemented during construction and after completion. All refuse will be kept out of the ROW and disposed of properly. Hazardous materials will be contained and disposed of in an authorized facility.
- A Hazardous Substance Control and Emergency Response Plan will be put into place and workers will be trained in its implementation.
- An Erosion and Sediment Control Plan will be developed and implemented for the Project as required by the Oregon DEQ National Pollutant Discharge and Elimination System Stormwater Discharge Permit (Oregon DEQ 2005) and pursuant to Oregon Revised Statutes 468B.050 and Section 402 of the Federal Clean Water Act.
- All development will be constructed under guidelines presented in Chapter 7 of the Harney County Comprehensive Plan (Harney County 2009) and Section 4.070 of the Harney County Zoning Ordinance (Harney County 2002).

Water Resources (surface and groundwater) and Floodplains

- All Erosion and Sediment Control (ESC) measures will be in place and functioning before any construction activities occur. Sediment barriers will include sediment fences, berms, straw wattles. Run-on and run-off control measures include slope drains, check dams, surface roughening, and bank stabilization.
- Long-term slope stabilization measures will include the establishment of permanent vegetative cover via seeding with approved mixes and application rates. Slopes to receive temporary or permanent seeding will be roughened by means of track-walking or other approved implements. Surface roughening improves seed bedding and reduces run-off velocity.
- The ESC measures will be maintained until construction is complete and all vegetation is established.
- Long term slope stabilization measures including matting will be in place over all exposed soils by October 1.
- Temporary slope stabilization measures may include covering exposed soil with plastic sheeting, straw mulching, or other approved measures.
- Each site will have constructed entrances, exits and parking areas with exit tire wash to reduce the tracking of sediment onto roads. These areas will be kept clean.

- Stockpiled soil or strippings will be placed in a stable location and configuration. Soil stockpiles will have temporary stabilization or covering at the end of each workday. Sediment fences will be installed around stockpiles.
- Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged.
- Any areas that will not be cleared will retain vegetation in place.
- Sediment controls will be installed and maintained along the site perimeter on all down-gradient sides of the construction.
- Temporary and/or permanent soil stabilization measures will be applied immediately on all disturbed areas as grading progresses and on all roadways.
- Sediment will be removed from behind a sediment fence when it reaches a height of 1/3 the height of the fence and also before fence removal. Sediment will be removed from behind other barriers when it reaches a height of two inches and before removal. Trapped sediment in a sediment basin will be removed when the sediment retention capacity has been reduced by fifty percent and at the end of the Project.
- If construction activities cease for thirty days or more, the entire site will be temporarily stabilized using vegetation, a heavy mulch layer, temporary seeding, or other method. If construction ceases for 15 days or more temporary stabilization will occur with straw, compost, or other tackified covering.
- All pumping of sediment laden water will be discharged over an undisturbed, preferably vegetated area, and through a sediment control BMP such as a filter bag.
- BMPs will be inspected before, during, and after major storm events. Daily inspections will occur during rainfall and runoff events.
- Construction activities will avoid or minimize excavation and creation of bare ground on slopes greater than five percent from October 1 through May 31.
- All exposed soils will be covered during the wet weather period.
- Temporary stabilization of the site will be installed at the end of the workday if rainfall is forecast in the next 24 hours.
- Large amounts of sediment leaving the site will be cleaned up within 24 hours and placed back on the site and stabilized or properly disposed. Preventative measures for recurrence will be in place within the same 24 hours.
- In areas subject to wind erosion, appropriate PDFs and BMPs will be used, such as the application of fine water spray, plastic sheeting, mulch or other approved measures.
- No non-sediment pollutants will be allowed to enter stormwater, such as from of concrete truck wash water, vehicle and equipment cleaning, vehicle and equipment fueling, maintenance, and storage, other cleaning and maintenance activities.
- Any toxic or other hazardous materials will be properly stored, applied and disposed.
- The application rate of fertilizers used to reestablish vegetation will follow manufacturer's recommendations to minimize nutrient releases to surface waters.

- To reduce the potential for erosion, riprap, boulders and vegetation will be used to stabilize slopes outside of the streams. Slash and boulders will be placed at the side or downslope of the roads to act as a sediment filter. Disturbed surfaces will be revegetated using salvaged native vegetation or BLM (or property owner) approved seed mixes and will be performed following construction activities.
- Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged.
- Any areas that will not be cleared will retain vegetation in place.
- Construction vehicles will be restricted to access roads, public roads and the ROW. All construction equipment and vehicles will cross the water bodies over bridges and existing access routes. Roads will be cleared of mud and debris and tracking of sediment onto roads will be minimized.
- Heavy construction equipment will work from the banks rather than the water body as much as practicable.
- A water truck will be used to minimize dust. The water source will be local surface water. Dust control may also use straw, wood chips, dust reducing agents, and gravel. The temporary pipe and storage tanks or any other water facilities will be returned to the pre-construction condition.16
- Erosion and sediment controls will be installed within 100 feet of riparian areas or water bodies during construction. Measures include stabilization of site entrances and access roads prior to earthwork and perimeter sediment control, e.g. sediment basins, traps and barriers.
- Good housekeeping measures will be implemented during construction and after completion. All refuse will be kept out of the ROW and disposed of properly. Hazardous materials will be contained and disposed of in an authorized facility.
- The use of herbicides will be minimized as much as possible, but noxious weed control will be required.
- Equipment used near or in water bodies will be checked for leaks of oil or other fluids on a daily basis.
- Any potential spills of hazardous material will be addressed through standard construction PDFs and BMPs. See Section 3.17.2 Public Health and Safety: Hazardous Materials for further details.
- Dewatering locations will be sited in areas of adequate vegetation or dry drainages.
- Should dewatering locations be sited in dry drainages, there will be a minimum of 0.25 mile within the drainage between the dewatering location and any water.
- Dewatering locations will not be located within 100 feet of any drainage that contains water, wetlands, or specific cultural sites. Discharge water will be directed to prevent flow from moving to these areas.
- The duration of dewatering discharges will be minimized by scheduling dewatering operations immediately prior to backfilling.

- Trench disturbance (i.e., additional excavation) will be minimized to the extent practicable while dewatering is in progress.
- The hose intake will be suspended above the bottom of the trench to minimize sediment taken in during the pumping operation.
- Burial of the distribution line will occur during the dry season to minimize the effects of trenching through intermittent water ways.

Transportation and Access

Public use of access roads will be determined on a case-by-case basis by the BLM. The Holder is responsible for road closures mutually agreed to by the Holder and the BLM (that is, roads that are closed to the public, but accessible to the BLM, and the Holder for maintenance purposes). The following PDFs and BMPs will help to minimize access road effects on resources.

- In areas where recontouring is not required, disturbance will be limited to overland driving where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access
- In areas where soils are particularly sensitive to disturbance, existing access roads will be repaired only to where they are passable with an overland vehicle.
- Work will be temporarily halted where wet conditions cause excessive rutting (>3 inches deep) of roads and/or work areas.
- When overland routes in the ROW are chosen, contractors will avoid destruction of sagebrush and slick spots when alternative routes within the ROW are available (e.g., existing spurs to old poles).
- To limit new or improved accessibility into the area, all new access roads that were neither desired nor required for maintenance will be closed using the most effective and least environmentally damaging methods appropriate to that area, with concurrence of the Authorized Officer.
- All existing roads will be left as close to an undeveloped nature (i.e., two-track road) as possible without creating environmental degradation (e.g., erosion or rutting from poor water drainage) or unsafe conditions.
- Where appropriate, roads will be maintained to have crossroad drainage in order to minimize the amount of channeling or ditches needed. Water bars will be installed at all alignment changes (curves), significant grade changes, and as requested by the Authorized Officer.
- All existing road drainage structures will be maintained or repaired by the Holder during construction and future O&M activities.
- Access roads and other areas of ground disturbance, within the construction limits will be watered, as needed, to remain compact and to avoid the creation of dust. This may also require the limitation of types of equipment, vehicle speeds, and routes utilized during construction. Water, weed-free straw, wood chips, dust reducer, gravel, or a combination of these or similar control measures may be used.

- In areas where soils are particularly sensitive to disturbance, existing roads will be repaired only to where they are passable with an overland vehicle.
- Work will be temporarily halted where wet conditions cause excessive rutting of roads and work areas.
- When overland routes in the ROW are chosen, contractors will avoid destruction of sagebrush and slickspots when alternative routes within the ROW are available (e.g. existing spurs to old poles).
- To limit new or improved accessibility into the area, all new access roads that were neither desired nor required for maintenance will be closed using the most effective and least environmentally damaging methods appropriate to that area.
- All existing access roads will be left as close to an undeveloped nature (i.e. two-track road) as possible without creating environmental degradation (e.g. erosion or rutting from poor water drainage) or unsafe conditions.
- Where appropriate, access roads will be maintained to have crossroad drainage in order to minimize the amount of channeling or ditches needed. Water bars will be installed at all alignment changes (curves) and significant grade changes.
- All existing road drainage structures will be maintained or repaired during construction and future operation and maintenance activities.
- Access roads will be inspected annually. Maintenance requirements will vary depending on the type of road, level of use, and condition of the road. Typically, maintenance will be conducted when road conditions threaten resource values or public safety or impede access for transmission-line maintenance personnel. In the event of a conflict between owner/operator's maintenance requirements and the maintenance requirements of the BLM, the requirements of BLM will take precedence.

Public Health and Safety

Fire Hazards

- O&M activities will follow industrial fire precaution levels and regulations. Fire regulations are generally effective between April 1 and October 31 and at other times with unusual weather conditions. The Holder will clear trees and tall objects to provide adequate distance from objects over and under the transmission line for the life of the Project.
- The Holder is responsible for inspecting the transmission line for fire hazards. When working on or around transmission lines on BLM administered lands during fire season, the Holder's employees and contractors will have approved suppression tools and equipment. All power-driven equipment, except portable fire pumps, will be equipped with one fire extinguisher and one long handled round point shovel. In addition, each truck and passenger-carrying vehicle will be equipped with a double-bit axe (i.e. Pulaski). In some conditions each internal combustion engine will be equipped with a spark arrester.
- If the Holder becomes aware of an emergency situation that is caused by a fire on, or threatening, BLM administered lands that could damage transmission lines or their operation, it will notify the appropriate BLM contact. Likewise, if the BLM becomes aware of an

emergency situation that is caused by a fire on, or threatening, BLM administered lands that could damage transmission lines or their operation, BLM will notify the appropriate Holder contact.

- As part of routine maintenance, the Holder will visually and physically inspect the transmission line route to check for structural and conductor defects, as well as for conductor clearance problems.
- Reduction of fuel loads around poles in fire-prone areas will occur by removing vegetation within a 10-foot radius and treating the area with an herbicide and applying a fire retardant to the base of all poles in compliance with corresponding regulations on Agency lands.
- Conduct pre-construction survey and engineering activities in late spring prior to the presence of fire danger. Roads construction will occur in the fall after the fire danger declines. Additionally, for any construction activities required during times when a fire danger exists, a fire fighting apparatus will be deployed in conjunction with construction activities.
- When working on or around transmission lines on BLM lands during fire season, the Holder's employees and contractors will have approved suppression tools and equipment. All power-driven equipment, except portable fire pumps, will be equipped with one fire extinguisher and one long handled round point shovel. In addition, each truck and passenger-carrying vehicle will be equipped with a double-bit axe. In some conditions each internal combustion engine will be equipped with a spark arrester.
- Construction activities will follow industrial fire precaution levels and regulations. Fire regulations are generally effective between April 1 and October 31 and at other times with unusual weather conditions. The Holder will construct the towers and transmission lines to comply with minimum ground clearances set forth by state and federal regulators and will clear trees and tall objects to provide adequate distance from objects over and under the transmission line.
- Personal vehicles, sanitary facilities, and work areas will be confined to areas specified in the POD. For construction and prolonged O&M Projects, maintenance equipment, materials, and vehicles will be stored at the sites where activities will occur or at specified maintenance yards.
- Construction and O&M activities will follow industrial fire precaution levels and regulations. Fire regulations are generally effective between April 1 and October 31 and at other times with unusual weather conditions.
- The Holder will be responsible for inspecting the transmission line for fire hazards. When working on or around transmission lines on BLM lands during fire season, the Holder's employees and contractors will have approved suppression tools and equipment. All power-driven equipment, except portable fire pumps, will be equipped with one fire extinguisher and one long handled round point shovel. In addition, each truck and passenger-carrying vehicle will be equipped with a double-bit axe or Pulaski. In some conditions each internal combustion engine will be equipped with a spark arrester.
- If the Holder becomes aware of an emergency situation that is caused by a fire on or threatening, BLM administered lands and that could damage transmission lines or their

operation, it will notify the appropriate BLM contact. Likewise, if the BLM becomes aware of an emergency situation that is caused by a fire on or threatening, BLM lands and that could damage transmission lines or their operation, BLM will notify the appropriate Holder contact.

- All wildfire protection measures will be followed as required by state and federal regulations. During construction, fire management will primarily be provided by the developer. This is often accomplished by ensuring that there are fire response equipment (e.g. water truck and bull dozer) and trained personnel on site.

Noise and Vibration

- Construction noise will be limited to daytime, weekday hours (e.g., 6 a.m. to 10 p.m.).
- Noise reduction features (e.g. mufflers and engine shrouds) will be used on all pieces of construction equipment and will be no less effective than those originally installed by the manufacturer.
- Where feasible construction traffic will be routed away from residences.
- Unnecessary construction vehicle use and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A "common sense" approach to vehicle use will be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. (Note: certain equipment, such as large diesel-powered vehicles require extended idling for warm-up and repetitive construction tasks.)
- To the extent possible, construction crews will not conduct pile driving or blasting within 100 feet of fragile structures or areas with sensitive uses.
- To the extent possible, construction equipment will not be operated within 25 feet of fragile structures or areas with sensitive uses.

Hazardous Materials

- Hazardous materials will not be drained onto the ground or into streams or drainage areas. Totally enclosed containment will be provided for all trash.
- Secondary containment will be provided for all hazardous materials and waste, including fuel. Fuel stored on site for construction vehicles and equipment would be temporary and would only occur to support construction activities.
- Totally enclosed containment will be provided for all hazardous materials (if needed) and trash. All construction waste including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials.
- Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the construction period. Refuse and trash, including stakes and flags,

will be removed from the sites and disposed of in an approved manner. No construction equipment oil or fuel will be drained on the ground. Oils or chemicals will be hauled to an approved site for disposal. No open burning of construction debris will occur on BLM administered lands.

- The Holder will also minimize the use of herbicides to control plants, but will undertake a plan to control noxious weeds resulting from the construction and operation of the facilities.
- In the event any pesticides or herbicides will be used on the site, the facility operator will comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use, and disposal of those pesticides or herbicides. Pesticides or herbicides will be applied only by the landowner or, upon consultation with the landowner, by a professional charged with observance of all regulations governing use and selection of herbicides.
- The Holder will provide for solid waste disposal at a regulated and licensed landfill.
- The Holder will provide BLM with a comprehensive list of hazardous materials that will be used, stored, transported, or disposed of during activities associated with site construction, operation, and maintenance. The Holder will develop a hazardous materials management plan which establishes inspection procedures for storage, quantity limits, inventory control, use, non-hazardous product substitutions, transportation, and disposal of each hazardous material expected to be used on site. The plan will also include an emergency response plan and identify requirements for notices to federal and local emergency response authorities.
- The Holder will develop a waste management plan for both solid and liquid waste that identifies wastes that are expected to be generated at the site. This plan will address hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures.
- The Holder will develop a spill prevention and response plan. The plan will identify the location of stored hazardous wastes and materials, spill prevention measures, training requirements, the appropriate spill response actions for each hazardous material or waste, and the locations of spill response kits. The plan will also include a requirement to ensure that spill response kits will be adequately stocked at all times and procedures for making timely notification to local, state, and federal authorities.
- An integrated pest management plan will be developed if pesticides will be used. The plan will ensure that pesticides applications will be within the framework of BLM and DOI policies. Only non-persistent, immobile, EPA-registered pesticides will be applied. Pesticides will be applied in accordance with terrestrial and aquatic application permits and labels directions.

Attachment B

Stipulations
for
RECORD OF DECISION
North Steens 230kV Transmission Line Project
Case File Number: OR-65891

The stipulations listed below originated from suggested mitigation measures located throughout the various resource sections of the Transmission Project FEIS. In addition, stipulations are also included as required by the ROD, BLM policy or other sources which are indicated. The stipulations listed are those applicable to the Transmission Project only including the transmission line; associated new, improved and overland access roads, and tensioning sites on public lands administered by the BLM and authorized by BLM.

The term "Holder" as used below refers to Echanis, LLC, a subsidiary of CEP, or its assigns. The term "Authorized Officer" refers to the BLM official responsible for managing compliance with the terms and conditions of the ROW grant.

Stipulation	Suggested Mitigation Measure from Final EIS	Final EIS Page Number or Other Source
1. *The Holder shall construct, operate, and maintain the facilities, improvements, and structures within this ROW in strict conformity with the plan(s) of development submitted to the Authorized Officer on March 17, 2009, as supplemented and amended on May 28, 2009 and on May 9, 2011 which are approved and made part of the grant. Any relocation, additional construction, or use not in accordance with the approved plan(s) of development, shall not be initiated without the prior written approval of the Authorized Officer. A copy of the complete ROW grant, including all stipulations and approved plan(s) of development, shall be made available to the Authorized Officer on the ROW area during construction, operation, and termination.		

Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.		
2. This ROW is granted only for the proposed action as described with mitigation in the County permit. Echanis' adopting the mitigation as part of the action is a condition precedent for BLM's granting and continuing to authorize the ROW. Should the proponent not follow through on mitigation, BLM may suspend or terminate the ROW.		
3. *The Holder shall not initiate any construction or other surface disturbing activities on the ROW without the prior written authorization of the Authorized Officer. Such authorization shall be a written NTP (Form 2800-15) issued by the Authorized Officer. Multiple Notices to Proceed will be required during construction, and each will authorize construction or use and occupancy only as therein expressly stated and only for the particular location or use and occupancy therein described, i.e. a construction phase or site location. The Authorized Officer will issue a NTP subject to such terms and conditions as deemed necessary when the design, construction, use, occupancy, and operation proposals are in conformity with the terms and conditions of this instrument.	ROD	ROD
4. BLM is authorizing the ROW to serve the Echanis Project analyzed in the FEIS. Should a project be proposed that is located within the exterior boundary of the Steens Mountain Cooperative Management and Protection Area, or affecting the public land resources of that Area, and that would connect to the transmission line authorized under this ROW, the BLM will consider this new proposal a substantial deviation in use and require an amended application for use of the ROW. In addition, the BLM may, to the extent consistent with law, decline use of the right of way to service		

this additional project if BLM finds the impacts of this project to public lands unacceptable. The holder of this ROW shall obtain prior authorization by the BLM for any project connection to the transmission line within the exterior boundary of the Steens Mountain Cooperative Management and Protection Area, or affecting the public land resources of that Area. If the holder of this ROW fails to obtain such authorization, the BLM may suspend or terminate the ROW if the holder of the ROW connects any additional project to the transmission line, including projects that may not be consistent with the mitigation for the Echanis Wind Energy Project and associated power transmission system. **D**		
5. Prior to issuance of a NTP, the Holder shall develop, finalize and submit to the Authorized Officer for his/her approval the following plans for construction, operation, maintenance and termination of the Transmission Project. Upon approval, all provisions of said plans shall be diligently implemented by the Holder. • Construction POD • Hazardous and Solid Waste Management Plan • Erosion and Sediment Control Plan • Restoration and Revegetation Plan • Weed Management and Control Plan • CWM Plan • HMP • Construction Compliance and Monitoring Plan • Construction Monitoring Plan referenced in the PA relative to compliance with Section 106 of the NHPA. • Transportation Plan • Dust Control Plan • Coordination Plan – Necessary only if identification and	ROD	

evaluation of cultural and historical resources cannot be accomplished prior to the initiation of construction. • Treatment Plan – Necessary only if eligible cultural or historical resources cannot be avoided by development of the project. • Decommissioning Plan – A conceptual decommissioning plan will be required to be included in the Construction POD. A detailed decommissioning plan will be required at the time of decommissioning of the Transmission Project and termination of the ROW.		
6. A Performance and Reclamation bond, in the amount specified in the ROW grant, will be required from the Holder to ensure compliance with the terms and conditions of this instrument. Submission of the bond shall be required prior to a NTP. The bond must be maintained in effect until removal of improvements and restoration of the ROW has been accepted by the Authorized Officer. Acceptable bond instruments include: • cash, • cashier's or certified check, • certificate or book entry deposits, • negotiable U.S. Treasury securities (notes, bills, or bonds) equal in value to the bond amount, • surety bonds from the approved list of sureties (U.S. Treasury Circular 570) payable to the BLM, • irrevocable letters of credit payable to the BLM issued by financial institutions that have the authority to issue letters of credit and whose operations are regulated and examined by a federal agency, or • policy of insurance providing BLM with acceptable rights as a beneficiary and is issued by an insurance carrier with authority to issue insurance policies in the	ROD	

applicable jurisdiction and whose insurance operations are regulated and examined by a federal or state agency.

The Authorized Officer will not accept a corporate guarantee as an acceptable form of bond. The bond will be reviewed at the time of any assignment, modification, or renewal of this instrument. The Authorized Officer may increase or decrease the bond amount at any time during the term of the ROW authorization, consistent with the regulations.

The Holder agrees any bond held as security for Holder's performance of the terms and conditions of this instrument may, upon failure on the Holder's part to fulfill any of the requirements herein set forth or made a part hereof, be retained by the United States to be applied as far as may be needed to the satisfaction of the Holder's obligations assumed hereunder, without prejudice whatever to any other rights and remedies of the United States.

Should the bond delivered under this instrument become unsatisfactory to the Authorized Officer, the Holder shall, within 30 calendar days of demand, furnish a new bond. In the event of noncompliance with the terms and conditions of this instrument, the BLM will notify the Holder that the surety or other bond instrument is subject to forfeiture and will allow the Holder 15 calendar days to respond before action is taken to forfeit the bond and suspend or terminate the authorization.

In the event of noncompliance with the terms and conditions of this instrument, the BLM will notify the Holder that the surety or other bond instrument is subject to forfeiture and will allow the Holder 15 calendar days to respond before

action is taken to forfeit the bond and suspend or terminate the authorization.		
7. Bald and/or golden eagles may now or hereafter be found to utilize the project area. The BLM will not issue a NTP for any project on public lands that is likely to result in take of bald eagles and/or golden eagles until the applicant completes its obligation under applicable requirements of the Eagle Act, including completion of any required procedure for coordination with the FWS or any required permit. The BLM hereby notifies the applicant that compliance with the Eagle Act is a dynamic and adaptable process which may require the applicant to conduct further analysis and mitigation following assessment of operational impacts. Any additional analysis or mitigation required to comply with the Eagle Act on public land will be developed with the FWS and coordinated with the BLM.		Instruction Memorandum 2010-156
8. Prior to issuance of a NTP, the Holder shall develop, finalize and submit to the Authorized Officer for his/her approval a Weed Management and Control Plan for the Transmission Project. Upon approval, all provisions of said plan shall be diligently implemented by the Holder. The plan shall include provisions for survey, identification, prevention, treatment and monitoring of noxious weeds. The Weed Management and Control Plan shall contain the following requirements: • Measures to prevent and control the spread of noxious weeds during and subsequent to maintenance and construction activities associated with the Transmission Project. • Before ground-disturbing activities begin, Holder will review the Weed Risk Assessment Form and will inventory	In addition, the Applicant is working with BLM and Harney County to develop Noxious Weed Management and Revegetation Plans (Appendix F). The Noxious Weed Management Plan includes measures to prevent and control the spread of noxious weeds during and subsequent to maintenance and construction activities associated with the Echanis Project site, transmission line, associated facilities, and any other disturbances connected with the Project into the future. Before construction, problem areas will be identified, and workers will be trained on noxious weed identification and prevention of spread into uninfested areas. During construction, areas of concern will be flagged by the Applicant's staff or BLM	3.3-40 3.3-29

and prioritize weed infestations for treatment within the Transmission Project footprint. If weed infestations spread beyond the Transmission Project footprint, then these weeds will be treated as a part of the Transmission Project including access roads into the Transmission Project site. • The Holder will locate relatively weed-free areas for temporary equipment storage, machine and vehicle parking, and other areas needed for the storage of people, machinery, and supplies. • All vehicles and equipment will be cleaned prior to arrival at the work site using compressed air or high-pressure water spraying equipment. The wash/blow down will concentrate upon tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. The Holder will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads. Seeds and plant parts will be collected, bagged, and deposited in dumpsters destined for local landfills, when practical. • When vehicles and equipment are washed/blown down, a log will be kept stating the location, date and time, types of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports. • The Holder will inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. The product will be bagged and disposed of in a dumpster for deposit in local landfills or other locations deemed acceptable by the BLM.	the project biologist to alert construction workers that weeds are present. To further prevent the spread of noxious weeds, the following mitigation measures will be implemented: • Before ground-disturbing activities begin, the project biologist will review the Weed Risk Assessment Form and prepare a Weed Management Plan that will inventory and prioritize weed infestations for treatment within the Project footprint. If weed infestations spread beyond the Project footprint, then these weeds will be treated as a part of the Project, including access roads into the Project site. • The Applicant and/or project biologist will locate relatively weed-free areas for temporary equipment storage, machine and vehicle parking, and other areas needed for the storage of people, machinery, and supplies. • All contractor vehicles and equipment will be cleaned prior to arrival at the work site using compressed air or high-pressure water spraying equipment. The wash/blow down will concentrate upon tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. The contractor, with Environmental Inspector oversight, will ensure that vehicles and equipment are free of soil and	

• The Holder will avoid or minimize all types of travel through weed infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely. The contractor will begin Project operations in weed free areas whenever feasible before operating in weed-infested areas. • The Holder will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The Holder will also avoid creating unnecessary soil conditions that promote weed germination and establishment. • The Holder will evaluate weed management options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established. • In areas where infestations are identified or noted in the field, the Holder will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the Holder will return topsoil and vegetative material from infestation sites to areas from which they were stripped. • The Holder will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are certified weed-free, as required by the Oregon Department of Agriculture's certification program. • The Holder will implement the reclamation of disturbed lands immediately following construction, as outlined in the Restoration and Revegetation Plan; continuing seeding efforts with certified weed-free seed will ensure adequate vegetative cover to prevent the invasion of noxious weeds, if necessary. • If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and	debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads. Seeds and plant parts will be collected, bagged, and deposited in dumpsters destined for local landfills, when practical. • When vehicles and equipment are washed/blown down, a log will be kept stating the location, date and time, types of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports. • Project workers will inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. The product will be bagged and disposed of in a dumpster for deposit in local landfills or other locations deemed acceptable by the BLM. • The Applicant and its contractors will avoid or minimize all types of travel through weed infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely. The contractor will begin Project operations in weed free areas whenever feasible before operating in weed-infested areas. • The contractor will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The contractor will also avoid creating unnecessary soil conditions that promote weed germination and establishment. • The contractor, in conjunction with the project biologist, will evaluate weed management options,	

undesirable vegetation established will be treated before seeding. • The Holder will apply fertilizer to reclaimed areas only according to the Restoration and Revegetation Plan and as directed by the Authorized Officer. • The Holder will implement noxious weed control measures in accordance with existing regulations and jurisdictional agency or requirements. Before construction, only herbicides approved by the State of Oregon and the BLM will be applied to any identified weed infestations on public lands to reduce the spread or proliferation of weeds. **D** The Weed Management and Control Plan shall also contain requirements and guidelines for post-construction control measures including: • Mechanical treatments • Herbicide application Treatment methods will be based upon species-specific and site-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices.	including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established. • In areas where infestations are identified or noted in the field, the contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped. • The contractor will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are certified weed-free, as required by the Oregon Department of Agriculture's certification program. • The contractor will implement the reclamation of disturbed lands immediately following construction, as outlined in the Restoration and Revegetation Plan; continuing seeding efforts with certified weed-free seed will ensure adequate vegetative cover to prevent the invasion of noxious weeds, if necessary. • The contractor will apply fertilizer to reclaimed areas only according to the Restoration and Revegetation Plan and as directed by the jurisdictional land management agency or property owner. Additionally, the Applicant will implement noxious weed control measures that will be in accordance with existing regulations and jurisdictional land	

	management agency or landowner agreements. Before construction, only herbicides that are approved by the State of Oregon and the BLM will be applied to any identified weed infestations on public lands to reduce the spread or proliferation of weeds. Post-construction control measures might include one or more of the following methods: • Mechanical methods rely upon equipment that is used to mow or disc weed populations. If such a method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based upon site-specific conditions and the appropriate seed mix identified for those conditions, as presented in the Restoration and Revegetation Plan. • Disking or other mechanical treatments that would disturb the soil surface within native habitats will be avoided. • Herbicide application is an effective means of reducing the size of noxious weed populations. • Treatment methods will be based upon species-specific and area-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices. • If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be treated before seeding.	

9. *The Holder shall prepare and implement a Compensatory Wetland Mitigation Plan which includes creation of 0.74 acre of wetland on public land to compensate for 0.049 acre of wetland affected by overland access roads associated with the Transmission Project. The Holder shall comply with the construction practices and mitigating measures established by 33 CFR 323.4, which sets forth the parameters of the "nationwide permit" required by Section 404 of the Clean Water Act. If the proposed action exceeds the parameters of the nationwide permit, the Holder shall obtain an individual permit from the appropriate office of the USACE and provide the Authorized Officer with a copy of the same. Failure to comply with this requirement shall be cause for suspension or termination of this ROW grant.	Mitigation for the small amount of wetlands affected by overland roads would be developed and described in the Project's CWM Plan submitted with the Project's Joint Permit Application. The goal of the CWM plan for the Alternative C area would be to create 0.74 acre of wetland to compensate for the 0.49 acre of wetland affected by the proposed overland road construction associated with this transmission line alternative.	3.3-39 3.4-26
10. Prior to issuance of a NTP, the Holder shall develop, finalize and submit to the Authorized Officer for his/her approval a HMP for the Transmission Project. The Plan shall be developed in accordance with Attachment D, *Echanis Wind Power Project: Principles and Standards for Development of a HMP*. Upon approval, all provisions of said plan shall be diligently implemented by the Holder.	Mitigation would be the same as that described for Alternative B, except that this alternative would not include burial of the existing HEC distribution line and additional mitigation associated with implementation of the *Sage Grouse Strategy Mitigation Framework*. Project Area habitat would be categorized in accordance with the ODFW's *Habitat Mitigation Policy* (OAR 635.415), to determine appropriate conservation measures to compensate for lost habitat availability to wildlife, particularly greater sage-grouse. Habitat mitigation is described in the Applicant's HMP (Appendix F). The ODFW *Mitigation Framework* would be applied to the effects of Alternative B on greater sage-grouse, in addition to those common to all alternatives. The effects of transmission lines on	3.5-83 3.5-69

	greater sage-grouse and other lekking grouse species is not well understood. However, the *Mitigation Framework* suggests that, at a minimum, a disturbance band of 0.6 mile on either side of the line should be used to calculate the area of impact. This 0.6 mile band is then broken into four 0.15 mile intervals around the transmission line, which should be used to quantify the habitat effectiveness ("habitat density factor") as it relates to the proximity of the line (Hagen 2011b). As shown in Tables 3.5-22 and 3.5-23, the impacts of the Alternative B transmission line in sagebrush habitat, including the Project Area and Low Density greater sage-grouse habitat would result in impacts to a total of 7,028.3 acres. When multiplied by the habitat density factor, this results in a total mitigation area of 4,568.9 acres for the Alternative B transmission line. Of this total, the 1,820 acres of impacted land in the transmission line Project Area is in private ownership, and results in a mitigation area of 1,585.3 acres. The 5,508.0 acres of impacted land within Low Density habitat impacted by the transmission line is in a combination of private and federal ownership, as shown in Table 3.5-24. It should be noted that such calculations are derived from the best available information at the time of the EIS. The final acreage calculations for mitigation would be developed in coordination with the FWS and ODFW, pursuant to the implementation of a HMP.	
11. *Unless otherwise agreed to by the Authorized Officer in writing, powerlines shall be constructed in accordance to standards outlined in *Suggested Practices for Raptor*	The Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 would be implemented (APLIC 2006). If these standards are	3.5-71 3.5-83

Protection on Powerlines, the State of the Art in 2006, Avian Powerline Interaction Committee. The Holder shall assume the burden and expense of proving pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this ROW should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the Holder without liability or expense to the United States.	followed, the risk of electrocution is considered to be minimal (M. Green, FWS, personal communication, 2010, in Northwest Wildlife Consultants 2010).	
12. All vehicular traffic associated with this ROW shall limit speeds to less than 25 miles per hour. **D**	Speed limits for travel on the newly constructed roads would be posted at 30 mph to reduce the potential for wildlife collisions. Overland travel areas will have speed limits of 25 mph.	3.5-71 3.5-83
13. *Construction and operational activity, except for required or emergency maintenance operations, will be prohibited during the period from December 1 to March 31 for protection of big game. This stipulation applies to all sections of the transmission line on public land within big game winter range.	Operational activity in big game winter range between December and March would be limited to conducting required maintenance or use during emergency situations. Other routine activities would be avoided.	3.5-71 3.5-83
14. *Construction or major maintenance and operations activities and surface disturbance will be prohibited during the period from March 14 to May 1 for the protection of greater sage-grouse. This stipulation applies to the section of the transmission line on public land within two miles of Little Kiger lek or any other lek or active sage-grouse nest discovered as a result of pre-construction surveys.	Because pre-construction monitoring has shown Little Kiger greater sage-grouse lek is active, no construction activities would be allowed during the March 15 to May 1 time period.	3.5-71 3.5-83
15. The Holder shall assume the burden and expense of proving standard pole designs prevent perching of large raptors. Such proof shall be provided by a raptor expert approved by the Authorized Officer. If such proof cannot be provided, perch deterrents may be installed on all transmission towers	Increased raptor and corvid abundance has been documented in landscapes fragmented by man-made structures, and power poles have been identified as a threat to greater sage-grouse and other prey species (Prather and Messmer 2010). Predator	3.5-71 3.5-83

on public land within greater sage- grouse habitat as determined by the Authorized Officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this ROW should they be necessary to deter large perching birds. Such modifications and/or additions shall be made by the Holder without liability or expense to the United States.	perch deterrents would be installed to discourage raptors from perching on transmission towers in greater sage-grouse habitat on public lands. While the effectiveness of predator perch deterrents is inconsistent (Prather and Messmer 2010, Slather and Smith 2010), the effectiveness of the devices that would be used would be monitored by the Technical Advisory Committee (TAC), and modified if needed. On private lands, the need for predator perch deterrents would be determined based upon an overall increase in perching by raptors. The requirement for perch deterrents on private land would be overseen by the TAC.	
16. Prior to issuance of a NTP, the Holder shall develop, finalize and submit to the Authorized Officer for his/her approval a Restoration and Revegetation Plan for the Transmission Project. Upon approval, all provisions of said plan shall be diligently implemented by the Holder.	The Applicant would monitor the success of revegetation after construction, and additional seeding or other measures could be required by the BLM to ensure the adequate reclamation of temporary use areas affected by construction.	3.5-71 3.5-83
17. Prior to initiation of construction, upgrade or major maintenance operations of the Transmission Project, the Holder shall conduct pre-construction surveys for greater sage-grouse, active raptor nests, burrowing owls, nesting colonies, passerine nests and foaling wild horses. The results shall be provided to BLM, who in consultation with ODFW and FWS, will determine if any additional or modified construction timing restrictions will be required. The Holder shall comply with any additional or modified timing restrictions prescribed by the Authorized Officer.	Micrositing of towers and lines would occur to maximize the distance from identified nests (of raptors) or nesting colonies (of wading birds, waterfowl, or gulls). Construction near these nesting areas or near raptor nests would occur outside of the breeding season of those birds. To further minimize any potential effects to wild horses, the BLM could impose restrictions on construction or major maintenance activities if foaling mares were anticipated to be in the area.	3.5-71 3.5-83 3.12-10
18. The Holder shall comply with all portions of the ABPP/ECP applicable to the Transmission Project. This authorization does not limit or preclude the Service from exercising its authority under any law, statute or regulation, nor does it	Micrositing of towers and lines would occur to maximize the distance from identified nests (of raptors) or nesting colonies (of wading birds, waterfowl, or gulls). Construction near these	3.5-71 3.5-83

release any individual, company or agency of its obligations to comply with Federal, State, or local laws, statutes or regulations that may relate to take of migratory birds or golden eagles for that portion of the project area located on private lands.	nesting areas or near raptor nests would occur outside of the breeding season of those birds. Post-construction mortality monitoring conducted by the Applicant would identify whether passerines or woodpeckers were killed from collisions with the transmission lines and, if so, consultation with the TAC would occur to identify whether additional mitigation would be required.	
19. The Holder shall conduct post construction mortality monitoring for avian and other wildlife species for the transmission line in accordance with the specifications outlined in the ABPP/ECP. If mortality is identified, additional mitigation measures will be developed and implemented by the Holder in consultation with BLM and an advisory committee and in accordance with the provisions of the ABPP/ECP.	Post-construction mortality monitoring conducted by the Applicant would identify whether passerines or woodpeckers were killed from collisions with the transmission lines and, if so, consultation with the TAC would occur to identify whether additional mitigation would be required. If mountain quail collisions were documented, the BLM and ODFW would review mortality data and discuss whether additional mitigation measures would be required.	3.5-72 3.5-83
20. The Holder shall construct, operate, maintain and terminate the Transmission Project in a manner that minimizes conflicts with ongoing agricultural, grazing and land-management activities.	Overland access roads, temporary construction laydown areas, and pulling/tensioning sites would be used in a manner that minimized conflicts with ongoing agricultural, grazing, and land management activities, both during initial construction and any future upgrades to the transmission line. Inspection, maintenance, and repair activities during long-term operation of the transmission line would be conducted in a manner that minimized the effects upon cultivated land, grazing pastures, and livestock.	3.6-13

21. *No signs or advertising devices shall be placed on the premises or on adjacent public lands, except those posted by or at the direction of the Authorized Officer.	Banning commercial messages or symbols (such as logos), trademarks, and messages on the transmission lines.	3.7-25 3.7-20 3.9-37 3.13-15
22. In consultation with the Authorized Officer, the Holder shall develop and implement a plan to correct, ameliorate or improve existing situations and conditions to offset adverse aesthetic effects resulting from the Transmission Project. Examples of actions to be taken include reclaiming or maintaining roads not used for construction access, cleanup of trash or dumps offsite, and rehabilitating existing disturbed areas.	Developing aesthetic offsets where corrective or ameliorative actions are needed to improve the existing condition. Examples could include reclaiming unnecessary roads in the area, cleanup of illegal dumps or trash, or rehabilitation of existing erosion or disturbed areas.	3.7-25 3.7-20 3.9-37 3.13-15
23. *Where overland access routes are authorized, clearing or grading of a roadbed shall not be authorized. All construction and vehicular traffic shall be confined to the ROW or designated overland access routes, roads and trails unless otherwise authorized in writing by the Authorized Officer. Only a single route, where practicable, will be permitted on all overland access routes.	Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities;	3.7-25 3.7-20 3.9-37
24. *The Holder shall trim trees in preference to cutting trees and shall cut trees in preference to bulldozing them as directed by the Authorized Officer.	Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities;	3.7-25 3.7-20 3.9-37
25. The Holder shall submit a Dust Control Plan to the Authorized Officer for approval prior to issuance of a NTP. Upon approval, all provisions of said plan shall be diligently implemented by the Holder. The plan shall specify measures including watering, use of binding agents, mulching, enclosure of dust creating materials at stockpiles or when being transported, traffic limitations or removal of dust creating materials.	Access roads and other areas of ground disturbance within the construction limits would be watered, as needed, to remain compact and to avoid the creation of dust. Use, where possible, of water or approved binding agents for control of dust from construction operations, the grading of roads or the clearing of land.	3.7-25 3.7-20 3.9-37 3.9-37 3.16-21 3.16-18

