



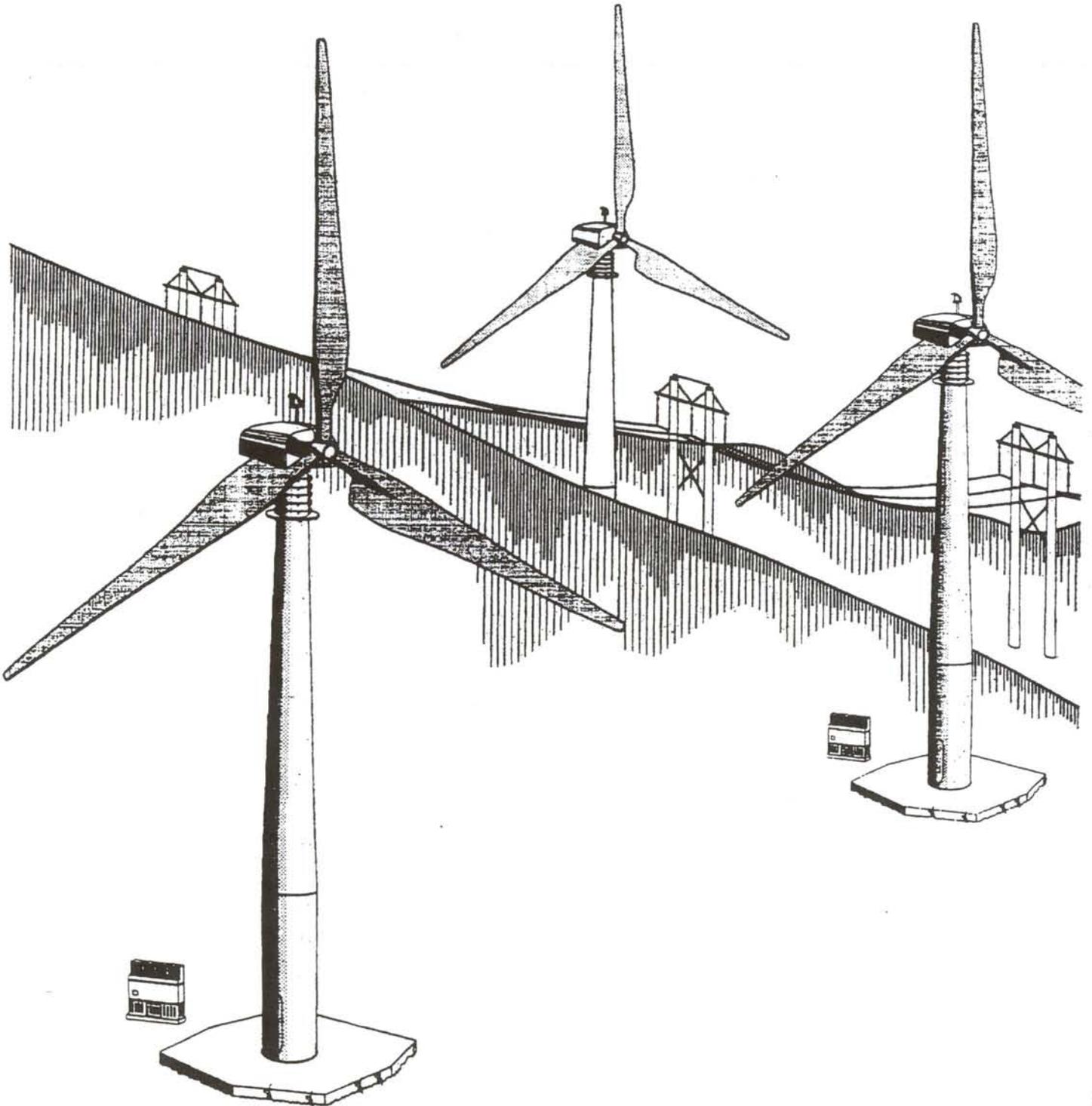
U.S. Department of the Interior
Bureau of Land Management

Rawlins District

July 1997



Record of Decision SeaWest/PacifiCorp Windpower Project



The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82003-1828

WYW-130382

SeaWest Energy Corporation

JUL 23 1997

Dear Reader:

The Record of Decision (ROD) for SeaWest/PacifiCorp Windpower Project is provided for your information and use. SeaWest Energy Corporation acquired development rights from KENETECH Windpower through bankruptcy court. The windpower project is located in east central Carbon County. The first phase will be constructed at Arlington, Wyoming. The ROD outlines the decision and rationale (including key management considerations) the Bureau of Land Management (BLM) used in reaching its decision to approve the project. The ROD also explains why BLM concluded it was unnecessary to supplement the EIS after SeaWest took over the project and the ROD identifies mitigation and monitoring requirements that will minimize environmental impacts.

Public Participation and key dates in the National Environmental Policy Act (NEPA) process are identified in the ROD. The Environmental Impact Statement (EIS) was prepared pursuant to NEPA and other regulations and statutes to address possible environmental impacts which could result from the project and to solicit public comments and concerns.

A copy of the ROD has been sent to affected government agencies and to those persons who responded to scoping, commented on the EIS, or otherwise indicated to BLM that they wished to receive a copy of the EIS. Copies of the ROD are available to the public at the following location:

Bureau of Land Management
Rawlins District Office
1300 Third Street
Rawlins, WY 82301

The ROD has been reviewed and concurred with by Robert Armstrong, Assistant Secretary of the Interior for Lands and Minerals. This decision is the final decision of the Secretary of Interior on the SeaWest/PacifiCorp Windpower Project.

BLM would like to thank the individuals and organizations who provided suggestions and comments on the Draft and Final EIS. Your help has been invaluable in preparing the EIS and the enclosed ROD. Questions regarding this ROD should be directed to Walter George, Project Leader, Rawlins District Office, 1300 Third St., Rawlins, WY 82301, (307) 328-4363 or e-mail: wywgeorge@wy.blm.gov.

Sincerely,

Alan L. Kesterke
Associate State Director

RECORD OF DECISION

SEAWEST/PacifiCorp Windpower Project

WYW-130382,
WYW-130929,
and
WYW-136588

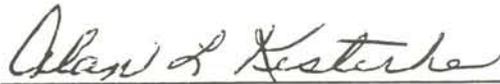
Prepared by: Great Divide Resource Area,
Rawlins District Office
Rawlins Wyoming

RECOMMENDATION AND APPROVAL

I have reviewed the Draft and Final Environmental Impact Statements and supportive documentation prepared in accordance with regulations and guidelines of the National Environmental Policy Act of 1969 (42 U.S.C. 4371 et seq., 40 CFR 1500).

I have also reviewed the rationale, criteria, terms and conditions that are presented in the Record of Decision. The decision has been prepared in accordance with applicable provisions and regulations for the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq., 43 CFR 2800) and is consistent with decisions made in the Great Divide Resource Management Plan. The decision for this project is consistent with State and Local land use plans.

I recommend the decision and appendant Terms and Conditions be approved.



JUL 15 1997

Alan Kesterke, Associate State Director

I concur:



JUL 17 1997

Bob Armstrong, Assistant Secretary of Interior

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RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

A. BACKGROUND AND PROJECT HISTORY

On September 13, 1993, US Windpower submitted a right-of-way application to the Rawlins District Office of the Bureau of Land Management (BLM or Bureau) to use Public Land in eastern Carbon County for wind energy development. The proposed project would be constructed in phases over a 10 -12 year period using wind turbines manufactured by US Windpower. BLM formed an interdisciplinary team, selected a third-party consultant to prepare the National Environmental Policy Act (NEPA) analysis, and conducted internal scoping. US Windpower changed its name to KENETECH Windpower (KENETECH) January 1, 1994.

A Scoping Statement was mailed to interested parties on January 10, 1994. A Notice of Intent to Prepare an EIS was published in the Federal Register on the same day (59 FR 6, page 1404). Public Scoping meetings were held in Rawlins and Laramie, Wyoming, on February 2-3, 1994. The 45-day scoping period closed on February 25, 1994.

The DEIS was released on January 13, 1995. The Environmental Protection Agency (EPA) published the Notice of Availability in the Federal Register on January 27, 1995 (60 FR 18, page 5388). Public meetings were held in Rawlins and Laramie, Wyoming, on February 8-9, 1995, respectively. The 60-day comment period closed on March 28, 1995.

The FEIS was released on August 18, 1995. The EPA published the Notice of Availability in the Federal Register on September 1, 1995 (60 FR 170, page 45717). The 30-day comment period closed on October 2, 1995.

In November 1995, BLM learned of operational problems with the KENETECH turbine and financial problems in the company. Information was requested and KENETECH responded with a series of letters in early 1996. Due to lack of funds, KENETECH suspended wildlife field studies on March 15, 1996. In May 1996, KENETECH filed for Chapter 11 bankruptcy. BLM suspended work on the Right-of-Way application.

In January 1997, SeaWest Energy Corporation (SeaWest) purchased development rights to the project from the bankruptcy court. SeaWest submitted a proposed project plan to BLM later that same month. BLM requested the third-party consultant prepare a "Comparison Report" between the two proposals that would: (1) help BLM determine if substantial changes to the Proposed Action had been made, or if there were significant new circumstances or information relevant to environmental concerns bearing on the Proposed Action or its impacts [40 CFR 1502.9(c)] that would require supplementation of the Environmental Impact Statement (EIS), (2) review literature on wind energy impacts published since preparation of the Draft EIS (DEIS) in early 1995, and (3) consider field data collected in 1995 and not included in the Draft or Final EIS. The Comparison Report was completed in June 1997.

The Comparison Report examined twenty-eight attributes of the wind farm, sixteen attributes of the wind farm electrical system, six attributes of the wind farm communication system, and five attributes of access to the wind farm. Because a final turbine selection had not been made when the report was prepared, a range of values was examined for the SeaWest proposal. Twenty-eight of the total fifty-five attributes showed no change from the KENETECH to SeaWest proposal. Thirteen of the attributes varied, but not appreciably. Fourteen of the attributes did vary to some extent and are discussed below.

Many of the attributes are interrelated and we will discuss the fourteen that varied in seven groups.

Number of turbines, strings and end row turbines: Gross numbers of these attributes all decreased between 33 - 50%. This change in the SeaWest proposal is viewed as a beneficial

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change because fewer turbines will pose a lower risk to bird collisions, will be less visible, and require less surface disturbance. End row turbines have been suggested as locations of greater risk for bird collisions. Reducing the number of end row turbines will further reduce the risk of bird collisions. The benefits of this attribute group is offset by changes in the next two groups.

Tower height, distance between towers and strings: Increased distance between towers and strings will make the first phase appear less dense and may make it easier for big game animals to habituate to the wind farm. Greater spacing may actually be a disadvantage to reducing bird strikes because at a lower density, the bird may not recognize the strings as a barrier to be avoided. Taller towers will put the rotor swept area into the space used by higher flying raptors.

Rotor diameter, individual and total rotor swept area: The rotor diameter and subsequently the individual rotor swept area will be 45 - 78% greater for each turbine in the SeaWest proposal. Thus each individual turbine may pose greater risk of collision than the KENETECH turbine. This increased risk is offset by a 2 - 20% reduction in the total rotor swept area for all of Phase I, and a 33 - 50% reduction in the number of turbines.

Blade tip speed: This attribute has been associated with increased bird mortality. The SeaWest proposal would use turbines that, on the average, has 10 - 19% slower blade tip speeds that the KENETECH proposal.

Number of meteorological towers: Meteorological (met.) towers are supported by guy wires and these thin wires may pose a risk to bird collisions. The SeaWest proposal would use 11 - 16 met. towers while the KENETECH proposal had only planned to use 7. Bird collisions with guyed towers have been usually documented with isolated radio towers. The increased number of guyed met. towers may pose a slightly increased risk of collision.

Number of in plant power poles and above-ground power lines: The KENETECH proposal had 150 above-ground power poles and five miles of 34.5 kV power line. The SeaWest proposal will have all power and communication lines buried and only two riser poles at the substation. This attribute change should reduce the risk to large birds by eliminating potential perches around turbines.

Turbine layout characteristics: High use raptor areas were tentatively identified during 1994/95 use observations. These areas included Arlington Hill (at the extreme south end of Foote Creek Rim) and the entire west (leading) edge of Foote Creek Rim. Use observations in 1995/96 further refined use along the west edge of the rim. Eighty percent of large bird use occurs within a 100m band, centered on the west edge of the rim. The SeaWest proposal does not plan any turbines on Arlington Hill and reduced by 64 - 83% the number of turbines within 50m of the west rim edge.

A complete discussion of attribute changes relative to avifauna is in section 3.2.3.3 of the Comparison Report.

Additional data collected at the site in 1995/96, and not included in the EIS, did add to our understanding of wildlife use at the site. However, the additional data did not measurably enhance our understanding of either wildlife population dynamics or prospective risks to animals. The additional information still does not provide a sufficient data base to discern variations due to natural environmental factors such as weather, prey base, other mortality factors, etc. and effects of the wind farm. Furthermore, the data collection design is keyed to a before/after comparison with undisturbed reference areas considered. Until the wind farm is built and operating, comparisons and conclusions would be premature.

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Studies at other wind farms have narrowed somewhat the factors that may contribute to bird mortality in wind farms but there are still no conclusions which are reliably applicable to the proposed project. The number of factors still under consideration prevents specific, definitive recommendations. SeaWest has included mortality reducing modifications in their proposal they believe are reasonable and prudent given the current level of knowledge on this matter.

B. DECISION

The Bureau of Land Management has reviewed the Comparison Report of the KENETECH and SeaWest proposals. While there are differences between many attributes or components of the wind farm and its other systems, we conclude that the positive and beneficial changes outweigh the negative, and that overall the changes are not discernibly different from and will not affect the human environment in a significant manner or to a significant extent not already considered and analyzed in the draft and final EIS's. Furthermore, we conclude there are no new circumstances or information presenting significant environmental concerns which have become available that would substantially alter the conclusions of the analysis in the draft and final EIS's. Therefore, a supplemental EIS will not be required under NEPA and the regulations at 40 CFR 1502.9(c).

The Bureau of Land Management will offer and will grant three renewable Right-of-Way (ROW) Grants under authority of Title V of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1761-1771. A right-of-way grant (WYW-130382) will be issued to SeaWest Energy Land Associates, LLC (a limited liability Delaware Corporation formed by SeaWest Energy Corporation to hold and administer the wind energy land rights in Wyoming) for construction of a 500 MW wind-electric plant. This grant is described in the EIS as the proposed action. Another ROW grant will be issued to PacifiCorp (WYW-130929) to construct a 230 kV power line. The grant for the 230 kV power line will follow the route described as alternative three in the EIS. A third ROW Grant (WYW-136588) will be issued to PP&L for the temporary use of access roads across Public Land during power line construction. Upon approval of the Record of Decision (ROD), BLM intends to issue all three ROW grants.