D	Application of asphalt, water, or other suitable approved binding agents on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts. Full or partial enclosure of materials stockpiles in cases where application of water or approved binding agents are not sufficient to prevent particulate matter from becoming airborne. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne. The prompt removal from paved streets of earth or other material that does or could become airborne.	
26. In consultation with the Authorized Officer, the Holder shall develop a schedule and communications strategies to notify the public of the timing of construction and major maintenance activities for the Project. In addition, the Holder shall in consultation with the Authorized Officer develop, post and distribute interpretive displays, brochures and other communications material to provide information about the project.	The Applicant would explore opportunities to notify wilderness users prior to visiting the affected Steens Mountain Wilderness Area and Wilderness Study Areas by publication of the construction schedule in the local media, posting the schedule at administering agency offices, posting the schedule at trailheads or other recreation access points to the Steens Mountain Wilderness Area, or other means of reaching visitors.	3.7-25 3.7-20 3.9-37
27. No paint or other discoloring agent shall be applied to rocks or vegetation to indicate limits of the ROW, tower locations, overland routes or other features necessary for the construction, operation and maintenance of the Transmission Project.	No paint or permanent discoloring agents would be applied to rocks or vegetation, to indicate the limits of survey or construction activity;	3.7-25 3.7-20 3.9-37
28. *The Holder shall use non-reflecting lines and conductors throughout the entire route of the Transmission Project.	Nonspecular conductors would be used to reduce impacts.	3.7-25 3.7-20 3.9-37

29. *The Transmission Project shall be maintained in a sanitary condition at all times. Waste materials shall be disposed of promptly at an appropriate waste disposal site. Waste' means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment. A litter policing program shall be implemented by the Holder which covers all roads and sites associated with the ROW.	All stakes and flagging would be removed from the construction area and disposed of in a State approved landfill.	3.7-25 3.7-20 3.9-37
30. As provided for in the POD, the Holder shall utilize self-weathering steel transmission poles which have a rusted appearance.	Weathered steel poles, which have a rusted appearance, would be used for the 230-kV transmission line to reduce visual contrasts;	3.9-37
31. The Holder shall comply with all provisions of a PA necessary for project compliance with Section 106 of the NHPA. The Holder, in consultation with the Authorized Officer, shall use every practicable means to avoid cultural or historic properties including variation or relocation of Transmission Project facilities, spanning of properties by the transmission line, narrowing construction corridors or use of existing roads.	The following mitigation or avoidance measures are applicable for historic properties for a finding of No Adverse Effect: Avoidance through transmission route or access road variation or relocation, Avoidance by narrowing the construction corridor ("neck down"), Avoidance through the use of existing roadways as Project access roads.	3.10-19
32. *Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the Holder, or any person working on its behalf, on public land shall be immediately reported to the Authorized Officer. The Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures		3.10-19

made by the Authorized Officer after consulting with the Holder.		
33. As directed by the Authorized Officer or other transportation authority, flaggers shall be stationed at appropriate locations when construction, operations, maintenance and termination activities create traffic hazards and accident risks.	Flaggers would be stationed at appropriate locations and at appropriate times during construction to direct traffic and reduce accident risks.	3.14-16
34. *The Holder shall maintain the ROW in a safe, usable condition, as directed by the Authorized Officer. A regular maintenance program shall include but is not limited to blading, ditching, culvert installation, and surfacing.	Roads damaged by oversize trucks or construction equipment would be repaired or reconstructed, as required.	3.14-16
35. Prior to commencement of installation of any transmission poles, the Holder shall notify FAA, Department of Defense (DoD), BLM Fire and Aviation, and other air space users and managers informing them of the location of these potential aerial hazards. Upon completion of construction, the Holder shall provide these entities with specific locations and altitude information for each pole.	The Applicant should notify FAA, DoD, BLM Fire and Aviation, and other air space users and managers when construction of the transmission line has commenced so that these features can be incorporated into aerial hazard maps and warnings. Consultation by BLM and the Applicant with the DoD would ensure that the appropriate avoidance measures, such as raising authorized flight levels, are in place prior to construction of the transmission line.	3.15-32
36. The Holder will be liable for all fire suppression costs resulting from fires caused during construction, operations, or decommissioning. The Holder shall comply with all guidelines and restrictions imposed by agency fire control officials.		3.15-32
37. Prior to issuance of a NTP, the Holder shall develop, finalize and submit to the Authorized Officer for his/her approval a Hazardous and Solid Waste Management Plan for the Transmission Project. Upon approval, all provisions of said	In the event of an accident release of hazardous materials or waste into the environment, the Project Applicant would document the event, investigate the root cause, take appropriate corrective actions,	3.15-20 3.15-32

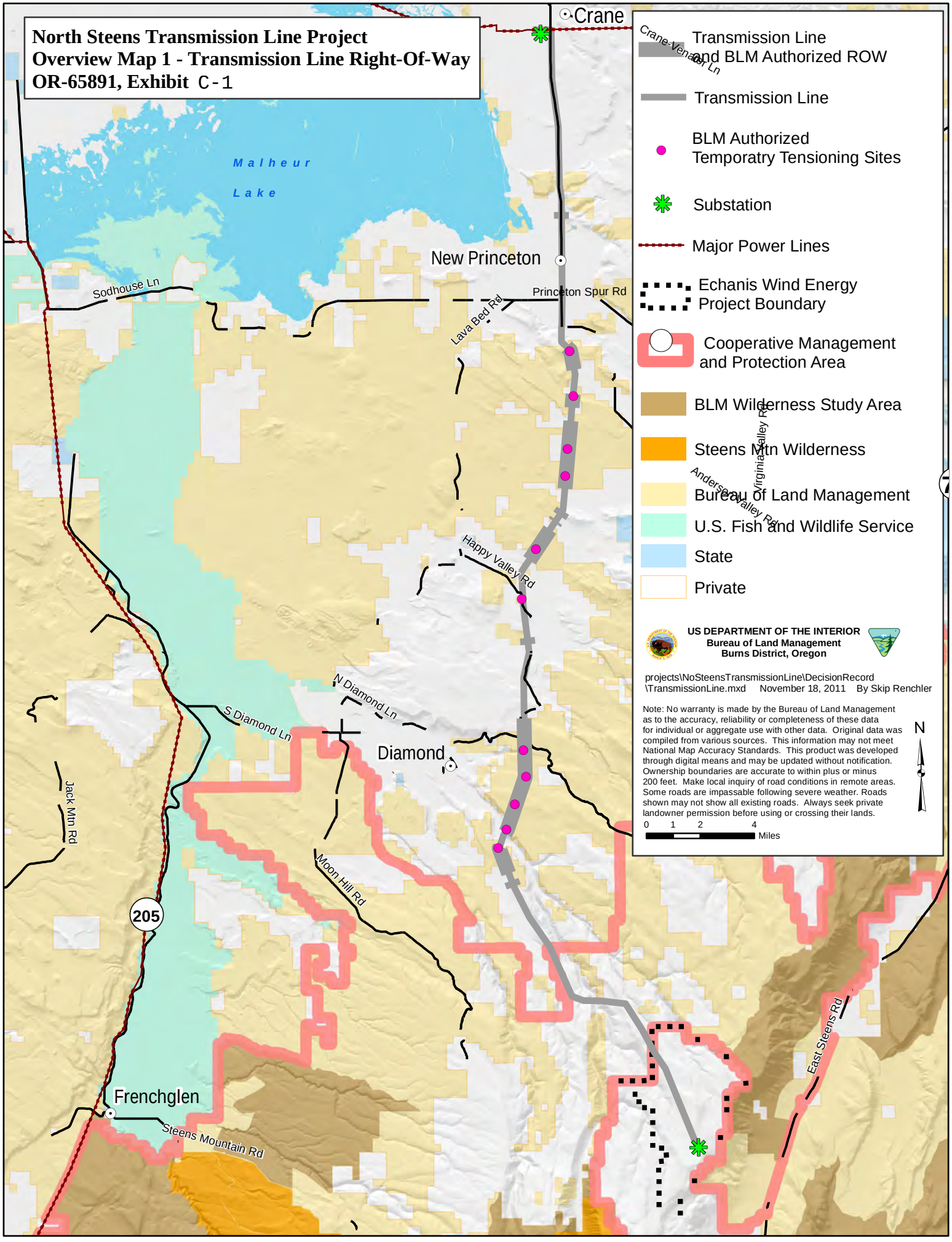
plan shall be diligently implemented by the Holder. The plan shall include provisions for reporting, investigation, characterization and remediation of releases of hazardous substances and petroleum products.	and report on the characterization of the resulting environmental health or safety effects. Documentation of the event would be provided to BLM or FWS (depending upon the location of the accidental release) and other appropriate local, state, and federal agencies. If visual evidence of contamination appears during grading or excavation, the material would be characterized and appropriate measures taken to protect human health and the environment before work would be permitted to continue. All local, state, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials would be observed. Contaminated soil or groundwater determined to be hazardous waste would be removed by personnel trained through the Occupational Safety & Health Administration recommended 40-hour safety program (29CFR1910.120) with an approved plan for groundwater extractions, soil excavation, control of contaminant releases to the air, and off-site transport or on-site treatment.	
38. The Holder shall comply with all applicable Federal, State, and local laws and regulations, existing or hereafter enacted or promulgated, with regard to any hazardous material, as defined by 43 CFR 2801.5 that will be used, produced, or transported on or within the ROW, or used in the construction, operation, maintenance, or decommissioning of the project or any of its facilities. "The Holder agrees in		3.15-32 Regulations

accordance with 43 CFR 2807.12(e) to fully indemnify the United States against any liability arising from the release of any hazardous material on or near the ROW in connection with the Holder's use and occupancy of the ROW, whether or not the release is authorized under the grant. This agreement applies without regard to whether a release is caused by the Holder, its agent, or unrelated third parties."		
39. *All electric facilities, equipment, and their installation shall conform to the current National Electrical Safety Code and applicable laws and all regulations. **D**	The proposed hardware and conductor will limit the audible noise, RI, and TVI, due to corona. Tension will be maintained on all insulator assemblies to assure positive contact between insulators, thereby avoiding sparking. Caution will be exercised during construction to avoid scratching or nicking the conductor surface, which may provide points for corona to occur.	3.17-18 3.17-16
40. The Holder shall maintain all vehicles associated with the ROW in a good and workmanlike manner. All vehicles and motorized construction equipment shall be equipped with a muffler or other noise reduction device approved for use with such equipment which shall be maintained in good working order at all times. All equipment regulated for noise output by the Oregon DEQ shall comply with applicable regulations relating to noise.	All equipment would be maintained in good working order. All mobile or fixed noise-producing equipment used on the Project that is regulated for noise output by a local, state, or federal agency, would comply with such regulations while in the course of Project activity.	3.17-18 3.17-16 3.17-14
41. The use of noise-producing signals, including horns, whistles, electronic alarms, sirens, and bells used on the ROW shall 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 shall be permitted for use on the ROW.	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.	3.17-18 3.17-16 3.17-14

42. The Holder shall implement a noise and nuisance complaint process and hotline number for the communities in proximity to the ROW. The Holder shall be responsible for receiving and resolving any noise or nuisance complaint related to the ROW.	The Contractor would implement a noise complaint process and hotline number for the surrounding community. Echanis LLC would have the responsibility and authority to receive and resolve noise complaints.	3.17-18 3.17-16 3.17-14
43. The Holder shall coordinate and consolidate as much as practicable, construction and major operations activities on the ROW to minimize the amount of noise, dust and other impacts associated with those activities.	Coordinate construction vehicle travel to reduce the number of passes by sensitive receivers. Schedule noisy activities to occur at the same time since additional sources of noise generally do not add a significant amount of noise.	3.17-18 3.17-16 3.17-14
44. Within 120 calendar days of completion of construction, the Holder will submit to the Authorized Officer “as-built” drawings and a certification of construction verifying the facility has been constructed in accordance with the design, plans, specifications, and applicable laws and regulations.		General ROW Administration

45. *The Holder shall protect all survey markers found within the ROW. Survey markers include, but are not limited to, Public Land Survey System line and corner markers, other property boundary line and corner markers, and horizontal and vertical geodetic monuments. In the event of obliteration or disturbance of any of the above, the Holder shall immediately report the incident, in writing, to the Authorized Officer and the respective installing authority if known. Where any of the above survey markers are obliterated or disturbed during operations, the Authorized Officer will determine how the marker is to be restored. The Holder will be instructed to secure the services of a registered land surveyor or informed that an official survey will be executed by the BLM. All surveying activities will be in conformance with the Manual of Surveying Instructions and appropriate State laws and regulations. Surveys by registered land surveyors will be examined by the Authorized Officer and the BLM State Office Chief Cadastral Surveyor for conformance with the Manual of Surveying Instructions and State laws and regulations before being filed in the appropriate State or county offices of record. The Holder shall be responsible for all administrative and survey costs.	Regulations	

* Indicates all or portion of stipulation is a BLM guide stipulation.


North Steens Transmission Line Project
Overview Map 1 - Transmission Line Right-Of-Way
OR-65891, Exhibit C-1
Crane
Malheur Lake
New Princeton
Sodhouse Ln
Princeton Spur Rd
Lava Bed Rd
Crane-Venator Ln
Virginia Valley Rd
Anderson Valley Rd
Happy Valley Rd
N Diamond Ln
S Diamond Ln
Diamond
Jack Mtn Rd
Moon Hill Rd
205
Frenchglen
Steens Mountain Rd
East Steens Rd
Transmission Line and BLM Authorized ROW
Transmission Line
BLM Authorized Temporatry Tensioning Sites
Substation
Major Power Lines
Echanis Wind Energy Project Boundary
Cooperative Management and Protection Area
BLM Wilderness Study Area
Steens Mtn Wilderness
Bureau of Land Management
U.S. Fish and Wildlife Service
State
Private
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District, Oregon
projects\NoSteensTransmissionLine\DecisionRecord
\TransmissionLine.mxd November 18, 2011 By Skip Renchler
Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification. Ownership boundaries are accurate to within plus or minus 200 feet. Make local inquiry of road conditions in remote areas. Some roads are impassable following severe weather. Roads shown may not show all existing roads. Always seek private landowner permission before using or crossing their lands.
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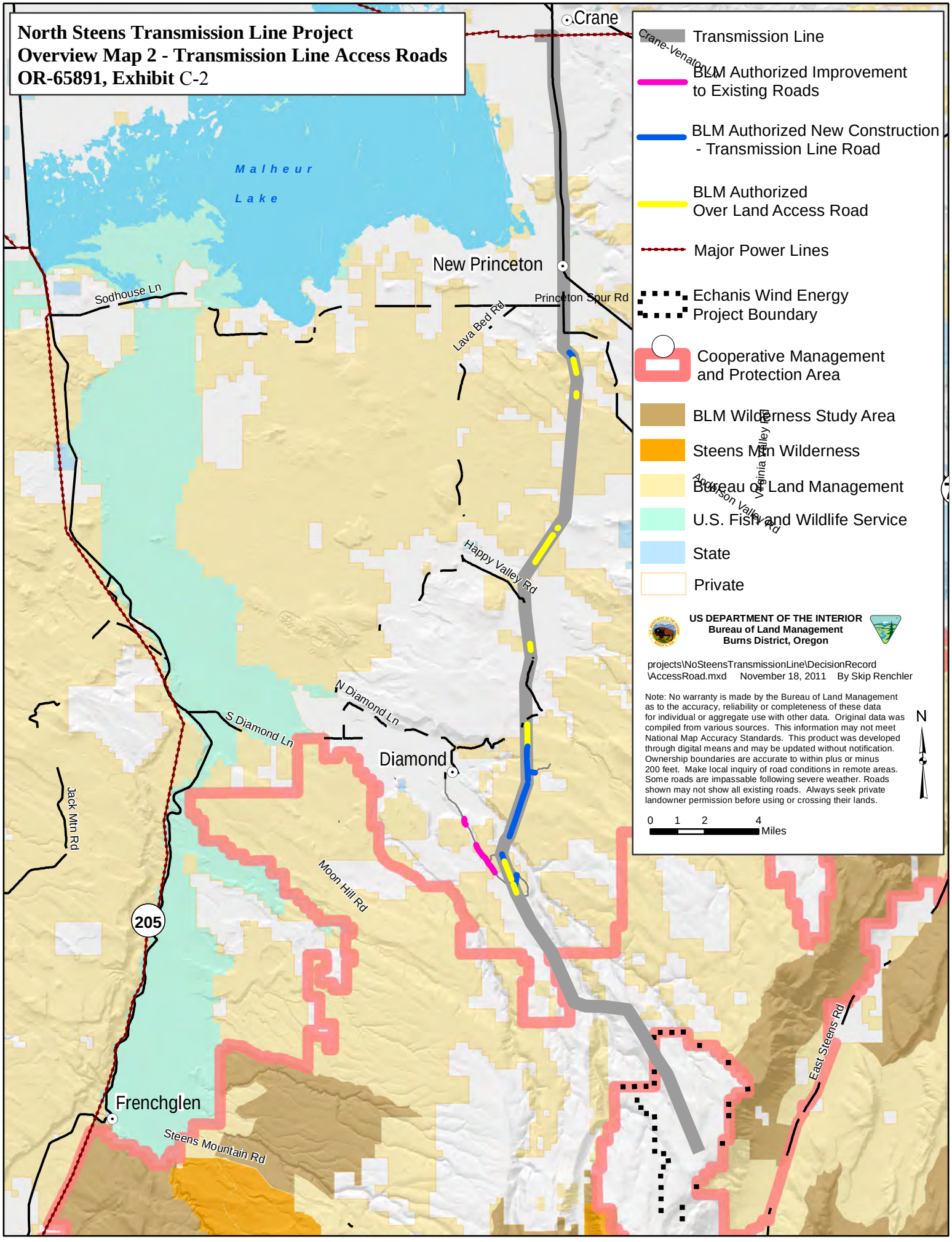
Miles


North Steens Transmission Line Project
Overview Map 2 - Transmission Line Access Roads
OR-65891, Exhibit C-2
Crane
Crane-Venator Rd
Malheur Lake
New Princeton
Princeton Spur Rd
Sodhouse Ln
Lava Bed Rd
Virginia Valley Rd
Anderson Valley Rd
Happy Valley Rd
N Diamond Ln
S Diamond Ln
Diamond
Jack Mtn Rd
Moon Hill Rd
205
Frenchglen
Steens Mountain Rd
East Steens Rd
Transmission Line
BLM Authorized Improvement to Existing Roads
BLM Authorized New Construction - Transmission Line Road
BLM Authorized Over Land Access Road
Major Power Lines
Echanis Wind Energy Project Boundary
Cooperative Management and Protection Area
BLM Wilderness Study Area
Steens Mtn Wilderness
Bureau of Land Management
U.S. Fish and Wildlife Service
State
Private
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District, Oregon
projects\NoSteensTransmissionLine\DecisionRecord\AccessRoad.mxd November 18, 2011 By Skip Renchler
Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification. Ownership boundaries are accurate to within plus or minus 200 feet. Make local inquiry of road conditions in remote areas. Some roads are impassable following severe weather. Roads shown may not show all existing roads. Always seek private landowner permission before using or crossing their lands.
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Attachment D

Principles and Standards for Development of a Habitat Mitigation Plan
For
RECORD OF DECISION
North Steens 230kV Transmission Line Project
Case File Number: OR-65891

I. Introduction

This document describes the criteria that will be utilized in the development of a habitat mitigation plan (Plan) for the Echanis Wind Power Project, including access roads and the transmission line connecting the wind energy project to the regional transmission grid (collectively, the Project). The goal of this document is to create common understanding and expectations among Echanis, Harney County, ODFW, BLM and FWS about the standards, methods, time-frames and other considerations that will inform determinations about the adequacy of the Plan. The Plan will describe the actions that will be taken by Echanis, LLC (Echanis) to mitigate for the impacts of the Project on wildlife habitat, with particular emphasis on the habitat of the Greater sage-grouse. The Plan will address requirements of the CUP issued by Harney County for the Project and support consistency of the Project with the Oregon ODFW SGCS and the associated document entitled "*Implementing Habitat Mitigation for Greater Sage-grouse under the Core Area Approach"* or SGMF. The SGCS and SGMF were developed by ODFW and endorsed by the FWS and is supported by the BLM to support the conservation of sage-grouse and potentially minimize the need to list that species under the Endangered Species Act, while at the same time facilitating the development of environmentally sound energy projects. ODFW and FWS have stated that projects that are not implemented consistent with the SGCS and SGMF will not support these goals. The Plan will also describe steps to be implemented more broadly across the Project to generally improve habitat and conditions for wildlife overall. Since the Project and its impacts occur on both private and Federal lands, a variety of governmental and non-governmental entities are expected to have guidance, regulatory and/or oversight roles in the development and implementation of the Plan. The Plan shall be fully enforceable by virtue of its various components being required by the ROD and Harney County's CUP. Both will be necessary for construction and operation of the Project.

This common awareness is necessary because elements of the Plan will not be fully developed by the date established by BLM for finalization of its ROD for Echanis' application for a ROW grant from BLM. Instead, elements of the Plan will be developed incrementally following issuance of the ROD. This document and its provisions and the resulting Plan will be incorporated into the ROD, ROD stipulations and ROW grant conditions and into the CUP, and become requirements for compliance with those regulatory products.

This document will address the above goals and issues by describing the principles, standards, criteria, time-frames, and other considerations that: a.) generally apply to mitigation proposals for wind, transmission, and other energy and development projects in sage brush habitat in Oregon; b.) will be used to determine the types, amounts, and locations of Project impacts and

associated mitigation obligations; c.) will be used to select the habitat restoration, enhancement, protection and other management actions necessary to satisfy the Project's mitigation obligations; and d.) will be used to develop monitoring measures to evaluate the success of Project mitigation actions and broader wildlife/habitat enhancement efforts. The document will further summarize the regulatory and adaptive responses that will be taken if the Plan is not developed and implemented in accordance with applicable standards.

II. General Principles and Standards

A. The SGMF will serve as the standard and framework for quantifying the Project's impacts and mitigation obligations in the Plan.

B. Actions on public lands should not serve as the primary/dominant means of mitigating for impacts. In particular, impacts on private lands will be mitigated through action on private lands to the greatest extent practicable. However, mitigation on public lands may be necessary or advisable when: a.) appropriate mitigation opportunities on private lands are not available; b.) land management policies require that impacts incurred on public lands are also mitigated on public lands.

C. Actions proposed as mitigation will result in an improvement to the baseline condition of the lands on which those actions occur, commensurate with the amount and types of impacts. If the Plan includes actions on public lands as mitigation, those actions will enhance the biological values of the public lands beyond those already provided by the existing public land management program. In most cases, the baseline which must be enhanced on public lands will include conditions that would be attained via elements of the public lands management program that are planned or required but not yet implemented. However, there may be situations in which actual attainment of those conditions via the public programs is unlikely because of funding constraints or other obstacles. In these situations and if the proposed actions and resulting biological conditions are considered to be a high-priority for the conservation of the species, then substantially expediting and expanding those actions on public lands may be an acceptable form of mitigation.

D. Absent data and analysis to the contrary, the Plan will be based on the assumption that most Project impacts are long-term or permanent in nature. The benefits derived from mitigation actions proposed in the Plan will therefore also be long-term or permanent in nature.

E. Because most Project impacts will occur in the early stages of a project (i.e. construction and initial operations) the benefits of mitigation actions proposed in the Plan will also begin to accrue as early in the life of the project as possible; implementation of mitigation actions in the Plan will be "front-loaded" to facilitate this.

F. The Plan will include regulatory, legal, and funding mechanisms that assure that target biological conditions will be attained and maintained as necessary. Accordingly:

1. Mitigation actions proposed in the Plan on BLM or other Federal or public land will occur within land-use designations/classifications that will not allow for other management or uses that would degrade, delay, or otherwise undermine establishment and long-term maintenance of desired sage-grouse conservation attributes.

2. On nonfederal land, assurances of appropriate management will be provided through conservation easements or acquisition, utilization of qualified land management and protection entities, as well as other applicable Federal and County regulatory mechanisms.

3. The amount of financing necessary to deliver the mitigation will identified in the Plan and determined by an appropriate cost-analysis such as a Property Analysis Record (PAR); financial caps or ceilings that have not been demonstrated by appropriate cost-analysis to be adequate will not be included in the Plan. The source(s) of financing adequate for the interim and perpetual/long-term operation, management, monitoring, and documentation associated with the mitigation will be identified in the Plan and demonstrated to be secured through establishment of an endowment.

G. Mitigation shall occur in the form of actions implemented directly by Echanis solely for the purposes of the Plan, or, at Echanis' option, either actions undertaken by other parties that address the purposes and requirements of the Plan but that are funded and enabled by Echanis; and/or purchase by Echanis of credits in mitigation banks established by public or private entities, and that meet the purposes and requirements of the Plan.

III. Impact Assessment and Calculation of the Amount of Mitigation

The amount of impact and associated mitigation will be determined as described in the SGMF. The resulting calculations identify an amount of land that is impacted by a project. The same amount of land is assumed necessary to mitigate for that impact.

The total impact/mitigation acreage is included the ROD. It will be summarized as shown in Tables 1-6, below.

Table 1: *Summary of Estimated Mitigation Acreage Requirements*

Category	Acreage
Noise (Private Land)	3,735.6
Noise (Public Land)	178.3
Road (Private Land)	1,797.8
Road (Public Land)	316.9
Transmission (Private Land)	2,939.6
Transmission (Public Land)	1,917.4
Total:	**10,885.6**

Table 2: *Calculation of Estimated Mitigation Area for Noise Impacts*

dB Contour	Acreage	Disturbance Factor	Mitigation Ratio	Mitigation Acreage
55+	830	1.0	2:1	1660
50-54.9	1001	0.7	2:1	1401.5
45-49.99	1634.7	0.4	1:1	653.9
40-44.9	1986.3	0.1	1:1	198.6
			Total:	**1,313.9**

Table 3: *Calculation of Estimated Mitigation Area for Road Impacts to Private Land*

Area	Acreage	Mitigation Acreage
Project	1,716.4	1,716.4
Low Density	81.4	81.4
		1,797.8

Table 4: *Calculation of Estimated Mitigation Area for Road Impacts to Public Land*

Area	Acreage	Mitigation Acreage
Project	0.0	0.0
Low Density	316.9	316.9
		316.9

Table 5: *Calculation of Estimated Mitigation Area for Transmission Line Impacts on Private Land*

Distance Band (miles)	Acreage	Disturbance Factor	Mitigation Acreage
0 – 0.15	1291.2	1.0	1,291.2
0.15 – 0.3	1391.7	0.8	1,113.3
0.3 – 0.45	863.7	0.4	345.5
0.45 – 0.6	947.8	0.2	189.6
			2,939.6

Table 6: *Calculation of Estimated Mitigation Area for Transmission Line Impacts on Public Land*

Distance Band (miles)	Acreage	Disturbance Factor	Mitigation Acreage
0 – 0.15	825.8	1.0	825.8
0.15 – 0.3	814.2	0.8	651.4
0.3 – 0.45	784.1	0.4	313.6
0.45 – 0.6	632.9	0.2	126.6
			1,917.4

The final Project design and associated impact and mitigation assessment that will be addressed in the Plan shall be completed prior to issuance of a NTP to Echanis by BLM. The NTP will not be issued until the final amount of mitigation has been determined.

If the Project (including the turbines, roads, substation, and transmission line) is modified, then the impact and similar mitigation assessment will be repeated based on the final Project design. If the repeated assessment identifies additional or reduced impacts, the mitigation area will be adjusted accordingly on private land and addressed by Harney County's CUP consistent with the Sage Grouse MPS. Acres, identified above for public land will remain constant. Any re-analyses of impacts and mitigation as a result of final Project design will be determined adequate by Harney County. Harney County has committed to utilizing recommendations regarding reanalysis of impacts and mitigation from BLM, ODFW, FWS or by the Local Advisory Committee (LAC) or Local Implementation Team (LIT)

The acres of mitigation will be as describe above, or the adjusted amount, if necessary, from the final project design. The actual locations and percentages of public/private will be determined as identified in section IV of this document.

IV. Identification and Description of Mitigation Locations and Actions

The Plan will identify sites on which mitigation will occur and the management actions that will occur on these sites within six months of the issuance of the ROD. This identification of locations and associated actions will be developed enough to demonstrate that adequate options for mitigation are:
a.) available, b.) being subject to "enabling" actions by Echanis; and c.) are reasonably certain to occur within the time frames described in this document. While the final suite of mitigation is expected to be based almost wholly on these locations and actions, it may not necessarily include them in their entirety.

Consistency with the SGMF will require an evaluation of "ecological site data and current vegetation condition" on both the impact areas and proposed mitigation areas prior to final selection of sites and actions. This is necessary to ensure that mitigation results in enhancement actions that achieve net benefits commensurate with the type and amounts of impacts. The

Project may utilize data from the FEIS, available studies of suitable nature for proposed mitigation areas and methodology such as that recently developed through a Conservation Innovation grant from the Natural Resources Conservation Service for the purposes of these evaluations. This methodology will result in a calculation of the amounts and types of specific habitat attributes adversely affected within the overall impact area of the Project, and similarly of the extent to which these habitat attributes exist on proposed mitigation areas. Specific mitigation areas and management actions can then be selected to most effectively achieve enhancements commensurate with impacts. A schedule and process for this evaluation will be included in the Plan within six months of the issuance of the ROD.

A. Mitigation Areas

Final locations for mitigation will be based on the SGMF, SGCS, Harney County Policy, BLM policies and requirements, the general principles and standards identified in section II of this document, and the results of the ecological evaluation referenced above. Locations will be determined by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT.

The SGMF provides general guidance on what criteria should be used when identifying a potential mitigation area. Specifically, the SGMF states that when selecting a mitigation area, the following factors should be considered: a.) the sage-grouse population size of the impact area; b.) the habitat quality of the mitigation area; c.) and the potential to restore the mitigation area to high quality habitat though conservation actions. In addition, the SGMF states that "the [u]se of ecological site data and current vegetation condition is recommended to assist in targeting appropriate mitigation sites." ODFW has also stated that because the mitigation area is intended to mitigate for "landscape scale" impacts, it is appropriate to have a mitigation area be a contiguous parcel. The Mitigation Area shall not be located in an area impacted by the Project.

In selecting the Mitigation Area, criteria that will be considered will include but not be limited to:

1. Select a Mitigation Area and conservation actions in the Mitigation Area to meet the "net benefit" objective of the ODFW's Mitigation Policy with respect to sage-grouse habitats, mitigation sites should be prioritized and selected based on the following criteria (in order of preference):

    a. Core Areas that occur within a Conservation Opportunity Area (COA) or other landscapes with on-going sage-grouse conservation actions;

    b. Core Areas that occur outside of a COA;

    c. Low Density Areas that occur within a COA or other landscapes with ongoing sage-grouse conservation actions; and

    d. Low Density Areas that occur outside of a COA.

2. Ensure vegetation on the Mitigation Area is similar to or in better condition than vegetation on project-impacted area by comparing each site using ecological site descriptions;

3. Select a Mitigation Area and actions that will result in improved habitat conditions for the life of the Project effects (i.e. for the duration of the time that the turbines, roads, and transmission line exist and any additional time to recover the habitat to pre-disturbance habitat quality conditions including use by sage-grouse);

4. Select a Mitigation Area that can be geographically consolidated at a landscape level, that can be managed for sage-grouse over the long-term, and has a reasonable probability of attaining and maintaining the required conservation attributes in light of the management actions that will be implemented under the Plan in combination with the other biological, climatic, and management factors that influence the site.

5. Evaluate habitat related factors and select sites and actions based on these factors that may be limiting sage-grouse use in the area and population growth.

6. Consider mitigation action's new contribution to conservation in relation to existing values and time lag to conservation maturity of selected actions. This is evaluated as the length of time for a mitigation action to deliver conservation at a maturity level (or ecological state) similar to that was lost at the impact site.

7. Periodically monitor vegetation and sage-grouse responses to mitigation actions by monitoring use of treated sites, and adjust mitigation if warranted.

B. Management Actions

Management actions necessary for achieving no net loss, net benefit mitigation will be based on the SGMF, SGCS, Harney County Policy, BLM policies and requirements, the general principles and standards identified in section II of this document, and the results of the ecological evaluation referenced above. Actions will be determined by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT. Management actions that will be undertaken in the mitigation area(s) will be designed to a.) enhance the baseline condition of the habitat within the Mitigation Area commensurate with the types and amounts of adverse effects identified in the impact assessment and ecological evaluation and to attain the "net benefit" standard of the SGCS; b.) protect and maintain the habitat and other biological attributes required for mitigation within the Mitigation Area for the life of the Project or the Project's impacts, whichever is greater; and c.) enhance broader areas of the Project for Greater sage-grouse and other wildlife.

In selecting management actions, criteria that will be considered will include but not be limited to:

1. Habitat-related factors that may be limiting population growth of sage-grouse in the area;

2. Actions to improve habitat quality, such as:

    a. Juniper removal

    b. Reduce risk of wildfire (e.g. suppression efforts, fuel break placement, invasive species reduction)

    c. Prevent invasive weed establishment

    d. Eradicate existing invasive weeds

    e. General improvement of sagebrush habitat condition

    f. Fence marking or removal

    g. Control access that compromises habitat effectiveness;

    h. Reestablishment of Wyoming Big Brush in wildfire areas.

3. Maintaining the habitat and other attributes required for mitigation after the improvements have been attained and for the duration required to satisfy all mitigation requirements in light of the biological, climatic, management and social and economic factors that influence the site.

For the selection of both mitigation areas and actions, in situations in which all other factors are equal and result in satisfaction of the above and other applicable criteria, the relative economic and social benefits to the local community should be considered.

V. Implementation of Management and Monitoring Actions

Implementation of enhancement actions will be underway within one year of start of Project construction. 25 percent of total actions shall be underway within 2 years; another 50 percent shall be underway within 5 years and the remainder no more than 10 years after start of construction.

Implementation schedules will be consistent with achieving the outcomes described in the monitoring program (below).

The Plan will include monitoring both for compliance with the implementation and procedural requirements of the Plan and to determine whether targeted ecological outcomes are being achieved. Required ecological outcomes will be based on the results of the impact assessment and ecological evaluation, both referenced earlier in this document, and on the overall goal of the SGCS for achieving a “net benefit.”

Scientifically-accepted methods of monitoring vegetation and sage-grouse will be utilized. Specific performance targets for these ecological outcomes and a detailed regime for monitoring

and assessing their attainment will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT. These specifics will be included in the Plan within six months of the issuance of the ROD.

The amount of time required to attain the habitat and other attributes required for mitigation; actions should be selected so that approximately 25 percent, 75 percent, and 100 percent of the (Project total) ecological attributes required for mitigation will be fully attained no later than 7, 10, and 15 years, respectively, after commencement of construction of the Project. Broadly, the monitoring regime should be designed to determine whether habitat enhancement and other attributes (including sage-grouse population responses), will be fully attained within this time period. If within two years prior to each these thresholds Echanis cannot demonstrate that the mitigation program is trending toward meeting them, or if at the time of each threshold date Echanis cannot demonstrate they have been attained, the BLM or Harney County may require supplemental or corrective measures, which may include increasing the size of the Mitigation Area. The monitoring should also be designed to gain data that will help more accurately identify impacts to sage-grouse and sage-grouse habitat that can result from projects of this type. It is recognized that circumstances beyond the control of Echanis could occur; such as drought, wildfire, and other unforeseen events.

Echanis shall provide funding to Harney County and the BLM adequate for the monitoring program contained in the Plan to be conducted by qualified investigators.

Echanis shall report the investigator's findings and recommendations regarding the monitoring of the Mitigation Area to BLM and/or Harney County on an annual basis. Echanis shall describe all habitat mitigation actions carried out during the reporting year and all additional work performed based on recommendations of the qualified investigator. The report shall include an evaluation of mitigation success and a description of the methods used to perform the evaluation. The report may be included as part of an annual report. Echanis shall facilitate site visits to the Mitigation Area upon request by the LAC or LIT for the purposes of monitoring the progress and effectiveness of mitigation actions.

VI. Securing Mitigation Sites, Funding for Mitigation and Monitoring, and Associated Assurances

The Plan will include regulatory, legal, and funding mechanisms that assure that target biological conditions will be attained and maintained as necessary. Section II of this document describes these requirements in more detail.

The Plan will require a detailed funding plan specifying all of the funding necessary to conduct required management actions prior to issuance of the NTP.

VII. Amendment of the Plan

Specific provisions of the Plan may be amended from time to time except as constrained by other provisions of this document, the CUP and the BLM ROW grant. The most likely reasons for amendments to the Plan are: a.) new data about sage-grouse status, biological requirements, or

about management of sage-grouse habitat—either locally or more broadly across the range of the species; b.) currently unforeseen inconsistencies or conflicts between various provisions of this document; and c.) newly identified opportunities to enhance sage-grouse populations or habitats. At no time will Plan amendments undermine the underlying tenets and goals of the SGCS; consistency with the "net benefit" standard of the SGCS should always be achieved with respect to the Project. The judgment of appropriate experts, collaborative discussion among relevant stakeholders and agencies, and best-available data should all be used to inform decisions about the necessity and implications of deviations from these principles and criteria.

Final determinations about proposed amendments will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT.

VIII. Enforcement and Regulation

The BLM and Harney County will adopt the HMP and its applicable components into the respective permitting authorities. The BLM will adopt the HMP and its provisions as part of the ROD and terms/stipulations as part of the potential ROW grant. Harney County will adopt the HMP and its provisions as part of the CUP.

In addition, Harney County and the BLM will both use their regulatory authorities so that: a.) consistency with all provisions of this document, regardless of which entity may have formal jurisdiction for a specific element, is required for compliance; and, b.) non-compliance is resolved or remedied in an adequate and timely fashion. Both entities possess authorities to revoke or suspend permits or require cessation of projects if compliance remedies are not achieved.

Finally this document requires that various actions and Plan elements are completed before BLM will be able to issue its ROW grant or associated NTP.

The Table below summarizes the relationship between critical elements of this document and various regulatory processes and products.