Legal descriptions of the affected Public Lands are attached to this decision. The grant for the wind farm will include the entire area requested by SeaWest. The decision to grant a ROW for this area does not imply or give SeaWest the right to construct wind energy facilities at any time or on any Public Land identified in the Grant. Approvals to construct specific phases will be authorized via Notices to Proceed (NTP) after appropriate NEPA analysis has been conducted.

Rationale: This decision is based on the following factors. These factors are discussed in Section D, Management Considerations.

1. The project will supply non-polluting electric energy for which a long-term need has been identified, will allow utilities in the Rocky Mountain Region to test the integration of this type of electric generating facility with existing facilities, will provide large and significant income and tax benefits to Carbon County and south central Wyoming, and will support the national energy policy of developing renewable energy resources.
2. Public Lands comprise only 16,973 acres (28%) of the total project area of 60,619 acres. Public Lands lie in a "checkerboard" pattern where no one section (1 square mile) is contiguous to another except at the corners. There are portions of the project area (e.g. northern Foote Creek Rim, north eastern corner of the Simpson Ridge area) where no Public Lands are present. All private landowners within the project area have granted development rights to SeaWest.

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3. The project has received permits from the Wyoming Industrial Siting Council, the Wyoming State Land Commission, the Wyoming Public Service Commission, and the Carbon County Planning Commission. The project is supported by local government entities in Carbon County and the Governor of Wyoming.
4. The SeaWest project will significantly change the visual appearance and alter the recreational experience of public land users of the project area, will result in an indeterminate number of avian deaths, may affect nesting activity of the mountain plover and sage grouse, has the potential to displace big game herds from the project area, and may conflict with potential coal mining activities in a portion of the project area.

Insufficient information is available to accurately determine the number of collision-related avian mortalities that will occur, or to determine the effect these deaths may have on bird populations. Estimates indicate significant mortality levels will not occur.

A non-jeopardy opinion on endangered species (bald eagle and peregrine falcon) has been issued by the U.S. Fish and Wildlife Service. The Service has also issued a Special Purpose Permit under authority of the Migratory Bird Treaty Act (16 U.S.C. 703-712) for the authorized take of migratory birds up to the limits specified in the permit. A Letter of Authorization, attached to the permit, provides instructions and guidance on take of Golden Eagles, which are protected by the Eagle Act (16 U.S.C. 668). A copy of these documents is attached to this decision.

In consideration of the uncertain nature of the impacts, BLM will require extensive monitoring of wind farm operations. A technical advisory committee will assist BLM in addressing unexpected impacts at the facilities. Similar circumstances exist regarding insufficient impact information to big game species.

5. Implementation of mitigation measures identified in Section E of this decision, the use of monitoring studies, and the technical advisory committee lead BLM to conclude potential impacts from Phase I of this project do not preclude its approval. BLM will closely monitor project effects and take appropriate action if unexpected impacts are detected.
6. Potential impacts to cultural resources and Native American sacred places have been mitigated and procedures identified to address future conflicts. A copy of the MOU, addressing these issues, prepared pursuant to the Historic Preservation Act of 1966 (16 U.S.C. 470) and the American Indian Religious Freedom Act is attached.

This decision will be conditioned by the following Terms and Conditions:

1. The initial term of grants WYW-130382 and WYW-136292 will be 36 years. The term is set to coincide with the term of a Wyoming State Land Board grant of easement for State Lands in the project area. Grant WYW-136588 will be issued for two years.
2. All grants will be issued subject to specifications and requirements identified in BLM approved Plans of Development (PODs). The PacifiCorp POD, dated August 17, 1995, was approved on June 27, 1997. The Draft SeaWest POD, dated April 1997, was conditionally approved on May 30, 1997. The PODs will be made a part of the Terms and Conditions of the respective Grants.
3. Any POD must contain all of the mitigating measures identified in the final EIS.

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4. Construction for each Grant may not commence until the BLM Authorized Officer issues a Notice to Proceed (NTP). A NTP will only be issued after an acceptable POD has been developed and approved by BLM.
5. The wind farm will be constructed in phases, and BLM will only issue a NTP for Phase I at this time. Subsequent phases may be authorized following submittal of a POD and conclusion of NEPA analysis (including full public review) for each phase. RODs will be issued for each additional phase.
6. Other subsequent uses on the Public Lands covered by Grant WYW-130382 must recognize SeaWest's prior right and give consideration to any effect their proposal may have on SeaWest's planned or constructed facilities.
7. Federal coal resources underlie a portion of the Simpson Ridge Project Area. To prevent federal coal resources from being devalued by surface improvements, the grant holder may place wind energy facilities on the Public Lands identified below, but bears the responsibility for repair, replacement, or lost revenue should the BLM subsequently lease federal coal and the mining of such coal damage or impair the operation of wind energy facilities. The lands subject to this condition are:

T. 21 N., R. 80 W.
Section 12: ALL
Section 14: ALL

T. 22 N., R. 80 W.
Section 22: NE $\frac{1}{4}$, S $\frac{1}{2}$
Section 26: N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$
Section 34: ALL
8. All requirements identified in the **Biological Opinion**, dated June 30, 1997, and **Special Purpose Permit**, dated March 21, 1997, prepared by the U.S. Fish and Wildlife Service (USFWS) for this project shall be incorporated into the Terms and Conditions of the ROW Grants.
9. Provisions of the **Memorandum of Agreement**, accepted by BLM on June 30, 1997, concerning protection of resources eligible for the National Register of Historic Places shall be followed in the approval and management of this project on Public Lands.
10. Specific modifications and **mitigation** to the proposed action are identified in Section E of this decision. These measures are incorporated into the approved ROD.
11. **Bonding** will be required to ensure proper maintenance and reclamation. A bond, of appropriate surety, in the amount of \$2,000 per turbine located on Public Land, shall be obtained prior to issuance of the NTP for each phase.
12. **Rental** has been determined in conformance with the Uniform Standards of Professional Appraisal Practice. The fair market rent for WYW-130382 has three components:
 - a. An **Initial Payment**, or Option Payment, shall be made for the entire grant area. Payment for the first five years shall be \$12,000 per year. Payment during the second five-year period shall be \$24,000 per year. The Initial Payment requirement

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shall cease upon payment of the first half of the Installation Fee. Should the holder relinquish portions of the ROW grant, creating a situation where no wind turbines are present on Public Lands in the revised grant, the initial payment requirement shall be restored. Initial payment time period shall continue regardless of Initial Payment status.

- b. A one-time **Installation Fee** shall be paid upon construction of each project phase. The amount shall be equal to \$101.01 times the term (in years) of the grant per megawatt (rounded up to the next whole megawatt) of rated power on Public Land. For example, if 16.3 megawatts are installed on Public Land, and the term of the grant is 34 years, the Installation Fee would be: $\$3,636.36 \times 17 \text{ MW} = \$61,818.12$. Fifty percent (50%) of the Installation Fee shall be paid upon commencement of construction of a phase and 50% at the time such phase begins commercial operation.
- c. The final component of the fair market rent is an **Annual Rent** equal to \$1,000 per calendar year for each megawatt (rounded up to the next whole megawatt) of installed capacity on Public Land. The Annual Rent shall be tied to a Consumer Price Index (CPI). The "Index" is the "*Consumer Price Index - All Urban Consumers, U.S. City Average, All Items (1982-84 Base = 100)*", published by the U.S. Department of Labor, Bureau of Labor Statistics. The Annual Rent amount shall be adjusted annually on this CPI. The Annual Rent commences if and when a wind turbine is installed in the grant area and continues for so long as each wind turbine remains in the grant area until its physical removal.

The **first payment** of the Initial Payment and/or Annual Rent shall be prorated for any partial year and added to the first complete year payment as the first annual payment. Subsequent annual payments will be due on January 1 for that year's payment.

Minimum Fee: In no event shall the total of all payments under this Grant during any calendar year be less than \$12,000 (prorated for partial years) during the term of this Grant.

Rental for the PacifiCorp power line and access roads (WYW-130929 and WYW-136588) will be determined under the provisions of 43 CFR 2803.1-2.

The **Bonneville Power Administration**, a cooperating agency for the EIS, will issue a separate ROD for their action to execute a power purchase agreement with PacifiCorp.

The "No action" alternative is considered the environmentally preferred alternative because it would not pose the risk of avian mortalities or permit surface disturbing activities.

C. ALTERNATIVES INCLUDING THE PROPOSED ACTION

BLM analyzed two alternatives in addition to the **proposed action**. The proposed action involves the construction and operation of a 500 MW wind farm at two Carbon County locations in south central Wyoming. The two project areas encompass 60,619 acres of Federal (16,973 ac), private (37,584 ac), and state (6,062 ac) lands. The Foote Creek Rim area is located at the Arlington interchange on Interstate Highway 80 and extends approximately seven miles north. This area varies from 0.5 to 2 miles wide and covers approximately 5,000 acres (68% private, 19% Federal, and 13% state). The Simpson Ridge project area is approximately 55,619 acres (61% private, 29%

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Federal, and 10% state), lying within portions of Twps. 20-22 N., Rgs. 80-81 W. between Hanna and Elk Mountain, Wyoming.

Proposed wind farm facilities consist of 500 - 750 kW wind turbine generators supported by 131-151 ft. tubular towers spaced approximately 260-290 ft. apart within rows and approximately 1,150-1,350 ft. between rows. Associated facilities include: access roads, buried electric and communication lines, and padmounted transformers. An electrical substation and a 29-mile 230 kV power line from Foote Creek Rim to Hanna are common to all alternatives, except for the no action alternative.

Alternative A involves construction of a 300 MW wind farm, utilizing both the Foote Creek Rim and Simpson Ridge Project areas. A 40% reduction in the number of wind farm facilities is anticipated under Alternative A. Phased construction over a 10-12 year period is considered for both the proposed action and Alternative A.

The **no action alternative** (denial of ROW Grant - wind farm not constructed) was also analyzed.

Four other alternatives were considered but not analyzed in detail. They are:

1. Expand or Reduce the Project Area Size. Expanding the project area to avoid environmental conflicts was not considered necessary as the project boundaries were sized initially to allow for such consideration during the environmental analysis. The project area is sufficiently large to allow shifting of turbine placement to avoid or reduce impacts to certain resources. This alternative would not result in any measurable difference from the Proposed Action or Alternative A. Decreasing the project area while maintaining the capacity size may unnecessarily restrict consideration of potential turbine locations to areas that have environmental conflicts and, is thus, not a reasonable alternative.
2. Construct the Project in One Phase. This alternative was rejected because it is economically unrealistic to expect the applicant to erect wind turbines when electric supply contracts do not exist. Furthermore, authorization to construct the entire 500 MW facility, considering the unknown and uncertain impacts to avian species, would not allow BLM to incrementally monitor facility impacts and incorporate improved mitigation measures into subsequent phases.
3. Alternative Energy Sources. Consideration of generating electricity from alternative energy sources, such as coal, oil, gas, solar, or hydropower, is outside the scope of this analysis because the proposed action is to evaluate and produce a wind energy source in Wyoming.
4. Alternate Project Locations. Significant comments were received requesting BLM to analyze alternate sites for the proposed facility. BLM did not require other sites to be analyzed in the EIS for the following reasons:
 - a. Other project locations were economically infeasible. KENETECH supplied baseline data demonstrating the superior wind characteristics of the Foote Creek Rim and Simpson Ridge sites (see Tables 2.9 and 8.2, FEIS). An independent analysis, conducted by Dr. John Marwitz of the University of Wyoming, Department of Atmospheric Science, also supported this conclusion (see Appendix I, FEIS). The Wyoming Public Service Commission requires electric utility companies to utilize least-cost planning for electricity acquisition (Energy Policy Act of 1992). Development at other sites with less suitable winds would result in higher kilowatt

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hour costs and the project would not be economically feasible. The SeaWest project is under similar economic constraints.

- b. Selection of an inferior wind site would not allow adequate evaluation of the viability of a Wyoming-based, wind-generated electricity source and its usefulness in the present utility grid.
- c. Evaluation of alternative sites would require extensive site-specific data collection. The cost to collect this additional data, compared to the total project cost, was deemed unreasonable when compared to extant environmental data and known potential impacts. Section 8.2.1 of the FEIS provides a detailed discussion of this issue.

D. MANAGEMENT CONSIDERATIONS

Issues of concern are identified on page viii of the FEIS. BLM has determined all issues, except those discussed below, to have been resolved and mitigated, as far as practicable, by the application of design and location criteria and the mitigation measures identified in the following section.

Major comments were received during the public comment period on the following issues: (1) wind energy facility impacts to wildlife, specifically direct mortality to birds; (2) compliance with wildlife protection laws, specifically the Endangered Species Act, Bald Eagle Protection Act and Migratory Bird Treaty Act; (3) displacement effects on big game species and sage grouse; (4) adequacy of data for BLM to make a decision about the project; (5) adequacy of mitigation measures to minimize or eliminate impacts; (6) adequacy of cumulative impact analysis; (7) conflict between wind energy development and coal resources in the southeast corner of the Simpson Ridge area; and (8) effects of wind energy facilities on recreational use of the project area.

Other issues BLM considered in the overall decision-making process include: (1) employment and revenues generated by the project, (2) national energy policy, (3) land ownership patterns, and (4) local and state government support. These factors are discussed below.

1. Avian effects A key environmental effect of wind energy facilities is bird collisions with turbine blades. Data on collision-related mortality is limited to short term studies, primarily from Altamont Pass, California. BLM recognizes that some avian mortality will occur in the wind farm. Facility components that may attract raptors, have been modified or eliminated to reduce perching opportunities (i.e., using solid tubular towers and no above-ground power lines).

Existing data suggest collision-related avian mortality will be low; however, these data are not conclusive. Monitoring studies (detailed in Appendix B of the DEIS) will be conducted in order to gain insight into the effect of wind farm operation on local bird populations. Monitoring studies will measure (1) raptor nesting activity and success within a ten-mile radius of Foote Creek Rim; (2) raptor use along Foote Creek Rim, Simpson Ridge and a reference area; and (3) wind farm-related mortality by carcass searches. Avian use and population measurements will be collected at two reference sites [Simpson Ridge (prior to wind energy development at this site) and a site in the Laramie Mountains] to determine changes not due to wind farm factors, including prey availability. Raptor species of interest include: the bald eagle, golden eagle, ferruginous hawk, red-tailed hawk, rough-legged hawk, Swainson's hawk, northern harrier, prairie falcon, peregrine falcon, American kestrel,

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and turkey vulture. Use of project and reference areas by non-raptor avian species will also be monitored.

Surface disturbance (i.e., road construction and other clearing operations) may occur during periods when the mountain plover is nesting in the project area. This species may be listed as threatened or endangered under the Endangered Species Act. Restriction of vehicles and construction equipment to disturbed areas will minimize vehicle collisions with plovers and destruction of nests. The monitoring studies will include searches for plover nests in the spring and summer. Identified nests will be marked and avoided during the nesting period.

A technical advisory committee will review wildlife/project-related matters. The committee, composed of representatives from Wyoming Game and Fish Department, USFWS, and BLM will review monitoring data and methods, evaluate data from other wind farms, and make recommendations for wind farm modifications and design alternatives for Phase I and future phases. SeaWest, project owners, and the public, will be given an opportunity to provide input to the committee.

Potential mortality associated with power lines (i.e., electrocution, collision) will be minimized by following standard design practices in "*Suggested Practices for Raptor Protection on Power Lines - The State of the Art in 1981*" and "*Mitigating Bird Collisions With Power Lines: The State of the Art in 1994*" and any future revisions.

2. Enforcement of the Endangered Species Act, Bald Eagle Protection Act and Migratory Bird Treaty Act is the responsibility of the USFWS. BLM and SeaWest have coordinated closely with USFWS to ensure this project is in compliance with these laws. A non-jeopardy opinion and incidental take statement has been issued for endangered species. A Special Purpose Permit has been issued establishing compliance with the Migratory Bird Treaty Act. Instructions for handling Golden Eagles, in compliance with the Bald Eagle Protection Act, taken at wind farm facilities were attached to the permit. Avian mortality legal issues are discussed in Section 4.2.3.3 of the DEIS and Section 8.2.2 of the FEIS.
3. Wildlife displacement The displacement effect of wind energy facilities on big game species (i.e. antelope, mule deer and elk) and sage grouse is undetermined because no large-scale wind energy facility has been located in a wildland situation where these species occur. The monitoring study will include observations on these species' reaction to and use of habitats near the wind farm. The monitoring program is discussed in Appendix B of the DEIS and Section 8.2.3 of the FEIS.
4. Baseline data Some commentors contended BLM could not make an adequate or informed decision about this project because of inadequate baseline data. Baseline data for some resources are insufficient to precisely estimate impacts or to develop complete mitigation for impacts. Additional data was gathered for noise, snow deposition, visual quality, avian use, and raptor nesting. BLM follows the "rule of reason" in determining if additional data for a project analysis should be collected. Considering the variability of environmental factors that influence wildlife populations, collection of baseline data, for one to three years, will not provide, with any certainty, a complete picture of those populations. After considering the cost of collecting the data; BLM's minority landowner position; and the loss of potential income to adjacent private landowners, the county, the state, and the applicant; BLM determined that existing data are sufficient to make an informed and reasonable decision on the SeaWest project.

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The unavailability of definitive baseline data does not violate NEPA [see, for example, *Scientists Institute for Public Information v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (D.C. Cir. 1973); *Jicarilla Apache Tribe v. Morton*, 471 F.2d 1275, 1280-1281 (9th Cir. 1973)]. As the court said in *Jicarilla*, "If we were to impose a requirement that an impact statement can never be prepared until all relevant environmental effects were known, it is doubtful that any project could ever be initiated." NEPA also does not preclude agencies from pursuing projects because their environmental effects are speculative or unknown (*State of Alaska v. Andrus*, D.C. Cir. 1978, 580 F.2d 465, 473 *vacated in part on other grounds*, *Western Oil and Gas Ass'n v. Alaska*, 1978, 439 U.S. 922). Uncertainty is one of the factors considered during the decision making process.

5. Mitigation measures were described in Chapter 5 of the FEIS and are detailed in Section E. These measures are adequate to mitigate known and expected impacts. Following the comment period on the Draft and Final EIS's, BLM considered developing "if-then" operating criteria for the wind farm. For example, if a certain avian mortality level occurred, the wind farm operator would be required to install auditory warning devices or modify selected turbine operations. These requirements were not imposed because 1) BLM does not have enforcement authority over wind turbines on private or State lands and therefore could not uniformly apply this type of mitigation measure, 2) wildlife-related law enforcement is the responsibility of the U. S. Fish and Wildlife Service, and 3) our present understanding about causes of avian mortality in wind farms and limited field data from Foote Creek Rim preclude identifying realistic or accurate "if-then" operating criteria and mitigation measures. The phased approval process (with full additional NEPA analysis and public involvement for each phase), consideration of monitoring data, and input from the technical committee will ensure additional mitigation measures are identified and required when their need is demonstrated and their effectiveness proven. NEPA requires disclosure of all project-related impacts but does not require mitigation of all impacts [40 C.F.R. 1505.2(c)].
6. Cumulative impact analysis Some commentors felt that the cumulative impact analysis in the DEIS is inadequate. All known and reasonably foreseeable developments in the project areas have been evaluated. Sufficient data exists to determine that a severe or acute threat to any ecosystem component is not posed by this project or the resultant cumulative impacts. Implementation of the monitoring program provides a method to quickly detect any unexpected severe impacts. Cumulative impacts from actions proposed since the completion of the FEIS (e.g., Carbon Basin Coal Mine and Seminoe/Elk Mountain Land Exchange) will be addressed in the NEPA analysis prepared for those projects and NEPA analysis on subsequent wind energy phases. More detail on this issue is presented in Section 8.2.8 of the FEIS.
7. Coal resources A portions of the Simpson Ridge Wind Energy Area and the Carbon Basin Coal Area overlap each other. This area generally covers the eastern half of Townships 21 & 22 N., Range 80 W. A portion of this area was leased in 1982 and expired without development in 1992. There was no lease in effect when KENETECH applied for a ROW. In September 1996, Arch of Wyoming submitted a coal lease application for a surface mine located just to the southeast of the Simpson Ridge Area. The two areas overlapped only in T. 21 N., R. 80 W., Section 29, E½. Meetings with SeaWest and Arch of Wyoming disclosed no conflict with planned facilities in this section.

BLM is currently conducting land use planning for coal leasing. The planning decision is expected by the end of 1997. BLM will then prepare an EIS for the coal lease application. If approved, mining will begin in 2000 and last ten years. At the conclusion of mining,

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

further applications may be submitted. This mining may occur to the north of the current application area, into the overlap area, identified above.

BLM will not authorize any action which could devalue Federal coal resources. Term and Condition #7, (above) was developed to meet this objective. Because mining in the overlap area would not occur for at least 15 years, and placement of wind energy or coal mining facilities cannot be determined at this time, the provision will allow SeaWest to place wind energy facilities on Public Lands in the coal overlap area if they choose, but with the knowledge that BLM may lease this coal and SeaWest would bear all corrective costs resulting from coal mining.

Coal would probably be mined by underground methods. Adjustments to both mining methods and wind energy facility construction may minimize conflict between these two activities. BLM will work with SeaWest (or any subsequent wind energy operator) and the coal lease holder to resolve conflicts, when they are identified.

8. Recreational use and access All Public Lands will remain open where legal access now exists. Access to Public Lands that require crossing private lands will be subject to private landowner permission. Access in the Wick Wildlife Management Area, administered by Wyoming Game and Fish Department, will not be restricted. KENETECH acquired access to 640 acres of private land in compensation for use of 30 acres of private land easement located in T. 19 N., R. 79 W., Section 24.
9. Employment This project will not require large numbers of employees to operate and maintain the facility. Local infrastructures are adequate to accommodate anticipated construction employment as well as the long term operation and maintenance employment.
10. Revenue The project will generate substantial revenue for local economies and government. The Wyoming Industrial Siting Council estimates Phase I of the SeaWest project will provide approximately \$575,000 in impact assistance payments, \$2,300,000 in construction-related sales and use tax revenues, and \$2,000,000 in property taxes for the first three years of operation.
11. National Energy Policy This project is consistent with the National Energy Policy. This policy, established by President Bush in 1989 is designed to achieve a balance among the increasing need for energy at reasonable prices, the commitment to a safer, healthier environment, the determination to maintain an economy second to none, and the goal to reduce dependence by ourselves and our friends and allies on potentially unreliable energy suppliers. The National Energy Strategy document, prepared by the Department of Energy in 1992, identifies a goal of, "Reducing the cost of, and increasing the industry confidence in . . . wind . . . technologies to generate electric power."

As expressed in the Purpose and Need (FEIS, p. 1-1), this project will, "provide wind-generated electricity from a site in Wyoming and develop a further market for Wyoming-sourced wind-generated electricity." Experienced gained from the operation and performance of the first phase of this project will influence future decisions on the production and purchase of wind-generated electricity.

12. Land Ownership The amount, extent, and arraignment of Public Lands in the project area, the potential effect on private land values and income, and the position of State and Local

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

regulatory agencies toward this project have been considered in BLM's decision to approve the Right-of-Way Grant for this project.

13. Planning consistency and Other Permits The project is consistent with BLM, State and Local land-use plans. In addition to the Industrial Siting permit, the State of Wyoming Land Commission has issued an easement for all state lands within the project area. A Special Use Permit has been issued by Carbon County and the Public Service Commission of Wyoming has issued a Certificate of Public Convenience and Necessity. Wind energy projects are consistent with Federal policy to promote development of renewable energy resources.
14. Other Support This project was supported in public comments by the Governor of Wyoming, Carbon County, Carbon County School District No. 2, and The towns of Medicine Bow and Saratoga.

E. MITIGATION AND MONITORING

Twenty-two, project-wide, mitigation measures incorporated in the proposed action are identified on pages xi-xiv of the FEIS and discussed in Chapter 5 of the Draft and Final EIS. Notable measures adopted specifically for this project include: application of measures to all lands, regardless of ownership, subject to private landowner preference; design of wind farm facilities to prevent raptor perching (i.e., tubular towers and no in-Wind-farm above-ground power lines); placement of anti-perching devices on 230 kV power poles within 0.25 miles of sage grouse leks and within the Black-Footed Ferret Primary Management Zone; setback of wind farm facilities from sacred Native American sites per consultation with Native Americans; and painting of turbine blades and nacelles to increase visibility to birds. Monitoring studies are presented in Appendix B of the DEIS. All practicable methods to reduce environmental harm have been adopted.

The following measures are included in the ROW Grant (WYW-130382):

1. Construction of wind turbines and associated facilities for Phase I shall not commence until the Authorized Officer issues a NTP. The NTP shall identify the Public Lands to which Phase I activities shall be restricted. Construction of wind energy facilities on other Public Lands included in this Grant, not authorized by the Phase I NTP, is not allowed until adequate environmental review has occurred and a subsequent NTP is issued.
2. The Authorized Officer shall be notified before any changes, modifications, or replacement of turbines, turbine blades or other wind farm facilities are made. Normal operation and maintenance activities, such as in-kind replacement of turbine blades or other components, are not included in this requirement.
3. Turbines that are damaged or inoperative shall be promptly repaired. No turbine shall be inoperative for more than 90 continuous days. The Authorized Officer may request removal of turbines that are inoperative for more than 90 continuous days. The Holder may request an exception to this requirement. The Authorized Officer may request written documentation before granting an exception.
4. Holder shall take all necessary precautions to prevent radio and television interference due to turbine operation. The Holder shall provide alternate reception modes when radio or television interference is documented.

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5. The Holder shall notify the Authorized Officer of any tower collapse, blade throw, wind farm caused fire, or significant injury to worker within 24 hours of any such occurrence.
6. The Holder shall develop a turbine identification system whereby each turbine tower shall be assigned a unique identifier. This identification shall be affixed to each tower and include the nameplate rating of the turbine. A description of the system and map showing tower locations and numbers shall be submitted to the Authorized Officer before start of wind farm operations.
7. The Holder shall provide a bond in the amount of \$2,000.00 per turbine installed on Public Land, to be maintained until restoration of disturbed areas and other requirements relative to the construction phase of the project have been accepted by the authorized officer. Upon completion, or partial completion of these construction related requirements, the authorized officer may terminate or reduce the amount of the bond.
8. Federal coal resources underlie a portion of the Simpson Ridge Project Area. To prevent Federal coal resources from being devalued by surface improvements, the grant holder may place wind energy facilities on the Public Lands identified below, but bears the responsibility for repair, replacement, or lost revenue should the BLM subsequently lease Federal coal and the mining of such coal damage or impair the operation of wind energy facilities. The lands subject to this condition are:

T. 21 N., R. 80 W.

Section 12: ALL
Section 14: ALL

T. 22 N., R. 80 W.

Section 22: NE $\frac{1}{4}$, S $\frac{1}{2}$
Section 26: N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$
Section 34: ALL

The following measures are included in the ROW Grant (WYW-130929):

1. The Holder shall follow mitigation measures Numbers 1, 3, 4, and 9 - 20 located on pages xi-xiv of the Final EIS, dated August 1995.
2. The Holder shall not initiate any construction or other surface disturbing activities on the right-of-way without prior written authorization of the authorized officer. Such authorization shall be a written notice to proceed issued by the authorized officer. Any notice to proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.

The following measures are included in the ROW Grant (WYW-136588):

1. The Holder shall submit a final map showing the location of all roads to be used for access to power line Right-of-Way WYW-130929. The map shall show the roads in three categories: a) used with no improvement, or maintenance within the existing disturbed area only, b) used with surface disturbance required outside of existing disturbed areas, and c) new construction.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

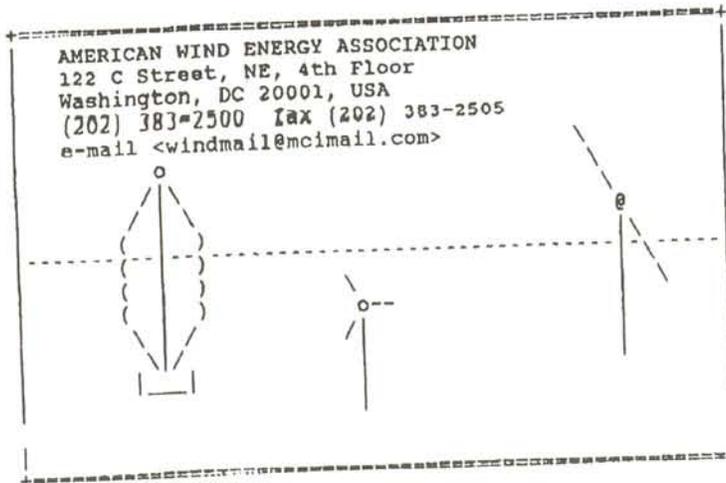
2. The Holder shall submit a Class III Cultural Resources Inventory Report for any roads in Category b or c in the above item.
3. The Holder shall not initiate any construction or other surface disturbing activities on the right-of-way without prior written authorization of the authorized officer. Such authorization shall be a written notice to proceed issued by the authorized officer. Any notice to proceed shall authorize construction or use only as therein expressly stated and only for the particular location or use therein described.