Plan Element or Action	**Regulatory Product(s)**	**Compliance Requirement and Mechanism**
Final Impact Assessment – Section III	NTP and CUP	*The final Project design and associated impact and mitigation assessment that will be addressed in the Plan shall be completed prior to issuance of a NTP.*
Ecological Evaluation, schedule and process – Section IV	ROW stipulations/conditions and CUP	*A schedule and process for this evaluation will be included in the Plan within six months of the issuance of the ROD.*
Identification of Mitigation Sites and Management	ROW stipulations/conditions and CUP	*The Plan will identify sites on which mitigation will occur*

Actions – Section IV		*and the management actions that will occur on these sites within six months of the issuance of the ROD.*
Development of Monitoring Program – Section V	ROW stipulations/conditions and CUP	*Specific performance targets for these ecological outcomes and a detailed regime for monitoring and assessing their attainment will be developed by BLM, and Harney County, with recommendations provided by ODFW, FWS or by the LAC or LIT. These specifics will be included in the Plan within six months of the issuance of the ROD.*
Implementation of enhancement actions - Section V.	ROW stipulations/conditions and CUP	Actions w*ill be underway within one year of start of Project construction. 25 percent of total actions shall be underway within 2 years; another 50 percent shall be underway within 5 years and the remainder no more than 10 years after start of construction.*
Required ecological attributes attained – Section V.	ROW stipulations/conditions and CUP	*The amount of time required to attain the habitat and other attributes required for mitigation; actions should be selected so that approximately 25 percent, 75 percent, and 100 percent of the (Project total) ecological attributes required for mitigation will be fully attained no later than 7, 10, and 15-yrs, respectively, after commencement of construction of the Project.*
Protection/acquisition of mitigation area and secured funding for all management actions– Section VI	ROW stipulations/conditions and CUP	*The Plan will require a detailed funding plan specifying all of the funding necessary to conduct required management actions prior to issuance of the NTP*

EAGLE CONSERVATION PLAN AND - BIRD AND BAT CONSERVATION STRATEGIES FOR THE - ECHANIS WIND ENERGY FACILITY AND THE - NORTH TRANSMISSION ROUTE ALTERNATIVE -

December 2011

Prepared by

Echanis, LLC

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION -

1.1 Background

Echanis, LLC, a Delaware limited liability company ("Echanis"), is developing a 103.5 MW wind energy project on private property in Harney County, Oregon (the "Project"). The Project is located ten miles southeast of Diamond, Oregon on Mann Lake Ranch. As part of the Project, Echanis has applied for a grant of Right of Way ("ROW") for a single pole power line across federal land managed by the BLM and the Malheur National Wildlife Refuge. The environmental impacts associated with the Project are discussed in a Draft Environmental Impact Statement ("DEIS") issued by the Bureau of Land Management ("BLM") in June 2010; a final EIS was issued in October 2011, and a Record of Decision on the ROW application is pending.

Instruction Memorandum 2010-156 was issued by the BLM requiring an Avian and Bat Protection Plan acceptable to the United States Fish and Wildlife Service ("USFWS" or the "Service"), be concluded prior to issuance of the BLM's Record of Decision ("ROD") on the ROW. Accordingly, Echanis engaged the Service in a series of meetings aimed at developing an acceptable ABPP. As those meetings progressed, the Service issued Draft Eagle Conservation Plan Guidance, intended to assist developers and the Service in preparation of a Plans which would also include an Eagle Conservation Plan ("ECP"). Although those guidelines are still in Draft form, Echanis and the Service (with the participation of the Burns BLM staff and Oregon Department of Fish & Wildlife ("ODFW")) undertook a series of "workshops" planned to follow the Draft eagle Guidance, meeting more half a dozen times in 2011 and exchanging information via email and telephone conferences to draft and refine the following Plan, based on the Draft Eagle Conservation Plan Guidance.

In order to prevent and mitigate the impacts to avian species from the Project identified in the DEIS, Echanis has prepared this Eagle Conservation Plan and Bat and Bat Conservation Strategies Plan ("Plan"). This Plan discusses how Echanis plans to eliminate or mitigate avian and bat impacts, including impacts to Golden Eagles, from the Project prior to the construction of the Project, during construction of the Project, and during the operation of the Project.

1.2 Project Description

The Echanis Wind Energy Project was issued a conditional use permit in April 2007 that authorized Echanis to develop a 104 megawatt (MW) wind power project on a 10,500 acre privately owned tract near Princeton, Oregon. This Plan accounts for a project layout that encompasses 45 wind turbine generators (each, a "WTG"), each of which has a nameplate capacity of 2.3 megawatts ("MW"). The layout of the Project used in the site assessment described in Section 3 and the fatality prediction set forth in Section 4 is shown on Figure 1. Echanis has a 20-year power sales agreement with Southern California Edison for energy generated at the wind facility.

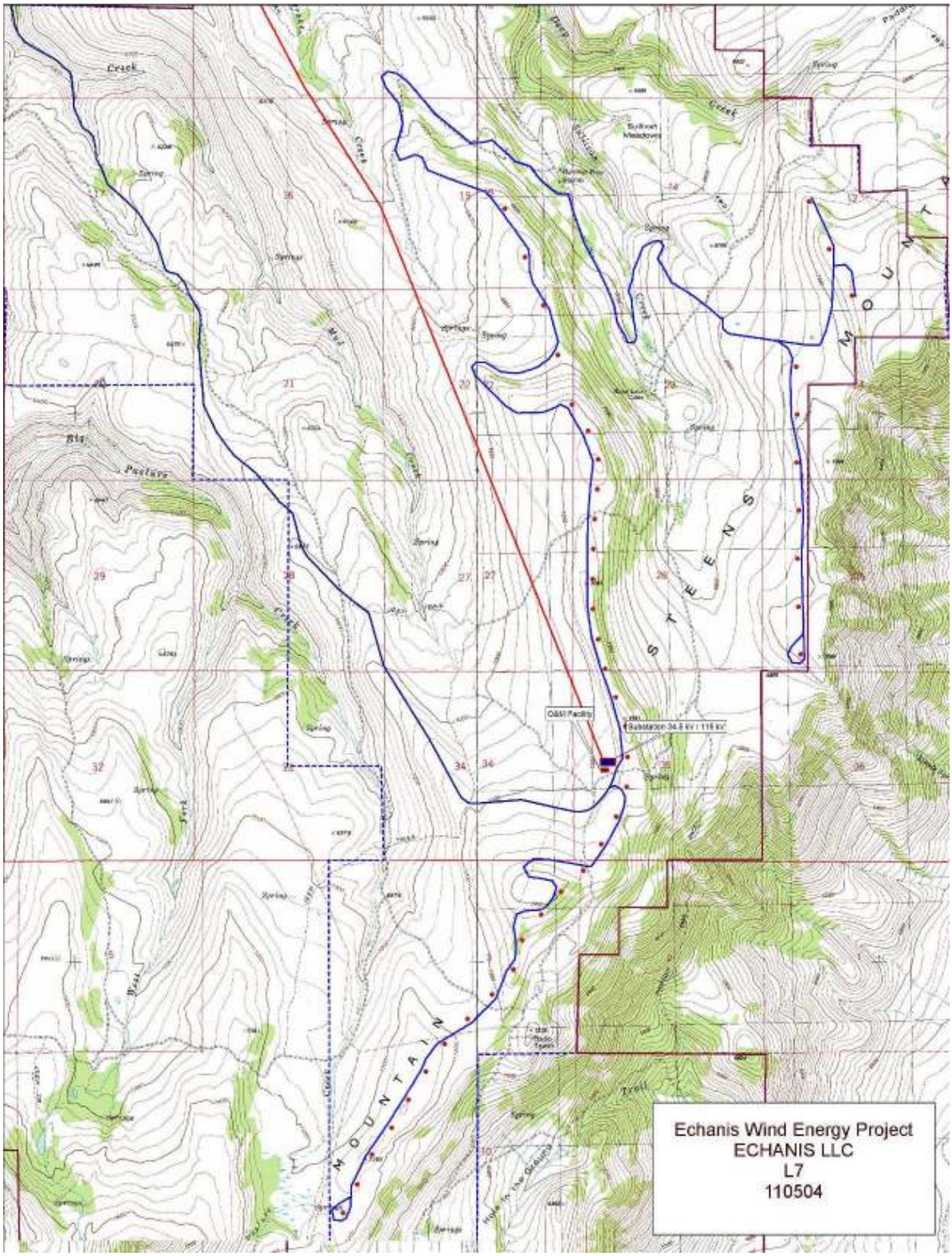


Figure 1: Initial Project Layout

This Plan uses the North Alternative identified in the EIS as the route of the proposed North Steens 230-kV Transmission Line, which would transport electrical power from the Project to an existing 115 kilovolt (kV) transmission line near Crane, Oregon, operated by HEC. The proposed transmission line route would cross approximately 19 miles of private land and 9 miles of land administered by the BLM (Burns District Office). The permanent ROW easement for the new transmission line would be 150 feet (total width). Initially, only one circuit of the double-circuit 230-kV line would be installed. The second circuit would be installed at a later date to transport power from other potential wind energy developments in the project area. The North Transmission Line Route is shown on Figure 2.

Construction of access roads along the transmission line corridor and to the Echanis Wind Energy Project will begin in spring 2012. Construction of the turbines and installation of the transmission line would occur in the spring, summer and fall of 2013. Construction of the Project will last approximately 9-12 months, depending on weather and site conditions.

1.3 Key Avian Laws, Regulations, and Authorizations

The Project is subject to a variety of federal, state, and local statutes, regulations, and plans as described in the EIS.

The Service is the principal Federal agency charged with protecting and enhancing populations and habitats of migratory bird species that spend all or part of their lives in the United States. The Migratory Bird Treaty Act, 16 U.S.C. §§ 703 *et seq*. ("MBTA"), prohibits the taking, killing, possession, transportation and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Department of Interior. Currently, the list of migratory birds includes 1007 species (50 CFR Part 10.13). The MBTA has no provision for allowing unauthorized take of migratory birds that may be killed or injured by otherwise lawful activities. It must be recognized, however, that some birds may be killed at renewable energy developments even if all reasonable measures to avoid it are implemented. Nevertheless, the USFWS encourages companies to work closely with Service biologists to identify available protective measures when developing project plans and/or avian (and bat) protection plans, and to implement those measures during construction and operation of facilities and equipment. This document represents that collaborative effort.

The Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668-668d ("BGEPA"), further protects eagles from "take", where take is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, disturb individuals, their nests and eggs. "Disturb" was defined in 2007 (72 FR 31132) as "to agitate or bother a Bald or Golden Eagle to a degree that causes…injury to an eagle, reduced productivity, or nest abandonment…"

In 2009, two new permit rules were created for eagles. Under 50 C.F.R. § 22.26, the Service can issue permits that authorize limited take of Bald and Golden eagles when the take is associated with, but not the purpose of an otherwise lawful activity, and cannot practicably be avoided, and is compatible with the goal of stable or increasing breeding populations of eagles. Further, as explained above, the regulation also authorizes ongoing or programmatic take, but requires that any authorized programmatic take is unavoidable after implementing advanced conservation practices. Under 50 C.F.R. § 22.27, the Service can issue permits that allow the intentional take of eagle nests where necessary to alleviate a safety emergency to people or eagles, to ensure public health and safety, where a nest prevents use of a human-engineered structure, and to protect an interest in a particular locality where the activity or mitigation for the activity will provide a net benefit to eagles. Only inactive nests are allowed to be taken except in cases of safety emergencies.

In addition, in January 2011, the Service issued Draft Eagle Conservation Plan Guidance and Draft Land-Based Wind Energy Guidelines. This Plan seeks to incorporate recommendations from such documents to the greatest extent practicable, with the understanding that such draft guidance documents were issued after the permitting and siting of the Project.

1.4 Policy and Commitment to Environmental Protection

Echanis's parent company, Columbia Energy Partners ("CEP"), is an independent company that develops renewable power projects. Echanis, through CEP, is dedicated to delivering the highest values for their partners and the communities where they work, while exhibiting a strong commitment to promoting environmental stewardship and corporate responsibility. Similarly, the landowners who have leased Echanis/CEP their properties for wind energy development are exemplary stewards of the natural and wildlife resources on their private lands, with long track records of cooperation with resource agencies and research institutions. The CEP team is committed to building environmentally responsible renewable energy projects that also benefit the local and regional communities and economies and continues to work closely with environmental agencies to develop appropriate mitigation measures to reduce impacts to wildlife.

Figure 2: North Transmission Line Route

2.0 EAGLE CONSERVATION PLAN

This section sets forth Echanis's plan to conserve Golden Eagles through the use of avoidance, minimization and mitigation measures per the Draft Eagle Conservation Plan Guidance issued by the Service in January 2011 (the "Guidance"). In summary, this section discusses (a) the five stages of site selection and development undertaken with respect to the Echanis Project; (b) Advanced Conservation Practices ("ACPs") to be employed before, during, and after the construction of the Project (including site design and curtailment measures); and (c) for any remaining, unavoidable take after all practicable avoidance and minimization measures were negotiated, compensatory mitigation for the non-purposeful taking of eagles.

2.1 Stage 1: Site Assessment

Echanis began evaluation of the site in fall 2006 based on review of publicly-available wind resource maps that showed the area had promise as a wind energy resource. (*See* Figure 3: AWS Truewind map of Wind Speed of Oregon at 70 meters.) Echanis signed a lease agreement with Mann Lake Ranch to explore development of the property in 2007. Initial site reconnaissance revealed wind-swept areas well exposed to prevailing west winds and – where present – significant "flagging" of vegetation, indicating a robust westerly wind resource. A meteorological tower erected in spring 2007 began providing information to confirm the preliminary assessment, prompting Echanis to continue preliminary development activities.

Prior to obtaining a Conditional Use Permit from the County in 2007 and subsequent to the receipt of such Permit, Echanis evaluated the broad geographic area surrounding the Project in order to assess the relative importance of various areas on the proposed project site to avian species and other important wildlife. Specifically, Echanis commissioned an initial Wildlife Reconnaissance Report from Northwest Wildlife Consultants, Inc. ("NWC"), a highly-regarded firm with decades of experience in the region that gathered existing information from publicly available databases and other available information. NWC also conducted an initial site survey. Echanis used those data to refine potential project sites, balancing suitability for development with potential risk to special status species. A copy of the Reconnaissance Report is included in Appendix I.

2.2 Stage 2: Site Specific Surveys and Assessments

In the summer of 2007, NWC conducted avian and wildlife surveys on the Project in accordance with NWC's industry practices, designating avian point count locations and survey protocols. These surveys identified the use of the Project site by avian species during the seasons of highest use, as well as the location on the Project site of special status animal and plant species (including Golden Eagles).

With respect to Golden Eagles, NWC determined exposure minutes, that is the period of time during which an eagle was within the 800-meter point-count location between an elevation of the turbine base up to 175 meters. NWC also tracked the flight paths of eagles observed at the site. The results of such surveys are set forth below.

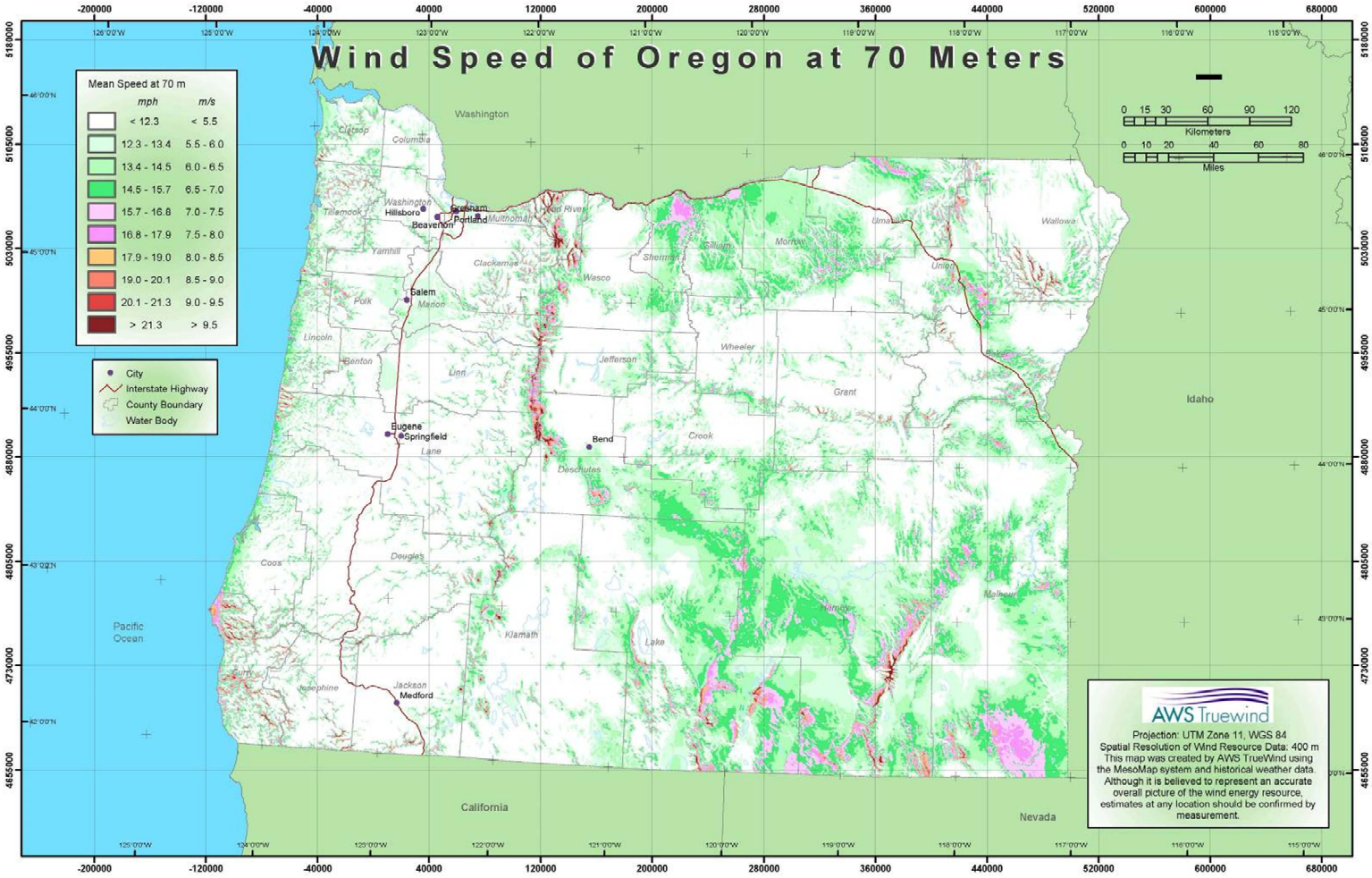


Figure 3: Oregon Wind map

2.2.1 *Surveys Conducted to Date*

Surveys conducted to date at the Project and associated proposed transmission line routes are shown in Table 1:

Table1: *Surveys Conducted at the Project and Transmission Line*

Aerial Raptor Nest Surveys	
Echanis WPP	Conducted June 8, 2007
T-line (West alt.)	Conducted May 27-29, 2009
T-line (North alt.)	Conducted June 8, 2010
Avian Use Surveys	
Echanis WPP	Aug 21-Nov 9, 2008
T-line (West alt.)	Sept 1, 2009-Aug 31, 2010
T-line (North alt.)	Sept 1, 2009-Aug 31, 2010
Special Status Wildlife Species Surveys	
Echanis WPP	Conducted July 25-28, 2008
T-line (West alt.)	Conducted June 5-10, 2009
T-line (North alt.)	Conducted June 8-18, 2010
Special Status Plant Species Surveys	
Echanis WPP	Conducted July 25-28, 2008
T-line (West alt.)	Conducted June 5-15, 2009
T-line (North alt.)	Conducted June 16-18, 2010
Small-Plot Avian Surveys	
T-line (West alt.)	May 14, May 25, June 10, 2010
Habitat Mapping	
Echanis WPP	Completed July 2008
T-line (West alt.)	Completed June 2009

A map showing the areas covered by these surveys is shown in Figure 4. All of these surveys are included in Appendix I.

These studies demonstrated that Golden Eagles use the east rim of the Project Area as a navigational guide when migrating, and the migration corridor is east of the Project Area (*see* Echanis Avian Use Study at 3). This conclusion is supported by the eagle flight paths recorded on the site (discussed in Section 2.2.3, *infra*), which show that migrating eagles fly below and to the east of the east rim, due to the presence of winds that assist in migration.

The data collected during the Avian Use Surveys at Echanis were used in a USFWS-developed model that estimates risk of eagle mortality at the site (Section 2.3).

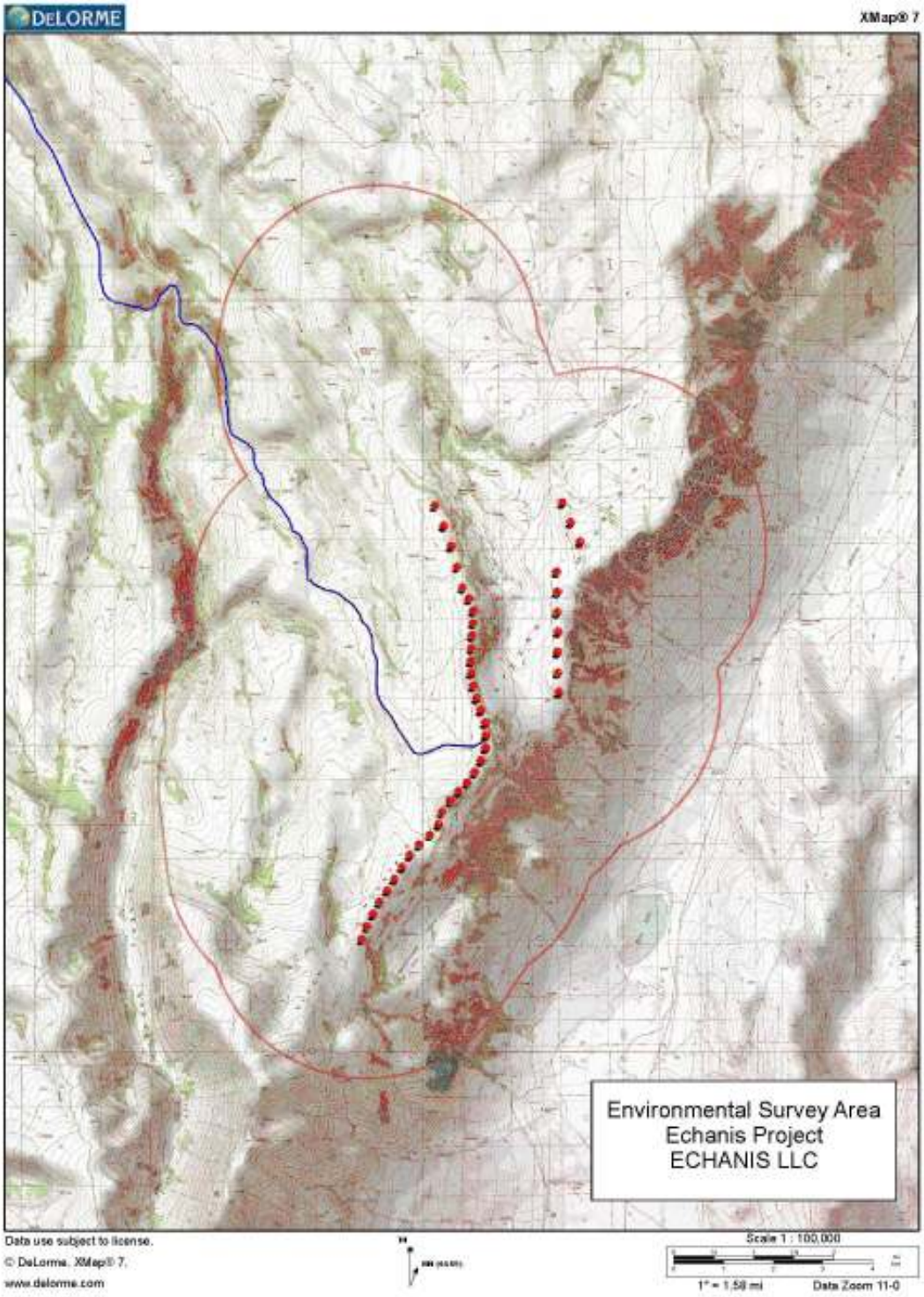


Figure 4: Environmental Study Areas

2.2.2 *Golden Eagle Flight Paths*

NWC tracked the flight paths for eagles observed over the site. Figure 5 shows all eagle flight paths observed on the Echanis site during 16 eagle exposure minutes out of 1,120 minutes (18.6 hours) of observations during the seasons of highest eagle use (summer and fall). These data confirm that the east rim is used by migrating Golden Eagles as a navigational feature.

2.2.3 *Eagle Use of the Project Site*

According to Rick Gerhardt of NWC, the avian use survey data discussed above and the eagle nest data (as set forth in Figure 8) indicate that Golden Eagles do not use the Project Area as a source of prey. Rather, the eagles that nest on the east rim feed on prey located on the spacious valley found east of the Project Area.

2.2.4 *Use of Site Assessment Data in Project Design*

Mirroring the process later set out in the Guidance, Echanis consulted with NWC on an iterative basis over the course of several years as information became available from both avian and wildlife studies and as Echanis developed a better understanding of the site's wind resource, topographical features and overall potential.

Beginning in 2007, when presented with the initial Wildlife Reconnaissance survey, Echanis determined there was a reasonably low probability of encountering threatened and endangered wildlife species on the site. In 2008, when Echanis shared very preliminary project designs with NWC, NWC urged Echanis to move turbines further to the west, away from the East Rim where NWC had observed raptors in migration (flying south, over the valley to the east of the Project site). Later guidance from the Service's Draft Eagle Conservation Plan Guidance suggests turbines be 50 meters or more from the edge of a major ridgeline: in fact, in accordance with NWC's recommendations, Echanis turbines are located more than 100 meters from the East Rim.

Also in 2007, NWC conducted a helicopter raptor nest survey, searching for active and inactive raptor nests within a (then widely accepted) two mile radius of the Project. No active raptor nests were found within that survey at the time, so Echanis continued with its development activities.

Since that time, a wide range of survey information from a number of sources has been accumulated and analyzed in conjunction with the Service, BLM and ODFW (*see, e.g.*, Figure 8: Golden Eagle Nesting Sites). This expanded survey and data base has yielded a more complete impression of Golden Eagle usage of the broader area, which shows no additional Golden Eagle nests in the two-mile radius around the project boundary, even from historical surveys conducted by a variety of agencies or groups over many years.

Echanis has sought to optimize production of the site, while at the same time, reducing the Project's footprint and potential impacts by increasing the efficiency of the turbines selected for

the Project. Original plans called for as many as 69 1.5 MW turbines. Current plans call for 45 turbines with a nameplate capacity of 2.3 MW each. While the 2.3 turbines are larger and have larger rotor diameters, they will require a smaller footprint and less infrastructure.

2.3 Stage 3: Predicting Eagle Fatalities

Pursuant to the Draft Guidance issued in January 2011, Echanis worked with the Service to model eagle risk at the site and conduct an initial fatality prediction for the Project. This risk assessment took into account the Draft Eagle Conservation Plan Guidance, the Service's models for assessing risk, an analysis of the risk factors set forth in the Draft Eagle Conservation Plan Guidance, as well as other concerns raised by the Service during meetings with Echanis. After a thorough discussion, it was determined that the Project is a low-risk site with respect to all avian and bat species, including eagles.

2.3.1 *Eagle Risk Modeling*

In its Guidance, the USFWS suggested use of an exposure-based model that uses site-specific estimates of eagle use of the project footprint for such assessments. The USFWS exposure-based model has not been tested, thus there is considerable uncertainty regarding its performance. The model relies on a logical assumption that there is a positive relationship between the number of minutes eagles are present in the air in a project footprint, the number of turbines present and the associated "dangerous" airspace, and the number of fatalities that will occur. This assumption, and others inherent in the model, will be tested using post-construction fatality data collected at the Echanis site and other permitted wind facilities. In the meantime, the USFWS is placing heavy emphasis on the measures of uncertainty in the fatality predictions in programmatic take permit decisions.

The following is a fatality prediction for Echanis using eagle use data generated by the bird surveys at the site.

2.3.1.1 *Methods*

The data generated by the avian surveys differed in several respects from that suggested in the Guidance, but the basic information (eagle detections per minute of observation) are compatible with the USFWS's fatality prediction model. The most notable departure from the suggested approach in the Guidance was that data at Echanis were collected between Aug 21 and Nov 9, 2008, leaving uncertain how much annual variation in eagle use might occur in the project footprint by season and across years. The other departure from the recommended protocol in the Guidance was that some point counts continued for 60 minutes rather than the standard 20 minutes. These 60 minute periods were counted as 3 separate point counts run together.

The model used to derive the fatality prediction was created by the Eagle Technical Assessment Team in July 2011. The ETAT continues to refine this model and subsequent versions might result in slightly different predictions of risk. Part of the analysis involves a characterization of the variance around the point mortality estimate, and involves a bootstrap resampling to obtain

variance estimates for key model parameters in R (R Development Core Team 2010). The USFWS model includes a term for estimating project-specific risk to eagles based on the presence of added risk factors around certain turbines. However, this aspect of the model has not been sufficiently developed. (Despite this, the site-specific factors that likely reduce risk at Echanis are detailed in Section 2.3.2, *Analysis of Site Characteristics at Echanis that Influence Eagle Risk*.) Thus in this model we assumed a constant 1% collision rate for Golden Eagles that fly within the potential strike area (a 100 meter radius) around each turbine. This assumes that 99% of the time, eagles flying within the "strike zone" of a turbine will not be struck (Whitfield 2009).

2.3.1.2 *Results*

The avian-use data for Echanis consisted of 1760 minutes of observations, during which Golden Eagles were within the 800-m point count circle for a total of 16 minutes (Table 2). We estimated the mean from the count data (mean = 0.0091 eagles per min.). The count data do not differ significantly from the Poisson distribution, where the mean equals the variance. Thus the eagle exposure minutes variance = 0.0091 eagles per minute.

Table 2. Sample minutes by season and number of Golden Eagle detections on 800-m avian use surveys August-October 2008 (Data are from Gerhardt et al. (2011)).

Point	# 20-min surveys	# Hour-long counts	Total min	GOEA exposure min
A	7	4.67	420	0
B	7	5	440	3
C	10	1	260	0
D	5	4	340	1
E	6	3	300	12
Total			1760	16

We carried these mean and variance estimates forward in the model, using the 0.01 risk factor adjustment, to obtain a point estimates of the mean and standard deviation of the annual fatality estimate of 3.43 and 0.86, respectively (Table 3).

2.3.1.3 *Conclusion*

The fatality prediction for the Echanis Project using the USFWS exposure-based model is 3.4 eagles per year with a 95% upper confidence limit of 5.1 eagles per year (Table 3).

This prediction assumes that operational measures discussed in this ABPP/ECP will be ineffective at reducing eagle mortality. CEP finds this unlikely. The model also scales risk

relative to monitoring effort - the amount of overall minutes spent conducting point counts at Echanis - all of which fell within a single late summer and fall season. This is likely the season of greatest use by eagles at Echanis; this high elevation site is snow-covered for five or more months out of the year, and incidental observations suggest little to no use by eagles during this time (Rich Gerhardt, personal communication). Thus, using these data, the model will derive a very conservative estimate of annual risk. Regardless, post-construction monitoring will yield data that will be essential in evaluating the predicted mortality risk to eagles, as well as the tool that will inform on- and off-site minimization measures and mitigations.

Table 3. Inputs and calculated values used to obtain the point estimate of the eagle fatality prediction at Echanis using the exposure-based model in the Guidance. Shaded boxes are project-specific inputs (see Table 2), blue text are formulas, and the orange-shaded cells include the point estimates of annual fatalities and the 95% confidence interval.

ETAT Collision model	**Point estimate**	**Upper CI**	**Comments**
Number of turbines	46	46	
Project area (km^2)	12	12	
Number of points	5	5	Pre-construction count data
Number of counts/point	17.6	17.6	Pre-construction count data
Minutes/count	20	20	
Number of counts	88	88	(Number of points)*(number of counts/pt)
Number of eagle minutes	16.00000	24.00000	Point estimate from count data; upper CI = mean+2SD
Project in danger zone	0.12043	0.12043	(Number of turbines*0.1^2*PI)/(project area)
Point count area (km^2)	2.01062	2.01062	Fixed-radius around each point (radius = 800 m)
Exposure minutes for project area	0.01085	0.01628	(Project Area/Sample Area)*(Eagle min. as a proportion of observation time)
Exposure minutes/year for project area	2851.76721	4277.65081	(Exposure min. for project area)*(total daylight min.)
Baseline collision risk	0.01000	0.01000	Assumes avoidance rate = 0.99
Predicted collisions/yr	**3.43432**	**5.15148**	(Project in danger zone)*(collision risk)*(Expos. min./yr)
Count data	**Point estimate**	**Upper CI**	
Total	16.00000	24.00000	Upper CI Total = (mean)*(no. of counts)*(min./count) + 2SD
Mean	0.00909		Eagle min/no. of counts/min. per count
Variance	0.00909	16.00000	Assume Poisson distrib where var=mean
SD	0.09535	4.00000	SD=(VAR)^0.5
2*SD	0.19069	8.00000	Assuming normality, approx 95% are within 2 SD.

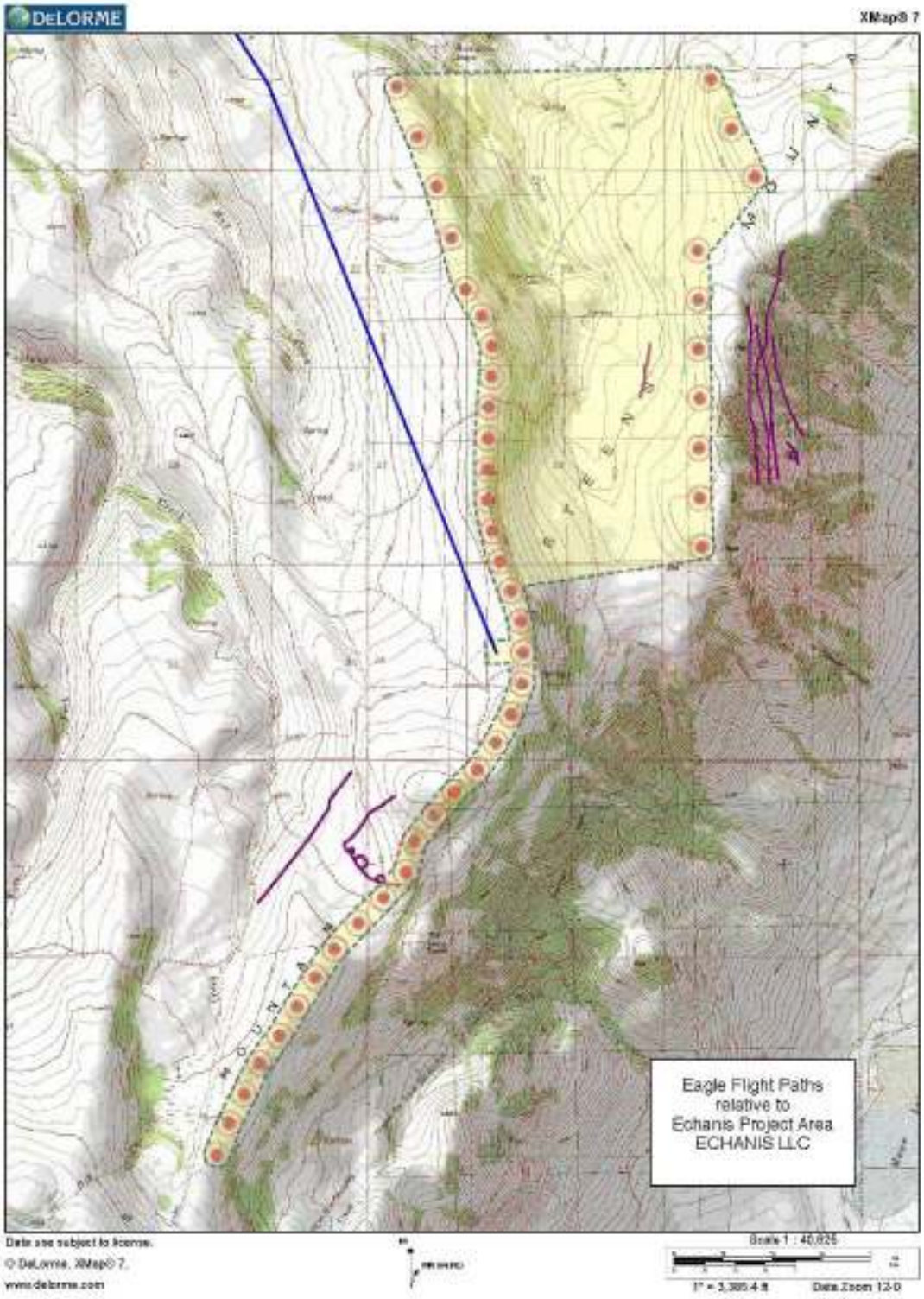


Figure 5: Eagle Flight Paths

2.3.2 *Analysis of Site Characteristics at Echanis that Influence Eagle Risk*

As part of the overall risk modeling effort, NWC's Rick Gerhardt also applied his knowledge of the site and survey results to assess "Danger Zone Factors," per Draft Eagle Conservation Guidance. He summarized the conclusions of the of the USFWS, ODFW, BLM and Echanis working group's preliminary analysis of "Danger Zone Factors" using the format found in the Guidance (shown in **bold typeface**).

1. Topographic features conducive to slope soaring
   - **a. On or bordering the top of a slope oriented perpendicular to the prevailing wind direction**. The entire land mass upon which the Echanis Project (like the East and West Ridge Projects) is proposed is a gently-sloped fault block that rises from northwest to southeast. Though turbine orientation will be perpendicular to the prevailing wind direction (which is westerly), the slopes to the west of all turbines are gradual, and do not create consistent updrafts that would attract or concentrate eagles.
   - **b. Near (within 50 meters) of a ridge-crest or cliff edge.** Though some turbines were originally sited near the eastern rim, all were moved back from that cliff edge due to wildlife concerns.
2. Topographic features that create potential flight corridors
   - **a. In a saddle or low point on a ridge line** Two saddles exist within the Echanis Project, but no turbines are sited in proximity to these.
   - **b. Near a riparian corridor, at a forest or wetland edge, or near shorelines of large water bodies that eagles are reluctant to traverse.** This feature does not apply to the Project area.
3. Proximate to potential foraging sites
   - **a. - Near perennial or ephemeral water sources that support a robust fishery or harbor concentrations of waterfowl.** These features are not found on the Project area.
   - **b. - Near a prairie dog (*Cynomys* spp.) colony or area of high ground squirrel density.** Colonies of Belding's ground-squirrel (*Urocitellus beldingi*) exist at lower elevations to the west of Echanis. Echanis is apparently at too great an elevation for any concentrations of this, the only colonial rodent species in the region.
   - **c. - Near cover likely to support rabbits or hares.** Jackrabbits are abundant in the lower elevations to the east and north of the Echanis Project, and likely represent the dominant prey of Golden Eagles in the area. The Project area itself, however, does not provide cover for rabbits or hares.
   - **d. - Near concentrations of livestock where carcasses and neonatal stock occur.** Cattle are not moved to the Project area until summer, well after calving is complete.
   - **e. - Near sources of carrion.** No.
   - **f. - Near game dumps or landfills.** No.

4. - **Near likely perch structures or roost sites.** Naturally-occurring perches are not found in proximity to proposed turbines.

5. - **In an area where eagles may frequently engage in territorial interactions**
a. At about one-half of the mean project-area inter-nest distance (based on Stage 2 surveys) from an eagle nest site. Golden eagle territories, far from saturating the Project area, are few and far between. The only meaningful inter-nest distance would be derived from the two nearest nests, and one-half that distance would be approximately two miles. Although a few turbines are sited within two miles of the nearest nest, they are in a different direction than the next-nearest nest and thus away from the areas where territorial interactions are expected to occur.

6. **Other risk factors not identified above.** No additional factors were identified.

Those factors that contribute to increased risk of mortality largely seem not to apply at Echanis. It is likely that most eagles seen from the point count stations were not using the site in a way that would lead to increased risk of collision. In particular, interactions between nearby nesting pairs are unlikely at this site, and the low prey densities are unlikely to attract eagles.

2.3.3 *Discussion of additional concerns raised in Workshops with USFWS*

In the course of Workshop meetings with the Service, ODFW and BLM, several concerns were raised and discussed in detail. Echanis provided substantial information to the Workshop group as the conversations progressed. Several of those topics are addressed below:

The Service expressed concerns about ability of birds to pass through a 'picket fence' of turbines, arrayed perpendicular to the prevailing west winds. Echanis provided the Service with detailed calculations and illustrations demonstrating anticipated "rotor swept area" calculations and the resultant conditions across the site. (*See* Figure 6.) The conclusion from the Workshop was that the current Project design provides significant open space for eagle navigation during those occasional events when an eagle is moving through the Project.

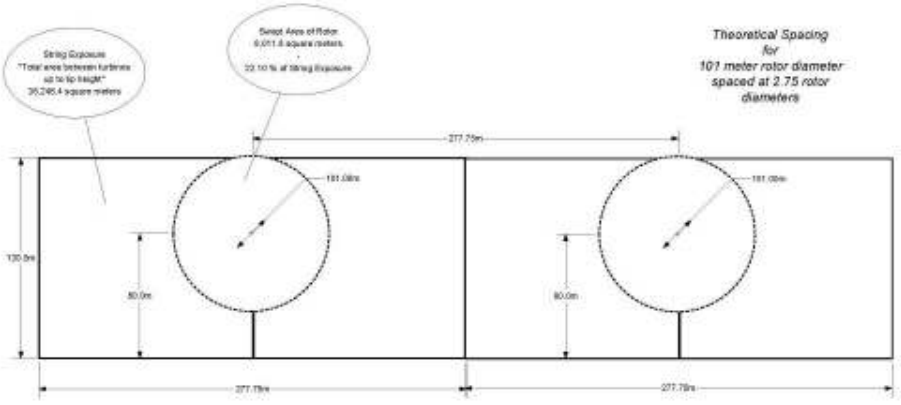


Figure 6: Calculation of Rotor Swept Area

- The Service also expressed concerns about proximity to treed areas, in particular, groves of aspen in lower elevation areas near the site. Echanis provided maps delineating buffer areas of 100 meters or more on nearly every turbine location (see Figure 7.) Based on these workshop discussions and other review of eagle prey resources, there was general consensus that the forested habitats added little to no additional significant eagle risk factors to the project siting.

- Finally, the Service expressed concerns about seasonal (fall) east winds that might create soaring or 'kiting' conditions over the project area, prompting migrating raptors to possibly collide with turbines. Echanis provided the Service with three years of data from on site meteorological measuring equipment that measures vertical wind patterns (see Figure 8.) Those data indicate the types of conditions that might prompt such behavior occurs infrequently. Further discussion of the phenomenon led to the view that even in circumstances of east winds in fall and early winter months, during raptor migrations, there was nothing about the terrain where turbines will be located to suggest that eagles would be more likely to fly over the Project than over the valley to the east.

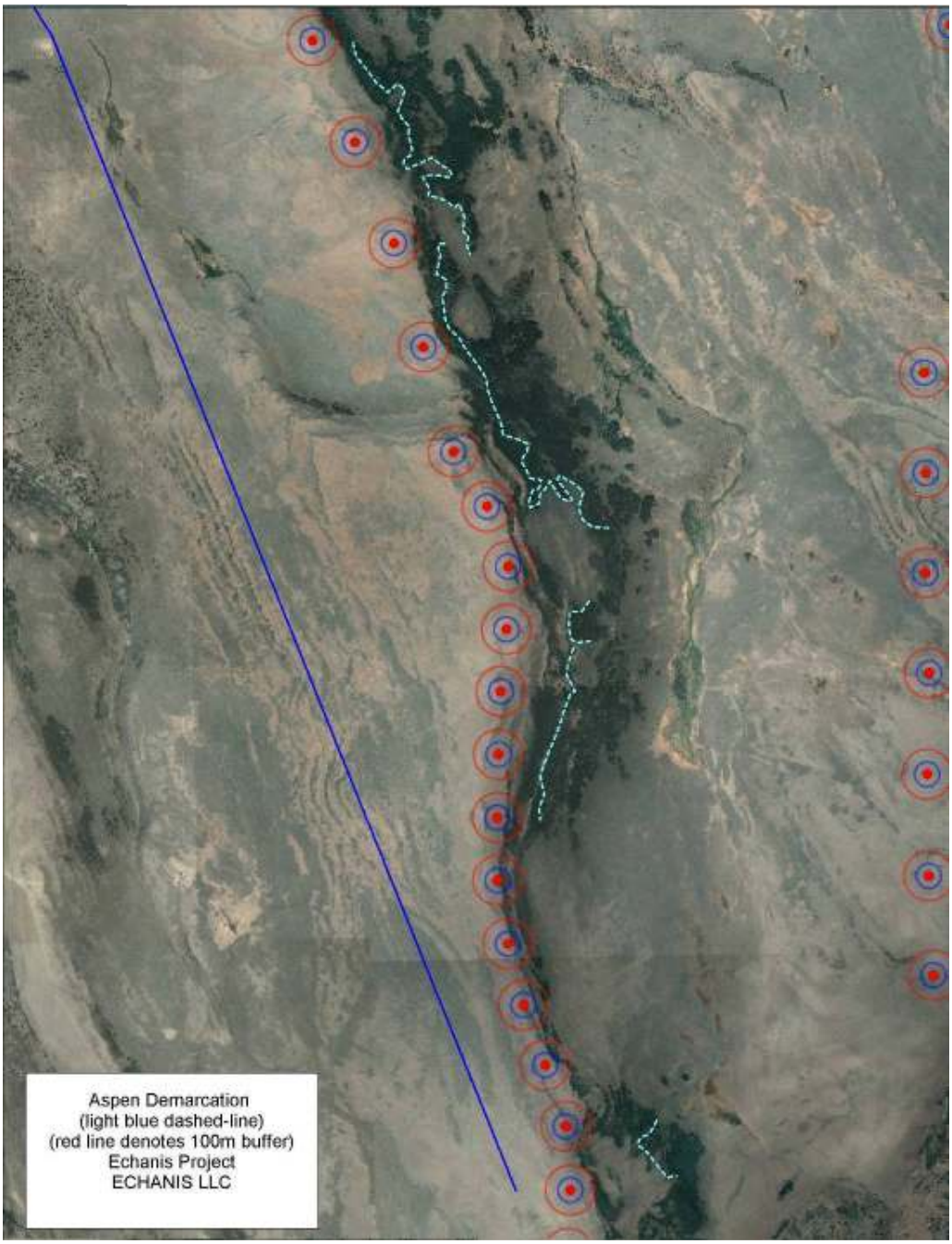


Figure 7: Aspen Delineation Border

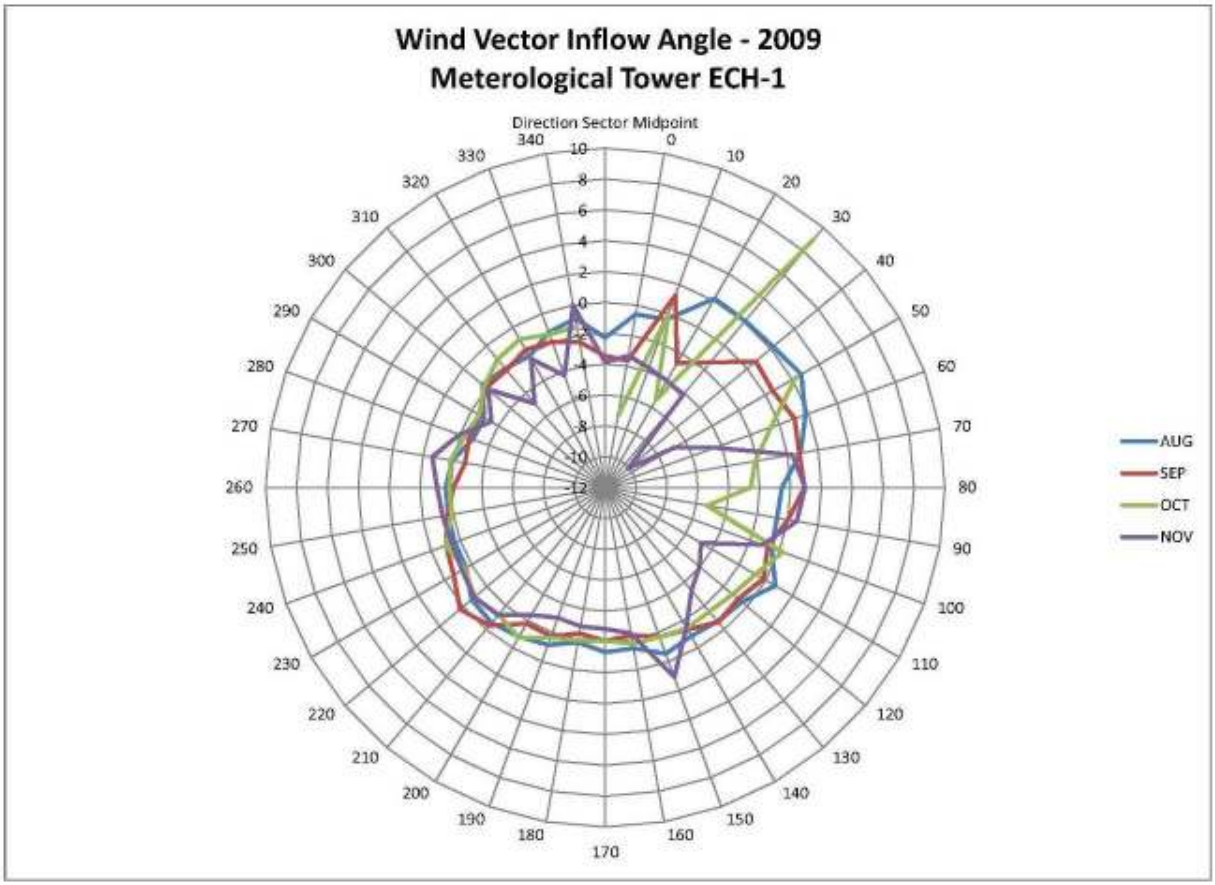


Figure 8: Wind Inflow Angle

2.4 Stage 4: Avoidance and Minimization of Risk using Advanced Conservation Practices and Compensatory Mitigation

The process for addressing potential impacts to Golden Eagles from implementation of the Project is divided into four sections: (a) Initial Advanced Conservation Practices ("ACPs") (*i.e.*, project design, power line/pole retrofits, research, habitat enhancement, etc.); (b) implementation of construction and operation ACPs; (c) Adaptive Management based on the results of the monitoring protocols established in Section 6; and (d) Compensatory Mitigation measures.

Initial ACPs have been developed to address impacts that are likely to occur to Golden Eagles as discussed in the EIS. Adaptive management has been designed to use monitoring data to evaluate whether impacts to Golden Eagles are nearing or exceeding the thresholds set forth herein, and if so, to implement measures to reduce such impacts to acceptable levels or consider some other type of minimization or mitigation.

2.4.1 *Pre-Construction Advanced Conservation Practices*

Echanis shall implement Advanced Conservation Practices ("ACPs") for Golden Eagles to be employed before and during the construction of the Project. The Service might recommend additional ACPs for Golden Eagles. ACPs shall include, at a minimum:

- Minimizing the area and intensity of disturbances during pre-construction activities, such as monitoring and site reconnaissance, by keeping at least ¾ mile away from all active nests;
- If activities need to take place within ¾-mile, then Echanis will undertake real-time monitoring of proximate occupied nest sites, and curtail activity if eagles exhibit signs of distress;
- Keep natural areas between the project footprint and the nest site or communal roost by avoiding disturbance to natural landscapes.
- Utilize existing transmission corridors and roads to the greatest extent possible;
- Avoiding, to the greatest extent possible, vegetation removal and construction during the eagle breeding season;
- Avoiding other activities that may disturb eagles;
- Avoiding siting turbines in areas where eagle prey are abundant and conduct practices that do not enhance prey availability at the Project site.
- Designing the Project layout to reduce eagle collision and electrocution by:
    - Set turbines back from ridge edges at least 100 m where soaring by eagles may occur (note that Echanis has implemented this ACP by relocating turbines off the ridge by 150 meters);
    - Spacing turbines widely to allow occasional eagles to safely navigate between turbines (*see* Figure 6);
    - Avoiding forested habitats that might concentrate eagle prey items (*see* Figure 7);
    - Avoiding locations where wind resource create increased eagle-wind turbine conflicts (*see* Figure 8);
    - Site structures away from high eagle use areas and the flight zones between them;
    - Dismantle nonoperational meteorological towers;
    - Follow the Avian Power Line Interaction Committee (APLIC) guidance on power line construction (APLIC 2006) and power line siting (APLIC 1994);
    - Develop a transportation plan, including road design, locations and speed limits to minimize habitat fragmentation and wildlife collisions and minimize noise effects; and
    - Minimize the extent of the road network.
- Select project features that minimize effects to eagles, such as:
- Avoiding use of lattice or structures that are attractive to birds for perching.

- Avoiding construction designs (including structures such as permanent meteorological towers) that increase the risk of collision, such as guy wires. If guy wires are used, Echanis shall mark them with bird flight diverters (according to the manufacturer's recommendation);

2.4.2 *Additional Surveys*

Additional surveys will include (a) observational studies of all identified currently occupied eagle nests within ten miles of the Project boundary; (b) a spring 2013 survey of eagle nests within ten miles of any WTG at the Project to determine territory occupancy and nest productivity; (c) observational studies in the spring, summer and fall of 2013 placing 5-8 800-meter point counts along the turbine footprint, placed in consultation with the Service. All surveys will be conducted in accordance with guidance issued by the Service. Based on the results of these additional surveys and in coordination with the Service, Echanis shall determine whether or not it is appropriate to consider implementing any additional pre-construction and post-construction ACPs that might further avoid or minimize eagle fatalities.

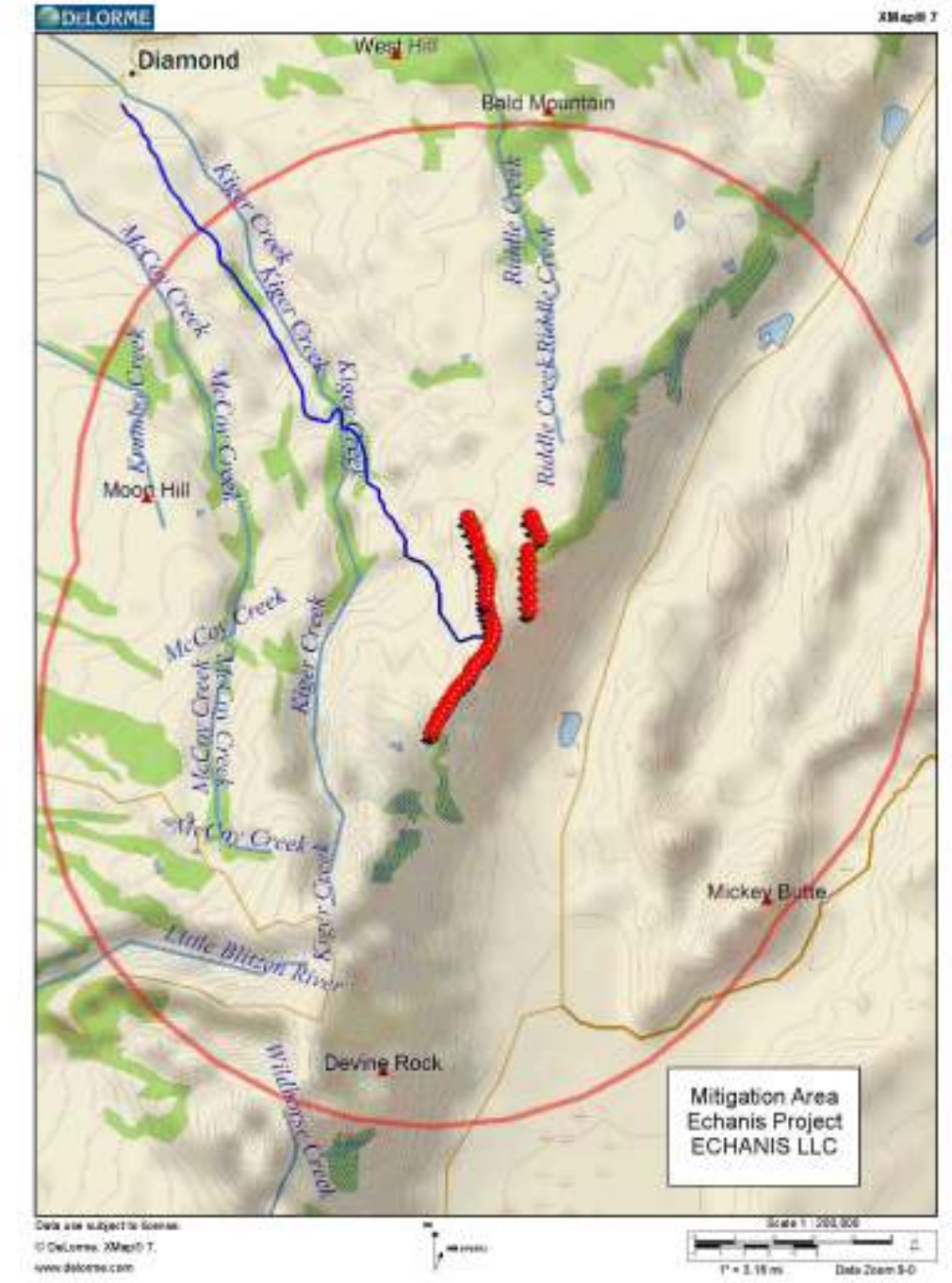


Figure 9: 10-mile Survey and Mitigation Area Around Project Area

2.4.3 *Post-Construction ACPs for Eagles*

Echanis shall employ the following ACPs related to Golden Eagles during and after construction of the Project:

- Minimizing lighting at facilities;
- Require that all security lighting be turned off overnight, and down-shield all security and related infrastructure lights;
- Maintaining facilities to minimize eagle attraction:
    - If rodents and rabbits are attracted to project facilities, identify and eliminate activities that may be attracting them.
    - Avoiding management that indirectly results in attracting raptors to turbines, such as seeding forbs or maintaining rock piles that attract rabbits and rodents.
- Moving stored parts and equipment which could be utilized by small mammals for cover away from wind turbines.
- If mammals burrow near tower footprints, where feasible on a case-by-case basis filling holes and surround pad with gravel at least 2 inches deep and out to a perimeter of at least 5 feet.
- Immediately removing carcasses (other than those applicable to post-construction fatality monitoring; see below) that have the potential to attract raptors from roadways and from areas where eagles could collide with wind turbines.
- Ensure responsible livestock husbandry (e.g. removing carcasses, fencing out livestock) is practiced if grazing occurs around turbines.
- Reducing vehicle collision risk to wildlife:
    - Instruct project personnel and visitors to drive at low speeds (< 25 mph), and be alert for wildlife, especially in low visibility conditions.
    - Plow roads during winter so as not to impede ungulate movement. Snow banks can cause ungulates to run along roads resulting in them colliding with vehicles. Roadside carcasses attract eagles, subjecting them to collision as well.
- Following procedures that reduce risk to wildlife:
    - Instruct employees, contractors, and visitors to avoid disturbing wildlife, especially during breeding seasons and periods of winter stress.
    - Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road).
    - Follow federal and state measures for handling toxic substances.

- Minimizing effects to wetlands and water resources by following provisions of the Clean Water Act.

2.4.4 *Public Outreach*

Echanis will provide status updates on construction and operations to local media and the Harney County Chamber of Commerce which can be included in their publications. A project fact sheet describing the project and measures that have been put in place to avoid and minimize risks to eagles (and other birds and bats) will be prepared and made available at the Harney County Court, the Harney County Chamber of Commerce and the local BLM Burns District Office.

2.4.5 *Adaptive Management*

Because Golden Eagles are protected under the BGEPA, development of adaptive management measures must be implemented and monitored by the Service. Accordingly, this Section sets forth the procedures for implementation of Adaptive Management Measures for Golden Eagles at the Project.

(a) *Adaptive Management Process*

The Adaptive Management Measures set forth below shall be implemented upon the discovery of a single Golden Eagle fatality at the site attributable to Project operations. Upon this occurrence, the Service shall identify and require adaptive management measures from the appropriate mitigation phase identified in Section 2.4.5(b). The Service may require one or multiple measures identified for that phase. In lieu of the listed adaptive management measures, other measures of similar type (*i.e*., cost, level of effort, utility) may also be implemented, as long as they provide the same level of protection or compensation and are pre-approved by the Service.

(b) *Summary of Golden Eagle Adaptive Management Measures*

This plan sets forth phased-in adaptive management measures based on actual, verified takes of Golden Eagles. This plan also monitors particularly closely the turbines along the northeastern edge of the project ("Migratory Corridor Turbines"). These turbines are closest to the eastern edge of the rim, and potentially pose the greatest risk to eagles migrating south along the eastern escarpment of Steens Mountain. Tables 4 and 5, below, describe the adaptive management measures that will be applied if Golden Eagles mortalities are found and are attributable to the operation of the Echanis wind turbine site. Phases I through IV will be implemented chronologically over the life of the project, as up to four eagle mortalities are found. If more than four eagles are found during the life of the permit, then consultation with the Service will occur and CEP will commit to additional compensatory mitigation.

Adaptive management measures for Golden Eagles will be applied to the entire site in response to the level of eagle mortality found through post-construction monitoring. CEP commits to implementing four phases of wind turbine curtailment in response to Golden Eagle mortalities to minimize risk of further collisions. Curtailment is defined as the complete cessation of blade rotation of the target turbines. Curtailment will be implemented to coincide as much as possible with those conditions that resulted in the mortality and applied to the turbines nearest the mortality. CEP will consult with the Service in any case, in order to implement the curtailments in times and areas most likely to reduce the chances of future eagle mortalities.

Table 4 provides an example of how curtailments might be implemented by CEP, The Service was most concerned with east wind conditions in the fall that might bring eagles in close proximity to the seven turbines planned to be placed along the east rim (the "Migratory Corridor Turbines"). These seven are nearest a steeply-sloped portion of the eastern escarpment of the Steens, where updrafts from easterly winds, particularly during migration, might lead to soaring or kiting over the project site. Were mortalities to occur here during east wind conditions, increasing hours of curtailment would be phased-in during those conditions (Table 4). Other adaptive management measures include targeted monitoring of high-risk turbine locations and retrofit of electric distribution lines that present a risk to eagles.

Curtailments will occur be applied in four equal-hour phases of 333 turbine-hours up to a total of 1332 hours. This maximum number of hours is based on CEP's evaluation of extensive wind monitoring data on the Steens. Echanis's wind analyses demonstrate that there are, on average, 46 hours during the Fall migratory season (defined as the months of September through November) and 82 hours in the Spring migratory season when winds blow from the East during daylight hours (approximated as 10.4 hours a day). This equals 1,332 turbine-hours. Echanis commits to curtail a percentage of these hours during each Adaptive Management Phase, in four equal increments of 25% each (Table 4).

Table 4 shows how the curtailments, and other adaptive management measures, might be applied to the seven turbines along the east rim. The curtailment effort might be used on other turbines or strings of turbines as appropriate, to be agreed upon by CEP and the Service. If there is some pattern to the mortalities that is revealed over time, the turbines in which curtailments occur might be shifted to maximize the benefit of curtailment to eagles across the project. Regardless of how and where the curtailments are applied to the project, the overall pool of hours available for curtailments will not exceed 1332.

Table 4: Summary of Adaptive Management Phases for Golden Eagles using–Migratory Corridor Turbines as an Example[1]

Phase	Turbine Curtailment	Direct Mitigation
Phase I	Up to 333 hours of turbine curtailment per year during conditions shown to produce	Retrofit 10 power poles; Targeted monitoring around turbine string where mortality occurred.

	kiting or soaring conditions over the site when Golden Eagles are present	
Phase II	Up to 666 hours of turbine curtailment during conditions shown to produce kiting or soaring conditions over the site when Golden Eagles are present	Retrofit 10 additional power poles; Targeted monitoring around turbine string where mortality occurred.
Phase III	Up to 999 hours of turbine curtailment during conditions shown to produce kiting or soaring conditions over the site when Golden Eagles are present	Retrofit 10 additional power poles ; Targeted monitoring around turbine string where mortality occurred.
Phase IV	Up to 1332 hours of turbine curtailment during conditions shown to produce kiting or soaring conditions over the site when Golden Eagles are present	Retrofit 10 additional power poles; Targeted monitoring around turbine string where mortality occurred.
1 – These measures could be applied to any turbines or turbine strings, to be decided by the Service and CEP		

(c) *Details of Adaptive Management Measures*

This section discusses the specific adaptive management measures in greater detail. The phases could be applied anywhere in the Project where it makes sense based on post-construction monitoring and in consultation with the Service. These measures will be implemented in successive phases based on the level of verified eagle takings attributable to the collisions with Project turbines. If a fifth eagle mortality from turbine operations is discovered, the Project and Service will meet to review and adjust these adaptive management commitments and requirements of the associated Eagle Take Permit.

Phase I Mitigation

TURBINE CURTAILMENT

Implement turbine curtailment on the agreed upon turbines for up to 333 hours per year. Curtailment is determined on a per-turbine basis; for example, if the seven Migratory Corridor Turbines are curtailed for six hours each, this equates to 42 hours of curtailment. If curtailment has been implemented on the Migratory Corridor Turbines because of eagle mortality, then east wind conditions (both hourly and seasonally) and conditions leading to the anticipation of east wind conditions will be tracked by the Project and curtailment will initiate upon east wind event until all curtailment hours are exhausted for this Phase. If this phase is applied to other turbines as agreed to by the Service and CEP, then they will applied during those conditions deemed most likely to pose a mortality risk to eagles. Turbine Curtailment of a specific turbine shall not commence prior to 6:00 hours or after 20:00 hours, and adjusted within that time window depending on the availability of daylight hours within the season.

DIRECT MITIGATION

- As approved by the necessary entities, up to 10 power poles within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current Avian Power Line Interaction Committee (APLIC) guidelines (APLIC 2006); retrofit of such poles also shall qualify as the mitigation proposed for other avian mortality events (see Section 3.3.4)
- Increase monitoring along at least the 3 turbines in either direction from the turbine nearest the mortality (targeted monitoring). As part of this effort, Echanis, together with the Service, will consider the factors that might have influenced the mortality, including wind speed, direction, seasonality, weather and other factors. Echanis shall implement a different monitoring program at these turbines if the Echanis and the Service agree that the monitoring could be improved, or certain questions emerge that additional monitoring might help answer.

Phase II Mitigation

TURBINE CURTAILMENT

- Implement turbine curtailment as in Phase I, but for up to 666 hours per year.

DIRECT MITIGATION

- As approved by the necessary entities, retrofit an additional 10 power poles within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current APLIC guidelines (APLIC 2006); retrofit of such poles shall qualify as the mitigation required for mitigation by Section 3.3.4.
- Increase monitoring along at least the 2 to 3 turbines in either direction from the turbine nearest the mortality (targeted monitoring). As part of this effort, Echanis, together with the Service, will consider the factors that might have influenced the mortality, including wind speed, direction, seasonality, weather and other factors.. Echanis shall implement a different monitoring program at these turbines if the Echanis and the Service agree that the monitoring could be improved, or certain questions emerge that additional monitoring might help answer.

Phase III Mitigation

TURBINE CURTAILMENT

- Implement turbine curtailment as in previous phases for up to 999 hours per year.

DIRECT MITIGATION

- As approved by the necessary entities, an additional 10 power poles within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted

and raptor proofed according to current APLIC guidelines (APLIC 2006); retrofit of such poles shall qualify as the mitigation required for mitigation by Section 3.3.4.

- Increase monitoring along at least the 2 to 3 turbines in either direction from the turbine nearest the mortality (targeted monitoring). As part of this effort, Echanis, together with the Service, will consider the factors that might have influenced the mortality, including wind speed, direction, seasonality, weather and other factors.. Echanis shall implement a different monitoring program at these turbines if the Echanis and the Service agree that the monitoring could be improved, or certain questions emerge that additional monitoring might help answer.

Phase IV Mitigation

TURBINE CURTAILMENT

- Implement turbine curtailment as in the previous phases, but for up to 1332 hours per year

DIRECT MITIGATION

- As approved by the necessary entities, an additional 10 power poles within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current APLIC guidelines (APLIC 2006); retrofit of such poles shall qualify as the mitigation required for mitigation by Section 3.3.4.
- Increase monitoring along at least the 2 to 3 turbines in either direction from the turbine nearest the mortality (targeted monitoring). As part of this effort, Echanis, together with the Service, will consider the factors that might have influenced the mortality, including wind speed, direction, seasonality, weather and other factors.. Echanis shall implement a different monitoring program at these turbines if the Echanis and the Service agree that the monitoring could be improved, or certain questions emerge that additional monitoring might help answer.

For eagle mortalities beyond 4

- CEP commits to retrofitting 10 additional power poles for each of four additional eagles found dead on site and to which the operation of Echanis is responsible, as approved by the necessary entities and within the mitigation area as defined in phases I-IV.
- If a ninth eagle mortality from Migratory Corridor turbine operations is discovered, CEP will meet with the Service to review and adjust these adaptive management commitments and requirements of the associated Eagle Take Permit.

2.4.6 *Upfront Conservation Commitment*

In addition to implementing Adaptive Management Measures and associated mitigation measures, above, upon commencement of operations of the Project, Echanis will place $50,000 in an interest-bearing escrow account to fund additional compensatory mitigation actions for any Golden Eagle mortality. This amount is based on an estimated take of two eagles per year during the first five years of the Project.

Upon the occurrence of a verified non-purposeful take of a Golden Eagle, $5,000 shall be disbursed from such escrow account to be used as follows, as determined mutually by Echanis and the Service:

- Funding a USFWS-approved compensatory project; or
- Paying into a an account, as approved by the Service, established for the sole purpose of improving Golden Eagle conservation through research, monitoring, or other mitigation options.

Any funds not disbursed after the fifth year of operations shall be returned, together with interest as established by the terms of the account, to Echanis. Conversely, if funds are depleted before 5 years then an additional $50,000 will be deposited into this account.

2.4.7 *Power Pole Retrofits*

Echanis will attempt to secure agreements with the local utility who own the distribution line network to allow Echanis to fund the retrofit and maintenance activities prior to commencing development, and share that agreement with the Service. All retrofits will be in accordance with APLIC prescriptions (APLIC 2006), and be maintained for the life of the project if any maintenance is necessary. This might be particularly true if aftermarket line insulators are applied, which have a moderate lifespan. Retrofits that result in the replacement of existing cross-arms with longer ones will likely last longer requiring less maintenance.

Power pole retrofits required under these mitigation phases cover similar commitments under Section 3, as retrofits that benefit eagles benefit all other raptors as well.

2.5 Stage 5 – Post Construction Monitoring

Echanis shall perform post-construction monitoring for Golden Eagle mortality as set forth in Section 4.0 of this Plan. This includes a description of targeted monitoring to be implemented as part of the mitigations described above.

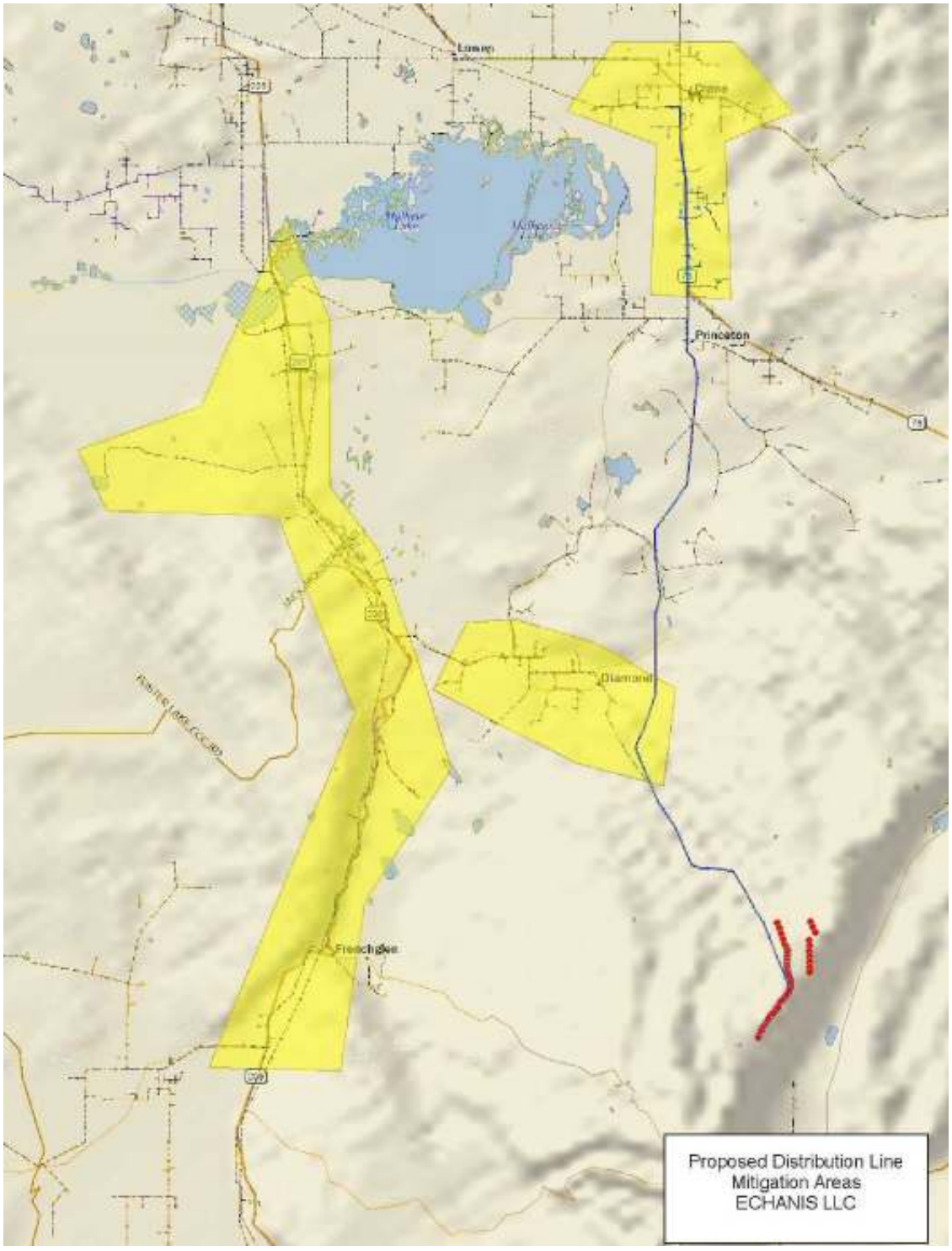


Figure 10: Map of Power Pole Replacement Areas

3.0 CONSERVATION OF AVIAN SPECIES OTHER THAN GOLDEN EAGLES

This section sets forth Echanis's plan to conserve avian species other than Golden Eagles, including bats. While the project was designed to minimize risks to avian species, there is still a risk that avian mortality may exceed certain thresholds. Therefore, Echanis will implement various ACPs designed to avoid, minimize or mitigate risks of avian and bat mortality.

In summary, Echanis will implement various ACPs before, during and after construction. In addition, Echanis shall convene a Technical Advisory Committee ("TAC") that will, *inter alia*, review mortality data to determine whether pre-established thresholds are exceeded. If such thresholds are exceeded, the TAC will recommend the implementation of various mitigation measures as described herein.

3.1 Existing Studies

Surveys conducted at the Project and associated transmission line routes are shown on Table 1 and a map showing the areas covered by these surveys is shown in Figure 4. All of the surveys are included in Appendix A.

These studies demonstrated that while avian species are present on the site, the risk of impacts to such species is low. There were, however, indentified potential risks from turbines on the East Rim and potential risks to raptors at occupied nests near preliminary turbine locations.

To minimize these risks, NWC recommended design modifications to the Project in order to avoid avian collisions. Specifically, NWC's Rick Gerhardt suggested that the Migratory Corridor Turbines be moved west off of the rim by 100 meters. Rick also suggested that no facilities be placed within two miles of an occupied raptor nest.

3.2 Risk Assessment

Echanis designed the Project (as shown on Figure 1) in such a manner as to avoid the risk factors identified in the avian use survey and the raptor nest survey for the Echanis site. This included (a) siting the Migratory Corridor Turbines 100 meters from the East Rim and (b) not siting turbines within 2 miles of an occupied raptor nest. Based on these actions and the overall site design, NWC determined that the Project site presents a low risk to avian species.

3.3 Avoidance and Minimization of Risk using Advanced Conservation Practices

The process for addressing potential impacts to bird and bat species from implementation of the Project is divided into three sections: (a) Initial Advanced Conservation Practices ("ACPs") (*i.e.*, project design, power line/pole retrofits, research, habitat enhancement,

etc.); (b) implementation of construction and operation ACPs; and (c) Adaptive Management based on the results of the monitoring protocols established in Section 4.

Initial ACPs have been developed to address impacts that are likely to occur as discussed in the EIS. Adaptive management has been designed to use monitoring data to evaluate whether impacts are nearing or exceeding the thresholds set forth herein, and if so, to implement measures to reduce such impacts to acceptable levels or consider some other type of minimization or mitigation.

3.3.1 *Technical Advisory Committee*

To help ensure that impacts to avian and bat species (other than Golden Eagles) from routine operations of the Project do not reach levels of significance, a Technical Advisory Committee ("TAC") will monitor Project activities, including mortality data, to determine the need for Project mitigation. The TAC will consist of one representative from the Service, BLM, Oregon Department of Fish and Wildlife, Echanis, and Harney County. The TAC will provide recommendations on developing and implementing effective measures to monitor, avoid, minimize, and mitigate impacts to avian species related to operations.

A TAC Lead will be designated for the TAC whose duties will include disseminating Project data, including data on mortality events, setting up and moderating meetings, reviewing bi-weekly mortality data, and documenting mitigation recommendations for the Project. The TAC lead shall be appointed by Echanis. Because it is the TAC Lead's responsibility to coordinate meetings and involve all TAC members, the TAC Lead reserves the right to make recommendation decisions under extraordinary circumstances or when all TAC members are unable to meet.

A Memorandum of Agreement ("MOA") will be signed by each party to the TAC to ensure participation in the TAC. Unless there is a failure on the part of any of the TAC representatives to respond or agree to participate, the TAC shall be formed prior to Project operations.

The guiding principles, duties, and responsibilities of the TAC include the following:

- Approve the TAC charter and sign the MOA.
- Make recommendations based on best available science and to address specific issues resulting from this Project.
- In the event decisions cannot be made by consensus, decisions of the TAC shall be made by simple majority vote.
- Provide sufficient flexibility to adapt as more is learned about the Project as well as strategies to reduce avian and bat impacts.