E. FINAL EIS COMMENTS

The BLM received six comment letters on the final EIS. Commentors included:

- a conservation organization
- the Wyoming Game and Fish Department
- two individuals
- an industry association
- a state regulatory agency

The BLM's responses to these comments are presented below. Copies of the letters are located before BLM's response.



September 27, 1995

Walter F. George
 Project Leader
 Rawlins District Office
 1300 Third Street
 Rawlins, WY 82301



COMMENTS ON FINAL ENVIRONMENTAL IMPACT STATEMENT
 KENETECH/PACIFICORP WINDPOWER PROJECT

Dear Walt:

Thanks for the opportunity to comment on the Final Environmental Impact Statement (EIS). The American Wind Energy Association (AWEA) offers the following comments:

1. We commend the Bureau of Land Management on the thoroughness of the EIS, particularly the revised section on wildlife impacts.
2. Several of those who commented on the Draft EIS mentioned that they would like to see it include information about the emissions offsets that might be expected from wind development. The Final EIS does address this issue well.

The question of emissions offsets raises an interesting and important point about wind energy development: it is qualitatively different from most other forms of development, in that it significantly BENEFITS the environment by offsetting the harmful impacts of other methods of generating electric power.

AWEA has recently developed a fact sheet on avian issues. As part of an early draft version of that fact sheet, we identified

a number of negative environmental impacts of other electricity sources:

"Wind energy's impacts on the environment are primarily positive because wind turbines replace other, more damaging power sources.

Currently, America depends on coal, the most environmentally damaging fuel, for nearly 60 percent of its electric power.[1] Replacing any part of that production with wind would greatly benefit the environment.

"Wind energy's environmental effects include:

- o Reduced emissions of greenhouse gases. The U.S. leads the world in emissions of carbon dioxide, the most important greenhouse gas, producing more than 5 billion tons annually, threatening agricultural economies and low-lying cities worldwide through global climate change. In 1989, the editors of Science magazine, the official publication of the American Association for the Advancement of Science, concluded that global warming is the most serious environmental problem that humans face: 'As serious as the problems of acid rain, toxic waste, and depletion of the ozone layer are, the greenhouse effect looms over all of them because it poses such great potential damage to the environment and is by far the most difficult to solve.' [2]

A single windfarm-scale turbine, by replacing fossil fuels, avoids the emission of about 1,000 tons of CO2 each year.[3]

Wind energy is capable of contributing substantially to U.S. energy supplies, while at the same time reducing the output of global climate-changing gases. It has been calculated that a forest of more than 100 million trees would be needed to provide the same carbon dioxide reductions as the 16,000 wind turbines currently installed in California.[4]

- o Reduced emissions of air pollutants and acid rain-causing chemicals. Fossil fuels also produce large amounts of sulfur dioxide and nitrogen oxides, two key ingredients in air pollution and acid rain. A single windfarm-scale turbine, replacing fossil fuels, avoids the emission of about 15,000 pounds of these substances each year.
- o Reduction in other damaging environmental effects of other energy sources:
 - Fewer oil spills.
 - Less poisoning of inland lakes by methyl mercury (one-third of all methyl mercury comes from coal-fired power plants).
 - Less strip mining.

- Fewer radioactive emissions from nuclear plants.
- Less production of nuclear waste.
- Fewer fish kills from heated nuclear and fossil power plant wastewater.
- Less damming of free-flowing rivers and streams for hydropower."

3. A useful perspective with respect to wind energy's impact on birds specifically was presented recently by the Netherlands affiliate of Birdlife International. The following article from a recent issue of the AWEA newsletter "Wind Energy Weekly" summarizes the Dutch group's action:

[From Wind Energy Weekly #664, 18 September 1995, p. 5]

DUTCH BIRD GROUP ISSUES
STATEMENT BACKING WIND

The Dutch group Vogelbescherming Nederland, an affiliate of Birdlife International, has released a statement endorsing wind energy as environmentally preferable to the burning of fossil fuels, according to Windpower Monthly magazine.

The statement, which also says that global warming and the rising sea levels accompanying it are a much more serious threat to birds than wind turbines, is based on the studies of biologist Johanna Winkelman. Winkelman has carried out extensive research on birds and wind energy over the past 10 years, including a major study of an 18-turbine array at Oosterbierum owned by the utility SEP.

Winkelman estimates, on the basis of the Oosterbierum work and other European studies, that if the Netherlands installs 1,000 MW of windpower as currently planned, about 21,000 birds would die annually in collisions with turbines. However, she said, power lines and antennas kill 1 million birds a year in the Netherlands, while hunters kill 1.5 million and auto traffic kills 9 million.

While wind turbines may also disturb brooding and nesting behavior of birds, Winkelman said, there is some evidence to indicate that birds that live near wind turbines adapt to them over time. Also, she said, the species most subject to collisions with turbines are largely common ones.

4. We have spoken generally above about the benefits of wind energy in helping to reduce global climate change. Yet "climate change" is such a broad and vague term that it is easy for one to fail to comprehend the challenge that increasing concentrations of greenhouse gases in our atmosphere present for many endangered

species.

An instructive example which zeroes in more closely on this issue is provided by the following news release from Australia's Environmental Resources Information Network (ERIN), which is taken from the World Wide Web (<http://www.erin.gov.au>):

CLIMATE CHANGE TO AFFECT THREATENED SPECIES

Australia's threatened species are likely to undergo alarming contractions in their habitats in the event of climate change, according to a study undertaken by the Environmental Resources Information Network (ERIN) for the Australian Nature Conservation Agency and commissioned by the Commonwealth Department of the Environment.

Using a number of climate change scenarios to examine the potential impact of global warming on 57 of Australia's threatened vertebrate species, the study is the first in the country to look at the potential impacts of climate change on threatened native fauna nation-wide.

Under the lowest impact scenario, 46 (84 per cent) of the 57

threatened species experienced a reduction in the extent of their climatic habitat. These species included the Kowari, Greater Bilby and Southern Cassowary.

Under two more extreme scenarios, 54 and 55 (95 and 96 per cent) species experienced a reduction in the extent of their climatic habitat, of which 7 (12 per cent) experienced a complete elimination of climatic habitat and therefore possible extinction in the wild.

These species included the Eclectus Parrot, Northern Hairy-nosed Wombat, Carpentarian Grass wren and Pink-tailed Legless Lizard.

The study used a bioclimatic computer modelling tool called BIOCLIM. The model, which incorporated a climate change module, simulated the impact of climate change on the distribution of threatened fauna compared to historical (including present day) distribution patterns.

Considerably greater reductions in habitat for these threatened species would occur under higher regimes of warming than that used in the project. The model used in the project assumed a one degree Celsius average global warming. This estimate of warming is conservative as the Intergovernmental Panel on Climate Change has estimated a likely increase in global average surface temperature of 1.5 to 4.5 degrees Celsius for a doubling of carbon dioxide levels. In addition, some scientists now believe that atmospheric carbon dioxide levels are likely to be

stabilised at up to 3 times the pre-industrial levels. The study did not incorporate other environmental factors such as predation which may affect the distribution of threatened fauna.

The study will enable environment policy makers and land managers to consider options for wildlife management under climate change. The research provides a basis for continuing work on the possible effects of climate change on Australia's flora and fauna.

Further information available on ERIN On-line Services

23 February 1995
ERIN World Wide Web comments and queries please.

The Intergovernmental Panel on Climate Change (IPCC), a 2,500-member international organization of scientists and policymakers concerned with climate change, has recently released a draft report stating that research findings are now beginning to clearly identify human activities as contributing to the gradual rise in global average temperatures over the past century.

The IPCC's finding is a major step toward ending the debate among the world's scientific community on the existence of climate change, and toward moving the focus to actions the world's governments can take to reduce or slow that change. It seems very likely that measures to encourage the use of renewable energy will be prominently featured.

We urge the Bureau of Land Management, in making its decision on the Kenetech/Pacificorp Windpower Project, to consider this issue carefully along with the many others raised by the Final EIS. While the Final EIS is very thorough, of necessity it has focused largely on local impacts and has not included some of the more far-reaching positive effects of wind generation.

5. We endorse the findings of the Final EIS with respect to the need for the developers of the Kenetech/Pacificorp Windpower Project to select the best and most economical wind site for development. It is highly likely that as utility deregulation proceeds, a spot market for electricity will develop in which very low short-run prices will predominate. Wind energy is having difficulty today penetrating the generation market because of competition from very cheap gas turbines, and it appears that this problem will intensify, at least temporarily, under deregulation.

Sincerely,

Thomas O. Gray
Northeast Representative
American Wind Energy Association

NOTES

[1] Cool Energy: Renewable Solutions to Environmental Problems, Brower, M., Revised Edition, 1992, p. 11. MIT Press, Cambridge, Mass., and London, England.

[2] "Solar Power and Priorities," Koshland, D., Jr., Science, Vol. 245, No. 4920, August 25, 1989, pg. 805. American Academy for the Advancement of Science, Washington, D.C.

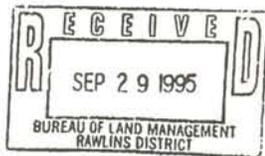
[3] Calculation by AWEA, based on production of a 500-kW wind turbine at 30 percent capacity factor displacing average emissions from the U.S. energy mix.

[4] Calculation by AWEA, based on information from Global ReLeaf on annual carbon dioxide uptake of the average tree.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Response to Comments from the American Wind Energy Association

Comments from the American Wind Energy Association were supportive of the project and provided additional information on the benefits of wind energy. These comments are accepted for the record.



September 28, 1995

Mr. Walt George
Bureau of Land Management District Office
Post Office Box 670
Rawlins, Wyoming 82301

Dear Mr. George:

We are writing this letter to comment on the Final Environmental Impact Statement for Kenetech/PacifiCorp Windpower Project in Carbon County, Wyoming.

In our comments on the DEIS we suggested that a similar but less environmentally critical area such as Simpson Ridge be developed first. This development should include an intensive research plan to determine if the Foot Creek Rim Project can be constructed without being so environmentally destructive or if a different sight is the only solution. We suggested Simpson Ridge because they are planning construction there in a few years and have already done studies of that area.

The answer to this proposal was that no other sight was considered or studied. This answer indicates to us that the FEIS is inadequate and unacceptable.

We are very much in favor of windpower but not blindly rushing into its development without sufficient research to include the proper safeguards necessary to protect our precious and disappearing wildlife.

Recently we were shown a video put out by Kenetech with testimonials by very well known raptor research specialists that indicated Kenetech gave special attention to critical raptor areas and choose alternate sights when necessary to protect these great birds.

How can they defend this pledge in light of the proposal on Foot Creek Rim?????

Thank you for this opportunity to express our concerns about this project.

Sincerely,

Frank C. Layton
Lois L. Layton
Frank C. Layton
and

Lois L. Layton
Post Office Box 2851
Casper, Wyoming 82602-2851

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Response to Comments from Frank C. and Lois L. Layton

BLM concurs that Foote Creek Rim may be a high-use area for raptors. Where possible, turbine strings were located on top of the rim, away from the areas of highest raptor use. Other siting constraints (e.g., setback requirements, wind patterns, etc.) precluded avoiding all raptor use areas. However, many of the factors that are thought to contribute to raptor mortality have been eliminated from this project. Perching opportunities will be limited by the use of tubular towers and no above-ground power lines in the wind farm. Slower rotor speeds are also thought to reduce potential for collision-related mortality. During monitoring, the factors contributing to mortality will be evaluated and appropriate mitigation measures implemented. If the assertion that high-use areas are associated with unacceptable collision-related mortality is found to be accurate, retrofitting and enforcement steps would be taken (as described in Sections 2.1.11 and 8.2.3.4 in the FEIS) and raptor use will be a major determining factor in future siting of windpower facilities on Public Land.

BLM clearly understands that the proposed action may have significant impacts; the significant or potentially significant impacts identified in the EIS were given the most weight during the decision making process. Significantly impacted resources are also the focus of BLM's actions to protect, restore, and enhance the environment. For example, collision-related mortality of threatened or endangered raptor species would be a significant impact; therefore, a suite of mitigation measures and monitoring requirements were incorporated into the proposed action to protect these resources.

At this time, BLM is authorizing construction of Phase I only. Subsequent phases will undergo complete NEPA analysis (see Section 8.2.6 in the FEIS). BLM is requiring this phased analysis/approval process because of the uncertain nature of future and cumulative impacts from this project. Anticipated impacts from Phase I are not so severe to warrant an alternative location for the first phase of development.

New York State Department of Environmental Conservation
Division of Regulatory Services - Room 538
50 Wolf Road, Albany, New York 12233-1750
Telephone: (518) 457-2224 Fax: (518) 457-5965



Michael D. Zagata
Commissioner

September 29, 1995

Mr. Walter George
Project Leader
Rawlins District Office
U. S. Department of the Interior
Bureau of Land Management
1300 Third Street North
Rawlins, WY 82301

Re: Wyoming 500 MW (Phased) Wind Energy Project

Dear Mr. George:

Staff of the NYS Department of Environmental Conservation (DEC) have studied the August 1995 U. S. Department of the Interior/Bureau of Land Management (BLM) "Final Kenetech/PacifiCorp Windpower Project Environmental Impact Statement" for a phased 500 MW wind energy facility with great interest, since a Renewable Energy Proceeding is considering the implementation of up to 60 MW of wind energy facilities in New York State as a market test demonstration.

Other commitments prevented our review of the January 1995 DEIS at that time. We have now briefly reviewed it to facilitate understanding of the FEIS. The enclosed comments will mostly focus on the modifications of the DEIS which are reflected in the FEIS.

We find the FEIS to generally incorporate thorough analyses of various potential environmental impacts. These comments are intended to assist BLM in this action. In the long term, renewable resources will need to be society's primary source of energy, since fossil resources are, by definition, finite and are indispensable raw materials for the petrochemical industry. In the short term, energy security and environmental considerations should be balanced with economic considerations. However, this windpower project appears to compete favorably with other forms of energy generation with regard to economic considerations, so that such balancing is not required.

- 2 -

Please keep me abreast of the environmental and performance aspects of this project. Thank you for the opportunity to comment. You may call me at (518) 457-7718 if there are questions.