- Review initial and any subsequent revised monitoring protocols for mortality monitoring studies.

- Complete an annual review of predetermined mortality thresholds for mitigation and provide recommendations to Echanis regarding any necessary adjustments to those thresholds.

- Review results of mortality monitoring.

- Require appropriate phased mitigation measure(s) set forth in Section 3.3.4 to Echanis for implementation in the event that thresholds for bats and/or birds other than Golden Eagles have been exceeded.

- Review species-specific mortality and recommend mitigation to Echanis, if any, in the event that the species-specific thresholds for special-status species other than Golden Eagles are exceeded.

- Review annual report on status of compliance with mitigation measures and permit conditions and provide recommendations, as necessary.

- Develop and recommend additional mitigation measures or research to Echanis if predetermined mitigation is outdated or deemed ineffective or "unexpected fatalities" occur.

- Evaluate effectiveness of implemented mitigation strategies and formulate Echanis with recommendations based on findings.

- If selected as part of phased mitigation, recommend compensatory mitigation funding opportunities for implementation of off-site species or habitat enhancement or protection/conservation measures.

The TAC shall hold the first meeting prior to the commencement of Project operations to develop and approve the charter and requirements of this Plan. The charter will include an MOA ensuring participation in the TAC and agreeing to how funds provided in this Plan would be accessed. Thereafter, the TAC shall meet annually, unless data reveal that mortality thresholds have been exceeded. Attendance at TAC meetings shall be by invitation of its members only.

To ensure the TAC is fully functional, Echanis will provide $100,000 over a period of ten years not to exceed $10,000 per year in the first three years, to assist with operational costs. Remaining funds would be contributed at an approximate rate of $10,000 per year during the remaining seven years. Funds would be deposited into an agreed upon interest bearing account and marked specifically for purposes of TAC operational expenses.

Through an MOA, all TAC members would develop a cooperative agreement plan for how the funds are utilized. Any unused funds shall go back to Echanis.

3.3.2 *Initial Advanced Conservation Practices*

ACPs will be implemented prior to commencement of operation of the Project, as described in more detail in the following subsections.

(a) Additional Surveys

Additional surveys will include (a) observational studies of all identified currently occupied raptor nests within two miles of the Project boundary; (b) a spring 2013 survey of raptor nests within two miles of any WTG at the Project; and (c) observational studies in the spring, summer and fall of 2013 using 800-meter point counts. Echanis shall also evaluate advanced conservation practices that may avoid or minimize fatalities.

(b) Development of Pre-Construction Advanced Conservation Practices

Echanis, in consultation with the TAC, shall develop Advanced Conservation Practices ("ACPs") to be employed before and during the construction of the Project. Such ACPs shall include:

- Minimizing the area and intensity of disturbances during pre-construction activities, such as monitoring and site reconnaissance, by keeping at least 3/4 mile away from all active raptor nests.
- Undertaking monitoring of proximate occupied nest sites, and curtailing activity if raptors exhibit signs of distress, as determined by a biologist. In so doing, Echanis will insure that adults are allowed to incubate, brood young, or feed young uninterrupted, and will not inadvertently cause young birds to fledge prematurely;
- Activities near nests will be delayed until after fledging if there appears to be no way to work near the nest and not cause disturbance;
- If Echanis anticipates unresolvable nest/construction conflicts along the construction corridor prior to nesting, they will contact the Service about options (although less desirable) to dissuade raptors (other than eagles) from nesting close to construction zones in the first place; utilize existing transmission corridors and roads to the greatest extent possible;
- Avoiding, to the greatest extent possible, vegetation removal and construction during the breeding season;
- Designing the Project layout to reduce collision and electrocution by:
    - Site structures away from high avian use areas and the flight zones between them;
    - Dismantle nonoperational meteorological towers;

  - Follow the Avian Power Line Interaction Committee (APLIC) guidance on power line construction (APLIC 2006) and power line siting (APLIC 1994);
  - Develop a transportation plan, including road design, locations and speed limits to minimize habitat fragmentation and wildlife collisions and minimize noise effects; and
  - Minimize the extent of the road network.
- Select project features that minimize effects to raptors, such as:
  - Avoiding use of lattice or structures that are attractive to birds for perching.
  - Avoiding construction designs (including structures such as permanent meteorological towers) that increase the risk of collision, such as guy wires. If guy wires are used, Echanis shall mark them with bird flight diverters (according to the manufacturer's recommendation);
  - Minimizing lighting at facilities; Require that all security lighting not be left "on" overnight, and down-shield all security and related infrastructure lights.
- During construction, implementing spatial and seasonal buffers to protect individual nest sites/territories and/or roost sites, including:
  - Maintaining a 1/8-mile buffer area between construction activities and nest of non-raptors;
  - Keep natural areas between the project footprint and the nest site or communal roost by avoiding disturbance to natural landscapes.
  - Consult with the Service if construction is anticipated to be, or found to be, closer than 1/8 mile to active nests of non-raptors.

(c) Public Outreach

Echanis will provide quarterly status updates on construction and operations to local media and the Harney County Chamber of Commerce which can be included in their publications. A project fact sheet describing the project and measures that have been put in place to avoid and minimize risks to eagles (and other birds and bats) will be prepared and made available at the Harney County Court, the Harney County Chamber of Commerce and the local BLM Burns District Office.

3.3.3 *Post-Construction ACPs*

Echanis shall employ the following ACPs after construction of the Project:

- Minimizing lighting at facilities; Require that all security lighting not be left "on" overnight, and down-shield all security and related infrastructure lights.
- During site operations, avoid prolonged activities in the vicinity of nesting raptors.
  - Maintain a ¾ -mile buffer area between operational activities and raptor nests or communal roost sites as much as possible; if disturbances occurs,

they should be of short duration, infrequent, and not endanger the success of the nest (e.g. by over-exposing eggs or young to sun or weather, or by causing premature fledging);
    - Keep natural areas between the project footprint and the nest site or communal roost by avoiding disturbance to natural landscapes.
- Maintaining facilities to minimize raptor effects:
    - If rodents and rabbits are attracted to project facilities, identify and eliminate activities that may be attracting them.
    - Avoiding management that indirectly results in attracting raptors to turbines, such as seeding forbs or maintaining rock piles that attract rabbits and rodents.
- Moving stored parts and equipment, which may be utilized by small mammals for cover, away from wind turbines.
- If mammals burrow near tower footprints, where feasible on a case-by-case basis filling holes and surround pad with gravel at least 2 inches deep and out to a perimeter of at least 5 feet.
- Immediately removing carcasses (other than those applicable to post-construction fatality monitoring; see below) that have the potential to attract raptors from roadways and from areas where eagles could collide with wind turbines.
- Ensure responsible livestock husbandry (e.g. removing carcasses, fencing out livestock) is practiced if grazing occurs around turbines.
- Reducing vehicle collision risk to wildlife:
    - Instruct project personnel and visitors to drive at low speeds (< 25 mph), and be alert for wildlife, especially in low visibility conditions.
    - Plow roads during winter so as not to impede ungulate movement. Snow banks can cause ungulates to run along roads resulting in them colliding with vehicles, e.g. create cuts that allow them to escape roadways. Roadside carcasses attract eagles, subjecting them to collision by vehicles or by turbines.
- Following procedures that reduce risk to wildlife:
    - Instruct employees, contractors, and visitors to avoid disturbing wildlife, especially during breeding seasons and periods of winter stress.
    - Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road).
    - Follow federal and state measures for handling toxic substances.
- Minimizing effects to wetlands and water resources by following provisions of the Clean Water Act.

3.3.4 *Adaptive Management for Species other than Eagles*

The Adaptive Management techniques described in this section have been developed to ensure that potentially significant levels of mortality from operation of the Project are effectively mitigated. This section describes different Adaptive Management phases that will be applied based on mortality thresholds for avian and bat species. Changes in federal or state status for wildlife species occurring within the Project area may result in the addition of, or changes to, Adaptive Management strategies, as determined by the USFWS through TAC recommendations.

(a) Adaptive Management Process

A set of mortality thresholds has been designated for avian and bat species (see Section 3.3.5(b)). During Project monitoring activities, the TAC Lead will be provided by the searchers or the search coordinator a running mortality count every two weeks for review. The TAC will meet to discuss mitigation needs if the TAC Lead determines that a mortality threshold has been exceeded. At a minimum, the TAC will meet annually to review data and determine whether designated thresholds are still appropriate or whether they should be adjusted.

If mortality thresholds are exceeded, the TAC will be responsible for identifying and requiring Adaptive Management measures from the appropriate mitigation phase identified in Section 3.3.4). The TAC may require one or multiple measures identified for that phase. In lieu of the listed Adaptive Management measures, other measures of similar type (i.e., cost, level of effort, utility) may also be implemented.

The first instance in which mortality thresholds are exceeded, mitigation will be selected from Phase I Measures, if determined necessary by the TAC. If the mortality thresholds are exceeded for a second time (threshold count starts over at zero each time a new mitigation measure is implemented), measure(s) from Phase II Measures would be available for selection. All previously implemented measures would continue to be implemented as well, unless a higher-phase measure replaces a prior measure, i.e., increasing the amount of curtailment. Measures from earlier phases that have not been implemented may also be recommended for implementation by the TAC. This process would continue until thresholds are no longer exceeded. If thresholds are still exceeded following implementation of all mitigation measures for all phases, the TAC and Echanis shall determine necessary management strategies.

(b) Overall Avian and Bat Mortality Thresholds for Species

Yearly mortality thresholds for overall avian and bat species were determined using a regional average of 10 mortality monitoring projects that occur in similar habitat (Table 6). It is understood that mortality estimates for these projects have been adjusted to account for both searcher efficiency and scavenging rates.

It is assumed that these thresholds are a starting point and that the TAC will review them annually to determine their effectiveness as well as to determine whether new data are available that would help refine them; it is also assumed that the TAC will provide recommendations whether or not to increase or decrease them. Additionally, if new mortality estimators are used, thresholds may need to be adjusted to be consistent with new methods.

Table 5. Comparison of 10 Operating Wind Projects with Habitat Types Similar to Echanis

WEF Study Area Location	**Turbines in WEF**	**Turbine/Project MW**	**Avian Mortality per Turbine per year**	**Bats Mortality per Turbine per year**	Turbine size (MW)	Estimated birds/MW	Estimated bats/MW
Foote Creek Rim, WY	69	600 kilowatt (kW) / 41.4 MW	1.5	1.34	0.6	2.50	2.23
Nine Canyon, WA	37	Bonus 1.3 MW / 48.1 MW	3.59	3.21	1.3	2.76	2.47
Stateline, OR/WA	454	Vestas 660 kW / 299.64 MW	1.93	1.12	0.66	2.92	1.70
Klondike, OR	16	Enron 1.5 MW / 24 MW	1.42	1.16	1.5	0.95	0.77
Vansycle, OR	38	Vestas 660 kW / 24.9 MW	0.63	0.74	0.66	0.95	1.12
Klondike II, OR	50	GE / 75 MW	4.71	0.63	1.5	3.14	0.42
Combine Hills, OR	41	Mitsubishi MWT-1000A / 41 MW	2.56	1.88	1	2.56	1.88
Big Horn, WA	133	GE / 199.5 MW	3.81	2.86	1.5	2.54	1.91
Wild Horse, WA	127	V80 / 229 MW	2.79	0.71	1.8	1.55	0.39
Hopkins Ridge, WA	83	Vestas / 150 MW	2.21	1.13	1.8	1.23	0.63
		Average	**2.52**	**1.48**		**2.11**	**1.35**

If any of the criteria below are met, Adaptive Management measures will be required and the TAC will meet to determine the appropriate measure to be required:

- Average mortality across all surveyed WTGs in the Project (15 WTGs) exceeds the average for bird mortality per MW per year (2.70) identified in Table 5.

- Average mortality across all surveyed WTGs in the Project (15 WTGs) exceeds the average for bat mortality per MW per year (2.56) identified in Table5.

- Mortality at any representative WTG surveyed exceeds 10.0 bats /or birds per year.

(c) *Avian Mortality Adaptive Management Phases*

One or multiple measures under an Adaptive Management phase may be applied if mortality thresholds for birds or bats are exceeded. Phases are to be implemented chronologically as avian and/or bat thresholds are repeatedly exceeded, until thresholds are no longer exceeded. Mortality thresholds for birds and bats may be exceeded at different periods throughout the project; therefore, mitigation phases for birds and bats may differ. In the instance that a similar mitigation type (i.e., turbine curtailment) for birds and bats is selected, only the highest phase would apply (i.e., if in Phase I for birds and Phase III for bats, Phase III applies for both). Mitigation phases are summarized in Table 3 and described in detail below.

Table 6: Summary of Adaptive Management Phases for species other than eagles

Phase	Turbine Curtailment	Additional Monitoring	Compensatory Mitigation
Phase I	**Avian Species[1]:** None **Bat Species[2]:** 360 hours of night time cut-in speed curtailment[3] August 1 – November 30.	Implement more intensive monitoring at specific turbines or strings if mortalities follow geographic pattern. Problem turbines or turbine clusters shall be monitored for remainder of the year of fatality and for the following year. Same as Avian Species monitoring	**Avian Species:** Species-specific habitat enhancement as mitigation for lost habitat during construction, and other direct species-specific mitigation as recommended by the TAC (riparian and/or aspen habitat protection or restoration potentially; can occur in mitigation area specified under the Habitat Mitigation Plan for the Project); retrofit 10 power poles **Bat Species:** None
Phase II	**Avian Species:** None **Bat Species:** 700 hours of night time cut-in speed curtailment August 1 – November 30.	Targeted monitoring – see Phase I above.	**Avian Species:** Additional species-specific habitat enhancement as mitigation for lost habitat during construction, and other direct species-specific mitigation as recommended by the TAC (riparian habitats potentially; can occur in mitigation area specified under the Habitat Mitigation Plan for the Project); retrofit 10 additional power poles **Bat Species:** Direct species-specific mitigation focusing on habitat enhancement that benefits bats: manage/restore 5 acres of aspen groves for large structure and cavity retention/creation; manage/maintain old growth forest structure within the migratory corridor. Specific location and methodology will be developed in coordination with the TAC. Seasonal and daily timing of the cut-in speed curtailment may be adjusted based on results of fatality surveys.
Phase III	**Avian Species:** None **Bat Species:**	Targeted monitoring – see Phase I above.	**Avian Species:** Additional species-specific habitat enhancement as mitigation for lost habitat during construction, and other direct species-specific mitigation as recommended by the TAC (riparian habitats potentially; can occur in mitigation area specified under the Habitat Mitigation Plan for the Project); retrofit 10 additional power poles. **Bat Species:**

	1,080 hours of night time cut-in speed curtailment August 1 – November 30.		Direct species specific mitigation of 5 additional acres as described in Phase II above.
Phase IV	**Avian Species:** None **Bat Species:** 1,440 hours of night time cut-in speed curtailment August 1 – November 30.	Targeted monitoring – see Phase I above.	**Avian Species:** Additional species-specific habitat enhancement as mitigation for lost habitat during construction, and other direct species-specific mitigation as recommended by the TAC. (Riparian habitats potentially; can occur in mitigation area specified under the Habitat Mitigation Plan for the Project); retrofit 10 additional power poles. **Bat Species:** Direct species specific mitigation of 5 additional acres as described in Phase I above.
Phase V	**Avian Species:** **Bat Species:** 1,800 hours of night time cut-in speed August 1 – November 30.	Targeted monitoring – see Phase I above.	**Avian Species:** Additional species-specific habitat enhancement as mitigation for lost habitat during construction, and other direct species-specific mitigation as recommended by the TAC (riparian habitats potentially; can occur in mitigation area specified under the Habitat Mitigation Plan for the Project); retrofit 10 additional power poles. **Bat Species:** Direct species specific mitigation of 5 additional acres as described in Phase I above.

[1] Avian species threshold is 219 non-raptor avian fatalities (2.11 fatalities/MW/yr for 104 megawatts) and 5 raptor fatalities (0.05 fatalities/MW/yr for 104 megawatts). (Raptor mortality rate was the national average in 2001, WEST, 2001.)
[2]Bat species threshold is 140 bats (1.35 fatalities/MW/yr for 104 megawatts)
[3]Cut-in speed curtailment defined as increasing the cut-in speed from 3.5 meters per second (mps) to 5 mps.

(d) *Details of Adaptive Management Measures for the Migratory Corridor Turbines*

This section discusses the specific adaptive management measures applicable to Project to mitigate for impacts to avian and bat species other than Golden Eagles. Such measures will be implemented in successive phases based on the thresholds specified in this section. Phase I will be implemented in the first year the threshold is exceeded, Phase II will be implemented in the second year the threshold is exceeded, Phase III will be implemented in the third year the threshold is exceeded, Phase IV will be implemented in the fourth year the threshold is exceeded, and Phase V will be implemented in the fifth year the threshold is exceeded. If the threshold continues to be exceeded despite implementation of all of these phases, Echanis will meet with the TAC to discuss further mitigations.

Phase I Mitigation

TURBINE CURTAILMENT

- None

DIRECT MITIGATION

- Additional targeted monitoring will occur at specific turbines or turbine strings if mortalities follow some sort of pattern across the site, e.g. if some turbines or a portion of the site seem to be responsible for increased mortalities.
- Retrofit 10 power poles if raptor mortality exceeds expectations, as for eagle mitigations . Retrofits will follow APLIC guidelines (APLIC 2006); retrofit of such poles shall qualify as the mitigation required for mitigation for any eagle take required by Section 2.4.5.

Phase II Mitigation

TURBINE CURTAILMENT

- Implement Cut-in Speed Curtailment (for purposes of this Section, "Cut-in Speed Curtailment" shall be defined as increasing the cut-in speed for WTGs for which mortality thresholds have been exceeded from 3 m/s to 5 m/s). Cut-in Speed Curtailment is determined on a per-turbine basis; for example, if four turbines are curtailed for one hour each, this equates to four hours of curtailment. Adjustments to seasonal and daily timing may be adjusted based on mortality and AnaBat (for bats only) data. The timing (both hourly and seasonally) of the Cut-in Speed Curtailment shall be developed by the TAC, but in no event shall curtailment occur during hours and seasons when avian and bat use is expected to be minimal.

DIRECT MITIGATION

- As approved by the necessary entities, retrofit an additional 10 power poles within the mitigation areas shown on Figure 10determined to be unsafe will be retrofitted and raptor-proofed according to current APLIC guidelines (APLIC 2005); retrofit of such poles shall qualify as the mitigation required for mitigation for any eagle take required by Section 2.4.5.
- Echanis shall implement a targeted monitoring program to attempt determine the specific reasons for mortality, including wind speed, direction, seasonality, weather and other factors that may have contributed to the mortality event;
- Additional mitigation as recommended by the TAC.

Phase III Mitigation

TURBINE CURTAILMENT

- Implement Cut-in Speed Curtailment for up to 720 hours per year. The timing (both hourly and seasonally) of the Cut-in Speed Curtailment shall be developed by the TAC, but in no event shall curtailment occur during hours and seasons when avian and bat use is expected to be minimal. Additionally, adjustments to seasonal and daily timing may be adjusted based on mortality and AnaBat (for bats only) data.
- Cut-in speed changes should not exceed 12 hours per day.

DIRECT MITIGATION

- As approved by the necessary entities, up to an additional 10 power poles (within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current APLIC guidelines (APLIC 2005); retrofit of such poles shall qualify as the mitigation required for mitigation for any eagle take required by Section 2.4.5.
- Echanis shall implement a targeted monitoring program to attempt determine the specific reasons for mortality, including wind speed, direction, seasonality, weather and other factors that may have contributed to the mortality event;
- Additional mitigation as recommended by the TAC.

Phase IV Mitigation

TURBINE CURTAILMENT

- Implement Cut-in Speed Curtailment for up to 1,080 hours per year. The timing (both hourly and seasonally) of the Cut-in Speed Curtailment shall be developed by the TAC, but in no event shall curtailment occur during hours and seasons when avian and bat use is expected to be minimal. Additionally, adjustments to seasonal and daily timing may be adjusted based on mortality and AnaBat (for bats only) data.

- Cut-in speed changes should not exceed 12 hours per day.

DIRECT MITIGATION

- As approved by the necessary entities, up to an additional 10 power poles (within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current APLIC guidelines (APLIC 2005); retrofit of such poles shall qualify as the mitigation required for mitigation for any eagle take required by Section 2.4.5.
- Echanis shall implement a targeted monitoring program to attempt determine the specific reasons for mortality, including wind speed, direction, seasonality, weather and other factors that may have contributed to the mortality event;
- Additional mitigation as recommended by the TAC.

Phase V Mitigation

TURBINE CURTAILMENT

- Implement Cut-in Speed Curtailment for up to 1,440 hours per year. The timing (both hourly and seasonally) of the Cut-in Speed Curtailment shall be developed by the TAC, but in no event shall curtailment occur during hours and seasons when avian and bat use is expected to be minimal. Additionally, adjustments to seasonal and daily timing may be adjusted based on mortality and AnaBat (for bats only) data.
- Cut-in speed changes should not exceed 12 hours per day.

DIRECT MITIGATION

- As approved by the necessary entities, up to an additional 10 power poles (within the mitigation areas shown on Figure 10 determined to be unsafe will be retro-fitted and raptor proofed according to current APLIC guidelines (APLIC 2005); retrofit of such poles shall qualify as the mitigation required for mitigation for any eagle take required by Section 2.4.5.
- Echanis shall implement a targeted monitoring program to attempt determine the specific reasons for mortality, including wind speed, direction, seasonality, weather and other factors that may have contributed to the mortality event;
- Additional mitigation as recommended by the TAC.

3.3.5 *Power Pole Retrofits*

Subject to having appropriate agreements with local utilities in place, Echanis will ensure that all retrofits will be in accordance with APLIC prescriptions (APLIC 2006), and be maintained for the life of the project if any maintenance is necessary. This might be particularly true if aftermarket line insulators are applied, which have a moderate

lifespan. Retrofits that result in the replacement of existing cross-arms with longer ones will likely last longer requiring less maintenance.

Power pole retrofits required under these mitigation phases will cover similar commitments under Section 2 (for eagles), as long as all retrofits meet APLIC standards. That is, if retrofits are undertaken because of the implementation of phases under Section 3 before any eagle mortalities, then they will count toward having met phase 1 under Section 2 (regarding eagle conservation) before having killed any eagles. That is because APLIC standard retrofits are designed to benefit eagles, and any retrofits undertaken because of take in this section will serve eagle conservation as well.

3.4 Post-construction Monitoring

Echanis shall perform monitoring for the Project as set forth in Section 4.0 of this Plan.

4.0 POST-CONSTRUCTION MONITORING

The post-construction fatality surveys for eagles, other birds, and bats is a critical component of this Plan and consists of two phases of monitoring: intensive and operational.

Intensive monitoring consists of surveys involving standardized carcass searches and bias trials for searcher efficiency and carcass removal conducted by consultants familiar with these methods. The monitoring occurs in the one to two years following construction. It serves several purposes: provides baseline mortality information for the site including mortality rate by species; is likely to catch any large mortality events; and helps identify which turbine placements might result in more mortalities than others, which in turn could inform subsequent operational monitoring and lead to adjustments in the operation of the turbines.

Operational monitoring is a series of long-term (four- to five-year increments) standardized surveys using the site's Environmental Compliance Officer (ECO) and Operations personnel. The intent of this monitoring is to systematically monitor and report wildlife fatalities to assess long-term operational impacts (trends) of the project; although carried out at a less intense rate than baseline monitoring, it nonetheless continues to measure the project impacts to birds and bats, by: estimating the overall species composition of causalities; and determines trends in fatalities of eagles, other birds, and for bats.

The observations made during post-construction monitoring will be reported to the TAC and the Service, which will respond with appropriate management decisions should mortalities exceed the thresholds outlined in this Plan for eagles (*see* Section 2.4). The results of the monitoring for other birds and bats might also trigger operational adjustments for the project (*see* Section 3.3). Since post-construction monitoring methods are constantly improving as researchers develop new and more accurate methods of survey, the TAC and the Service should consider recommendations to adopt new survey techniques and protocols as they become available.

As part of these mortality surveys, the searcher efficiency rate (*i.e.*, the ability of a surveyor to locate a mortality) and carcass removal rate (*i.e.*, the average time that a carcass persists before a scavenger removes it) will be determined for bats and small and large bird size classes. For each mortality located, the appropriate (*i.e.*, bat, small bird, large bird) searcher efficiency and scavenger removal rate will be used to estimate the actual number of bird and bat mortalities. Methods for completing post-construction surveys are described below (Section 4.5).

4.1 Fatality Monitoring

4.1.1 *Definitions and Methods*

With respect to seasons, this Plan uses the following dates for defining seasons:

Season	Dates (Duration)
Spring	March 16 to May 15 (2 months)
Summer	May 16 to August 15 (3 months)
Fall	August 16 to October 31 (2 ½ months)

Fatality monitoring will begin one month after commencement of commercial operation of the facility in any of the seasons above. The first monitoring year, however, is the first full year that encompasses all seasons as defined above. Subsequent monitoring years will follow the same schedule (beginning in the same calendar month in the subsequent monitoring years).

In each monitoring year, the searchers shall conduct fatality monitoring searches at the rates of frequency shown below. Over the course of one monitoring year, the searchers will conduct 15 searches per turbine, as follows:

Season	Frequency (Total Number)
Spring	2 searches per turbine per month (4 searches per turbine)
Summer	2 searches per turbine per month (6 searches per turbine)
Fall	2 searches per turbine per month (5 searches per turbine)

4.1.2 *Sample Size*

The sample size for fatality monitoring is the number of turbines searched per monitoring year. Echanis shall conduct fatality monitoring during each monitoring year in search plots at each of the seven migratory corridor turbines, and at 15 of the other turbines. Each turbine will be searched according to the schedule above, thus approximately once every 2 weeks Spring, Summer, and Fall.

4.1.3 *Search Plots*

The searchers shall conduct fatality monitoring within search plots. Echanis, in consultation with the searchers and the ODFW, shall select search plots based on a systematic sampling design that ensures that the plots are representative of the habitat conditions in different parts of the site. Each of the Migratory Corridor turbines will be searched during the intensive survey periods.

Plots will be centered on the turbine location and will have a radius equal to the maximum blade tip height of the turbine contained within the plot. “Maximum blade tip height” is the turbine hub-height plus one-half the rotor diameter. Square search plots will be of sufficient size to contain a circular search plot as described above. Echanis shall provide maps of the search plots to the Service and the TAC before beginning fatality monitoring at the facility. The searchers shall use the same search plots for each search conducted during a single monitoring year.

4.1.4 *Duration of Fatality Monitoring*

Echanis shall perform one complete monitoring cycle during the first full year of facility operation (Year 1) in addition to any partial year that is the period of time between 1 month following commencement of operations and October 31. At the end of this period of monitoring, Echanis shall report the results for joint evaluation by Echanis, BLM, the Service, and ODFW. In the evaluation, Echanis might compare the results for the Project with the thresholds of concern. If the fatality rates for the first year of monitoring at the Project do not exceed any of the thresholds of concern, then Echanis will perform intensive monitoring every five years. In the intervening years, the ECO and onsite personnel will carry out operational monitoring as described below (Section 4.3.1).

If monitoring results in the discovery of a Golden Eagle fatality directly caused by Project Operations, Echanis shall implement the first phase of Adaptive Management Measures set forth in Section 2.4.5 of this Plan. If the eagle mortality has occurred at a Migratory Corridor Turbine, then these turbines will be subject to targeted monitoring (Section 4.4 below). If fatality rates for the first year of monitoring at the Project exceed any of the thresholds of concern for species other than Golden Eagles, then Echanis will implement the first phase of Adaptive Management Measures set forth in Section 3.3.5. With respect to fatalities for species other than eagles, Echanis may opt to perform a second year of fatality monitoring if Echanis believes that the results of Year 1 monitoring were anomalous.

If either (a) there is a Golden Eagle fatality caused by the Project or (b) thresholds for other species are exceeded, Echanis shall complete an additional year of monitoring in the year following the date on which such eagle fatality occurred or the thresholds were exceeded. Such monitoring shall continue until such time as there is no Golden Eagle fatality or the thresholds are not exceeded, at which time the next year of intensive monitoring shall be in Year 5 of Project Operations. Between these years of intensive monitoring, Echanis shall conduct operational monitoring as described below (Section 4.3.1).

4.2 Baseline Fatality Monitoring

Contract biologists Personnel trained in proper search techniques (the “searchers”) will conduct the carcass searches by walking parallel transects approximately 20 feet (6 meters) apart within the search plots. A searcher will walk at a rate of approximately 148 to 197 feet (45 to 60 meters) per minute along each transect, searching both sides out to 10 feet (3 meters) for casualties. Search area and speed may be adjusted by habitat type after evaluation of the first searcher efficiency trial.

Searchers shall flag all avian or bat carcasses discovered. Carcasses are defined as a complete carcass or body part, 10 or more feathers or three or more primary feathers in one location. When parts of carcasses and feathers from the same species are found

within a search plot, searchers shall make note of the relative positions and assess whether or not these are from the same fatality.

All carcasses (avian and bat) found during the standardized carcass searches will be photographed, recorded and labeled with a unique number. Searchers shall make note of the nearest two or three structures (turbine, power pole, fence, building or overhead line) and the approximate distance from the carcass to these structures. The species and age of the carcass will be determined when possible. Searchers shall note the extent to which the carcass is intact and estimate time since death. Searchers shall describe all evidence that might assist in determination of cause of death, such as evidence of electrocution, vehicular strike, wire strike, predation or disease. When assessment of the carcass is complete, all traces of it will be removed from the site. All data will be entered into a database or spreadsheet.

Each carcass will be bagged and frozen for future reference and possible necropsy or (if the carcass is fresh and whole) for use in trials. A copy of the data sheet for each carcass will be kept with the carcass at all times. For each carcass found, searchers will record species, sex and age when possible, date and time collected, location, condition (e.g., intact, scavenged, feather spot) and any comments that may indicate cause of death. Searchers will photograph each carcass as found and will map the find on a detailed map of the search area showing the location of the wind turbines and associated facilities. Echanis shall coordinate collection of state endangered, threatened, sensitive or other state protected species with ODFW. Echanis shall coordinate collection of federally listed endangered or threatened species, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act protected avian species with the Service. Echanis shall obtain appropriate collection permits from ODFW and the Service.

The searchers shall calculate fatality rates using statistical methods approved by the TAC. In making these calculations, the searchers may exclude carcass data from the first search of each turbine plot (to eliminate possible counting of carcasses that were present before the turbine was operating).

The searchers shall estimate the number of avian and bat fatalities attributable to operation of the facility based on the number of avian and bat fatalities found at the facility site. All carcasses located within areas surveyed, regardless of species, will be recorded and, if possible, a cause of death determined based on blind necropsy results. If a different cause of death is not apparent, the fatality will be attributed to facility operation. The total number of avian and bat fatalities will be estimated by adjusting for removal and searcher efficiency bias (Section 4.5 below).

On an annual basis, Echanis shall report an estimate of fatalities in eight categories: (1) all birds, (2) small birds, (3) large birds, (4) raptors, (5) grassland birds, (6) nocturnal migrants, (7) state and federally listed threatened and endangered species and State Sensitive Species listed under OAR 635-100-0040 and (8) bats. Echanis shall report annual fatality rates on both a per-MW and per-turbine basis.

4.3 Operational Monitoring

Operational Monitoring consists of the following major steps: Inspections of turbines for dead birds and bats by the ECO during regularly scheduled (weekly) visits; turbine checks by operations personnel during scheduled maintenance visits; incidental observations by operations personnel during daily activities onsite; training of ECO and operations personnel; Permitting and Reporting.

The role of the ECO is critical, as the person hired into this position will act as the representative for wildlife issues and concerns. Duties of the ECO include supporting the Plant Manager and Operations personnel with wildlife-related issues at Echanis. The ECO should be a trained biologist with expertise in bird and bat identification; survey techniques involving point count and transect methods; handling dead birds; efficient at data recording, summary, and reporting; and other procedures to comply with state and federal permits. The ECO should undergo periodic training and testing by independent contractors, upon hire and at regular intervals (e.g. in both years 1 and 2, and every 5 years after that).

The primary duty of the ECO will be to conduct regularly scheduled inspections. Along with inspections, the ECO will be responsible for the following activities: Support recording and reporting of casualties discovered by Operations personnel during turbine checks or incidental observations (see Incidental Observations, below); conduct a small sample of carcass removal trials and seasonal searcher efficiency trials for turbine checks by the Operations personnel. (These trials would be conducted with the same protocol as the baseline monitoring trials, which are described below); process and handling bird and bat fatalities as appropriate under federal and state permits; assist with onsite wildlife/environmental awareness training for Operations personnel, which might include updates, insights from lessons learned, or reminders to personnel at site meetings.

A summary of operational monitoring practices is presented below.

4.3.1 *Environmental Compliance Officer Inspections*

The onsite ECO will conduct weekly inspection of selected turbines for bird and bat causalities. The ECO will survey the areas surrounding the turbines and search an 80-meter (m) long transect along the access road on either side of the turbine. The inspections will be conducted as follows: ECO will conduct 10 inspections per week at systematically selected turbines and at each of the seven Migratory Corridor turbines; upon arriving at a turbine the ECO will conduct a visual scan of the area surrounding the turbine with binoculars for any bird or bat causalities, carcasses, or remains; the ECO will search an 80-m transect along the turbine string access road on either side of the turbine and around the gravel pad surrounding the turbine; the ECO will record appropriate information on the inspection (e.g., date, observer) and for each bird or bat casualties discovered (e.g., location, identification); locations of casualties will be marked with a

GPS unit; the ECO will photograph all discoveries to aid in identification but will not handle or transport carcasses or injured wildlife unless specifically authorized, trained, and permitted; at the conclusion of the daily site inspection, the ECO will report any causalities of birds or bats to the Plant Manager; the ECO will seek the help of wildlife professionals in cases where specimen identification is unclear (and this could involve sending pictures of dead specimens to other professional biologists or contractors skilled in identifying dead animals); state and federal agencies will be notified immediately for any of the following discoveries:

- Threatened or endangered species
- Eagles
- Sage Grouse
- Five or more fatalities at a single turbine

The ECO will retain all unidentified casualties in a freezer until identification can be confirmed. Otherwise the ECO will dispose of carcasses as specified by permit.

4.3.2 *Operations Personnel Turbine Checks*

Operations personnel turbine checks are conducted during the regularly scheduled visits to turbines. On a monthly basis, operations personnel will search for bird and bat carcasses around the base of turbines during routine turbine checks conducted for other reasons. During these checks personnel will also scan as much of the area around the turbine as possible for feathers or carcasses. Project operators and maintenance personnel will be especially vigilant for eagle carcasses. Training and audits of Operations personnel will be conducted by the ECO periodically to ensure quality assurance and quality control (QA/QC) for the program. The effect of this training program shall be to ensure that fatality monitoring for Golden Eagles shall continue for the life of the Project.

The turbine checks are described below: During routine checks of turbines, onsite personnel will conduct a visual check for bird and bat remains by walking around the turbine base – remains include carcasses or parts of carcasses, bones, or groups of feathers (individual feathers could indicate a nearby carcass); the personnel will focus on the area that includes the gravel pad surrounding turbine and (if present) the step up transformer, approximately a 10 to 20-m radius around the turbine; personnel will also scan as much of the area around the turbines as possible for feathers or carcasses; the personnel will record that the turbine was checked (visual search of the perimeter of the turbine) for causalities, and whether or not any bird or bat carcasses were discovered; personnel will mark any carcasses with flags or other indicator to make it easy for the ECO to locate the casualty, but will not handle or transport any birds or bats unless specifically permitted and trained; the personnel will then report any dead or injured birds or bats to the ECO or Plant Manager; based on the notification, the ECO will visit the site to confirm the discovery and to record appropriate information, and follow through with specimen identification and disposal as described above. Such visual surveys, which shall occur each time operators conduct routine maintenance activities on a turbine, shall continue for the life of the Project.

4.4 Targeted Monitoring

Some mitigation phases require the implementation of targeted monitoring. Targeted monitoring will be the focus by the ECO to conduct mortality surveys around specific turbines, or strings of turbines, as decided by the TAC and the Service in the case of increased monitoring in response to eagle mortality. In general, targeted monitoring will be implemented if patterns emerge that suggest certain areas of Echanis are resulting in more mortalities than expected. The ECO will use methods similar to those used contractors during intensive monitoring, i.e., the ECO will add transects across the footprint of each targeted turbine creating a more intensive search of the area. This will be in addition to other turbine inspections (Section 4.3.1).

4.5 Incidental Observations

Along with the inspections by the ECO and turbine checks by operations personnel, any additional wildlife causalities observed incidentally during daily activities by operations personnel will be recorded. Operations personnel should follow essentially the same practices described for routine turbine checks when a bird or bat casualty is discovered incidentally. Mark the location of the casualty, record the location on an incidental observations form, and notify the ECO and/or Plant Manager immediately. Incidentally discovered carcasses will be recorded and reported separately from carcasses discovered as part of either formal baseline searches, operational monitoring by ECOs or routine checks by other personnel.

4.6 Injured Birds

The ECO will coordinate with a local, licensed wildlife rehabilitation center to transport any native injured wildlife found on project site to the center for rehabilitation. Any transport will be done in coordination with appropriate state and federal agencies and permits. The ECO shall develop and follow a protocol for handling injured birds. Any injured native birds found on the facility site will be carefully captured by the ECO and transported to a qualified rehabilitation specialist approved by the TAC. The ECO will be trained in proper techniques for capturing injured birds by qualified wildlife biologists. Echanis shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to the facility operations.

Operations personnel will follow appropriate internal reporting of any dead wildlife (and livestock) discovered. Plant Manager will also coordinate rapid removal of dead livestock or big game (deer, elk) as these may attract raptors, ravens, or vultures.

4.7 Removal Trials

The objective of the removal trials is to estimate the length of time avian and bat carcasses remain in the search area. Estimates of carcass removal rates will be used to

adjust carcass counts for removal bias. “Carcass removal” is the disappearance of a carcass from the search area due to predation, scavenging or other means such as ranching activity.

Professional independent biologists shall conduct carcass removal trials within each monitoring season defined above during the first year of fatality monitoring, and every five years thereafter during baseline monitoring years. For each trial, the searchers shall use 10 to 15 carcasses of small- and large-bodied species. Trial carcasses shall be placed at least 1,000 feet from any search plots and distributed proportionately within habitat categories and subtypes similar to the search plots.

The searchers shall use game birds or other legal sources of avian species as test carcasses for the removal trials, and the searchers may use carcasses found in fatality monitoring searches. The searchers shall select species with the same coloration and size attributes as species found at Echanis. If suitable trial carcasses are available, trials during the fall season will include several small brown birds to simulate bat carcasses. Legally obtained bat carcasses will be used if available.

Trial carcasses will be marked discreetly for recognition by searchers and other personnel. Carcasses will be placed in a variety of postures to simulate a range of conditions. For example, birds will be: (1) placed in an exposed posture (e.g., thrown over the shoulder), (2) hidden to simulate a crippled bird (e.g., placed beneath a shrub or tuft of grass) or (3) partially hidden. The planted carcasses will be located randomly within the carcass removal trial plots. Trial carcasses will be left at the location until the end of the carcass removal trial.