Sincerely,

Orest Lewinter
Orest Lewinter
Environmental Analyst 2

GEORGE.OL
Enclosure
cc: K. Silliman
Renewables Task Force
C. Vandrei

21



NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION COMMENTS ON
AUGUST 1995 FEIS ON 500 MW KENETECH/PACIFICORP WINDPOWER PROJECT

- 2 -

1. P. 1-1, Section 1.1, Purpose and Need

The revised paragraph for p. 1-6 of the DEIS states that BPA presently has a surplus of generating capacity. It is not clear whether that excess is above the reserve margin. Also, in the same paragraph, the term "small-scale wind demonstration projects" does not appear to be accurate, since 500 MW is not small scale.

2. Pp. 2-11, 2-13, 2-15, 4-7, Impacts on Meteorology and Climate

- a. It is stated that the wind systems could cause snow redistribution (snow drifts) resulting in potential impacts to wildlife, vegetation, soils, etc. It should be noted that such impacts could be beneficial as well as deleterious, since snow drifts would result in both deeper and shallower snow depths.
- b. The possibility that the large number of wind systems could capture sufficient energy to affect the wind regime (i.e., reduce average wind speed and increase turbulence) and thereby affect ecosystems (either positively or negatively) should be addressed.

3. P. 4-7, Section 4.3, Cultural and Historic Resources

Two modified paragraphs (p. 4-71, column 2, paragraph 3, and p. 4-72, column 2, paragraph 3, line 24) should include or reference the mitigation stated on p. 5-3; i.e., the contingency plan for discovery of artifacts during construction.

4. P. 5-3, Section 5.1.1.2 Practices: Wildlife and Fisheries and P. 8-18, Section 8.2.4

It is stated that windplant impacts on wildlife will be monitored and studied during operation. The FEIS should include a contingency plan in the event that the studies find significant impacts. For example, which mitigation measures could be retrofitted or to what extent could the facility be removed, if necessary?

5. P. 8-1, Section 8.1.1, Response to Rawlins Public Meeting Speaker 7: Avian Mortality

The response states that the wind systems are thought to have several design features that would reduce avian mortality. The response appears to indicate that these mitigation measures have not yet been tested. If this is the case, it is wise to begin with the 71 MW wind farm to learn the effectiveness of the measures - see also comment 4 above.

6. Pp. 8-71 to 8-73, Table 8.4, Comparison of Various Power Generating Resources

- a. The applicability of this table should be stated; i.e., state or region.
- b. The capital cost of wood waste biomass energy should be readily available.
- c. This table should be combined with Table 1.2 of the DEIS.

- d. The operations and maintenance costs for solar energy (22 mills) would likely be too high to represent photovoltaics, so the data must describe thermal solar. Solar photovoltaics (both decentralized and centralized) should also be included.
- e. The origin of the 19 mill operations and maintenance cost for wind energy should be described in a footnote. Does the cost refer to earlier experimental systems?

7. DEIS p. 4-90, Section 4.5.2.5, Recreation

It is stated that the novelty of the windplant will cause some travelers to view the area with interest. This may be true until the novelty wears off. Although we cannot make a judgment about the visual/aesthetic impact of this particular action, a proliferation of poorly sited windplants in scenic areas across the country could very rapidly dampen the public's enthusiasm for this energy source.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Response to Comments from the New York Department of Environmental Conservation

Comment #1 The surplus of generating capacity is above the reserve margin (personal communication, October 1995, with Richard Stone, BPA). BPA has agreed to purchase 25 MW of power from the first phase of development; therefore, their interest in the project is "small-scale."

Comment #2(a) BLM concurs that impacts due to snow redistribution could be beneficial as well as deleterious.

Comment #2(b) BLM concurs that overall reduction in wind energy within the wind farm could affect ecosystems in the project area, principally due to snow redistribution. However, the wind's energy is completely restored within approximately 10 rotor-diameters downwind of turbines; therefore, the project's influence on ecosystems outside of the project area will be negligible. Within the project area, it is likely that snow redistribution will have an effect on potential landslide areas (Section 4.1.4 in the DEIS), soils (Section 4.1.6 in the DEIS), surface hydrology (Section 4.1.7 in the DEIS), plant communities (Section 4.2.1 in the DEIS), and wildlife (Section 4.2.3 in the DEIS). These effects may be beneficial or adverse.

Comment #3 The reference to 5-3 is appropriate.

Comment #4 The FEIS discusses criteria for retrofitting portions of the wind farm, cessation of wind farm operations, and initiating additional monitoring studies in Sections 2.1.11, 8.2.3.4, and 8.2.3.2 respectively. The processes outlined in these sections provide BLM and USFWS with mechanisms for mitigating impacts if they are found to be unacceptable.

Comment #5 At this time, BLM is authorizing construction of Phase I only. Subsequent phases will undergo complete NEPA analysis (see Section 8.2.6 in the FEIS). BLM is requiring this phased analysis/approval process because of the uncertain nature of future and cumulative impacts from this project.

Comment #6 Table 8.4 was reproduced from Western Area Power Administration's Energy Planning and Management Program DEIS (1995) and was included in the FEIS as educational material. It was not intended to be a comparison of the proposed project with other power-generating resources.

- a) On page 8-70 in the FEIS, it states that the information contained in the table is generic (i.e., it does not apply to a particular plant, but represents a range of plants or calculated values).
- b) Because this table was prepared by WESTERN, BLM did not attempt to obtain missing data.
- c) It is not appropriate to combine Table 8.4 with Table 2.1 in the DEIS because data were obtained from different sources and possibly via different analysis techniques; therefore, the data are not directly comparable.
- d & e) BLM acknowledges these questions; please refer to WESTERN's Energy Planning and Management Program DEIS (cited in the FEIS) for this information.

Comment #7 The project area regularly receives new visitors traveling on Interstate-80; therefore, the wind farm will always have novelty status to some travelers. BLM concurs with the assertion that poorly sited windpower facilities may cause public concern. The BLM analysis process precludes siting of windpower facilities in scenic areas. BLM has identified changes to the appearance of the project area (Section 4.5.2.1 and 4.6 in the DEIS). Most of the project area is rated as a Visual Resource Management (VRM) Class III; Class III areas are managed to "minimize adverse effects on visual resources while maintaining the effectiveness of land use allocations" (Great Divide Resource Area Record of Decision 1990). Changes to the landscape in Class III areas are not in conflict with the decision. The management system, which is

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described in Section 3.6 in the DEIS, places stringent controls on development in scenic areas, designated as VRM Classes I and II. Therefore, BLM has mechanisms in place to avoid scenic areas when development proposals are received.

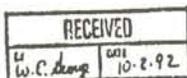
BIODIVERSITY ASSOCIATES
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Walter E. George
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Dear Mr. George:

These are our comments on the Final Environmental Impact Statement (FEIS) prepared for the Kenetech/PacifiCorp Windpower permit application.

1. The permit should be denied because the record shows the environmental impacts will be significant and unacceptable.

While a number of potentially significant impacts of the project are still unknown (see, e.g., FEIS at 8-24), the DEIS, FEIS, and Biological Assessment (BA) acknowledge that the project is likely to cause a number of very significant impacts. In particular, the record shows:

60,619 acres of undeveloped land would be developed (FEIS at ix) and the "character of the large portions of the [project area] would change from rural undeveloped to a predominantly industrial landscape" (DEIS at 4-95);

"Windplant development would result in a conflict with ... [the Visual Resource Management] objectives on approximately 24,192 acres" of the project area, including all of Foote Creek Rim (DEIS 4-96), "which constitutes a significant cumulative visual impact" (DEIS at 4-95);

approximately 653 miles of new roads would be constructed for the entire project (DEIS at 1-4);

"Direct mortality resulting from the ... Windplant would present the largest potential source of impact to the regional bald eagle population" (BA at 44);

Impacts to Golden Eagles would be even greater than those to Bald Eagles given that there over 55 times more Golden Eagles sightings (778 Golden versus 14 Bald) along Foote Creek Rim during the past breeding season;¹

"Cumulative impacts to the regional ferruginous hawk population could be potentially significant due to direct mortality associated with the proposed [wind turbine generators]" (BA at 48);

"impacts to mountain plovers from the first phase of development and any future development on the Foote Creek Rim area would probably be significant" (BA at 52);

"The proposed Windplant may be the largest source of direct mortality to peregrine falcons in the area; any mortality to this species would be considered a significant impact" (BA at 60);

"An ethnohistoric/ethnographic analysis of the Foote Creek Rim Archaeological District showed that impacts from the proposed project are potentially significant" (FEIS at 4-7);

"Scientifically significant fossils may occur anywhere within the project area" (FEIS at G-19), and "Adverse impacts to fossil resources are most likely and could be significant" (FEIS at G-20).

The FEIS does not demonstrate that granting the permit would provide such a clear and overriding benefit to the public as to justify these significant impacts to the environment. The Bald Eagle and Peregrine Falcon are threatened with extinction; the Ferruginous Hawk and Mountain Plover (total estimated population of about 5,000 individuals) are probably also threatened with extinction but have yet to be listed because of political interference. Additional impacts to these species and their habitats are unacceptable and should be allowed only when there is a clear and overriding National need. See, e.g., Tennessee Valley Authority v. Hill, 437 U.S. 153, 174 ("examination of the language, history, and structure of the Endangered Species Act indicates beyond doubt that Congress intended endangered species to be

¹ These numbers were obtained from the data on FEIS pages 3-21 (total eagle counts during breeding season = 792) and 3-23 (Bald Eagle counts during breeding season = 14). The number of Golden Eagles observations during breeding season is therefore 792 - 14 = 778. The ratio of Golden Eagles to Bald Eagles is then 778:14 > 55:1.

afforded the highest of priorities.")² The same is true of significant archeological resources, paleontological resources, scenic vistas,³ and tracts of undeveloped public land.

The construction of one windpower plant -- to provide profits for a private corporation and to supply electricity to consumers in other states who have the option of reducing electricity consumption -- does not rise to this level of importance. The plant will not significantly reduce the global production of greenhouse gases; the plant will not reduce consumer electricity prices; and there is no unmet demand for electrical power that justifies construction of the plant. Based on this information, the permit should be denied.

2. The permit must be denied because it would violate the Bald and Golden Eagle Protection Act.

We have elaborated on this issue in our previous comments. While the BLM responded to this issue in the FEIS, we do not agree with the FEIS's intimation that this project is exempt from the Bald and Golden Eagle Protection Act. FEIS at 8-13. Rather, it is still our position that issuing a permit to allow an activity that will cause the deaths of Bald and Golden Eagles would violate the Act. Similar remarks apply to violations of the Migratory Bird Treaty Act. The BLM cannot authorize an activity that would violate Federal law. Therefore the permit should be denied.

3. The permit should not be issued because there is insufficient information in the record to make a determination of whether or not the project's other impacts would be unacceptable.

² In this ruling, the Supreme Court added that "The plain intent of Congress in enacting [the Endangered Species Act] was to halt and reverse the trend towards extinction, whatever the cost" (id. at 184); that it was a "conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies" (id. at 185); and that "[t]he value of ... genetic heritage is, quite literally, incalculable.... From the most narrow point of view, it is in the best interests of mankind to minimize the losses of genetic variations" (id. at 179, quoting H.R. Rep. No. 93-412, pp.4-5 (1973)).

³ The FEIS fails to assess the visual degradation the windplant would cause to the adjacent Rock Creek Roadless Area -- an area eligible for Wilderness designation. Many people in Wyoming and even the U.S. Forest Service have recommended that this area be preserved as Wilderness. The windplant would be visible from many locations within the Rock Creek Roadless Area. To become a designated Wilderness, "the imprint of man's work" must be "substantially unnoticeable" from within the area. Thus, it is likely that the construction of the windplant would foreclose the possibility of Wilderness designation for the Rock Creek Roadless Area. 16 USC § 1131(c)(1). This is a very significant impact and irreversible commitment of resources.

While we feel the FEIS already demonstrates that many of the impacts from the windplant -- even under the initial limited development scenario -- would be unacceptable, the FEIS still fails to adequately assess the magnitude of other potentially significant impacts.

For instance, on page 47 of the Biological Assessment, it states "It is presently unknown if the ferruginous hawk population in southern Wyoming has localized recruitment; therefore, potential impacts of collision-related mortality on this population remain unclear." If recruitment is local, the windplant could contribute to the jeopardy of the local population. The BLM would (presumably) not allow development of a project that would cause such a jeopardy situation (we think the ESA prohibits such projects), so information on recruitment is essential to the permit decision. Nevertheless, no effort was made to gather this essential information. The FEIS did not comply with the CEQ regulations regarding incomplete information. 40 CFR § 1502.22. There are ways to determine if recruitment in a subpopulation is local or not; these methods were simply ignored because applicant wants a "fast-track" review and did not want to take the time to gather the information. This is unacceptable. The public and decisionmaker should not be denied essential information simply because the applicant doesn't want to wait.

The FEIS contain numerous other statements about unknown impacts. See, e.g., FEIS at 8-24 (cumulative impacts of habitat loss cannot be quantified using existing data); see also FEIS at 8-74 (BLM agrees that it would be useful to compare impacts of various power-generating resources on wildlife species. Unfortunately, this type of analysis has not, to our knowledge, been completed for any project or regional planning document.") If impacts cannot be quantified using "existing data," the agency should obtain the data it needs to quantify the impacts. (If agencies only relied on "existing data," no new data would ever be collected.) Likewise, just because no analysis of a particular type has been conducted for another project, this does not absolve the agency of conducting the analysis for the first time if it would be useful in reaching the ultimate decision.

Finally, we point out that the Fish and Wildlife Service has yet to issue its Biological Opinion on this proposal. The BO is essential to understanding the nature of the impacts to listed species; it is also essential for knowing what reasonable and prudent alternatives (including mitigation measures) are appropriate for the project). The FEIS should not have been issued until the BO was available so the public could understand the nature of the impacts to listed species and advocate for an appropriate alternative (e.g., no action) based on that information. The same is true of the cultural/historic resources evaluation -- which appears not to have been conducted yet -- and the yet-to-be completed Class III paleontological surveys (FEIS at G-22). The BLM cannot know how significant the impacts will be until the surveys

are complete; likewise, the agency cannot know if the impacts can be mitigated until the mitigation measures are determined and evaluated for effectiveness. The FEIS did not contain this essential information. Once again, the "fast track" approach has compromised the NEPA process.

We explained in our previous comments that the BLM has an obligation to collect clearly essential information and disclose that information in the FEIS. Even so, key questions about the impacts of this project remain unanswered, "unclear," "unknown," and "uncertain." Given these uncertainties, the BLM has no basis for deciding whether to issue the permit in light of the numerous other unassessed and potentially significant impacts -- and this is true even if the BLM somehow finds the significant impacts that actually have been determined in the FEIS (see Section 1 above) to be acceptable. Expressed differently, a decision to issue the permit would not be defensible because the agency does not know what the trade-offs would be. Accordingly, the BLM should deny the permit.

If, after reviewing the FEIS and public comment on it, the BLM still contemplates issuing the permit, it should not reach any decision until the FEIS is supplemented with additional analysis (together with an opportunity for public comment) so that the trade-offs can be properly understood.

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4. The permit should not be issued because the FEIS fails to demonstrate compliance with cultural/historic site preservation requirements.

In response to our comments that cultural and historic resources had to be inventoried and evaluated, the FEIS simply refers us back to this same statement in the DEIS. See FEIS at 8-74 (response to issue AM11 raised in our March 15, 1994 comments, FEIS page 8-70) which only refers back to the DEIS, not to the FEIS or any other supporting document such as a cultural resources survey. According to the Draft EIS:

"There are 56 prehistoric sites within the ... [project area]. * * * Eligibility determinations have not been made for the prehistoric sites due to the ongoing National Register evaluations. Eligibility determinations will be included in the FEIS for this project."

DEIS at 3-80 (emphasis added). Nevertheless, the eligibility determinations were not included in the FEIS as the DEIS promised -- in fact, the determinations may not have even been made yet -- so neither the public nor the decisionmaker have any basis for determining how significantly those resources would be impacted by the proposed windplant. The permit cannot be issued unless and until an adequate site-specific survey is conducted of the entire project area and all identifiable cultural and historic resources are evaluated for their significance. If the resources turn out to be significant, the permit must be denied on this ground as well.

5. The permit issuance/denial criteria must be listed and explained in the Record of Decision.

We raised this issue in our comments, but it was essentially ignored. The FEIS does not list any threshold criteria for permit issuance/denial. For instance, how many eagle deaths does BLM consider unacceptable in deciding whether to issue the requested permit? How many acres of Mountain Plover breeding/nesting habitat must be destroyed before the permit would be denied as posing an unacceptable risk to this troubled species? How many archeological sites would have to be damaged before the permit would be withheld? The FEIS is silent.

Without such information, it is impossible for the reviewing public to determine whether the BLM would issue the requested permit regardless of the environmental impacts it would cause. That is, there will be no way of knowing whether the decisionmaker gave proper weight to environmental protection or gave it no weight whatsoever. As noted above, the FEIS and Biological Assessment are rife with indications that the adverse impacts of the windpower plant would be significant. Given that some of these impacts could be very significant -- involving endangered species (listed and unlisted), other federally protected species (e.g., Golden Eagle and other migratory birds), significant archeological and paleontological resources, and at least one potential wilderness area -- there is at least a serious question as to whether the trade-offs in issuing the permit could be considered acceptable. While we believe the record already shows the trade-offs are unacceptable, if the BLM disagrees, the agency must at least explain the reasons for its position. It will not be enough for the ROD to simply state that the decisionmaker "considered the environmental impacts" and decided those significant impacts would be acceptable. The decisionmaker must state what the impacts are and explain why he or she thinks those particular impacts -- considered together and with similar impacts from other activities -- are acceptable or unacceptable. See, e.g., 40 CFR § 1505.2(b) (the ROD shall identify and discuss all factors which were balanced by the agency in making its decision and state how those considerations entered into its decision).

6. The ROD must list unambiguous, measurable criteria that would be used to determine whether to revoke or modify the permit, if it is issued.

Beyond failing to discuss any permit issuance criteria, the FEIS also fails to list any criteria that would cause the permit to be revoked or modified (e.g., to cease operation during heavy raptor migration seasons). Instead, the FEIS simply states things like "in the event of excessive mortality, USFWS would complete a thorough investigation to determine the extent, if any, of negligence on KENFTECH's part to use all available information and technology to minimize mortality." FEIS at 8-13. There is no explanation in the FEIS as to what constitutes "excessive" mortality as

opposed to acceptable mortality. Moreover, even if there were "excessive" mortality, "a thorough investigation" -- with nothing more -- does not correct the problem; fines and imprisonment (FEIS at 8-13) for "negligence" will also not assure the problem is corrected since "excessive" mortality may occur even if Kenetech is not "negligent." The means for correcting "excessive" mortality must include non-discretionary criteria for modifying the permit (e.g., requiring removal of turbines that are found to be problematic) and revoking the permit (e.g., removing all turbines if the entire project is found to be uncorrectably problematic). We expect such criteria to be included as enforceable provisions in the ROD. Without such criteria, at the minimum, the BLM cannot say it can assuredly mitigate the impacts if they are later found to be unacceptable.

7. The FEIS fails to consider reasonable alternatives.

A. *Sites.* The FEIS still fails to consider development of any site other than the applicant's preferred site (Foote Creek Rim-Simpson Ridge area). In personal discussions with us, the applicant has stated that other potential sites would pose similar impacts to raptors and other wildlife. So, they argue, that with impacts being similar, it makes the most sense to build a windplant on the most energetic site.⁴ The record contradicts this reasoning.

First, the maps in the FEIS (pages 3-21 through 3-38, 3-62) show that the distributions of eagles, hawks, falcons, and mountain plovers are highly variable. In fact, the observed densities of all these species drop drastically -- essentially to zero -- less than a mile from either side of Foote Creek Rim. The highest densities of all these species occur right along the ridgetops where the wind turbines would be constructed. This becomes shockingly apparent when the overlay of the proposed turbine locations (Appendix H to the FEIS) is placed over the species distribution maps in Chapter 3 of the FEIS. So, while constructing the turbines away from the ridgetops might be somewhat less preferable from an energy perspective, it would be substantially preferable from an environmental perspective. Constructing the plant away from the ridgetops in the project area was not given serious consideration as an alternative.

Second, the record shows that other ridges do not have the same densities of sensitive and endangered species as occur on Foote Creek Rim. For instance, the Biological Assessment states that while 36 Bald Eagle observations occurred on Foote Creek Rim, only 12 Bald Eagle observations occurred in the Simpson Ridge area. Most other species also apparently had lower densities on Simpson Ridge than

⁴ Actually, if the impacts were as great at all other potential wind sites, then the permit should be denied because there are no environmentally acceptable places to construct a windplant.

on Foote Creek Rim.⁵ Furthermore, the BA states that while Mountain Plovers "were routinely observed on top of Foote Creek Rim," they were not observed at all on Simpson Ridge. BA at 52. This shows that even ridges that are relatively close together can have very different wildlife abundances, and therefore much different environmental impacts. We are not suggesting that Simpson Ridge be developed in place of Foote Creek Rim -- we feel both sites pose unacceptable impacts. We are merely doing what the FEIS failed to do -- demonstrating by example that other sites would pose far less environmental impact, and those sites should be explored even if they would be less profitable to the applicant. BLM should decide whether to issue this permit based on the significance of the impacts, not on the profit margin of the permittee.

At the least, the FEIS still fails to demonstrate that other sites are not feasible. In this respect, we still believe the BLM is simply accepting -- without critical inquiry -- the applicant's assertions that no other site in Wyoming or the region is economically viable. The FEIS does not convince us otherwise; nor did the data we received through FOIA request. To the contrary, we were recently informed that another windplant is beginning the design phases, and it is planned for the eastern plains of northern Colorado just across the Wyoming border. If true, this is sufficient evidence to show that the applicant has misrepresented the truth about other potential sites. Therefore the permit should be denied.

B. *Mitigation.* Alternative mitigation measures were not considered as required by 40 CFR § 1508.25(b)(3).

C. *Timing.* The FEIS states that "Where environmental impacts are uncertain, it is within the agency's discretion to decide that the benefits of a project outweigh the benefits of delaying the project pending receipt of additional information." FEIS at 8-18. This may be true in some cases. However, where a potential jeopardy situation exists for a species' population or sub-population -- or where a violation of law may occur -- the BLM cannot so readily dismiss its information-collection obligations. We do not believe the BLM can make a convincing argument that the few benefits of issuing the permit immediately -- rather than in a year or two -- outweigh the significant environmental risks of proceeding without that

⁵ Some, though not all, of these differences may be attributed to the fact that Simpson Ridge was not surveyed as much as Foote Creek Rim -- which shows a bias in the NEPA analysis to only intensively analyze the applicant's preferred site on Foote Creek Rim. Meaningful comparisons could be made by evaluating #sightings per unit-time-surveying between the two Wyoming sites (and other potential sites). Unfortunately, the DEIS and FEIS did not contain such information. (On page 4-47 of the DEIS a table does show "No. Observed per 10-min Scan"; however, this table only allows comparison between the Foote Creek Rim site and two California sites -- it does not allow comparison of different sites in Wyoming).

information. This is particularly true where the agency asserts that the prospect of developing wind power in Wyoming will increase in the future. This means that delaying the issuance of the permit to collect essential information would only make permit issuance more favorable in the future. The FEIS is defective because it failed to consider alternatives of delaying the project to collect information needed to answer important questions.

Thank you for considering these comments. We feel there is a place for wind power in the future energy market. Unfortunately, based on the FEIS and BA, neither Foote Creek Rim nor Simpson Ridge are environmentally acceptable sites for the proposed windplant. Therefore, while we want to support alternative energy development, including wind power, we cannot support such a development at these particular sites -- at least with the current technology; the impacts are clearly unacceptable, and for this reason (along with the other reasons discussed in our comments), we urge the Bureau of Land Management to deny the applicant's permit. We do encourage the applicant to seek out potential sites in Wyoming and other parts of the region where wind power could be developed with far less environmental impact. There is no shortage of wind in Wyoming; there are shortages of eagles, hawks, falcons, mountain plovers, undeveloped lands....

Sincerely,

Donald J. Duerr

Leila R. Stanfield

for Biodiversity Associates/Friends of the Bow
P.O. Box 6032
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Response to Comments from Biodiversity Associates/Friends of the Bow

Comments from Biodiversity Associates/Friends of the Bow have been paraphrased to reflect BLM's interpretation of the comment and to facilitate clear understanding of the response.

Comment #1

Commentors contend that BLM should deny the ROW grant because the environmental impacts will be significant and unacceptable and there is "no unmet demand for electrical power that justifies construction of the plant."

They cite ten places in the draft or final EIS where significant impacts are disclosed. They conclude by stating that project benefits do not outweigh these impacts.

Response

The purpose and need for the project are described in Chapter 1.0 in the DEIS and the FEIS. This portion of the response is intended to reiterate and clarify the statement of purpose and need.

The commentors correctly assert that there is no present unmet demand for electric power; in fact, there is presently a surplus of generating capacity in many western states. However, human populations in the western states are growing, and utilities are forecasting long-term increases in demand for electric power (see Section 1.1.1 in the DEIS and Section 1.1 in the FEIS). Bonneville Power Administration (BPA) and the utilities participating in this project have determined that wind may be a viable resource to help meet these projected demands. Phase I owners have committed to a proactive approach to meet future needs and have invested in the Phase I project to evaluate the ability of wind resources to meet these needs.

The need, therefore, is two fold. First, in the long term, the power will be needed. While BPA and many utilities are implementing conservation measures within their service areas, long-term power deficits are still being forecast. Second, participating utilities need to evaluate the ability of windpower to cost-effectively meet these needs. If wind proves to be a cost-effective, power-generation source, it can be incorporated into the utilities' long-range plans for resource development. The critical element in this evaluation is cost-effectiveness; Section 8.2.1.1 in the FEIS explains why development at sites with less suitable winds would result in higher kWh costs and would render the project unfeasible.

The commentors also identified 10 instances where the DEIS or FEIS states that impacts could or would be significant. NEPA regulations do not prohibit a Federal agency from permitting a project because impacts could or would be significant; NEPA requires that an agency understand the environmental consequences of major Federal actions and take action to protect, restore, and enhance the environment [40 CFR 1500.1(c)]. BLM clearly understands that the proposed action may have significant impacts; the significant or potentially significant impacts identified in the EIS were given the most weight during the decision making process. Significantly impacted resources are also the focus of BLM's actions to protect, restore, and enhance the environment. For example, collision-related mortality of threatened or endangered raptor species would be a significant impact; therefore, mitigation measures and monitoring requirements were incorporated into the proposed action to protect these resources. Actions to protect, restore, and enhance other resources are described in Section 2.1.11 in the DEIS, Chapter 5.0 in the DEIS and FEIS, Section E in this ROD, and in the POD for Phase I.

Many of the impacts cited in the comment letter refer to impacts due to the proposed 500-MW development. At this time, BLM is authorizing construction of Phase I only. Subsequent phases will undergo complete NEPA analysis (see Section 8.2.6 in the FEIS). BLM is requiring this phased analysis/approval process

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because of the uncertain nature of future and cumulative impacts from this project. Anticipated impacts from Phase I are not so severe to warrant denial of the application.

The commentors cited the following impacts noted in the DEIS or FEIS:

- changes in landscape character from rural to predominantly industrial
- visual resources management objectives
- 653 miles of new road construction
- bald eagle, golden eagle, ferruginous hawk, and peregrine falcon mortality
- mountain plover impacts
- cultural and paleontological resource impacts
- foreclosure of the possibility of wilderness designation for the Rock Creek roadless area.

Each of these impacts and the respective mitigation and/or monitoring measures are discussed in the DEIS and/or FEIS, with the exception of possible impacts to the Rock Creek roadless area, and will not be reiterated in this ROD. The Rock Creek Roadless Area is not recommended for wilderness designation in the current Medicine Bow Forest Plan. This area was released from wilderness study to multiple-use management by the Wyoming Wilderness Act of 1984 (P.L. 98-550, 10/30/84). This act states that areas not recommended for wilderness designations need not be managed to protect their suitability for wilderness designation. The term "roadless area" is descriptive and not a designation by the Forest Service.

In conclusion, BLM has identified the impacts associated with this project. Balancing the management considerations discussed in Section D, above, the assertion that the permit should be denied has been considered.

Comment #2

Commentors contend approving the project would violate the Bald Eagle Protection Act (BEPA) and the Migratory Bird Treaty Act (MBTA).

Response

BLM has consulted with the U.S. Fish and Wildlife Service (USFWS), the Federal agency responsible for enforcing the Endangered Species Act (ESA), the BEPA, and the MBTA. The USFWS comment letter on the DEIS (page 8-88 and Section 8.2.2 in the FEIS) documents project compliance with these three laws. An Incidental Take Permit and non-jeopardy Biological Opinion have been issued under the Endangered Species Act. A Special Purpose Permit has been issued under the Migratory Bird Treaty Act. On this basis, this comment has been addressed.

Comment #3

Commentors contend BLM has insufficient information to determine if the project's impacts would be unacceptable. They assert, "If impacts cannot be quantified using 'existing data,' the agency should obtain the data it needs to quantify the impact." They also contend

- BLM has not complied with 40 CFR 1502.22, concerning incomplete information,
- the Biological Opinion (BO) should have been released with the FEIS, and
- the FEIS should be supplemented with additional studies and another comment period provided.