An approximate schedule for assessing removal status is once daily for the first 4 days, and on days 7, 10, 14, 21, 28 and 35. This schedule may be adjusted depending on actual carcass removal rates, weather conditions and coordination with the other survey work. The condition of scavenged carcasses will be documented during each assessment, and at the end of the trial all traces of the carcasses will be removed from the site. Scavenger or other activity could result in complete removal of all traces of a carcass in a location or distribution of feathers and carcass parts to several locations. This distribution will not constitute removal if evidence of the carcass remains within an area similar in size to a search plot and if the evidence would be discernable to a searcher during a normal survey.

Before beginning removal trials for any subsequent year of fatality monitoring, Echanis shall report the results of the first year removal trials to the TAC. In the report, Echanis shall analyze whether four removal trials per year, as described above, provided sufficient data to accurately estimate adjustment factors for carcass removal. The number of removal trials for any subsequent year of fatality monitoring may be adjusted up or down, subject to recommendations by the TAC.

4.8 Searcher Efficiency Trials

The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. A pooled estimate of searcher efficiency will be used to adjust carcass counts for detection bias. The trials should take place after an initial training and 'break-in period' of searchers has occurred; standardized search techniques should be learned and employed by all searchers, with the goal of creating an even baseline of searcher efficiency among all searchers before estimating searcher efficiency through trials.

The contract biologists shall conduct searcher efficiency trials within each of the seasons defined above during the years in which the fatality monitoring occurs. The ECO will be trained and tested in this way during the first year of monitoring, as contractors train and test themselves. Each trial will involve approximately 4 to 15 carcasses. The searchers will not be notified of carcass placement or test dates. The searchers shall vary the number of trials per season and the number of carcasses per trial so that the searchers will not know the total number of trial carcasses being used in any trial. In total, approximately 80 carcasses will be used per year, or approximately 15 to 25 per season.

For each trial, the searchers shall use small- and large-bodied species. The searchers shall use game birds or other legal sources of avian species as test carcasses for the efficiency trials, and the searchers may use carcasses found in fatality monitoring searches. The searchers shall select species with the same coloration and size attributes as species found within the site boundary. If suitable test carcasses are available, trials during the fall season will include several small brown birds to simulate bat carcasses. Legally obtained bat carcasses will be used if available. The searchers shall mark the test carcasses to differentiate them from other carcasses that might be found within the search plot and shall use methods similar to those used to mark removal test carcasses as long as the procedure is sufficiently discreet and does not increase carcass visibility.

Echanis shall distribute trial carcasses in varied habitat in rough proportion to the habitat types within the site. On the day of a standardized fatality monitoring search (described below) but before the beginning of the search, searchers will place efficiency trial carcasses randomly within search plots (one to three trial carcasses per search plot) within areas to be searched. If scavengers appear attracted by placement of carcasses, the carcasses will be distributed before dawn.

Efficiency trials will be spread over the entire season to incorporate effects of varying weather and vegetation growth. The number and location of the efficiency trial carcasses found during the carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the person responsible for distributing the carcasses. Following plot searches, all traces of test carcasses will be removed from the site.

If new searchers are brought into the search team, additional searcher efficiency trials will be conducted following an appropriate training and break-in period, to ensure that

detection rates incorporate searcher differences. Echanis shall include a discussion of any changes in search personnel and any additional detection trials in the reporting required under Section 4 of this plan.

Before beginning searcher efficiency trials for any subsequent year of fatality monitoring, Echanis shall report the results of the first year efficiency trials to the TAC. In the report, Echanis shall analyze whether the efficiency trials as described above provided sufficient data to accurately estimate adjustment factors for searcher efficiency. The number of searcher efficiency trials for any subsequent year of fatality monitoring may be adjusted up or down as necessary.

The contractors shall conduct searcher efficiency trials for the ECO to measure detection bias in the survey method described under operational monitoring to be conducted by the ECO. The method should especially focus on the ability of the ECO to detect large carcasses, e.g. eagles, at distances from the planned transects. The ECO shall conduct searcher efficiency trials for personnel once per year, using similar techniques, with the goal of providing some measure of detection bias using the sampling scheme devised for operations personnel above.

4.9 Statistical Methods for Fatality Estimates

The estimate of the total number of wind facility-related fatalities is based on:

- The observed number of carcasses found during baseline monitoring searches for which the cause of death is attributed to the facility;
- Searcher efficiency expressed as the proportion of planted carcasses found by searchers.
- Removal rates expressed as the estimated average probability a carcass is expected to remain in the study area and be available for detection by the searchers during the entire survey period.

Following the initial years of contractor-run baseline surveys, reports will include estimates of fatalities based on operational monitoring and incidental casualties.

4.10 Raptor Nest Monitoring

The objectives of raptor nest surveys are: (1) to estimate the size of the local breeding populations of raptor species that nest on the ground or aboveground in trees or other aboveground nest locations in the vicinity of the Project, and (2) to determine whether operation of the facility results in a reduction of nesting activity or nesting success in the local populations of the following raptor species: Swainson's hawk, ferruginous hawk, Golden Eagle, and bald eagle.

Echanis shall conduct short-term and long-term monitoring. Echanis's qualified searchers will use aerial and ground surveys to evaluate nest success by gathering data on active

nests, on nests with young, and on young that have fledged. The searchers will analyze the data as described in Section 3(c) and will share the data with state and federal biologists.

4.10.1 *Short-Term Raptor Monitoring*

Short-term monitoring will be done in two monitoring seasons. The first monitoring season will be in the first raptor nesting season after completion of construction of the facility. The second monitoring season will be in the fourth year after construction is completed. Echanis shall provide a summary of the first-year results in the monitoring report. After the second monitoring season, the searchers will analyze two years of data compared to the baseline data.

During each monitoring season, the searchers will conduct a minimum of one aerial and one ground survey for raptor nests in late May or early June and additional surveys as described in this section. The survey area is the area within the facility site and a 2-mile buffer zone around the site. Nests outside the leased project boundary will be checked from an appropriate distance where feasible, depending on permission from the landowner for access.

All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. Nest locations will be recorded on U.S. Geological Survey 7.5-minute quadrangle maps. Global positioning system (GPS) coordinates will be recorded for each nest. Locations of inactive nests will be recorded because they could become occupied during future years.

Determining nest occupancy will likely require at least two visits to each nest. For occupied nests, Echanis will determine nesting success by a minimum of one ground visit to determine species, number of young and young fledged. “Nesting success” means that the young have successfully fledged (the young are independent of the core nest site).

4.10.2 *Long-Term Raptor Monitoring*

In addition to the two years of post-construction raptor nest surveys described above, Echanis will conduct long-term raptor nest surveys at 5-year intervals for the life of the facility. Searchers will conduct the first long-term raptor nest survey in the raptor nesting season of the ninth year after construction is completed and will repeat the survey at 5-year intervals thereafter. In conducting long-term surveys, the searchers will follow the same survey protocols as described above unless the searchers propose alternative protocols that are approved by the TAC. In developing an alternative protocol, the searchers will consult with the TAC and will take into consideration other monitoring conducted in adjacent areas. The searchers will analyze the data and report after each year of long-term raptor nest surveys.

4.10.3 *Raptor Nesting Data Analysis*

The searchers will analyze the raptor nesting data to determine whether a reduction in either nesting success or nest use has occurred in the survey area. If the analysis indicates a reduction in nesting success or nest use by Swainson's Hawks or Ferruginous Hawks, then Echanis will propose appropriate mitigation for the affected species as described in Section 3(d) and will implement mitigation as approved by the TAC.

Reductions in nesting success or nest use could be due to operation of the facility or some other cause. The searchers will attribute the reduction to operation of the facility unless the searchers demonstrate, and the TAC agrees, that the reduction was due to a different cause. At a minimum, if the analysis shows that a Swainson's Hawk or Ferruginous Hawk has abandoned a nest territory within the facility site or within ½ mile of the facility site or has not fledged any young over two successive surveys within that same area, the searchers will assume the abandonment or unsuccessful fledging is due to operation of the facility unless another cause can be demonstrated convincingly.

Given the low raptor nesting densities in the area, statistical power to detect a relationship between distance from a wind turbine and nesting parameters (e.g., number of fledglings per reproductive pair) will be very low. Therefore, impacts may have to be judged based on trends in the data (if any), results from other wind energy facility monitoring studies, and literature on what is known regarding the populations in the region.

4.10.4 *Raptor Nest Mitigations*

If the analysis shows a reduction in nesting success or nest use, Echanis shall implement mitigation if the TAC determines that mitigation is appropriate. Echanis will propose mitigation for the affected species in consultation with the Service and ODFW and will implement mitigation as approved by the TAC. Mitigation should be designed to benefit the affected species or contribute to overall scientific knowledge and understanding of what causes nest abandonment or nest failure. Mitigation may be designed to proceed in phases over several years. It may include, but is not limited to, additional raptor nest monitoring, protection of natural nest sites from human disturbance or cattle activity (preferably within the general area of the facility) or participation in research projects designed to improve scientific understanding of the needs of the affected species. Mitigation may take into consideration whether mitigation required or provided for other impacts, such as fatality impacts or grassland bird displacement, would also benefit the raptor species whose nesting success was adversely affected.

Echanis will report wildlife monitoring data and analysis to the TAC at each scheduled meeting of the TAC. Echanis shall notify the Service and ODFW immediately if any federal or state endangered or threatened species are killed or injured on the facility site. Echanis shall report fatality monitoring program data, raptor nest monitoring data, data and analysis from the grassland bird study and data on avian and bat casualties found by facility personnel. Echanis may include the reporting of wildlife monitoring data and

analysis in the annual report or submit this information as a separate document at the same time the annual report is submitted. In addition, Echanis shall provide to the TAC any data or records generated by the searchers in carrying out this monitoring plan upon request by the TAC.

Literature Cited

Gerhardt, R., 2011. Personal Communication (letter date).

FWS. 2009. Final environmental assessment. Proposal to permit take provided under the Bald and Golden Eagle Protection Act. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Washington D.C., USA.

FWS. 2011. Draft eagle conservation plan guidance. Available at: http://www.fws.gov/windenergy/docs/ECP_draft_guidance_2_10_final_clean_omb.pdf .

Whitfield, D. P. 2009. Collision avoidance of golden eagles at wind farms under the 'Band' collision risk model. Report from Natural Research to Scottish Natural Heritage, Banchory, UK.

Programmatic Agreement

Among
The U. S. Bureau of Land Management,
Malheur National Wildlife Refuge - U.S. Fish and Wildlife Service,
and
Oregon State Historic Preservation Officer
Regarding the North Steens 230-kV Transmission Line Project

WHEREAS, Echanis, LLC (Echanis), a subsidiary of Columbia Energy Partners (CEP), submitted Rights-of-Way (ROW) applications to the U. S. Bureau of Land Management (BLM) and Malheur National Wildlife Refuge-U.S. Fish and Wildlife Service (USFWS) for the construction, operation, and maintenance of a new double-circuit 230-kV overhead electric transmission line and ancillary facilities (referred to as the North Steens 230-kV Transmission Line Project) on Federal and private lands located in Harney County, Oregon; and

WHEREAS, the BLM, the lead federal agency for the purposes of complying with 36 CFR Part 800, has determined that the ROW, if granted by the BLM pursuant to the Federal Land Policy and Management Act of 1976 (FLPMA), is considered a federal undertaking subject to Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470f, as amended) and its implementing regulations, "Protection of Historic Properties," (36 CFR Part 800); and

WHEREAS, the USFWS has determined that the compatibility determination and special use permit for the proposed transmission line, if granted by the USFWS pursuant to the National Wildlife Administration Act of 1966 as amended, is considered a federal undertaking subject to Section 106 of the NHPA (16 USC 470f, as amended) and its implementing regulations, "Protection of Historic Properties," (36 CFR Part 800); and

WHEREAS, the North Steens 230-kV Transmission Line Project would connect CEP's proposed Echanis Wind Energy Project with Harney Electric Cooperative's existing 115 kilovolt (kV) line near Diamond Junction, Oregon. The route proposed by CEP (West Route) for the transmission line and two deviations of the proposed route (South Diamond Lane and Hog Wallow Route Options) are being considered in the Environmental Impact Statement (EIS) being prepared by BLM. This proposed route and two options would cross private lands as well as Federal lands managed by the BLM and USFWS. An additional alternative route (the North Route) is also being considered in the EIS. The North Route would cross private lands and BLM managed Federal lands but would not involve Federal lands managed by USFWS. The potential grant of a ROW by BLM and, if necessary, USFWS, for any of the transmission line routes would enable the construction of the Echanis Wind Energy Project on private lands. For this reason, all private land components of the project have been determined to be a connected action under NEPA, are being analyzed in the EIS and are subject to compliance with Section 106, NHPA; and

WHEREAS, regardless of the route ultimately selected the North Steens 230-kV Transmission Line Project Area of Potential Effect (APE) for the archaeological resources inventory will total 400 feet or 200 feet each side of the proposed transmission line, while the APE for the architectural/historical resources inventory will include an area of 1 mile or ½ mile each side of the center line of the proposed transmission line. The ½ mile APE extends to each side of the Echanis Wind Energy Project turbine sites, and proposed access roads. It also extends from the exterior boundaries of the temporary storage yards/staging areas. In instances when the boundaries of archaeological sites extend beyond the 400 foot boundary and historical features extend beyond the 1 mile APE, the entire site or features will be defined and recorded; and

WHEREAS, the BLM and the USFWS have determined that the development of the North Steens 230-kV Transmission Line Project may have an adverse effect on properties listed in or eligible for listing in the National Register of Historic Places (NRHP), and has consulted with the Oregon State Historic Preservation Officer (SHPO), pursuant to 36 CFR Part 800; and

WHEREAS, in accordance with 36 CFR §§ 800.4(b)(2) and 800.5(a)(3), the BLM and the USFWS have elected to phase identification and evaluation of historic properties, and application of the criteria of adverse effect, respectively, because access to private lands identified in Attachment A has not yet been secured by CEP; no decision has been made identifying a specific route and the cultural resource inventories of the proposed transmission line routes and access roads have not been completed due to project realignments, adjustments, or environmental conditions; and

WHEREAS, pursuant to 36 CFR § 800.14(b), the BLM and the USFWS have elected to execute this Programmatic Agreement (PA) for the North Steens 230-kV Transmission Line Project because effects on historic properties cannot be fully determined prior to issuance of the BLM ROW Grant and USFWS Determination and Special Use Permit for the undertaking; and

WHEREAS, the BLM invited the Indian tribes listed in Attachment B to participate in consultation; and only the Burns Paiute Tribe elected to participate in consultation;

WHEREAS, the Burns Paiute Tribe has participated in consultation and have been invited to concur in this PA, pursuant with 36 CFR §§ 800.2(c)(2) and 800.6(c)(3); and

WHEREAS, the Harney County Court have participated in consultation and have been invited to concur in this PA, pursuant with 36 CFR Part 800.3 and 36 CFR Part 800.6.

NOW, THEREFORE, the BLM, USFWS, and SHPO agree that the following stipulations will be implemented in order to take into account the effect of the undertaking on historic properties and to satisfy all responsibilities under Section 106 of the NHPA.

STIPULATIONS

The BLM, USFWS, and SHPO as appropriate, will ensure that the following measures are carried out.

I. STANDARDS

A. Identification and evaluation studies and treatment measures required under the terms of this PA will be carried out by or under the direct supervision of a professional(s) who meets, at a minimum, the Secretary of the Interior's Historic Preservation Professional Qualification Standards (48 FR 44716, September 29, 1983).

B. In developing scopes of work for identification and evaluation studies and treatment measures required under the terms of this PA, CEP will take into account the following guidance documents and regulations:

1. Advisory Council On Historic Preservation's (ACHP) guidance on conducting archaeology under Section 106 (2007);
2. ACHP's Policy Statement Regarding the Treatment of Burial Sites, Human Remains and Funerary Objects (February 23, 2007);
3. applicable Oregon SHPO guidance;
4. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-42, September 29, 1983);

5. "Treatment of Archaeological Properties" (ACHP 1983);
6. BLM Guidelines for Conducting Tribal Consultation Handbook (H-8120-1, formerly H-8160-1);
7. Federal Land Policy and Management Act of 1976;
8. National Wildlife Refuge System Administration Act of 1966 as amended;
9. Section 404 of the Clean Water Act (334 U.S.C. § 344);
10. Executive Order No. 13007: Indian Sacred Sites (1996);
11. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments (2000);
12. Presidential Memorandum on Government-to-Government Relations with Native American Tribal Governments (1994);
13. Executive Memo Government-to-Government Relationship with Tribal Governments (2004);
14. Archaeological Resources Protection Act (1979);
15. OAR 736-051-0090, Process for Applying for an Archaeological Permit on Private Lands in the State of Oregon;
16. Programmatic Agreement between the U. S. Fish and Wildlife Service Region 1, the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer Regarding the Administration of Routine Undertakings in the State of Oregon (1997);
17. Memorandum of Understanding on Human Remains between the U. S. Fish and Wildlife Service and the Oregon State Historic Preservation Office and the Burns Paiute Tribe (1991).

II. CONFIDENTIALITY

The BLM and USFWS will safeguard information about historic properties of religious and cultural significance to the Burns Paiute Tribe, including location information, or information provided by The Burns Paiute Tribe to assist in the identification of such properties, to the extent allowed by Section 304 of NHPA [16 U.S.C. 470w3] and other applicable laws.

III. PROJECT CONSTRUCTION

A. Identification and Evaluation of Historic Properties

1. For those areas not previously surveyed due to a lack of access, as listed in Attachment A of this PA, for areas added to the APE due to Project modifications or other reasons, CEP, with oversight and review from BLM and USFWS and in consultation with the signatory and concurring parties, will complete the identification and evaluation of historic properties within the APE, assess effects, and resolve any adverse effects to those historic properties prior to the initiation by CEP of construction in the vicinity of an un-surveyed property in accordance with 36 CFR 800.4 through 800.6. If areas previously not surveyed are private lands ORS 358.905-358.962 and OAR 736-051-0090 will be the guiding statutes.

2. The BLM and USFWS remain responsible for conducting government-to-government consultation with the Burns Paiute Tribe. The BLM and USFWS shall continue to seek tribal views on the identification and evaluation of historic properties, including historic properties of religious and cultural significance to the Burns Paiute Tribe, and the treatment of affected historic properties, in connection with the construction of the North Steens 230-kV Transmission Line Project.

3. The BLM and USFWS will conduct consultation with the Burns Paiute Tribe for the areas of BLM Burns District and Malheur National Wildlife Refuge crossed by the Project right-of-way or its alternatives.

B. Coordination Plan

1. BLM and USFWS will make a reasonable and good faith effort to complete the identification and evaluation of historic properties, and the mitigation of adverse effects to them in accordance with Stipulations III.A and III.C prior to CEP's initiation of vegetative clearing and construction.

2. The identification and evaluation of cultural resources within the Project APE may not be completed prior to the start of vegetative clearing and construction activities because of unforeseen minor changes in the construction footprint and incomplete inventory due to difficulties in retaining land owner permission. CEP shall develop and provide to BLM and the USFWS a detailed Coordination Plan describing how the requirements of Stipulations III. A and C - identification, evaluation and treatment - will be completed in conjunction with vegetative clearing and construction activities in such a way that historic properties will not be adversely affected prior to the implementation of any mitigation measures. The Coordination Plan would detail the steps for completion of the identification, evaluation and avoidance/mitigation of historic properties. If the Coordination Plan is deemed necessary by BLM and once developed and approved it would be incorporated into this agreement as Attachment E.

3. The Coordination Plan would include a schedule for all proposed construction activities and recommended measures for the protection of unanticipated discoveries in accordance with Stipulation IV and/or Attachment C.

4. The BLM shall make the Coordination Plan available to consulting parties for a thirty (30) day review period once it has received the plan from CEP. BLM shall take into account comments received prior to approving the plan for implementation. The BLM-approved Plan will be incorporated into all construction documents and implemented accordingly.

C. Treatment of Historic Properties

1. Whenever feasible, avoidance of adverse effects to historic properties will be the preferred treatment. In consultation with the BLM, USFWS, SHPO and other consulting parties, CEP may elect to consider and implement avoidance measures prior to completing the evaluation of historic properties.

2. When historic properties are identified in the APE pursuant to Stipulation III.C, BLM will apply the criteria of adverse effect in accordance with 36 CFR § 800.5(a) and ORS 358.905 and ORS 390.235 in consultation with the SHPO, USFWS and other consulting parties. If BLM finds that historic properties might be adversely affected by transmission line construction, BLM and USFWS will consult with the SHPO and other consulting parties to determine prudent and feasible ways to avoid adverse effects.

3. If BLM and the USFWS determine that the adverse effect cannot be avoided, BLM and USFWS will consult with the SHPO and other consulting parties to determine those measures to be implemented by CEP to minimize and mitigate adverse effects on identified historic properties.

4. If adverse effects to historic properties are identified, CEP with BLM oversight, and review by all consulting parties, will draft a comprehensive Treatment Plan that describes the measures to minimize and mitigate the adverse effect of transmission line construction activities on historic properties, the manner in which these measures will be carried out and a schedule for their implementation. If the Treatment Plan is deemed necessary by BLM and once developed and approved it would be incorporated into this agreement as Attachment F.

a. When mitigation consists of or includes data recovery, the Treatment Plan also will identify the specific research questions to be addressed by data recovery with an explanation of their relevance, the archaeological methods to be used, and will be encouraged to make provisions for public interpretation and education, subject to Stipulation II restrictions, if any.

b. CEP will submit the draft Treatment Plan to the BLM, SHPO, USFWS and other consulting parties for a fifteen (15) day review. CEP shall address timely comments and recommendations submitted by consulting parties in preparation of the Final Treatment Plan.

c. When it has addressed all of the comments and recommendations, CEP will submit the Final Treatment Plan to BLM and USFWS for review and approval.

5. CEP shall complete implementation of the Final Treatment Plan approved by BLM, SHPO, USFWS, and other consulting parties prior to beginning construction in areas occupied by historic properties. If it is not possible to meet this schedule, CEP will develop a plan that establishes how appropriate treatment will be determined and implemented during construction activities.

D. Construction Monitoring

1. In consultation with the BLM, USFWS and SHPO, CEP with participation of the Burns Paiute Tribe will monitor construction in selected areas of the APE as a supplement to identification efforts. Any unanticipated discoveries made during construction will be treated in accordance with Stipulation IV and/or Attachment C.

2. Construction monitoring will be performed by a professional who either meets or is under the direct supervision of an individual who meets the qualification standards established in Stipulation I.A. Traditional cultural knowledge may possibly serve as a substitute for some forms of experience outlined in Stipulation I.A. The Burns Paiute Tribe in consultation with BLM and USFWS will determine the qualifications of the cultural monitors relative to any traditional cultural knowledge that they may possess.

3. BLM and USFWS shall consider information provided by the Burns Paiute Tribe in completing the identification of historic properties before construction commences. CEP will consider input from the BLM, USFWS, SHPO and the Burns Paiute Tribe in preparing a construction monitoring plan provided for under Stipulation III.D.4. CEP shall provide the Burns Paiute Tribe an opportunity to participate as monitors during project construction and shall seek approval of the Burns Paiute Tribe of all persons assigned as construction monitors.

4. CEP, with direction and oversight by BLM and USFWS will develop a Construction Monitoring Plan which will be approved by BLM after review by USFWS and the SHPO and other consulting parties. Once developed and approved the Construction Monitoring Plan would be incorporated into this agreement as Attachment G.

5. CEP will implement the Final Monitoring Plan after review and input from all consulting parties and approval by BLM and USFWS.

E. Construction

1. Environmental Inspector (EI): Prior to initiating vegetative clearing or construction, CEP will employ an EI whose responsibilities will include ensuring compliance with the terms of this PA. In meeting this responsibility, the EI will rely on the technical expertise of professionals who meet the standards established in Stipulation I.A. The EI shall have training in archaeology unless a professional archaeologist is on-site advising and working with the EI.

a. The EI will monitor construction activities on-site and prepare a daily log reporting to BLM and USFWS on activities performed to implement the terms of this PA, as appropriate. CEP will make the daily log available to the BLM, USFWS and other consulting parties upon request.

b. CEP will ensure through the construction contract that the EI will possess the authority to stop construction in the event of an inadvertent discovery in accordance with Stipulation IV and/or Attachment C.

2. Training: CEP will ensure that if the EI does not meet the professional qualification standards established in Stipulation I.A, the EI receives appropriate training in historic preservation from a professional who meets the standards established in Stipulation I.A in order to perform the requirements of this PA. The EI will remain under the direct supervision of an individual who meets the qualification standards established in Stipulation I.A. CEP also will provide an appropriate level of training in historic preservation conducted by a professional who meets the standards established in Stipulation I.A to all construction personnel (including new, added, or replaced workers) so that PA requirements are understood and unanticipated discoveries quickly identified. CEP will offer this training prior to initiating vegetative clearing or construction activities and conduct periodic refresher training during transmission line construction.

3. The BLM and USFWS will ensure that the Burns Paiute Tribe is afforded a reasonable opportunity to provide information about historic properties of religious and cultural significance to them prior to transmission line construction.

4. Construction Contract: CEP will incorporate the terms of Stipulation IV.A and Attachment C into construction contracts to ensure that its EI and construction contractors meet their responsibility for notification of the unanticipated discoveries.

F. Scheduling

BLM and USFWS may authorize the start of vegetative clearing and transmission line construction when the scheduling plans prepared in accordance with Stipulations III.B, III.C and III.D, as appropriate, have been submitted by CEP and approved by BLM and USFWS in accordance with the terms of this PA.

IV. UNANTICIPATED DISCOVERIES DURING PROJECT CONSTRUCTION

A. Unanticipated Discoveries (not including human burials, remains, or funerary goods)

1. "Applicable federal agency" is the BLM and the USFWS that has jurisdiction for the land on which construction is occurring.

2. If previously unidentified historic properties are discovered unexpectedly as construction activities are carried out, the construction contractor will immediately halt all construction activity within a one-hundred (100) foot radius of the discovery, notify CEP's EI of the discovery and implement interim measures to protect the discovery from looting and

vandalism. Within twenty-four (24) hours of receipt of this notification of the discovery, the EI (if a qualified archaeologist) or a qualified archaeologist shall:

a. inspect the work site to determine the extent of the discovery and ensure that construction activities have halted;

b. clearly mark the area of the discovery;

c. implement additional measures, as appropriate, to protect the discovery from looting and vandalism; and

d. notifies the applicable federal agency, the SHPO and other consulting parties, including The Burns Paiute Tribe, of the discovery.

3. The BLM and USFWS will have seven (7) calendar days following notification provided in accordance with Stipulation IV.A.2 to determine the NRHP eligibility of the discovery after considering the timely filed views of the SHPO, the Burns Paiute Tribe, and other consulting parties. The BLM and USFWS may assume the newly discovered property to be eligible for the NRHP for the purposes of Section 106 pursuant to 36 CFR § 800.13(c) and ensure that construction activities will avoid adverse effects to NRHP eligible properties.

4. For properties determined eligible pursuant to Stipulation IV.A.3, the applicable federal agency will notify the SHPO and other consulting parties of those actions that it proposes to resolve adverse effects.

a. Consulting parties will have seven calendar days to provide their views on the proposed actions.

b. The applicable federal agency will ensure that the timely filed recommendations of consulting parties are taken into account prior to granting approval of the measures that CEP will implement to resolve adverse effects.

c. CEP will carry out the approved measures prior to resuming construction activities in the location of the discovery.

B. Unanticipated Discovery of Human Burials and Remains, and Funerary Objects

1. When Native American human remains, funerary objects, or objects of cultural patrimony are unexpectedly discovered during construction of the Project on federal lands within the APE, CEP shall notify immediately the federal agency with jurisdiction. For remains found on private lands, CEP shall follow the procedures set forth in Attachment C.

2. Consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) [25 U.S.C. 3001 et. seq.] and its implementing regulations in 43 C.F.R. Part 10, the federal agency shall be responsible, in consultation with the applicable Indian tribe and with the professional assistance of an archaeologist that meets the Standards outlined in I.A., for making the determination regarding the Native American or non-Native American status of the human remains. A forensic anthropologist should be consulted in cases where one cannot rule out a more recent non-Native burial.

3. Non-Native American human burials and remains, and funerary objects discovered on federal lands within the APE will be treated by the applicable federal agency in accordance with applicable federal law, taking into account the ACHP's Policy Statement on

the Treatment of Burial Sites, Human Remains and Funerary Objects (February 23, 2007) as well as other agency Treatment Plans and policies, as appropriate.

V. CURATION

A. CEP will work with BLM, USFWS and the Burns Paiute Tribe to curate any artifacts, materials or records resulting from archaeological identification and mitigation conducted on federal lands under their jurisdiction in accordance with 36 CFR Part 79, "Curation of Federally-Owned and Administered Archaeological Collections."

B. CEP will return all artifacts recovered from private lands to the respective landowner after analysis is complete, unless applicable state law requires (OAR 736-051-090) otherwise. CEP and BLM, USFWS and the Burns Paiute Tribe will encourage and assist landowners in donating any returned artifacts to a curation facility that meets the Secretary of Interiors Standards and identified by the BLM, USFWS, or the Burns Paiute Tribe.

C. The BLM and the USFWS will determine the disposition of human burials, human remains and funerary objects in accordance with applicable federal and state law (ORS 97.740-97.760 and ORS 358.905-358.962) and existing Memorandum of Understandings (MOUs) between the applicable Indian tribe and the BLM and USFWS.

VI. REPORTING

A. Within one year of completion of transmission line construction, CEP will submit a comprehensive draft report to BLM and USFWS describing the results and findings of the implementation of the actions and plans specified in Stipulations III.B through D, IV.A and B, and Attachment C.

B. CEP will submit a draft comprehensive report to the BLM, USFWS, SHPO and other consulting parties for a thirty (30) day review and comment. CEP shall address timely comments and recommendations submitted by consulting parties in preparation of the Final Comprehensive Report. CEP will submit the final report to BLM for review and approval. BLM will send the final report to the SHPO for review and concurrence.

VII. MONITORING IMPLEMENTATION OF THE PROGRAMMATIC AGREEMENT

Each quarter following the execution of this PA until it expires or is terminated, CEP with BLM and USFWS oversight and review will provide the consulting parties to this PA a progress report summarizing the work carried out pursuant to its terms. The report will include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the efforts to carry out the terms of this PA. CEP and BLM will maintain and update a list of the current contacts for the consulting parties to be distributed each quarterly report.

VIII. DISPUTE RESOLUTION

A. "Appropriate federal agency" refers to the BLM or USFWS as applicable.

B. Should any signatory or concurring party to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the appropriate federal agency will consult with such party to resolve the objection. If the appropriate federal agency determines that such objection cannot be resolved, the appropriate federal agency will:

1. Notify the signatory and concurring parties that an objection cannot be resolved.

2. Forward all documentation relevant to the dispute, including the applicable federal agency's proposed resolution, to the ACHP, signatory parties, and concurring parties for comment. The ACHP, signatory parties, and concurring parties will provide the appropriate federal agency with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the appropriate federal agency will prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The appropriate federal agency will then proceed according to its final decision.

3. If the dispute involves a disagreement on NRHP eligibility, the federal agency shall follow the process for resolving such disagreements found in 36 CFR 800.4(c) (2) and 36 CFR part 63.

4. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the applicable federal agency may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the appropriate federal agency will prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the PA, and provide them and the ACHP with a copy of such written response.

C. The appropriate federal agency's responsibility is to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remaining unchanged.

IX. DURATION

This PA will be null and void if all of its stipulations have not been carried out within four (4) years from the date of its execution or until all of its stipulations that require action by the signatories have been carried out, whichever occurs first. If work on this Project is not completed within four (4) years, BLM may consult with other signatory parties to either amend the PA to extend its duration or modify the terms of the PA, as appropriate in accordance with Stipulation X. The BLM will notify the signatory and concurring parties as to the course of action it intends to pursue at least ninety (90) days before the PA would expire.

X. AMENDMENT

Any signatory party to this PA may propose in writing to the other signatory parties that it be amended. The signatory parties will consult in an effort to reach agreement on an amendment. Any amendment will be effective on the date it is signed by all of the signatories and filed with the ACHP.

XI. TERMINATION

A. If any signatory to this PA determines that its terms will not or cannot be carried out, that party will immediately consult with the other parties to attempt to develop an amendment per Stipulation XI. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the PA upon written notification to the other signatories.

B. Once the PA is terminated, and prior to work continuing on the undertaking, the BLM and USFWS shall request, take into account, and respond to comments of the ACHP in accordance with 36 C.F.R. 800.7(a). Following consultation with the ACHP, the BLM and USFWS will notify the signatory and concurring parties as to the course of action it intends to pursue.

C. In the event that the selected alternative for the transmission line route does not extend across USFWS lands, USFWS participation in this programmatic agreement will be terminated. All signatory and concurring parties will be informed in writing by USFWS of its withdrawal from participation in this agreement.

XII. ANTI-DEFICIENCY PROVISION

Any obligation of the BLM or USFWS set forth in this PA is subject to and dependent on appropriations by Congress and allocation of sufficient funds for that purpose.

XIII. SCOPE OF THE PROGRAMMATIC AGREEMENT

This Agreement is limited in scope to actions that will facilitate the construction of the North Steens 230-kV Transmission Line Project and related facilities, and is entered into solely for that purpose.

EXECUTION of this PA by the BLM, USFWS and SHPO have taken into account the effects of the North Steens 230-kV Transmission Line Project on historic properties and implementation of its terms is evidence that the BLM and USFWS have afforded the ACHP an opportunity to comment.

Name _____ Date 11/30/11

Title DM Burns

Bureau of Land Management, Burns District Office

Name Tim Bodeen Date Dec 1, 2011
Title Refuge Manager
Malheur National Wildlife Refuge - U. S. Fish and Wildlife Service

Name

12.8.11
Date

Oregon State Historic Preservation Officer

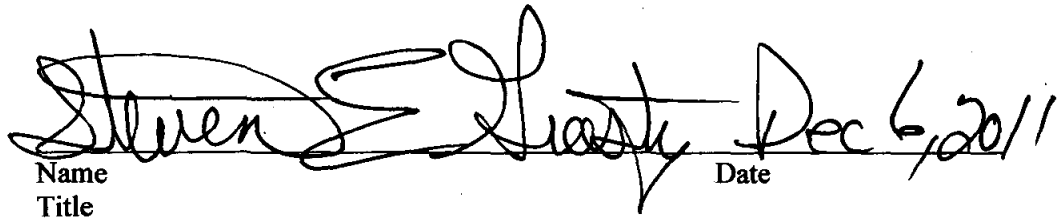
Marissa Sneve 07 Dec. 2014

Name Date

Title

Burns Paiute Tribe

(Concurring party)



Name
Title
Harney County Court
(Concurring party)

Date

Name: Guy Piazza
Title : Manager
Echanis, LLC, subsidiary of Columbia Energy Partners, LLC
(Concurring party)

Date: Dec 15, 2011

ATTACHMENT A

Tables 1 and 2 showing properties for which CEP and its contractors have been denied access or unable to conduct identification and evaluation studies due to project reroutes, adjustments, or environmental conditions:

Table 1. Architectural/Historical Resources Inventory - Areas Not Surveyed Within the Project APE

Location	Estimated Mileage	Township/Range/Section
Alternative Route C (North Route)	5	T26S/R34E, S 1, 12, 13, 24, 25, 25 T27S/R34E, S 6, 7, 18, 19, 30 (Refer to APE Maps, Unit 19-20)
Alternative Route C (North Route)	2.5	T30S/R33E, S 2, 11 T29S/R33E, S 35 (Refer to APE Maps, Unit 11-12)
Alternative Route C (North Route) Access Roads	2.5	T30S/R33E, S 2, 11 T29S/R33E, S 35 (Refer to APE Maps, Unit 11-12)
Alternative Route C/B and Echanis Wind Farm Route	7.5	T30S/R33E, S 5, 6, 9, 16, 15, 22, 27, 34, 35 (Refer to APE Maps, Unit 1-4)
Alternative Route C/B and Echanis Wind Farm Route Access Roads	7.2	T31S/R33E, S 7, 8, 17, 16, 20, 21, 27, 28, 34, 35 (Refer to APE Maps, Unit 1-4)
Echanis Wind Energy Project Turbine Towers	8.5	T31S/R33E, S 14, 15, 22, 23, 26, 35 T32S/R33E, S 2, 3, 10, 15 (Refer to APE Maps, Unit 1-2)
Total Miles	*33.2*	

Source: BLM Malheur Lake Quadrangle Map (2008) and BLM Baca Lake Quadrangle Map (2009)

Table 2. Archaeological Resources Inventory - Areas Not Surveyed Within the Project APE

Location	Township	Range	Sections	Estimated Mileage
Echanis Access Road Alternative Route B/C	31S	34E	5, 6, 7, 8, 16, 17, 20, 21, 27, 28, 34, 35	7
Echanis Access Road Alternative Route B/C	30.5S	34E	31	0.33
Echanis Access Road Alternative Route B/C	31S	33E	3, 4, 10, 14, 15	3

Alternative Route B/C Access Roads	30S	33E	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 21, 22, 23, 26, 27, 28, 34, 35, 36	15
Alternative B Access Road	30S	32E	1, 12	1
Alternative B Access Road	29S	32E	29, 30, 31, 32	3
Alternative B - South Diamond Lane Option	29S	32E	19, 20, 29, 30	2
Alternative B - South Diamond Lane Option	29S	31E	13, 14, 15, 22, 23, 24	2.5
Alternative B Access Road	29S	31E	27, 34	1.15
Alternative B Access Road	30S	31E	3, 4	1.25
Alternative C - Access Road	29S	33E	26, 35	2
Alternative C - Access Road	27S	34E	7, 18	0.66
Alternative C - Access Road	27S	33E	12	0 *
Alternative C - North Route	27S	33E	1, 12	2
Alternative C - North Route	27S	34E	6, 7	0 **
Alternative C - North Route	26S	33E	1, 12, 25, 36	2
Alternative C - North Route	26S	34E	6, 7, 30, 31	0 **
Alternative C - North Route	25S	34E	30, 31	1.5
			Total Miles	*44.39*
* Negligible amount to be surveyed				
**ROW shared with adjacent Range; distance already calculated for Range 33 (previous row)				

ATTACHMENT B

List of Indian Tribes Invited by the BLM and USFWS* to Participate in Consultation:

Burns Paiute Tribe*
Confederated Tribes of Warm Springs
Klamath Tribes

ATTACHMENT C

PLAN FOR THE UNANTICIPATED DISCOVERY OF HUMAN REMAINS OR BURIALS ON PRIVATE LANDS DURING THE CONTRUCTION OF THE NORTH STEENS 230-KV TRANSMISSION LINE PROJECT

1. When an unmarked human burial or unregistered grave is encountered during construction activities and it is not clearly modern then there is a high probability that the remains are of a Native American. When encountering an unmarked burial or grave, CEP shall immediately comply with Oregon Revised Statute 97.745(4).

2. The construction contractor will immediately notify CEP's Environmental Inspector (EI) upon encountering an unmarked human burial or unregistered grave during ground disturbing construction activities.

3. Immediately following receipt of such notification, the EI shall halt construction activities within a 100 foot radius from the point of discovery and implement measures to protect the discovery from looting and vandalism until the requirements of state law have been completed.

4. The EI shall notify the State Police, SHPO, Legislative Commission on Indian Services (CIS), and all appropriate Native American Tribes within forty-eight (48) hours of the discovery. CEP should contact the CIS to determine the "appropriate Native American Tribe(s)." The contact information for these parties appears below.

5. Within seventy-two (72) hours after notification the State Police will determine jurisdiction. If the State Police refers the matter to the SHPO, CIS, applicable Indian tribes and CEP shall determine the treatment, including mitigation and disposition of the unmarked human burial or unregistered grave and shall implement a culturally sensitive plan for reburial. The human remains and any associated funerary objects should not be manipulated, or transported from the original location until a plan is developed in consultation with the above named parties. These actions will help ensure compliance with ORS 97.745 which prohibits any person willfully removing human remains and/or objects of cultural significance from its original location. All parties shall regard the find and reburial as confidential unless all parties prepare and sign an information release agreement.

6. CEP shall resume construction activities in the area of the discovery upon receipt of written authorization from the State Police, SHPO, or CIS whoever has jurisdiction under state law.

7. Agency Contacts (for Tribal and other Agency Contacts see Attachment D)

State Police

Primary Contact: Sgt. Chris Allori, Department of State Police (office: 503-731-4717) (cell: 503-708-6461)

State Historic Preservation Office

Primary Contact: Dr. Dennis Griffin, State Archaeologist (office: 503-986-0674) (cell: 503-881-5038)

Secondary Contact: John Pouley, Asst. State Archaeologist (office: 503-986-0675)

Legislative Commission on Indian Services:

Primary Contact: Karen Quigley, Director (office: 503-986-1067)

ATTACHMENT D

CONTACTS

A. FEDERAL

Bureau of Land Management, Burns District Office
Skip Renchler, District Realty Specialist
28910 Hwy 20 West
Hines, Oregon 97738
541-573-4443
rrenchle@blm.gov

Bureau of Land Management, Burns District Office
Scott Thomas, District Archaeologist
28910 Hwy 20 West
Hines, Oregon 97738
541-573-4434
s1thomas@blm.gov

U. S. Fish & Wildlife Service
Tim Bodeen
Refuge Manager, Malheur National Wildlife Refuge
36391 Sodhouse Lane
Princeton, Oregon 97721
541-493-2612
Tim_Bodeen@fws.gov

U. S. Fish & Wildlife Service
Carla D. Burnside
Refuge Archaeologist, Malheur National Wildlife Refuge
36391 Sodhouse Lane
Princeton, Oregon 97721
541-493-2612
Carla_Burnside@fws.gov

B. STATE

Oregon State Historic Preservation Office
Roger Roper
OPRD Assistant Director, Heritage Programs/Deputy SHPO
Oregon Parks and Recreation Department
Heritage Programs Division
725 Summer St NE, Suite C
Salem OR 97301
503-986-0677
Roger.Roper@state.or.us

Dennis Griffin
State Archaeologist
Oregon Parks and Recreation Department
Heritage Programs Division
725 Summer St. NE, Suite C
Salem, OR 97301
503-986-0674
Dennis.Griffin@state.or.us

C. COUNTY

Harney County Court
Steve Grasty
Harney County Judge
450 N. Buena Vista
Burns, OR 97720
541-573-6356
sgrasty@co.harney.or.us

D. CONSULTING TRIBE

Burns Paiute Tribe
Charisse Soucie
Acting Tribal Council Chairperson,
100 Pasigo Street
Burns, OR 97720
Phone: (541) 573-2088, Ext. 258
Fax: (541) 573-2323
bpt.council@gmail.com

E. APPLICANT

Echanis, LLC, subsidiary of Columbia Energy Partners
Chris Crowley
111 Main Street, Suite 110
Vancouver, WA 98660
Phone: 360-993-2900
ccrowley@columbiaenergypartners.com

Attachment G

Mitigation, Project Design Features and Best Management Practices For the Echanis Wind Energy Project for RECORD OF DECISION North Steens 230kV Transmission Line Project

CONDITIONS OF APPROVAL OF HARNEY COUNTY CONDITIONAL USE PERMIT 07-14 FOR THE ECHANIS WIND ENERGY PROJECT

The following Conditions of Approval were included in Exhibit B of the Harney CUP No. 07-14 approved on April 18, 2007; as modified by the Harney County Planning Commission Site Plan Alteration approved on May 21, 2008. As the CUP and its conditions apply to private land, they will not be required as individual terms and conditions in any ROW granted by BLM for the project. BLM's environmental analysis in the environmental impact statement and BLM's decision regarding issuing a ROD rely on the project description in the CUP, including any mitigation described in the CUP at the time it was approved and that Harney County has subsequently committed to imposing, and rely on the Proponent's description of the additional mitigation measures that it would undertake. Therefore, any ROW granted by BLM will only be for the action as proposed in the CUP with mitigation.

1. COMPLIANCE WITH APPLICABLE LAWS - The permittee or its agents shall obtain and comply with all federal, state and local permits and entitlements required to construct, operate and maintain the facility. The permittee shall secure from the Building Codes Division of the Oregon Department of Consumer and Business Services, review and approval of structural foundation plans and primary electrical plans for the facility, as determined to be required by the Building Codes Division.
2. LEASES AND EASEMENTS - The permittee shall secure all leases and easements necessary to construct, operate and maintain the facility.
3. COVENANT NOT TO SUE - The permittee agrees not to sue adjacent property owners for impacts resulting from ordinary, appropriate and commonly acceptable farm or forest practices on surrounding lands devoted to farm or forest use.
4. VERIFICATION OF COMPLIANCE AND COST REIMBURSEMENT - The permittee shall reimburse Harney County for actual costs incurred by Harney County, including staff time and fees of consultants employed by the County for purposes of evaluating the application and advising the County in verifying compliance by permittee with the conditions of this permit, within 30 days following presentation of an invoice for such expenses.
5. REPAIR OF DAMAGE - The permittee shall be responsible for any damage to state and County highways demonstrated to have resulted from use by Project construction or maintenance vehicles.
6. EROSION AND SEDIMENT CONTROL - The permittee shall secure from the Oregon DEQ a National Pollutant Discharge Elimination System (NPDES) 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities required by that permit in a safe condition, in good repair and in a manner capable of being operated as designed.
7. FIRE PROTECTION - Each wind turbine generator and pad mounted transformer shall be constructed with a cleared pad around each base, with a minimum of 15 feet of nonflammable ground cover on all sides. The permittee shall provide to the appropriate Fire District a copy of the approved Site Plan indicating the identification number assigned to each turbine, and the location of any

accessory structures. Service vehicles assigned to regular maintenance or construction at the Project site shall be equipped with a portable fire extinguisher of a 4A40BC or equivalent rating.

8. WILDLIFE - During the construction, operation and maintenance of the facility, the permittee shall comply with all requirements relating to wildlife protection and notification as are imposed on the permittee.
9. WEED CONTROL - The permittee shall prepare and comply with a Weed Management Control and Response Plan in consultation with the Harney County Weed Control Board. Vehicles and equipment being transported to the Project from areas known to be contaminated with noxious weeds will be decontaminated before being allowed onto private lands.
10. RIPARIAN AREAS - The permittee shall avoid riparian areas in the design and construction of the facility, wherever possible, and shall provide reasonable erosion and siltation controls within 100 feet of riparian areas during the construction period.
11. COLOR AND FINISH FOR AESTHETIC PURPOSES - The coloration of all exterior components of the wind turbines shall be off-white or light gray for the blades and off-white or light gray for the towers and nacelles. The finish of all of these exterior components shall be flat, semi-gloss or galvanized, so as not to present significant glare.
12. TOWER ACCESS AND SAFETY TRAINING - The permittee shall provide for lockable door access to each turbine tower. The permittee shall provide a safety training program for their field employees that include training in working in and around the turbines and other facilities.
13. SITE SECURITY AND PUBLIC ACCEESS - The permittee shall provide a lockable gate between the site access point and South Diamond Lane.
14. SIGNS - No more than two signs relating to the wind energy facility shall be located on the Project site. Said signs shall be rectangular in shape, and shall not exceed 25 square feet in surface area or 12 feet in height.
15. WIND TURBIN SETBACKS TO ROADS, OTHER STRUCTURES - Turbines and other Project structures shall be located as provided on the approved Site Plan. No tower shall be less than 250 (Two Hundred and Fifty) feet, nor shall a building or substation be less than 50 (Fifty) feet, from any road ROW, exterior lot line, occupied house, electrical substation, railroad ROW, or similar structure unless otherwise approved by the Planning Director. The lowest point of the rotor shall not be below 75 feet above the ground.
16. NOISE PROVISIONS - The Wind turbines shall not be operated so that noise is created exceeding allowable statistical noise levels in anyone hour, as measured at off-site sensitivity receptors, under applicable DEQ noise standards.
17. LIGHTING PROVISIONS - Any outdoor (i.e., non- FAA required or recommended) lighting shall be hooded and directed so as not to shine directly upon adjoining property or public road ROW. Any lighting required or recommended by the FAA with respect to air traffic marking shall conform to approved standards established by the FAA.
18. HAZARDOUS SUBSTANCES - In the event any hazardous materials are to exist at the site at any time, the facility operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
19. PESTICIDES AND HERBICIDES - In the event any pesticides or herbicides are used on the site, the facility operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those pesticides or herbicides. Pesticides or herbicides shall be applied only by the landowner or, upon consultation with the landowner, by a professional charged with observance of all regulations governing use and selection of herbicides.

20. NOTICE TO FAA - To provide notice to aviation of the construction of the facility, the permittee shall provide written notice to the FAA prior to commencement of construction of turbine towers. The notice shall consist of filing an FAA Form 7460-1 Notice of Proposed Construction or Alteration.
21. MITIGATION MEASURES - The construction, operation and maintenance of the facility shall substantially comply with the Project description submitted with the application for this permit and approved Site Plan.
22. PHASING PLAN - The construction of facilities shall be completed substantially in accordance with the Site Plan.
23. SITE PLAN - The construction of facilities shall substantially conform to the approved Site Plan for this permit. Operation and maintenance activities at the facility shall, to the greatest extent feasible, be confined to roads, turbine pads building areas, storage, staging and parking areas and transmission lines as indicated in the approved Site Plan.
24. SOLID WASTE DISPOSAL - The permittee shall provide for solid waste disposal at a regulated and licensed landfill.
25. WIND TURBINE SPECS - The turbine and tower specifications approved under this CUP shall comply with the following: a.) Total Height including turbine tip at 12:00 position not to exceed 397 feet, b.) Rotor Diameter: not to exceed 265 feet, c.) Rotor Orientation: horizontal/upwind, d.) Number of blades: three, e.) Turbine Tower Design: tapered steel monopole, f.) Blade Design: tapered and twisted blades. Turbine tower locations shall substantially comply with location indicated on the approved Site Plan. Any change or alteration in the above turbine and tower specifications will require approval of the Planning Director.
26. HARDWAWRE CONTROL FUNCTIONS AND SAFETY FEATURES - The control and safety features of the installed turbines shall substantially comply with the Project description submitted with the application for this permit.
27. INTERCONNECTION - Prior to energizing the interconnection between the facility and the Harney Electric Cooperative (HEC) transmission line, the permittee shall submit to the Planning Director a written statement from HEC confirming that the proposed utility interconnection is acceptable and in accordance with HEC requirements.
28. CONTRUSCTION SCHEDULE - Construction shall be completed within 12 months of initiation, unless completion delayed due to weather or site conditions resulting from weather.
29. SITE INSPECTION DURING CONSTRUCTION AND OPERATION - Upon reasonable notice to the facility operator, County designated representatives shall have the right to inspect the site for conformance with permits issued by regulating agencies.
30. NOTICE OF PERMIT CONDITIONS - The permittee shall be responsible for assuring that facility employees, contractors and subcontractors are in compliance with the conditions of this permit.
31. DESIGNATION OF FIELD CONTACT REPRESENTATIVE - During construction of the Project, the permittee shall designate a field contact representative (FCR) who will be responsible for overseeing compliance with protective measures and coordination with the County and other regulatory agencies. The FCR shall be on site during construction, and may be a crew chief or field supervisor, a project manager, or other qualified employee of contractor of the permittee serving in a supervisory capacity.
32. DAYTIME CONSTRUCTION PERIOD - Construction shall be limited to the hours between 6:00 a.m. and 10:00 p.m.
33. ROAD USE AND PARKING REGULATIONS - The permittee shall secure all necessary approvals from the Oregon State Highway Division and from the County for access to state and County

highways, including access points for Project roads. The permittee shall be responsible for any damage to state and County highways demonstrated to have resulted from use by Project construction vehicles. No equipment or machinery shall be parked or stored on any county road except while in use and only during daylight hours. Staging areas, as designated on the site plan, will be planned for adequate storage of equipment, machinery and vehicles.

42. [1]ALTERNATIONS, ENLARGEMENTS, REPLACEMENT OR MODIFICATION OF WIND TURBINES - Prior to any replacement or substantial modification of any turbine, except items constituting regular maintenance or repair, written notice shall be given to the Planning Director. Addition of any new turbine or substitution of a different turbine model constituting a significant change shall require review and approval of the Planning Commission prior to implementation.
43. CEASED OPERATIONS OR ABANDONMENT - Any turbine that remains inoperable for a continuous period of 12 months shall be immediately repaired, replaced or removed. In the event the use hereby permitted entirely ceases operation for a continuous period or one (1) year, or if the facility is abandoned, this permit shall become null and void.
44. NONCOMPLIANCE AND REVOCATION OF PERMIT FOR CAUSE - In the event the actions occurring pursuant to this permit are found to be in material violation of the terms and conditions of this permit, or are found to have been obtained by fraud, this permit shall be subject to revocation or enforcement via injunction.
45. DECOMMISSIONING AND RECLAMATION - Prior to the commencement of decommissioning of the facility, the permittee shall provide to the County a written plan indicating schedules for decommissioning, dismantling and reclamation of the Project site. Said decommissioning shall include removal of above-ground improvements, except as accepted by the applicable land owner and shall conform to time lines stipulated in landowners leases. All agreements with Project landowners as to retention of Project roads, fences gates, buildings and restoration of agricultural uses may be incorporated in such plan.
46. TELEVISION, RADIO MICROWAVE, COMMUNICATION INTERFERENCE - No turbine shall be operated so as to cause significant TVI, RI or microwave interference with facilities existing at the time of the approval of this permit. In the event that such significant interference is caused by a turbine or its operation, the permittee shall take the measures necessary to remedy the situation.
47. PROTECTION OF EXISTING UTILITY LINES - All distribution lines, electrical substations and other interconnection facilities shall be constructed to the specifications of the affected utility, and state and federal standards. The permittee shall comply with the requirements of any other affected utility line, including but not limited to, existing telecommunications lines, electrical transmission lines, and pipelines regarding acceptable encroachments within easements of record, and protection of gas transmission lines and other utility improvements existing at the time of approval of this permit, except as otherwise limited by Oregon or federal law.
48. ARCHAEOLOGICAL AND HISTORICAL DISCOVERIES - Permittee shall conform to required mitigation measures pertaining to any on site archaeological and historical discoveries.
49. COORDINATION WITH CULTURAL GROUPS - In the event of any discovery of cultural features related to Native Americans, the permittee shall consult with the Burns Paiute Tribe as to the disposition of any such discovery.
50. CIVIL RIGHTS AND AFFIRMATIVE ACTION PROVISIONS - The permittee shall comply with applicable federal, state and local laws regarding civil rights and affirmative action.

[1] Exhibit "B" of the Conditional Use Permit, File No. 07-14, was numbered incorrectly. The BLM elected to use the numbering in Exhibit "B" from the CUP as written to avoid any misinterpretations of conditions committed to by Echanis and approved by Harney County.

51. ASSIGNMENT AND BINDING PROVISIONS - This permit may be assigned to successors in interest, subject to written approval of the Planning Director of Harney County, whose approval shall not be unreasonably withheld. All conditions and requirements in effect at the time of assignment shall inure to and become binding to the assignee.
52. CONFIDENTIALITY - Confidential or proprietary information submitted by permittee, including but not limited to, energy production figures, revenue, operating costs, wind turbine failures, or any other information marked as confidential or proprietary shall be treated as confidential, and exempt from disclosure to parties other than Harney County to the greatest extent allowed by law.
53. LOCAL HIRING - The Applicant shall use best efforts to hire qualified Harney County residents during Project construction. During the operation phase, the Applicant or its operator shall use best efforts to hire Harney County residents who meet minimum requirements established by the Applicant or operator, and said operator shall provide training as appropriate. In the event that after best efforts, suitable resident employees cannot be found, employees other than Harney County residents may be utilized.
54. ADVERSE WEATHER/ROAD CONDITIONS - During adverse weather conditions (the months of November-May), the Harney County Road Department will evaluate traffic on affected County roads in order to assess road conditions. At such time, after assessment, the Harney County Road Department may limit traffic loads related to the Project.
55. PERIODIC REVIEW - As long as the conditions of approval are being met, this permit is approved and permitted as conditioned. Harney County has the authority to conduct inspections for compliance of conditions of approval.

PROJECT DESIGN FEATURES AND BEST MANAGEMENT PRACTICES FOR THE ECHANIS WIND ENERGY PROJECT

The following PDFs and BMPs were developed during preparation of the FEIS, (Appendix A), in consultation with Echanis LLC, BLM, FWS, and other cooperating agencies. These commitments were voluntarily added on the part of Echanis LLC, if applicable to project features on the Echanis Wind Energy Project site, the main access road to the Echanis site, private land sections of the transmission line or other private land project facilities, unless otherwise imposed by Harney County in their CUP for the Echanis Project. BLM relies on Echanis LLC committing to undertake these measures as a condition precedent to BLM's issuing the ROW.

PDFs and BMPs by Resource, FEIS Appendix A (Echanis Project and All Action Alternatives)	Applicable Reference to Appendix B of CUP
Geology, Soils, Biological Crusts	
A. An Erosion and Sediment Control Plan will be developed and implemented for the Project as required by the Oregon DEQ National Pollutant Discharge and Elimination System Stormwater Discharge Permit (Oregon DEQ 2005) and pursuant to Oregon Revised Statutes 468B.050 and Section 402 of the Federal Clean Water Act.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-23
B. Turbine, tower and other structure locations will be surveyed for active faults and landslide hazards prior to finalizing site locations. In addition, structures will be built to seismic specifications and landslide hazard precautions (Smith 2008).	CUP #1 – Comply with all federal, state and local permits and entitlements. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-23
C. Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged. Any areas that will not be cleared will retain vegetation in place.	
D. Sediment control structures and application will be used to minimize erosion. Measures include stabilization of site entrances and access roads prior to earthwork and perimeter sediment control, e.g. sediment basins, traps and barriers.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
E. Construction vehicles will be restricted to access roads, public roads and the ROW. Roads will be cleared of mud and debris and tracking of sediment onto roads will be minimized. Work will temporarily stop if conditions are wet enough to cause ruts	CUP #23 – Operation and maintenance activities, to the greatest extent possible, shall be confined to roads, turbine pads, building areas, storage, staging and parking areas and transmission lines.

greater than three inches deep.	
F. Disturbed surfaces will be returned to original contours where possible and revegetated using salvaged native vegetation or BLM/FWS (or property owner) approved seed mixes will be performed following construction activities.	
G. Good housekeeping measures will be implemented during construction and after completion. All refuse will be kept out of the ROW and disposed of properly. Hazardous materials will be contained and disposed of in an authorized facility.	CUP #18 – Comply with all State of Oregon and federal laws and regulations for handling, storage, use and disposal of hazardous materials. CUP #24 – Provide for solid waste disposal.
H. A Hazardous Substance Control and Emergency Response Plan will be put into place and workers will be trained in its implementation.	CUP #1 – Comply with Federal, state and local permits and entitlements required to construct, operation and maintain the facility. CUP #18 – Comply with State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal.
I. All development will be constructed under guidelines presented in Chapter 7 of the Harney County Comprehensive Plan (Harney County 2009) and Section 4.070 of the Harney County Zoning Ordinance (Harney County 2002).	Harney County requirement.
Water Resources	
J. All ESC measures will be in place and functioning before any construction activities occur. Sediment barriers will include sediment fences, berms, straw wattles. Run-on and run-off control measures include slope drains, check dams, surface roughening, and bank stabilization.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
K. Long-term slope stabilization measures will include the establishment of permanent vegetative cover via seeding with approved mixes and application rates. Slopes to	

receive temporary or permanent seeding will be roughened by means of track-walking or other approved implements. Surface roughening improves seed bedding and reduces run-off velocity.	
L. The ESC measures will be maintained until construction is complete and all vegetation is established.	
M. Long term slope stabilization measures including matting will be in place over all exposed soils by October 1.	
N. Temporary slope stabilization measures may include covering exposed soil with plastic sheeting, straw mulching, or other approved measures.	
O. Each site will have constructed entrances, exits and parking areas with exit tire wash to reduce the tracking of sediment onto roads. These areas will be kept clean.	
P. Stockpiled soil or strippings will be placed in a stable location and configuration. Soil stockpiles will have temporary stabilization or covering at the end of each workday. Sediment fences will be installed around stockpiles.	
Q. Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged.	
R. Any areas that will not be cleared will retain vegetation in place.	
S. Sediment controls will be installed and maintained along the site perimeter on all down-gradient sides of the construction.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
T. Temporary and/or permanent soil stabilization measures will be applied immediately on all disturbed areas as grading progresses and on all roadways.	
U. Sediment will be removed from behind a sediment fence when it reaches a height of 1/3 the height of the fence and also before fence removal. Sediment will be removed from	

behind other barriers when it reaches a height of two inches and before removal. Trapped sediment in a sediment basin will be removed when the sediment retention capacity has been reduced by fifty percent and at the end of the Project.	
V. If construction activities cease for thirty days or more, the entire site will be temporarily stabilized using vegetation, a heavy mulch layer, temporary seeding, or other method. If construction ceases for 15 days or more temporary stabilization will occur with straw, compost, or other tackified covering.	
W. All pumping of sediment laden water will be discharged over an undisturbed, preferably vegetated area, and through a sediment control BMP such as a filter bag. D	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
X. BMPs will be inspected before, during, and after major storm events. Daily inspections will occur during rainfall and runoff events.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
Y. Construction activities will avoid or minimize excavation and creation of bare ground on slopes greater than five percent from October 1 through May 31.	
Z. All exposed soils will be covered during the wet weather period.	
AA. Temporary stabilization of the site will be installed at the end of the workday if rainfall is forecast in the next 24 hours.	
BB. Large amounts of sediment leaving the site will be cleaned up within 24 hours and placed back on the site and stabilized or properly disposed. Preventative measures for recurrence will be in place within the same 24 hours.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
CC. In areas subject to wind erosion, appropriate BMPs will be used, such as the application of fine water spray, plastic sheeting, mulch or other approved measures.	FEIS, page 2-24 – Dust control measures would be used.
DD. No non-sediment pollutants will be allowed to enter stormwater, such as from of concrete truck wash water, vehicle and equipment cleaning, vehicle and equipment	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good

fueling, maintenance, and storage, other cleaning and maintenance activities.	repair and capable of being operated as designed.
EE. Any toxic or other hazardous materials will be properly stored, applied and disposed.	CUP #18 – Comply with all State of Oregon and federal laws and regulations for handling, storage, use and disposal of hazardous materials.
FF. The application rate of fertilizers used to reestablish vegetation will follow manufacturer's recommendations to minimize nutrient releases to surface waters.	CUP #19 – Comply with all State of Oregon and federal laws and policies regulating handling, storage, use and disposal of pesticides or herbicides.
GG. To reduce the potential for erosion, riprap, boulders and vegetation will be used to stabilize slopes outside of the streams. Slash and boulders will be placed at the side or downslope of the roads to act as a sediment filter. Disturbed surfaces will be revegetated using salvaged native vegetation or BLM/FWS (or property owner) approved seed mixes and will be performed following construction activities.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
HH. Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged.	
II. Any areas that will not be cleared will retain vegetation in place.	
JJ. Construction vehicles will be restricted to access roads, public roads and the ROW. All construction equipment and vehicles will cross the water bodies over bridges and existing access routes. Roads will be cleared of mud and debris and tracking of sediment onto roads will be minimized.	CUP #23 – Operation/maintenance activities shall, to the greatest extent feasible, be confined to roads, turbine pads, building areas, storage, staging and parking areas and transmission lines.
KK. Heavy construction equipment will work from the banks rather than the water body as much as practicable.	CUP #1 – Comply with all federal, state and local permits and entitlements.
LL. A water truck will be used to minimize dust. The water source will be local surface water. Dust control may also use straw, wood chips, dust reducing agents, and gravel. The temporary pipe and storage tanks or any other water facilities will be returned to the pre-construction condition.16	FEIS, page 2-24 – Dust control measures would be used. FEIS, page 2-25 – Water would be withdrawn from Big Pasture Creek.

MM. Erosion and sediment controls will be installed within 100 feet of riparian areas or water bodies during construction. Measures include stabilization of site entrances and access roads prior to earthwork and perimeter sediment control, e.g. sediment basins, traps and barriers.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities required by permit in a safe condition, in good repair and capable of being operated as designed.
NN. Good housekeeping measures will be implemented during construction and after completion. All refuse will be kept out of the ROW and disposed of properly. Hazardous materials will be contained and disposed of in an authorized facility.	CUP #18 – Comply with all State of Oregon and federal laws and regulations for handling, storage, use and disposal of hazardous materials. CUP #24 – Provide for solid waste disposal.
OO. The use of herbicides will be minimized as much as possible, but noxious weed control will be required.	CUP #9 – Prepare and comply with a Weed Management Control and Response Plan.
PP. Equipment used near or in water bodies will be checked for leaks of oil or other fluids on a daily basis.	CUP #1 – Comply with all federal, state and local permits and entitlements. CUP #18 – Comply with all State of Oregon and federal laws and regulations for handling, storage, use and disposal of hazardous materials.
QQ. Any potential spills of hazardous material will be addressed through standard construction BMPs. See Section 3.17.2 Public Health and Safety: Hazardous Materials for further details.	CUP #18 –Comply with all State of Oregon and federal laws and regulations regulating handling, storage, use and disposal of hazardous materials.
RR. Dewatering locations will be sited in areas of adequate vegetation or dry drainages.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of

	being operated as designed.
SS. Should dewatering locations be sited in dry drainages, there will be a minimum of 0.25 miles within the drainage between the dewatering location and any water.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of being operated as designed.
TT. Dewatering locations will not be located within 100 feet of any drainage that contains water, wetlands, or specific cultural sites. Discharge water will be directed to prevent flow from moving to these areas.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of being operated as designed.
UU. The duration of dewatering discharges will be minimized by scheduling dewatering operations immediately prior to backfilling.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of being operated as designed.
VV. Trench disturbance (i.e., additional excavation) will be minimized to the extent practicable while dewatering is in progress.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of

	being operated as designed.
WW. The hose intake will be suspended above the bottom of the trench to minimize sediment taken in during the pumping operation.	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23. CUP #56 - Secure from Oregon DEQ an NPDES 1200-C permit prior to commencement of construction. The permittee shall at all times maintain any and all storm water, flood control and drainage facilities in a safe condition, in good repair and in a manner capable of being operated as designed.
XX. Burial of the distribution line will occur during the dry season to minimize the effects of trenching through intermittent water ways.	Not Applicable. This would have occurred under Alternative B.
Vegetation, Special Status Plants, and Noxious Weeds	
Revegetation Measures	
YY. Non-road shrubland areas will be reseeded with a mixture of grass and sagebrush seeds.	
AAA. Access roads and non-road grassland areas will not have the sagebrush seeds.	
AAB. The Applicant will provide all seed. Seed will meet the requirements of the Federal Seed Act and applicable Oregon State laws about seeds and noxious weeds. Only seed certified as "noxious weed free" will be used. If requested, the Applicant will provide the BLM and/or FWS with evidence of seed certification. In addition, the seed must be appropriate to the geographic and elevation characteristics of the area to be seeded (2,870 to 3,480 feet). The actual seed mix applied may depend on the availability of seed but will have a minimum of 98.0% purity, 84.0% germination and 0.0% weed content. The Authorized Officer will approve any changes to the seed mix.	
AAC. The Applicant, or its designated contractor, is to seed an area after construction or after ground disturbing O&M activities are completed. The best time to seed is in the fall (September to November). If fall seeding cannot be done, spring seeding should take place in February or March, as conditions dictate. Ground maintenance patrols will	

review the line periodically. Routine maintenance will include replacing damaged insulators as needed and tightening nuts and bolts. The Applicant will follow its safety protocols with respect to line operation and maintenance. Maintenance activities require minimal and infrequent access. Such activities will typically be performed overland. Winter access if required can be performed overland except in the cases of heavy snowfall in which case over-snow vehicles will be utilized.	
Special Status Plants	
AAD. Prior to construction, all supervisory personnel will be instructed on the protection of natural resources, including sensitive plant species and habitats. The construction contract will address (a) federal and state laws regarding plants; (b) the importance of these resources; (c) the purpose and necessity of protecting them; and (d) methods for protecting sensitive resources.	
AAE. Special-status plant populations that occur within the ROW and work areas will be marked on the ground, where practical, to ensure that the species are avoided. If species are discovered during the work, Applicant will establish a spatial buffer zone and immediately contact the BLM and/or FWS. The Authorized Officer may evaluate the adequacy of the buffer on a case-by-case basis. Until the BLM and/or FWS authorizes the Applicant to proceed, either orally or in writing, all activities will cease within the buffer zone. After the Project is complete, or no longer poses a threat to the plant population, the marking (stakes) will promptly be removed to protect the site's significance and location from unwanted attention.	
AAF. For special-status plant issues where marking is not appropriate, work in designated areas will be modified or curtailed during critical periods. The Authorized Officer, in advance of construction or maintenance, will approve sensitive areas and time frames. Emergency repair situations are excluded from this restriction.	
AAG. Contractors will be provided with maps showing avoidance areas; these will include established work zones as well as ROW areas where overland travel should be avoided.	

AAH. In the event any special-status plants require relocation, permission will be obtained from BLM and/or FWS. If avoidance or relocation is not practical, the topsoil surrounding the plants will be salvaged, stored separately from subsoil and re-spread during the restoration process.	
Noxious Weed Control	
AAI. Personal vehicles, sanitary facilities, and work areas will be confined to areas specified in the POD. For construction and prolonged operations and maintenance (O&M) projects, maintenance equipment, materials, and vehicles will be stored at the sites where activities will occur or at specified maintenance yards.	
AAJ. The responsible party will clean all equipment that may operate off-road or disturb the ground before beginning construction and O&M activities within the Project Area. This process will clean tracks and other parts of the equipment that could trap soil and debris and will reduce the potential for introduction or spread of undesirable exotic vegetation. Preferably, the cleaning will occur at an Applicant operation center, commercial car wash, or similar facility. Vehicles traveling only on established roads are not required to be cleaned.	CUP #9 – Prepare and comply with a Weed Management Control and Response Plan. Vehicles/equipment will be decontaminated.
AAK. The transmission line and wind farm would be monitored and treated for noxious weeds annually. The Applicant will minimize the use of herbicides to control plants, to the extent consistent with the required control.	CUP #9 – Prepare and comply with a Weed Management Control and Response Plan.
AAL. The Applicant will prepare a revegetation plan in consultation with the BLM and/or FWS when necessary. The plan will specify appropriate revegetation timing, techniques, and seed mixes. Adherence to this plan will also help limit the spread and establishment of noxious weeds. Certified "noxious weed-free" seed will be used on all areas to be restored. Other construction material, such as fill, shall also be free of noxious weed seed.	CUP #9 – Prepare and comply with a Weed Management Control and Response Plan.
Wetlands and Riparian Areas	

AAM. Clearly mark wetland boundaries and buffers in the field until construction is complete.	
AAN. Conduct construction in wetland areas during the dry season, to minimize water flow through exposed soils.	
AAO. Use sediment barriers to prevent sediment flow into wetland and riparian areas.	CUP #10 – Riparian areas will be avoided.
AAP. Prohibit the storage of hazardous materials and equipment refueling within 100 feet of any wetland, riparian areas, or water body (500 feet on BLM and/or FWS land);	CUP #18 –Comply with all State of Oregon and federal laws and regulations regulating handling, storage, use and disposal of hazardous materials.
AAQ. Restore disturbed areas to preconstruction contours, restore or replace damaged vegetation, and implement any required vegetation monitoring plans.	
AAR. Develop and adhere to the Erosion and Sediment Control Plan.	CUP #6 – Secure an NPDES 1200-C permit and maintain storm water, flood control and drainage facilities in a safe condition and in good repair. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-23
AAS. Riparian vegetation will be avoided to the extent compatible with construction objectives.	CUP #10 – Avoid riparian areas.
AAT. If riparian vegetation has been trampled or otherwise disturbed, revegetation planting will include riparian meadow species.	CUP #10 – Riparian areas shall be avoided and provide reasonable erosion and siltation controls within 100’ of riparian areas.
AAU. “End haul” construction methods will be considered for portions of the main access road to Echanis where the road parallels riparian and wetland areas. End haul construction refers to situations where a cut is made in a side slope and the spoils are hauled to a disposal site or used for fill in less critical areas. This method helps to avoid placing fill above water features and ensures downslope vegetation remains intact between the road and water feature to act as a buffer and sediment filter.	

Wildlife	
AAV. Echanis, LLC would implement a Habitat Mitigation Plan, under which it would mitigate the habitat impacts from the Project through the use of conservation easements and other offset mechanisms, described in the ROD.	CUP #8. Permittee shall comply with all requirements relating to wildlife protection and notification as are imposed.
AAW. Echanis, LLC would implement a Wildlife Monitoring and Mitigation Plan, under which it, together with the recommendations of a Technical Advisory Group comprised of representatives from state and federal agencies and environmental organizations, would monitor wildlife impacts (through post-construction mortality monitoring) and implement additional mitigation measures if impacts exceeded threshold levels identified in the plan.	CUP #8. Permittee shall comply with all requirements relating to wildlife protection and notification as are imposed.
AAX. Echanis, LLC would implement a Habitat Mitigation Plan, under which it would mitigate the habitat impacts from the transmission line through the use of conservation easements and other offset mechanisms, consistent with guidelines issued by the ODFW. D	CUP #8. Permittee shall comply with all requirements relating to wildlife protection and notification as are imposed.
Public Services	
AAY. Wind farm facilities will be designed and operated so as to provide reasonable fire protection measures.	CUP #7. Fire Protection.
AAZ. Each turbine generator and transformer will be constructed on a cleared pad with a 15-foot non-flammable ground cover perimeter around each turbine base.	CUP #7. Constructed with a cleared pad with a minimum of 15' of non-flammable ground cover.
AA1. Local fire responders will be provided with a copy of the final approved Site Plan which will include the identification number for each turbine and the location of any accessory structures.	CUP #7. Provide a copy of the approved site plan with turbine locations and accessory structures.
AA2. All wind farm service vehicles assigned to regular maintenance or construction will be equipped with a portable fire extinguisher.	CUP #7. Regular vehicle maintenance and equipped with portable fire extinguisher.
AA3. Vegetation management along the "strings" of wind turbines will decrease the incidence of wildfires in the Project Area.	
AA4. The developer will provide and maintain access and access roads to the wind turbines and facilities so there is vehicular access for the Crane Rural Fire Protection Association to respond quickly to any fire event.	
AA5. All wildfire protection measures will be followed as required by state and federal regulations. During construction, fire management will primarily be provided by the developer. This is often accomplished by ensuring that there are fire response	FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-23

equipment (e.g. water truck and bull dozer) and trained personnel on site.	
Cultural Resources	
AA6. The Applicant will avoid, where possible, potential NRHP eligible archaeological resources and historic cultural features within the Project APE by relocating or reconfiguring project-related facilities on the Echanis site, or along the alignment of the main access road to the Echanis site.	CUP #48 and #49. Conform to mitigation pertaining to any on- site archaeological and historical discoveries and consultation with Burns Paiute Tribe as to disposition of any discoveries. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23 Programmatic Agreement relative to Section 106 of the National Historic Preservation Act
AA7. The Applicant will avoid, where possible, potential NRHP eligible archaeological resources and historic cultural features with the Project APE by relocating the transmission line, changing pole placement, shifting the alignment of access roads, or narrowing the construction corridor.	CUP #48 and #49. Conform to mitigation pertaining to any on- site archaeological and historical discoveries and consultation with Burns Paiute Tribe as to disposition of any discoveries. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23 Programmatic Agreement relative to Section 106 of the National Historic Preservation Act
AA8. If avoidance is not possible, further testing and formal evaluations for eligibility for listing in the NRHP will be conducted for each resource.	CUP #48 and #49. Conform to mitigation pertaining to any on- site archaeological and historical discoveries and consultation with Burns Paiute Tribe as to disposition of any discoveries. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23 Programmatic Agreement relative to Section 106 of the National Historic Preservation Act
AA9. Formal evaluations will include further documentation and inventory and boundary delineation through testing.	CUP #48 and #49. Conform to mitigation pertaining to any on- site archaeological and historical discoveries and consultation with Burns Paiute Tribe as to

	disposition of any discoveries. Programmatic Agreement relative to Section 106 of the National Historic Preservation Act
Steens Mountain Wilderness Area, Wilderness Study Areas, and Wild and Scenic Rivers	
AA10. The Applicant would comply with the conditions of approval related to visual resources set forth in Exhibit B to the Harney County Conditional Use Permit No. 07-14 issued on April 18, 2007, and modified on May 21, 2008. **D**	CUPs #11, #15 and #17. Wind turbines shall be off-white or light gray. The finish shall be flat, semi-gloss or galvanize to limit glare. No tower shall be less than 250', nor shall a building or substation be less than 50', from any road ROW, occupied house, electrical substation, railroad ROW or similar structure. Lowest point of the rotor shall not be below 75' from the ground. Outdoor lighting shall be hooded and directed. Lighting required/recommended by FAA shall conform to approved standards established by FAA.
AA11. In addition, the Applicant would explore opportunities to notify wilderness users prior to visiting the affected Steens Mountain Wilderness Area and Wilderness Study Areas by publication of the construction schedule in local media, posting the schedule at administering agency offices, posting the schedule at trailheads or other recreation access points to the Steens Mountain Wilderness Area, or other means of reaching visitors. This notification process would alert wilderness users to the potential temporary impacts of presence and sound of construction and Project operations on opportunities for experiences of solitude and primitive recreation settings, and allow visitor to decide if they want to re-schedule their visit.	
Transportation	
AA12. In areas where recontouring is not required, disturbance will be limited to overland driving where feasible to minimize changes in the original contours. Large rocks and vegetation may be moved within these areas to allow vehicle access.	
AA13. In areas where soils are particularly sensitive to disturbance, existing roads will be repaired only to where they are passable with an overland vehicle.	
AA14. Work will be temporarily halted where wet conditions cause excessive rutting of	CUP #54 – Harney County may limit traffic loads during adverse weather conditions.

roads and work areas.	FEIS page 2-25 – Construction would be temporarily halted during inclement weather during the winter.
AA15. When overland routes in the ROW are chosen, contractors will avoid destruction of sagebrush and slickspots when alternative routes within the ROW are available (e.g. existing spurs to old poles).	Not applicable to the Echanis Project. Addressed under Attachments A and B.
AA16. To limit new or improved accessibility into the area, all new access roads that were neither desired nor required for maintenance will be closed using the most effective and least environmentally damaging methods appropriate to that area.	
AA17. All existing access roads will be left as close to an undeveloped nature (i.e. two-track road) as possible without creating environmental degradation (e.g. erosion or rutting from poor water drainage) or unsafe conditions.	
AA18. Where appropriate, access roads will be maintained to have crossroad drainage in order to minimize the amount of channeling or ditches needed. Water bars will be installed at all alignment changes (curves) and significant grade changes.	
AA19. All existing road drainage structures will be maintained or repaired during construction and future operation and maintenance activities.	
AA20. Access roads and other areas of ground disturbance, within the construction limits will be watered, as needed, to remain compact and to avoid the creation of dust. This may also require the limitation of types of equipment, vehicle speeds, and routes utilized during construction. Water, weed-free straw, wood chips, dust reducer, gravel, or a combination of these or similar control measures may be used.	FEIS, page 2-24 Dust control measures would be used.
AA21. Access roads will be inspected annually. Maintenance requirements will vary depending on the type of road, level of use, and condition of the road. Typically, maintenance will be conducted when road conditions threaten resource values or public safety or impede access for transmission-line maintenance personnel. In the event of a conflict between owner/operator's maintenance requirements and the maintenance requirements of the BLM or FWS, the requirements of BLM or the FWS will take	

precedence.	
Public Health and Safety	
Fire Hazards	
AA22. Wind farm facilities will be designed and operated so as to provide reasonable fire protection measures.	CUP #7. Fire Protection.
AA23. Each turbine generator and transformer will be constructed on a cleared pad with a 15-foot non-flammable ground cover perimeter around each turbine base.	CUP #7. Constructed with a cleared pad with a minimum of 15' of non-flammable ground cover.
AAX1. The Applicant will provide the local Fire District with a copy of the final approved Site Plan which will include the identification number for each turbine and the location of any accessory structures.	CUP #7. Provide a copy of the approved site plan with turbine locations and accessory structures.
AA24. In addition, all wind farm service vehicles assigned to regular maintenance or construction will be equipped with a portable fire extinguisher.	CUP #7. Regular vehicle maintenance and equipped with portable fire extinguisher.
AA25. Conduct pre-construction survey and engineering activities in late spring prior to the presence of fire danger. Road construction will occur in the fall after the fire danger declines. Additionally, for any construction activities required during times when a fire danger exists, a fire fighting apparatus will be deployed in conjunction with construction activities.	
AA26. When working on or lands during fire season, the Applicant's employees and contractors will have approved suppression tools and equipment. All power-driven equipment, except portable fire pumps, will be equipped with one fire extinguisher and one long handled round point shovel. In addition, each truck and passenger-carrying vehicle will be equipped with a double-bit axe. In some conditions each internal combustion engine will be equipped with a spark arrester.	CUP #7 – Service vehicles shall be equipped with a fire extinguisher.
AA27. Construction activities will follow industrial fire precaution levels and regulations. Fire regulations are generally effective between April 1 and October 31 and at other times with unusual weather conditions.	
Hazardous Materials	
AA28. Hazardous materials will not be drained onto the ground or into streams or drainage areas.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.