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Response

The BLM's position on decision making with insufficient information is presented in Section 8.2.4 in the FEIS and is in compliance with 40 CFR 1502.22, which requires Federal agencies to disclose where information is lacking or uncertain and to obtain that information if the overall costs are not exorbitant.

The BO is attached to this Record of Decision. Although the BO was not available when the FEIS was released, impacts to threatened or endangered species were completely disclosed in Section 4.2.4 of the DEIS. Input from the USFWS on threatened or endangered species impacts was used to develop mitigation measures and are considered in BLM's responses to comments in the FEIS. The public was not prevented from understanding the nature of impacts to these species.

The BLM's position concerning the need to prepare a supplemental EIS is presented in Section 8.2.11 in the FEIS, Section B of this decision and is in compliance with NEPA and Council on Environmental Quality (CEQ) regulations.

The assertion that the permit should be denied on the basis of insufficient information to make a decision has been addressed.

Comment #4

Commentors assert the BLM has failed to comply with cultural/historic site preservation requirements.

Response

As stated on page 3-78 in the DEIS, a Class III survey and site testing were completed on top of Foote Creek Rim and along transmission line ROW No. 3 in the spring of 1994, and the Class III reports are on file at the SHPO office. Results of Class III cultural resource studies were kept confidential as requested by Native Americans. Sites on Foote Creek Rim were determined eligible for inclusion on the National Register of Historic Places. BLM coordinated with the affected Native American Tribes, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation as required by the National Historic Preservation Act (NHPA) and the American Indian Religious Freedom Act (AIRFA). A Memorandum of Agreement, signed by BLM, SHPO, Advisory Council, and SeaWest is attached to this ROD as evidence of compliance with NHPA and AIRFA.

To date, only Class I surveys have been completed for the remainder of the Foote Creek Rim area and the Simpson Ridge area. Class III surveys will be completed for these areas as they are proposed for development.

The assertion that the permit should be denied based on noncompliance with the National Historic Preservation and American Indian Religious Freedom Act and their regulations has been addressed.

Comment #5

Commentors request the permit issuance/denial criteria be listed and explained in the ROD.

Response

The permit would be denied if BLM identified any anticipated unacceptable impacts during the NEPA process. Based on the quantification of impacts presented in the DEIS and FEIS, BLM has determined that anticipated impacts from Phase I are not so severe as to warrant taking the no action alternative. The DEIS

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and FEIS quantify, as much as practicable, the levels of collision-related mortality anticipated, physical habitat disturbance areas for mountain plovers and big game, the locations and acreage of land where significant visual impacts would occur, etc. These types of analyses were completed for each resource discussed in the EIS. For example, on page 4-68 in the DEIS it states that Phase I development would affect 1,229 acres of mountain plover nesting habitat. Given that mountain plovers may be attracted to disturbed areas, and that effects on mountain plover population indices will be monitored, this was considered an acceptable impact. Based on the analysis presented in the DEIS and FEIS, no unacceptable impacts from Phase I are anticipated.

BLM is requiring extensive monitoring to determine if this initial assessment of anticipated impacts is accurate. If impacts are more severe than anticipated, or if unanticipated, unacceptable impacts occur, BLM and/or the USFWS will require modifications of the wind farm operating regime.

Management considerations are identified and discussed in Section D of this document. The balance of both adverse and beneficial effects of this project are summarized in Section B. Commitment to mitigation measures such as tubular towers, no above-ground power poles in the wind farm, and implementation of the monitoring program is evidence that BLM understands that the proposed action could have significant environmental consequences and that has taken action to protect the environment (see response to Comment 1).

Comment #6

Commentors request the BLM to list unambiguous, measurable criteria that would be used to determine whether to revoke or modify the grant, if issued.

Response

The FEIS discusses criteria for retrofitting portions of the wind farm, cessation of wind farm operations, and initiating additional monitoring studies in Sections 2.1.11, 8.2.3.4, and 8.2.3.2 respectively. The processes outlined in these sections provide BLM and USFWS with mechanisms for mitigating impacts if they are found to be unacceptable.

Because specific cause-and-effects of collision-related mortality at wind energy facilities are unknown, it would be unreasonable to develop a suite of mortality scenarios and responses, many of which may never occur. Developing a set of criteria would require exhaustive discussion of "if/then" scenarios; it would also bind BLM to a set of criteria based on limited data which may not be appropriate. The collection of mortality data and review by the technical committee provides a prudent process for addressing collision-related avian mortality. As stated in the BO, attached to this ROD, mortality of more than one bald eagle or peregrine falcon will be considered unacceptable by USFWS.

ROWs are term, renewable grants. If at the end of the term, monitoring shows impacts continuing to be unacceptable, BLM would not renew the grant.

Comment #7

Commentors contend BLM has failed to consider all reasonable alternatives, specifically:

- alternative sites,
- alternative mitigation measures, and
- alternative timing of project development.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Alternative Sites. Commentors make three assertions concerning the failure to analyze alternative sites. 1) Because the top of Foote Creek Rim is apparently a high-use area for raptors, constructing the wind farm away from the ridgetops would represent a reasonable alternative. 2) Alternative sites may have fewer environmental impacts and "BLM should decide whether to issue this permit based on the significance of the impacts, not on the profit margin of the permittee." 3) The FEIS fails to demonstrate that other sites are not feasible.

Response

1. BLM concurs that Foote Creek Rim may be a high-use area for raptors. Where possible, turbine strings were located on top of the rim, away from the areas of highest raptor use. Other siting constraints (e.g., setbacks from cultural resource sites, wind patterns, etc.) precluded avoiding all raptor use areas. However, many of the factors that are thought to contribute to raptor mortality have been eliminated from this project. Perching opportunities will be limited by the use of tubular towers and no above-ground power poles in the wind farm. Slower rotor speeds and upwind turbines are also thought to reduce potential for collision-related mortality associated with other turbine designs. During monitoring, the factors contributing to mortality will be evaluated and appropriate mitigation measures implemented. If the assertion that high-use areas are associated with unacceptable collision-related mortality is found to be accurate, retrofitting and enforcement steps would be taken (as described in Sections 2.1.11 and 8.2.3.4 in the FEIS). Siting facilities off ridgetops would have the same economic consequences as relocating the project (i.e., it would render the project unfeasible); therefore, it is not considered reasonable.
2. NEPA does not require Federal agencies to judge the business decisions of applicants. In 1983 guidance regarding NEPA regulations, CEQ addressed questions concerning an agency's obligation to evaluate alternatives to a proposed action developed by an applicant for a federal permit. The guidance discusses a case in which "the court determined that the U.S. Environmental Protection Agency's (EPA) choice of alternative sites was focused by the primary objectives of the applicant...and that EPA had limited its consideration of sites to only those sites which were considered feasible, given the applicant's stated goals. The court found that EPA's criteria for selection of alternatives was sufficient to meet its NEPA responsibilities." The guidance continues, stating "This decision is in keeping with the concept that an agency's responsibilities to examine alternative sites has always been bounded by some notion of feasibility . . ."
3. Rationale concerning alternatives analyzed in the EIS are discussed in Section 2.4 in the DEIS and Section 8.2.1 in the FEIS. The applicant has documented that placement of this facility at another site in Wyoming would render the project infeasible; analyzing another site or sites in detail would delay the project and would also render it infeasible.

NEPA analysis of coal development projects do not require the developer to consider alternative sites for which they have no financial interest or where the resource is of inferior or unknown quality or quantity and may not meet contract parameters. Similarly, it is not reasonable to require a wind energy company to gather baseline data on such alternative sites. In either situation, however, if development at the site analyzed is shown to have unacceptable adverse impacts, BLM can deny use of Public Land at that site.

Mitigation. Commentors assert that alternative mitigation measures were not considered as required by 40 CFR 1508.25(b)(3).

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Response

As stated on page 2-36 in the DEIS, "other possible alternatives, including turbine design changes or alternative placement of turbines within the project area, have been incorporated into the proposed action and alternative A." Additional mitigation measures, not included in the proposed action, are included in Section E of this ROD. Because the applicants have agreed to implement all practicable mitigation measures, no substantively different alternatives could be developed.

Timing. Commentors assert BLM should consider an alternative of delaying approval until more information on impacts can be collected. Commentors believe such an alternative is reasonable because, "where a potential jeopardy situation exists for a species' population or sub-population -- or where a violation of law may occur -- the BLM cannot so readily dismiss its information-collection obligations."

Response

Rationale for not considering delaying the project as an independent alternative is presented in response to Comment AL16 (page 8-68 in the FEIS). BLM has previously demonstrated that no jeopardy situation or violation of law exists for Phase I of this project. The assertion that the EIS fails to consider reasonable alternatives has been considered.

October 2, 1995

Walter George, Project Leader
Rawlins District Office
Bureau of Land Management
1300 3rd Street North
Rawlins, WY 82301



Dear Mr. George:

Thank you for the opportunity to review the Final Environmental Impact Statement (FEIS) for the KENETECH/PacifiCorp Windpower Project. I previously provided my personal comments on the draft EIS (DEIS) in an attempt to identify problems and concerns so that the analysis and project could be improved and hopefully result in a better decision. After reviewing BLM's responses to significant issues raised by myself and other commentators about the DEIS (e.g., alternative site locations, adequacy of baseline and monitoring studies, mitigation effectiveness, etc.), I am disappointed BLM did not perform the recommended analyses in a supplemental DEIS. I believe this is a disservice to the public and project proponents. Instead, the FEIS basically maintains the original position of BLM as project facilitator. Most of the changes incorporated in the FEIS are semantic but not substantive. The FEIS indicates that the project sponsor's preferences have unduly influenced the choice of alternatives considered. Redefining the Purpose and Need in the FEIS also appears to be a thinly veiled attempt to avoid serious consideration of the No Action alternative. I am disappointed in the lack of specific, meaningful criteria provided for constraining discretion of the authorizing officer regarding exceptions and waivers of mitigation and other aspects of the FEIS, ROD and PODs. BLM has a poor reputation when it comes to upholding protective measures for wildlife and other natural resources. Political influence often displaces responsible resource management. I have numerous other specific concerns about the FEIS but will reserve them for now. I would be willing to discuss these with BLM.

I strongly urge BLM to reconsider their decision not to fully analyze other sites. The FEIS included information that Foote Creek Rim had the strongest wind resource. However, the real issue was whether or not wind power could be commercially generated at other sites. Since the preparation of the DEIS, economics of wind power generation have changed drastically and the assumed tax credits may not be available for all or part of the project. Prior to a decision, BLM should reevaluate the economics of the project given its significant impacts and uncertainty. Because of the likely change in economic viability, BLM should assure that effective mitigation is guaranteed if the project is approved and that provisions are made to remove structures if the project is abandoned. Also, it seems prudent to delay the decision or implementation of the project pending demonstration of its economic viability and to allow for more and better baseline data to be collected.

Mr. Walter George
KENETECH/PacifiCorp FEIS
October 2, 1995
Page 2

Having reviewed the FEIS, I cannot support the proposed action nor the analysis on which it is based. I urge BLM to reconsider its position not to provide for adequate evaluation and disclosure of alternative sites. I strongly recommend that BLM take adequate time to obtain a suitable baseline and evaluation of alternative sites; to evaluate the viability of the project given updated knowledge and ongoing deliberations about subsidies for the project; and to assure that, if approved, the best project is developed that provides the least impact to other resources. As proposed, many impacts will go undetected or unmitigated, particularly of only Phase I is constructed. It's time for BLM to do the right thing.

Sincerely,

Richard J. Guenzel
4810 Sherman Hill Rd. #C
Laramie, WY 82070

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Response to Comments from Richard J. Guenzel

Mr. Guenzel's comments can be summarized as follows:

1. Failure to prepare a supplemental EIS to evaluate "alternative sites locations, adequacy of baseline and monitoring studies, mitigation effectiveness, etc."
2. Lack of specific criteria for "constraining discretion of the authorizing officer regarding exceptions and waivers of mitigation and other aspects of the FEIS, ROD, and PODs",
3. Failure to give serious consideration to the No Action Alternative.
4. Failure to analyze alternative sites.
5. Failure to obtain adequate baseline data.
6. Need to reevaluate the project's economic feasibility.

Response

Comments 1, 4, and 5 reiterate comments made on the DEIS. These issues were discussed in Sections 8.2.11 (need for a supplemental EIS), 8.2.4 (adequacy of baseline data), 8.2.3 (adequacy of monitoring program), 8.2.5 (mitigation), and 8.2.1 (alternative site analysis), in the FEIS.

Comment 2. The BLM is committed to collecting the maximum amount of baseline data from Simpson Ridge prior to issuing an NTP for future Simpson Ridge phases. The AO's discretion to modify this commitment is explained in BLM's response to WGFD Comment #2 (see below). In the response to Comment AE55 in the FEIS (page 8-54), BLM makes the commitment to consult with WGFD prior to authorizing construction within restricted wildlife habitat during otherwise restricted periods. On page 8-16 in the FEIS, BLM states that "the technical committee would act in concert with the BLM IDT, advising the BLM AO throughout the authorizing process for each phase." These statements clearly demonstrate BLM's commitment to consult with wildlife experts outside of BLM before allowing exceptions to the stipulations and mitigation measures promulgated in the EIS, the ROD, and the PODs.

Comment 3. The No Action Alternative was considered. BLM's responses to Comment Nos. 1 and 5 from Biodiversity Associates/Friends of the Bow (see above) explains BLM's position that anticipated impacts from Phase I will not be so severe as to warrant denial of the ROW grant and the NTP for Phase I.

Comment 6. The 1.5 cent/kWh production tax credit for wind-generated electricity has not been repealed by Congress. Therefore, the project economics are as described in the DEIS and FEIS.



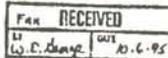
STATE OF WYOMING
OFFICE OF THE GOVERNOR

JIM GERINGER
GOVERNOR

October 2, 1995

STATE CAPITOL BUILDING
CHEYENNE, WY 82002

Walter George, Project Leader
Rawlins District Office
Bureau of Land Management
1300 3rd Street North
Rawlins, WY 82301



Dear Mr. George:

On behalf of the State of Wyoming, please be advised that we have reviewed The Kenetech/Pacificorp Windpower Project Final Environmental Impact Statement and we encourage the work to move forward. In accordance with our own comment period given to all affected state agencies, I have attached comments from the Game and Fish Department for your review. While, in general, the State of Wyoming is supportive of this renewable and innovative energy project, I ask your serious consideration of the past and continuing concerns of the Game and Fish Department.

Thank you for the opportunity to comment on this study and I look forward to the progress of this project.