AA29. Totally enclosed containment will be provided for all hazardous materials (if needed) and trash. All construction waste including trash, litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials will be removed to a disposal facility authorized to accept such materials.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials. CUP #24 – Provide for solid waste disposal at a regulated and licensed landfill.
AA30. Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the construction period. Refuse and trash, including stakes and flags, will be removed from the sites and disposed of in an approved manner. No construction equipment oil or fuel will be drained on the ground. Oils or chemicals will be hauled to an approved site for disposal. No open burning of construction debris will occur on BLM or FWS administered lands.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials. CUP #24 – Provide for solid waste disposal at a regulated and licensed landfill.
AA31. The Applicant will also minimize the use of herbicides to control plants, but will undertake a plan to control noxious weeds resulting from the construction and operation of the facilities.	CUP #9 – Prepare and comply with a Weed Management Control and Response Plan. CUP #19 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of pesticides or herbicides.
AA32. In the event any pesticides or herbicides will be used on the site, the facility operator will comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use, and disposal of those pesticides or herbicides. Pesticides or herbicides will be applied only by the landowner or, upon consultation with the landowner, by a professional charged with observance of all regulations governing use and selection of herbicides.	CUP #19. In the event any pesticides or herbicides will be used on the site, the facility operator will comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use, and disposal of those pesticides or herbicides. Pesticides or herbicides will be applied only by the landowner or, upon consultation with the landowner, by a professional charged with observance of all regulations governing use and selection of herbicides.
AA33. The Applicant will provide for solid waste disposal at a regulated and licensed landfill.	CUP #24. The Applicant will provide for solid waste disposal at a regulated and licensed landfill.
AA34. On-site maintenance will be limited to activities that will be immediately necessary to keep equipment in good working order. Routine maintenance, such as oil and filter changes, will be performed off site. Diesel fuel stored on site will be restocked by commercial vendors as necessary. On-road vehicles, primarily cars and trucks, will be	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.

powered by gasoline and refueled at off-site facilities.	
AA35. Careful choice of solvents and cleaning agents will prevent them from meeting the federal or state regulatory definition of hazardous wastes. If a turbine drivetrain were to fail and the components will be removed for repair or disposal, all major rebuilding will be done off-site.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA36. Tower segments and turbine components being sold as scrap will be temporarily stored on site. Electrical transformers will be immediately removed and available for use in other applications. In general, this can be done without removing the dielectric fields. Other non-hazardous materials without a salvage value will be removed by a licensed hauler and taken to the appropriate disposal facility.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA37. Decommissioned turbines and towers will be dismantled and sold for scrap, recycled, or disposed of after all hazardous fluids will be removed. Electronic waste will be recycled or properly disposed of.**D**Transformers and electrical control devices will either be reused in other applications or sold as scrap after fluid removal.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials. CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA38. In the event of an industrial contamination from a minor spill or leak, electrical substations and storage buildings will be dismantled for inspection and treated as necessary.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA39. Fluids drained from the drivetrain during decommissioning and dismantling will be similar in chemical composition to spent fuels removed during routine maintenance and will be handled in the same way as other comparable wastes.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA40. Regulations require spilled material as well as the spill containment material be containerized, properly labeled, and briefly stored until it can be hauled off site by a licensed hauler to the appropriate treatment or disposal facility. If the electrolyte fluid from a battery were to spill, the containment may include some neutralization materials to stabilize the corrosive acid for prior to transportation. It is possible that a leak from	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.

the turbine drivetrain will initially be contained within supporting tower or nacelle and therefore will not be classified as release to the environment.	
AA41. The Applicant will develop a hazardous materials management plan which establishes inspection procedures for storage, quantity limits, inventory control, use, non-hazardous product substitutions, transportation, and disposal of each hazardous material expected to be used on site. The plan will also include an emergency response plan and identify requirements for notices to federal and local emergency response authorities.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA42. The Applicant will develop a waste management plan for both solid and liquid waste that identifies wastes that will be expected to be generated at the site. This plan will address hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste minimization procedures.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials. CUP #24. The Applicant will provide for solid waste disposal at a regulated and licensed landfill.
AA43. The Applicant will develop a spill prevention and response plan. The plan will identify the location of stored hazardous wastes and materials, spill prevention measures, training requirements, the appropriate spill response actions for each hazardous material or waste, and the locations of spill response kits. The plan will also include a requirement that spill response kits will be adequately stocked at all times and procedures for making timely notification to local, state, and federal authorities.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA44. An integrated pest management plan will be developed if pesticides will be used. The plan will ensure that pesticide applications will be within the framework of BLM, FWS, and DOI policies. Only nonpersistant, immobile, EPA-registered pesticides will be applied. Pesticides will be applied in accordance with terrestrial and aquatic application permits and labels directions.	CUP #19 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of pesticides or herbicides.
AA45. Secondary containment will be provided for all hazardous materials and waste, including fuel. Fuel stored on site for construction vehicles and equipment will be temporary and will only occur to support construction and decommissioning activities.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.
AA46. In the event of an accident release of hazardous materials or waste into the environment, the Applicant will document the event, investigate the root cause, take appropriate corrective actions, and report on the characterization of the resulting environmental health or safety effects. Documentation of the event will be provided to BLM and/or FWS, and other appropriate local, state, and federal agencies.	CUP #18 – Operator shall comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of those hazardous materials.

SUGGESTED MITIGATION MEASURES FOR THE ECHANIS WIND ENERGY PROJECT

The following mitigation measures applicable to the Echanis Wind Energy Project were suggested for adoption in the North Steens 230kV Transmission Line Project Final EIS. In most cases, as shown below, these mitigation measures are already addressed and required as part of the CUP, as a Project Design Feature/Best Management Practice, or as part of another required plan. In these cases, the BLM's environmental analysis in the environmental impact statement of the connected private land action and BLM's decision regarding issuing a ROD rely on this mitigation. Consequently, the ROW granted by BLM is dependent on Echanis, LLC continuing to undertake the required mitigation. To the extent private land mitigation measures below are not already required by Harney County or another permitting authority, this mitigation is recommended to Echanis, LLC and the relevant permitting authorities.

Mitigation Measure	FEIS Page No.	Mitigation Addressed
1) The Project would implement a noxious weed control strategy to reduce the potential for weeds to invade new areas and to minimize the spread of weeds within the Project Area. Noxious weed control measures would be used to minimize the spread of noxious weeds during Project construction.	3.3-30	CUP #9 – Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP PP – Use of herbicides will be minimized, noxious weed control will be required. PDF/BMP AAK – Monitor and treat noxious weed annually. PDF/BMP AAL - Prepare a revegetation plan. PDF/BMP AA31 – Minimize use of herbicides, but undertake a plan to control noxious weeds.
2) Before ground-disturbing activities begin, the project biologist will review the Weed Risk Assessment Form and prepare a Weed Management Plan that will inventory and prioritize weed infestations for treatment within the Project footprint. If weed infestations spread beyond the Project footprint, then these weeds will be treated as a	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP AAK – Monitor and treat noxious

part of the Project, including access roads into the Project site.		weed annually. PDF/BMP AAL - Prepare a revegetation plan. PDF/BMP AA31 – Minimize use of herbicides, but undertake a plan to control noxious weeds.
3) The Applicant and/or project biologist will locate relatively weed-free areas for temporary equipment storage, machine and vehicle parking, and other areas needed for the storage of people, machinery, and supplies.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP AAK – Monitor and treat noxious weed annually. PDF/BMP AAL - Prepare a revegetation plan. PDF/BMP AA31 – Minimize use of herbicides, but undertake a plan to control noxious weeds.
4) All contractor vehicles and equipment will be cleaned prior to arrival at the work site using compressed air or high-pressure water spraying equipment. The wash/blow down will concentrate upon tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. The contractor, with Environmental Inspector oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads. Seeds and plant parts will be collected, bagged, and deposited in dumpsters destined for local landfills, when practical.	3.3-30	CUP #9. Prepare and Comply with a Weed Management Control and Response Plan. Vehicles and equipment will be decontaminated before entering private lands. CUP #24. Solid Waste Disposal PDF/BMP AAJ – Clean all equipment. PDF/BMP AA31 – Minimize use of herbicides, but undertake a plan to control noxious weeds. PDF/BMP AA33 – Provide for solid waste disposal. PDF/BMP AA42 – Develop a waste management plan.

5) When vehicles and equipment are washed/blown down, a log will be kept stating the location, date and time, types of equipment, and methods used. The crewmember that washed the vehicle will sign the log. Written logs will be included in the monitoring reports.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP AA31 –Undertake a plan to control noxious weeds.
6) Project workers will inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment. The product will be bagged and disposed of in a dumpster for deposit in local landfills or other locations deemed acceptable by the BLM. **D**	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #24. Solid Waste Disposal PDF/BMP AAJ – Clean all equipment. PDF/BMP AA31 – Undertake a plan to control noxious weeds. PDF/BMP AA33 – Provide for solid waste disposal. PDF/BMP AA42 – Develop a waste management plan.
7) The Applicant and its contractors will avoid or minimize all types of travel through weed infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely. The contractor will begin Project operations in weed free areas whenever feasible before operating in weed-infested areas.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP E – Construction vehicles will be restricted to access roads, public roads and the ROW. PDF/BMP AAI – Personal vehicles will be confined to areas specified in the POD. PDF/BMP AAK – Monitor and treat noxious

		weeds annually. PDF/BMP AA31 – Undertake a plan to control noxious weeds.
8) The contractor will limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The contractor will also avoid creating unnecessary soil conditions that promote weed germination and establishment.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #23 – Operations/maintenance activities shall be confined to roads, turbine pads building areas, storage, staging and parking areas and transmission lines as indicated in the Site Plan. PDF/BMP AA31 – Undertake a plan to control noxious weeds. ABPP/ECP – Minimize the area and intensity of disturbances during pre-construction.
9) The contractor, in conjunction with the project biologist, will evaluate weed management options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan PDF/BMP AA31 – Undertake a plan to control noxious weeds.
10) In areas where infestations are identified or noted in the field, the contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. During reclamation, the contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #45. Provide a written plan indicating schedules for decommissioning, dismantling and reclamation of the project site. PDF/BMP F – Disturbed surfaces will be returned to original contours and revegetated using approved seed mixes.

		PDF/BMP AAL – Prepare a Revegetation Plan PDF/BMP AA31 – Undertake a plan to control noxious weeds.
11) The contractor will ensure that straw or hay bales used for sediment barrier installations or mulch distribution are certified weed-free, as required by the Oregon Department of Agriculture's certification program. **D**	3.3-30	CUP #1 – Comply with all federal, state and local permits. CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. PDF/BMP F – Disturbed surfaces will be returned to original contours and revegetated using approved seed mixes. PDF/BMP I – An Erosion and Sediment Control Plan will be developed and implemented. PDF/BMP AAB – Only seed certified as "noxious weed free" will be used. PDF/BMP AA31 – Undertake a plan to control noxious weeds. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23
12) The contractor will implement the reclamation of disturbed lands immediately following construction, as outlined in the Restoration and Revegetation Plan; continuing seeding efforts with certified weed-free seed will ensure adequate vegetative cover to prevent the invasion of noxious weeds, if necessary.	3.3-30	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #45 – Provide a written plan indicating schedules for decommissioning, dismantling

		and reclamation of the project site. PDF/BMP F – Disturbed surfaces will be returned to original contours and revegetated. PDF/BMP ZZ – Non-road shrub land will be reseeded. PDF/BMP AAB – Applicant will provide seed and meet requirements of Federal Seed Act and applicable Oregon State laws; use only seed certified as "noxious weed free"; and seed must be appropriate to geographic and elevation characteristics. PDF/BMP AAC – Seed an area after construction preferably in the fall. PDF/BMP AAL – Prepare a Revegetation Plan PDF/BMP AAQ - Restore disturbed areas to preconstruction contours, restore or replace damaged vegetation, and implement any required vegetation monitoring plans. PDF/BMP AA31 – Undertake a plan to control noxious weeds.
13) The contractor will apply fertilizer to reclaimed areas only according to the Restoration and Revegetation Plan and as directed by the jurisdictional land management agency or property owner.	3.3-30	CUP #45 – Provide a written plan indicating schedules for decommissioning, dismantling and reclamation of the project site. PDF/BMP GG – The application rate of fertilizers used will follow manufacturer's recommendations.

		PDF/BMP AAL – Prepare a Revegetation Plan. PDF/BMP AAQ - Restore disturbed areas to preconstruction contours, restore or replace damaged vegetation, and implement any required vegetation monitoring plans.
14) The Applicant will implement noxious weed control measures that will be in accordance with existing regulations and jurisdictional land management agency or landowner agreements. Before construction, only herbicides that are approved by the State of Oregon and the BLM will be applied to any identified weed infestations on public lands to reduce the spread or proliferation of weeds. Post-construction control measures might include one or more of the following methods: a) Mechanical methods rely upon equipment that is used to mow or disc weed populations. If such a method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based upon site-specific conditions and the appropriate seed mix identified for those conditions, as presented in the Restoration and Revegetation Plan. b) Disking or other mechanical treatments that would disturb the soil surface within native habitats will be avoided. c) Herbicide application is an effective means of reducing the size of noxious weed populations. d) Treatment methods will be based upon species-specific and area-specific conditions (e.g., proximity to water or riparian areas, or agricultural areas, and time of year) and will be coordinated with the local regulatory offices. **e)** If areas are not seeded until the following spring because of weather or scheduling constraints, all annuals and undesirable vegetation that have become established will be treated before seeding.	3.3-31	CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #19 – Comply with all State of Oregon and federal laws and regulations regulating the handling, storage, use and disposal of pesticides/herbicides. CUP #45. Provide a written plan indicating schedules for decommissioning, dismantling and reclamation of the project site. PDF/BMP C – Areas to be cleared will be marked and sensitive areas to be avoided will be flagged. PDF/BMP F – Disturbed surfaces will be returned to original contours and revegetated. PDF/BMP R – Areas to be cleared will be clearly marked and sensitive areas to be avoided will be flagged. PDF/BMP S – Any areas that will not be cleared will retain vegetation in place.

		PDF/BMP PP – Use of herbicides will be minimized, but noxious weed control will be required. PDF/BMP ZZ – Non-road shrub land will be reseeded. PDF/BMP AAB – Applicant will provide seed and meet requirements of Federal Seed Act and applicable Oregon State laws; use only seed certified as "noxious weed free"; and seed must be appropriate to geographic and elevation characteristics. PDF/BMP AAC – See an area after construction preferable in the fall. PDF/BMP AAK – Monitor and treat noxious weeds annually. PDF/BMP AAL – Prepare a Revegetation Plan. PDF/BMP AA31 – Undertake a plan to control noxious weeds.
15) Specific mitigation measures for the effects related to construction of the main access road will be described in the CWM Plan in a revised Joint Permit Application that will be submitted to the USACE and Oregon Department of State Lands. The objective of the CWM will be to create new Palustrine Emergent and palustrine shrub scrub wetland areas at a ratio of 1:1.5 to replace the wetland area lost from construction of the main access road. The CWM plan will propose to create 3.66 acres of wetland to compensate for the 2.44 acres of wetlands affected by construction of the access road.	3.4-18	CUP #1 – Obtain and comply with all federal, state and local permits/entitlements required to construct, operate and maintain the facility. CUP #6 – Secure ODEQ permit. Maintain storm water, flood control and drainage facilities. CUP #10 - Avoid riparian areas wherever possible and provide reasonable erosion and siltation controls.

		FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 2-22 and 2-23. Compensatory Wetland Mitigation Plan PDF/BMP AAR - Develop and adhere to the Erosion and Sediment Control Plan. PDF/BMP AAU – Method of "end haul" construction.
16) Speed limits for travel on the newly constructed portion of the main access road to the Echanis Project site would be posted at 25 mph to reduce the potential for wildlife collision.	3.5-52	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP [2]– Drive at low speeds.
17) The Applicant would install anti-perch devices on transmission poles within 2 miles of the Echanis Project Area, as allowed by transmission operators. The Applicant would notify the FWS of any transmission operators that were unwilling to allow the Applicant to retrofit their lines. The FWS would provide outreach to these operators to encourage them to allow the work.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Follow Avian Power Line Interaction Committee guidance, construction and power line siting.
18) Wind turbine sites would be sited more than 500 feet from the southern and eastern edges of ridges at the Echanis Project site, to reduce the impacts to raptors whose flight paths might include the updraft along the ridge edges.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Set turbines back from ridge edges at least 100 m.

[2] The Avian Bat Protection Plan/Eagle Conservation Plan can be found in Attachment E.

19) Pre-construction wildlife surveys would be conducted for greater sage-grouse, active raptor nests, and burrows and passerine nests. The results would be provided to the FWS and BLM to determine whether any additional or modified construction timing restrictions would be required.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. PDF/BMP AAV[3] – Prepare a Habitat Mitigation Plan
20) Where aspen stands occurred in temporary use areas, and would not naturally regenerate, the TAC would review the restoration success and could require small prescribed burns to stimulate regrowth.		CUP #45 – Provide the County a written plan indicating reclamation of the project site. PDF/BMP AAL – Prepare a Revegetation Plan
21) Areas of temporary disturbance would be restored to pre-construction contours and revegetated with private landowner-approved seed mixtures. Additionally, any temporary impacts to native habitats would be restored to native habitat.		CUP #9 - Prepare and Comply with a Weed Management Control and Response Plan. CUP #45. Provide a written plan indicating schedules for decommissioning, dismantling and reclamation of the project site. PDF/BMP F – Disturbed surfaces will be returned to original contours and revegetated. PDF/BMP AAB – Applicant will provide seed and meet requirements of Federal Seed Act and applicable Oregon State laws; use only seed certified as "noxious weed free"; and seed must be appropriate to geographic and elevation characteristics. PDF/BMP AAC – Seed an area after construction preferably in the fall. PDF/BMP AAK – Monitor and treat noxious

[3] The Habitat Mitigation Plan can be found in Attachment D.

		weeds annually. PDF/BMP AAL – Prepare a Revegetation Plan. PDF/BMP AAQ - Restore disturbed areas to preconstruction contours, restore or replace damaged vegetation, and implement any required vegetation monitoring plans. PDF/BMP AA31 – Undertake a plan to control noxious weeds
22) Operational activity in big game winter range between December and March would be limited to conducting required maintenance or use during emergency situations		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed.
23) The ODFW *Mitigation Framework* (Hagen 2011b) identified guidelines for mitigating for impacts to greater sage-grouse resulting from energy projects in areas identified as Core or Low Density under the Core Area approach described in the *Sage-Grouse Strategy*. The *Mitigation Framework* states that if the Project is in a Core Area and would impact greater sage-grouse habitat, the recommendation would be to avoid impacts to those habitats. For impacts in Low Density Areas, the ODFW recommends mitigation such that there is "no net loss with a net benefit" (Hagen 2011b). The Mitigation Framework provides direction to: (a) calculate the recommended mitigation acreage requirement; (b) select a mitigation area (the "Mitigation Area"); (c) develop a baseline assessment and conservation actions to be implemented in the Mitigation Area; and (d) monitor and preserve the Mitigation Area. The permanent loss of sagebrush habitat would be mitigated through the Project's Habitat Mitigation Plan (HMP).	3.5-53	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. PDF/BMP AAV – Implement a Habitat Mitigation Plan

24) Minimizing the area and intensity of disturbances during pre-construction activities, such as monitoring and site reconnaissance, by keeping at least 0.5 mile away from all active nests (unless the purpose of the activity necessarily required personnel to be closer to the nest).	3.5-58	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Minimize the area and intensity of disturbances during pre-construction.
25) Undertaking real-time monitoring of proximate occupied nest sites, and curtailing activity if eagles exhibited signs of distress;	3.5-58	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Undertake real-time monitoring.
26) Utilize existing transmission corridors and roads to the greatest extent possible.	3.5-58	ABPP/ECP – Utilize existing transmission corridors.
27) Avoiding, to the greatest extent possible, vegetation removal and construction during the breeding season.	3.5-58	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. PDF/BMP AAV – Prepare a Habitat Mitigation Plan ABPP/ECP – Avoid vegetation removal and construction during the breeding season to the greatest extent possible.

28) Designing the Project layout to reduce collision and electrocution by: a) Set turbines back from ridge edges at least 328 feet (100 meters) where soaring might occur; b) Site structures away from high avian use areas and the flight zones between them; c) Dismantle nonoperational meteorological towers. d) Follow the Avian Power Line Interaction Committee (APLIC) guidance for power line construction (APLIC 2006) and power line siting (APLIC 1994). e) Develop a Transportation Plan, including road design, locations, and speed limits to minimize habitat fragmentation and wildlife collisions and minimize noise effects. f) Minimize the extent of the road network.	3.5-58	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. PDF/BMP AAV – Implement a Habitat Mitigation Plan ABPP/ECP – Set turbines back at least 100 m; sit structures away from high avian use areas; dismantle nonoperational meteorological towers; follow the Avian Power Line Interaction Committee guidance; develop a transportation plan; and minimize the road network.
29) Select Project features that minimize effects to eagles, such as: a) Avoid the use of lattice or structures that are attractive to birds for perching; and b) Avoid construction designs (including structures such as permanent meteorological towers) that increase the risk of collision, such as guy wires. If guy wires are used, the Applicant shall mark them with bird flight diverters (according to the manufacturer's recommendation).	3.5-59	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Avoid using lattice/structures; and avoid construction designs that increase risk of collision.
30) The Applicant is proposing to minimize golden eagle mortalities at the Echanis Project site with pre- and post-construction "Advanced Conservation Practices" in or near the Project Area, as fully identified in the ABPP/ECP (Appendix F). These actions include: a) Complete additional studies including eagle nest observation study, 10 mile aerial nest survey, and 800 meter point counts. b) Minimize lighting at facilities. Require that all security lighting not be left "on" overnight, and down-shield all security and related infrastructure lights; c) During construction, implement spatial and seasonal buffers to protect individual nest sites/territories and/or roost sites, including: 1) Maintain a 0.5-mile buffer area between construction activities and	3.5-59	CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. CUP #17 – Outdoor lighting shall be hooded and directed. PDF/BMP AAV – Implement a Habitat Mitigation Plan ABPP/ECP – Minimize lighting; implement buffers; avoid activities that may disturb eagles;

nest/communal roost sites; 2) Keep natural areas between the Project footprint and the nest site or communal roost by avoiding disturbance to natural landscapes. d) Avoid activities that might disturb eagles. e) Avoid siting turbines in areas where eagle prey are abundant and conduct practices that do not enhance prey availability at the Project site. f) Maintain facilities to minimize eagle effects: 1) If rodents and rabbits are attracted to Project facilities, identify and eliminate activities that might be attract them. 2) Avoid management that indirectly results in attracting raptors to turbines, such as seeding forbs or maintaining rock piles that attract rabbits and rodents. g) Move stored parts and equipment that could be utilized by small mammals for cover, away from wind turbines. h) If mammals burrow near tower footprints, where feasible on a case-by-case basis fill the holes and surround the pad with gravel at least 2 inches deep and out to a perimeter of at least 5 feet. i) Immediately remove carcasses (other than those applicable to post-construction fatality monitoring; see below) that have the potential to attract raptors from roadways and from areas where eagles could collide with wind turbines.		avoid siting turbines in area where eagle prey is abundant; minimize eagle effects; store parts away from turbines; fill mammal holes; and remove carcasses.
31) Ensure responsible livestock husbandry (e.g., removing carcasses, fencing out livestock) is practiced if grazing occurs around turbines.		ABPP/ECP – Ensure responsible livestock husbandry.
32) Reduce vehicle collision risk to wildlife: a) Instruct project personnel and visitors to drive at low speeds (< 25 mph), and be alert for wildlife, especially in low visibility conditions. b) Plow roads during the winter so that ungulate movement is not impeded. Snow banks can cause ungulates to run along roads, resulting in them colliding with vehicles. Roadside carcasses attract eagles, subjecting them to collisions as well.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Reduce vehicle collision risk to wildlife.

33) Follow procedures that reduce the risks to wildlife: a) Instruct employees, contractors, and visitors to avoid disturbing the wildlife, especially during breeding seasons and periods of winter stress. b) Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road). c) Follow federal and state measures for handling toxic substances.		CUP #1 – Compliance with applicable laws. CUP #7 – Fire Protection. CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. CUP #18 – Hazardous Substances
34) Minimize the effects to wetlands and water resources by following the provisions of the Clean Water Act. **D**		CUP #1 – Compliance with applicable laws. CUP #10 – Avoid riparian areas. ABPP/ECP – Follow the Clean Water Act. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23
35) Implement the ABPP/ECPs golden eagle commitments including fatality monitoring, especially of highest risk "Migratory Corridor Turbines", phased response (including turbine curtailment, additional monitoring, as well as retrofitting and maintenance of 10 high electrocution risk power poles) to each golden eagle mortality, and consultation with FWS/additional CEP mitigation if more than 4 golden eagle mortalities are found over the life of Project operations.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Monitoring, adaptive management, compensatory mitigation.
36) Implement the ABPP/ECPs up-front conservation commitment, including the Applicant placing $50,000 into an interest-bearing escrow account at the beginning of operation for golden eagles actually taken by the Project using the following mechanisms:$5,000 will be paid out per golden eagle fatality until all funds are spent. Funds will target a FWS-approved golden eagle compensatory project; If the $50,000 is spent, an addition $50,000 will be deposited..		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP – Pay $50,000 to an interest bearing escrow account
37) Based upon data provided in the ABPP, the average avian mortality per turbine of wind projects with habitat types similar to the Echanis Project is 2.70 birds and 2.56 bats per year. If these thresholds across the entire project were exceeded, or mortality		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed.

at any one turbine is 10.0 bats or birds in a given year, mitigation would be initiated. Mitigation would be overseen by the TAC, conducted in phases, to be implemented chronologically as avian and/or bat thresholds were exceeded. Phased mitigation includes turbine curtailment, additional monitoring, habitat enhancement and/or power pole retrofitting.		ABPP/ECP – Monitoring, Adaptive Management, and Compensatory Mitigation.
38) Effects to avian species other than golden eagles and bats would be mitigated through implementation of Advanced Conservation Practices prior to, during, and after construction, as outlined in the Project's ABPP section 3.0 Conservation of Avian Species Other Than Golden Eagles, and further developed by the TAC. Over a 10 year period, funds totaling $100,000 will be deposited into an interest-bearing account for purposes of the TACs annual operational expenses. Operational expenses are not expected to exceed $10,000 per year.		CUP #8 – Comply with all requirements relating to wildlife protection and notification as are imposed. ABPP/ECP is Attachment E.
39) During construction, temporary construction laydown areas and pulling/tensioning sites would be located to minimize disturbance to grazing livestock.	3.6-13	ABPP/ECP – Ensure responsible livestock husbandry.
40) During operation, the owner/operator would avoid adverse effects upon grazing activities, to the extent reasonably possible, when performing facility inspections, and maintenance and repair activities.		ABPP/ECP – Ensure responsible livestock husbandry.
41) Banning commercial messages or symbols (such as logos), trademarks, and messages on the turbines towers and and/or ancillary structures.	3.7-18 3.9-17	CUP #14 - Signs
42) Developing aesthetic offsets where corrective or ameliorative actions are needed to improve the existing condition. Examples could include reclaiming unnecessary roads in the area, cleanup of illegal dumps or trash, or rehabilitation of existing erosion or disturbed areas.		CUP #5 – Repair of Damage CUP #24 – Solid waste disposal CUP #45 – Provide the County a written plan indicating reclamation of the project site.
43) Developing interpretive materials or displays that provide information about the Echanis Project wind turbines for public distribution.		ABPP/ECP – Public Outreach PDF/BMP AAII – Explore opportunities to notify wilderness users.
44) Examples of BMPs and PDFs for Echanis: a) Coloration of all exterior components of the wind turbines would be off-white or		CUP #11 – Exterior components shall be off-white or light gray and shall have a flat, semi-gloss or galvanized finish to reduce glare.

light gray for the blades, the towers, and the nacelles. The finish of all of these exterior components would be flat, semi-gloss, or galvanized to avoid creating significant glare; b) Any outdoor (i.e., non-FAA required or recommended) lighting would be hooded and directed so as not to shine directly upon adjoining property or public road rights-of-way. Any lighting required or recommended by the FAA for air traffic marking would conform to approved standards established by the FAA; c) Ground disturbance would be limited to that necessary to safely and efficiently install the proposed facilities; d) Access roads and other areas of ground disturbance within the construction limits would be watered, as needed, to remain compact and to avoid the creation of dust; e) No paint or permanent discoloring agents would be applied to rocks or vegetation, to indicate the limits of survey or construction activity; f) Nonspecular conductors would be used to reduce impacts; g) All stakes and flagging would be removed from the construction area and disposed of in a State approved landfill; and h) The Applicant would explore opportunities to notify wilderness users prior to visiting the affected Steens Mountain Wilderness Area and Wilderness Study Areas by publication of the construction schedule in the local media, posting the schedule at administering agency offices, posting the schedule at trailheads or other recreation access points to the Steens Mountain Wilderness Area, or other means of reaching visitors.		CUP #17 – Outdoor lighting shall be hooded and directed. CUP #23 – Operation and maintenance activities shall be confined to roads, turbine pads building areas, storage, staging and parking areas and transmission lines to the extent possible. CUP #45 – Provide the County a written plan indicating reclamation of the project site. FEIS, page 2-24 – Dust control measures would be used. PDF/BMPAA29 and AA30 – Refuge/trash, including states and flags, will be removed. PDF/BMP AAII – Explore opportunities to notify wilderness users.
45) The two potentially NRHP eligible archaeological resources and the one historic cultural feature within the Echanis Project APE would be avoided, if possible, by relocating or reconfiguring project-related facilities on the Echanis Project site or along the alignment of the main access road. If avoidance would not be possible, further testing and formal evaluations for eligibility for listing in the NRHP would be conducted for each identified resource, as described in Appendix A (A.1.7 and A.3.7).	3.10-22	CUP #48 – Conform to required mitigation measures pertaining to on-site archaeological/historical discoveries. CUP #49 – Consult with Burns Paiute Tribe in the event of any discovery of cultural features. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23.

46) Potential mitigation measures could include: a) Shifting the turbine layout to the north and west approximately 0.25 to 0.5 mile, to a lower elevation, thus reducing the visibility of the turbines for the Steens Mountain Wilderness, WSAs, and LWCs. This measure would also reduce noise levels to ambient levels for the Lower Stone House WSA and LWC; b) Banning commercial messages or symbols (such as logos), trademarks, and messages on turbines towers, and/or ancillary structures; and c) Developing aesthetic offsets where corrective or ameliorative actions are needed to improve the existing condition. Examples could include reclaiming unnecessary roads in the area, cleanup of illegal dumps or trash, or rehabilitation of existing erosion or disturbed areas.	3.13-15	CUP #5 – Repair of Damage CUP #14 – Signs CUP #24 – Solid waste disposal CUP #45 – Provide the County a written plan indicating reclamation of the project site. ABPP/ECP – Set turbines back from ridge edges at least 100 m.
47) Pilot cars would be used in front and behind all trucks transporting oversized loads to enhance safety and reduce accident risk.	3.14-10	CUP #1 - Obtain and comply with all federal, state, and local permits.
48) Flaggers would be stationed at appropriate locations to stop traffic or direct vehicles around trucks maneuvering through tight turns.		CUP #1 - Obtain and comply with all federal, state, and local permits.
49) Roads damaged by oversize trucks or construction equipment would be repaired or reconstructed, as required.		CUP #5 – Repair of Damage
50) To minimize the effects of noise, the Applicant would comply with the conditions of approval related to noise as set forth in Exhibit B to the Harney County Conditional Use Permit No. 07-14 issued on April 18, 2007, and revised May 21, 2008. These conditions include provisions that would reduce the effects to the WSA and LWC. These conditions include operating the Project so that noise does not exceed allowable statistical noise levels in any one hour, as measured at off-site sensitive receptors, under applicable OEQC noise standards.	3.17-10	CUP #1 - Obtain and comply with all federal, state, and local permits. CUP #16 – Wind turbines shall not be operated so that noise is created exceeding allowable statistical noise levels in any one hour, as measured at off-site sensitivity receptors, under applicable DEQ noise standards.
51) Obtain and enforce a warranty, from the selected turbine manufacturer, that the maximum continuous sound power level produced by each turbine under all wind conditions would not exceed 107 dBA measured at the hub height.		CUP #1 - Obtain and comply with all federal, state, and local permits. CUP #16 – Wind turbines shall not be operated so that noise is created exceeding allowable statistical noise levels in any one hour, as

		measured at off-site sensitivity receptors, under applicable DEQ noise standards.
52) Provide sufficient spacing between wind turbine towers to minimize array and wake losses (i.e., energy losses created by turbulence between and among the turbines).		
53) Implement a noise-monitoring program under which baseline (pre-Project) and with-Project noise conditions would be determined and documented. D		CUP #16 – Wind turbines shall not be operated so that noise is created exceeding allowable statistical noise levels in any one hour, as measured at off-site sensitivity receptors, under applicable DEQ noise standards. CUP #32 – Daytime Construction Period
54) Establish a process for recording, responding to, evaluating, and resolving noise complaints that might arise during Project operation.		CUP #1 – Obtain and comply with all federal, state and local permits/entitlements. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23.
55) The Applicant would explore opportunities to notify wilderness users prior to visiting the areas affected by noise by publication of the construction schedule in local media, posting the schedule at administering agency offices, posting the schedule at trailheads or other recreation access points to the Steens Mountain Wilderness Area, or other means of reaching visitors. This notification process would alert wilderness users to the potential temporary impacts of presence and sound of construction and Project operations on opportunities for experiences of solitude and primitive recreation settings, and allow the visitor to decide whether they want to re-schedule their visit.		PDF/BMP AAII – Explore opportunities to notify wilderness users.
56) Construction noise will be limited to daytime, weekday hours (e.g., 6 a.m. to 10 p.m.).		CUP #32 – Daytime Construction Period.
57) Noise reduction features (e.g., mufflers and engine shrouds) will be used on all pieces of construction equipment and will be no less effective than those originally installed by the manufacturer.		CUP #1 – Obtain and comply with all federal, state and local permits/entitlements.

58) Where feasible, construction traffic will be routed away from residences.		FEIS, page 2-26 – Personnel will utilize park-ride intermediate locations; supply deliveries are planned to occur on a four-round trip per month basis. CUP #1 – Obtain and comply with all federal, state and local permits/entitlements.
59) Unnecessary construction vehicle use and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A "common sense" approach to vehicle use will be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. (Note: certain equipment, such as large diesel-powered vehicles require extended idling for warm-up and repetitive construction tasks.)		CUP #1 – Obtain and comply with all federal, state and local permits/entitlements. PDF/BMP AA34 – Keep equipment in good working order. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23.
60) To the extent possible, construction crews will not conduct pile driving or blasting within 100 feet of fragile structures or areas with sensitive uses.		PDF/BMP C and R– Sensitive areas to be avoided will be flagged.
61) To the extent possible, construction equipment will not be operated within 25 feet of fragile structures or areas with sensitive uses.		PDF/BMP C and R – Sensitive areas to be avoided will be flagged.
62) The following mitigation measures that were identified in the EIS literature search could also be implemented: a) All equipment would be maintained in good working order. b) All mobile or fixed noise-producing equipment used on the Project that is regulated for noise output by a local, state, or federal agency, would comply with such regulations while in the course of Project activity. c) 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. d) The Contractor would implement a noise complaint process and hotline number		CUP #1 - Obtain and comply with all federal, state, and local permits. CUP #32 – Daytime Construction Period PDF/BMP AA34 – Keep equipment in good working order. FEIS, Section 1.8 – Federal, State and Local Permits, Licenses and Approvals, page 1-22 and 1-23.

for the surrounding community. Echanis LLC would have the responsibility and authority to receive and resolve noise complaints. e) Coordinate construction vehicle travel to reduce the number of passes by sensitive receivers. f) Schedule noisy activities to occur at the same time since additional sources of noise generally do not add a significant amount of noise		FEIS, page 2-26 – Personnel will utilize park-ride intermediate locations; supply deliveries are planned to occur on a four-round trip per month basis.

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