Sincerely,

Jim Magagna
Director of Federal Land Policy

JM:jh
Enclosures

WYOMING
GAME AND FISH DEPARTMENT

Jim Geringer, Governor



John Tallent, Director

September 25, 1995

EIS 7485
Bureau of Land Management
Rawlins District Office
Final Environmental Impact
Statement
Kenetech/PacificCorp
Windpower Project
SIN: 94-010
Carbon County

WYOMING STATE CLEARINGHOUSE
OFFICE OF FEDERAL LAND POLICY
ATTN: JULIE HAMILTON
HERSCHLER BUILDING, 3W
CHEYENNE, WYOMING 82002

Dear Ms. Hamilton:

The staff of the Wyoming Game and Fish Department has reviewed the Final Environmental Impact Statement for the Kenetech Wind Energy Development Project on the Rawlins District. We offer the following comments for your consideration.

The FEIS includes responses to WGFD comments on the DEIS. Sections 3.2.2 (Affected Environment, Wildlife and Fisheries) and 5.1.1 (Mitigation and Monitoring Introduction) have been completely re-written. WGFD comments on the comment responses and re-written sections are below. The method of response used to address our concerns was extremely difficult to follow. We request to the extent reasonable that future responses to our comments be made directly rather than by referral to several different documents, and other comment responses. If, in the following comments, we do not re-address previous comments (3/17/95), then BLM's response adequately addressed our concern. We believe any remaining concerns should be addressed by BLM before the Decision Document is approved.

1. RE: Comment 1, (Alternative Analysis) and Comment 7, (Description of Wind Resource). A cost-benefit analysis has been provided as requested in our initial comments. However, 40 CFR 1502.33 stipulates, "If a cost-benefit analysis relevant to the choice among environmentally

different alternatives is being considered for the proposed action, it shall be incorporated ... as an aid in evaluating the environmental consequences." BLM has indicated that insufficient meteorological and economic data exist for reasonable consideration of alternative sites (Section 8.2.1.1, page 8-9). Therefore, adequate cost-benefit analyses for all alternatives have not been conducted. On page 8-9 BLM states that it would not be feasible to collect the additional meteorological data necessary to determine wind potential of alternative sites. We reiterate that BLM should consider alternative areas for windpower development based on environmental consequences and cost-benefit analyses.

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2. RE: Comment 2, (Baseline Wildlife Information) and Comment 22, (Impact Assessment). BLM has not addressed the initial comments. WGFD acknowledges that direct impacts to wildlife as a result of windplant activity cannot be completely understood until the plant is functional. However, determination of actual impacts cannot be accomplished when baseline data are insufficient to accurately characterize wildlife populations or the environment to be affected prior to windplant construction. WGFD agreed with the waiver requested by Kenetech that allows development of Phase I without further baseline data collection, as long as at least 3 years of baseline data were collected for all other phases of the windplant. Retaining BLM AO discretion to curtail or modify monitoring and baseline data collection violates this agreement, and may compromise the ability of the interdisciplinary team to accurately assess actual wildlife impacts as a result of windplant construction and operation. We request a firm commitment from the BLM to honor this agreement to initiate the wildlife monitoring program commencing at least 3 years prior to the initiation of all subsequent phases.
 3. RE: Comment 3, (Prediction of Wildlife Impacts). We were unable to find the referenced text in Appendix B.
 4. RE: Comment 4, (Mitigation). Mitigation measures have not been included as required by NEPA [40 CFR 1502.14 (f), 40 CFR 1502.16 (h), 40 CFR 1502.3].
 5. RE: Comment 5, (Displacement Effects). We were unable to locate the referenced change on page vi of the Executive Summary.

6. RE: Comment 13, (Displacement Effects). The response does not provide sufficient information to determine if changes adequately address the comment.
7. RE: Comment 14, (Cumulative Impacts). WGFD was unable to locate the referenced Appendix B text change.
8. RE: Comment 15, (Baseline Information from Simpson Ridge). Since development of an adequate environmental analysis, and possibly windplant construction, for the Simpson Ridge area is contingent on results of Phase I, Phase I should be considered an independent alternative (40 CFR 1502.9). Subsequent phases must include a complete NEPA analysis.
9. RE: Comment 16, (Discretion to Alter Information Requirements). WGFD was unable to locate the referenced Appendix B text change. Additionally, BLM should identify what situations for which exceptions may be granted.
10. RE: Comment 17, (Avian Task Force). Relevant information and results of the Avian Task Force's May 25, 1995 meeting need to be provided prior to project approval to allow public review of the proposed monitoring plan.
11. RE: Comment 19, (Powerline Impacts). BLM should provide the requested information regarding compensation of impacts to wetlands due to powerline construction. The POD for Phase I did not discuss potential impacts to wetlands due to powerline construction. Additionally all powerlines associated with Phase I are not on the Exhibits. Without this information, it is not possible to determine whether powerline construction may impact wetlands.
12. RE: Comment 20, (BLM Reclamation Policy). The referenced change of BLM reclamation policy was not found in Section 8.2.5, nor does the BLM response address WGFD concerns with off and on-site mitigation.
13. RE: Comment 21, (Project-Wide Mitigation). The information in Section 8.2.5 does not adequately address WGFD's original comment. Specifically, neither the DEIS or FEIS defines an adequate, dependable process which assures mitigation will be implemented.
14. RE: Comment 23, (Mitigation of Impacts to Avian Species),

Comment 52, (Siting Considerations to Minimize Impacts to Raptors), Comment 89, (Plan to Minimize Raptor Impacts, and Comment 112, (Turbine Placement). The most recent recommendations from the Avian Task Force should be incorporated in the Decision Document. Additionally, the overlay provided does not indicate that location of wind turbine strings minimizes potential conflicts with high raptor or mountain plover use areas. In fact, one string (west side of Foote Creek Rim, section 7) is planned to intercept an area of consistent raptor use, and another crosses an area of high mountain plover use. Additionally, no off-site mitigation has been proposed.

15. RE: Comment 24, (MBTA Takings). BLM states that USFWS requirements have not been identified. These requirements should be incorporated into the Decision Document once identified. BLM states that efforts already made to reduce mortality are sufficient to qualify any raptor mortality due to wind turbine collision as unintentional. WGFD agrees with this to a limited extent. However, consistent mortality at a particular tower, with no mitigative actions taken, may be interpreted as intentional takings. BLM should provide a commitment to identify and, if necessary, relocate or dismantle individual turbines that result in high raptor mortality.
16. RE: Comment 27, (Collection Lines). WGFD encourages Kenetech to install raptor guards during construction as a pro-active approach to prevent potential problems with raptor collisions. These fixtures are very inexpensive and effective, and have been proven to significantly reduce raptor collisions with power lines.
17. RE: Comment 28, (Winter Range Exclusion). "Certain areas" were not defined or delineated on a map as requested.
18. RE: Comment 29, (Powerline Construction). Exhibits in the POD for Phase I do not illustrate all powerlines associated with this project. Without this information, it is not possible to determine whether powerlines will be routed to avoid grouse leks, raptor nests, wetlands, or other sensitive habitats.
19. RE: Comment 30, (Raptor Nest Protective Buffers). Data from

1995 should be analyzed and included in the Decision Document. BLM should justify eliminating a third year of data collection.

20. RE: Comment 33, (Exceptions to Construct within Sensitive Resource Areas) and Comment 113, (Construction in Sage Grouse Nest Habitat). WGFD acknowledges BLM as the primary land management agency in the KPPA. However, WGFD also has lands within the KPPA and is responsible for wildlife management in the entire KPPA. Any decision by the AO regarding changes to criteria in permitting activities during restricted periods must be made in consultation with the WGFD. BLM must provide this commitment.
21. RE: Comment 34, (Alternative A), Comment 35, 3/17/95, (Environmental Costs), and Comment 36, 3/17/95, (Alternatives Considered but Rejected). Alternatives were selected on the basis of cost-benefit analysis, and not on environmental effects as required by NEPA. See comment 1.
22. RE: Comment 37, (WGFD Clearance). As stated on page 8-12, "Based on review of extant data, WGFD did not recommend avoiding or excluding portions of Foote Creek Rim or Simpson Ridge areas." WGFD neither endorsed or opposed the Foote Creek Rim site since wildlife data had not been collected at the time referenced by BLM. We request this wording be changed, and that BLM acknowledge that insufficient data were available to make any recommendation at the 1992 meeting with Mr. Petera and Dr. Collins.
23. RE: Comment 38, (Impact Categories) and Comment 63, (Swift Fox). BLM should commit to surveys for swift fox and identify mitigation if appropriate.
24. RE: Comment 41, (Baseline Wildlife Information). See comment 2 of this letter. WGFD also requests a copy of the Biological Assessment, and adequate time for review prior to the final decision of the BLM AO.
25. RE: Comment 42, (Vegetation Baseline Data). The proposal to complete mapping in future PODs does not fulfill data collection and analysis required to characterize resources affected by this NEPA action and to support mitigation alternatives. The BLM's response of "no other resource was analyzed in this detail" is inappropriate. Lack of this analysis also does not fulfill requirements of NEPA.

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26. RE: Comment 43, (Wetlands Composition) and Comment 74, (Wetland Delineation). The requested information characterizing wetland types, potential impacts, and mitigation should be provided before approval of the Decision Document.
 27. RE: Comment 49, (RRTAC Review). Please provide verification that the BLM has submitted the requested material for technical review by RRTAC. Results should be provided before project approval.
 28. RE: Comment 55, (Raptor Breeding Territories) and Comment 94, (Mountain Plover Distribution). If there is insufficient data available to determine raptor population parameters and mountain plover distribution on the KPPA, more baseline data is obviously needed. BLM must ensure adequate data is collected for all subsequent phases to characterize these populations in the KPPA area, and to identify potential impacts. See comment 2.
 29. RE: Comment 56, (Raptor Data Reporting) and Comment 57, (Raptor Data Analysis). BLM should re-calculate production as requested in WGFD original comment.
 30. RE: Comment 58, (Effectiveness of 1994 Raptor Nest Searches). Although discussion concerning temporal variation in raptor reproductive effort has been added, no discussion concerning biases due to sampling time has been included.
 31. RE: Comment 64, (Analysis of Use by Endangered Species). The lack of sufficient data does not allow accurate analysis of current endangered species populations or prediction of potential impacts. Please see comment 2.
 32. RE: Comment 66, (Merlins). WGFD requests that future raptor nest surveys include surveys for merlin nests.
 33. RE: Comment 67, (Visual Resource Impacts to Wildlife Recreational Users). WGFD accepts BLM's conclusion on determination of visual impacts. However, we request written acknowledgement that wildlife recreation users will also experience visual resource impacts.
 34. RE: Comment 68, (Impacts Analysis). The response clearly

reflects the lack of adequate baseline data to approximate cumulative impacts. The cumulative impacts analysis only considers southern Wyoming. Given the ability of migratory birds to travel thousands of miles, the selected level of analysis seems inappropriate. BLM must address migration, and potential impacts on bird populations outside southern Wyoming.

35. RE: Comment 69, (Executable Mitigation) and Comment 107, (Construction in Crucial Winter Range). We disagree with the interpretation of NEPA requirements provided in the response. Review of 40 CFR 1502.14(f) and 1502.16(h) clearly indicate that appropriate mitigation measures must be included in the EIS.
36. RE: Comment 70, (Significance Thresholds). BLM should provide mitigation plans for impacts to crucial winter range and other important wildlife resources as originally requested.
37. RE: Comment 71, (Achievable Mitigation). BLM should provide a response addressing lack of off-site mitigation on impact analysis and reasonable measures to mitigate adverse impacts.
38. RE: Comment 73, (Revegetation Species). If non-native species are used as a last attempt for soil stabilization, BLM should provide a commitment that these species will be eliminated following establishment of native species.
39. RE: Comment 75, (Big Game Significance Criteria) and Comment 76, (Impacts to Winter/Yearlong Ranges). While the WGFD supports the conclusions of this analysis, we disagree with the utilization of 1% due to the lack of biological data to support this criterion. Also, mitigation for known habitat losses should be presented, along with a range of proposed mitigation for other, predicted losses.
40. RE: Comment 77, (Cumulative Impacts to Big Game). WGFD disagrees with the interpretation and procedures used to determine cumulative impacts to big game in the DEIS because of the lack of biological rationale and adequate baseline data. We do agree that the impacts will be significant, and request BLM acknowledge that continued incremental impacts to big game ranges will have an increased negative influence to big game populations.

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41. RE: Comment 78, (Prediction of Impacts to Pronghorn). WGFD disagrees and feels analysis of impacts to pronghorn antelope is inadequate. Data must be collected to assist in determination of impacts.
 42. RE: Comment 79, (Studies of Medicine Bow Wind Towers). BLM should include observations from wind plant operators in Montana.
 43. RE: Comment 81, (Prediction of Impacts to Mule Deer), Comment 82, (Impacts to Migratory Mule Deer) and Comment 83, (Big Game Movement Through Strings). We appreciate the clarification on fencing plans. However, WGFD feels analysis of impacts to mule deer is inadequate. Data must be collected that will assist in determination of impacts.
 44. RE: Comment 90, (Raptor Mortality Predictions). BLM should identify the referenced assumptions in their response. Also BLM should clarify if the statement regarding applicability of scavenging and observer correction factors applies to California or Wyoming windplants. Will scavenging and observer correction factors be incorporated in the estimation of raptor mortality in the KPPA if found to be significant?
 45. RE: Comment 91, (Criteria for Raptor Population Studies), Comment 95, (Passerine Impact Criteria), Comment 96, (Passerine Mitigation Criteria), and Comment 101, (Mountain Plover Mitigation Criteria). Although development of specific criteria may not currently be possible, general criteria can be developed. BLM should identify what constitutes a negative impact.
 46. RE: Comment 92, (Take Permits). USFWS decisions should be included in the Decision Notice.
 47. RE: Comment 97, (Amphibian and Reptile Impact Criteria). BLM has not responded to the concerns raised in the original comment.
 48. RE: Comment 98, (Peregrine Falcons). The inability to determine if the KPPA (specifically Foote Creek Rim) is a migration corridor for peregrine falcons reflects the inadequacy of the baseline data. Also. see comment 2.

49. RE: Comment 103, (Impacts to Land Use). The requested information has not been collected or included in the FEIS. Without this baseline information, the impact of wind turbines on wildlife-based recreation cannot be determined, limiting opportunity for development of proper mitigation. BLM's statement that only minimal impacts to public recreation would occur as a result of windplant development is unsubstantiated. BLM should provide enforceable commitments to monitor wildlife-related recreational impacts, and to mitigate any impact detected.
50. RE: Comment 104, (Executable Mitigation), Comment 105, (Executable Mitigation), and Comment 116, (Mitigation for Impacts to Recreation). WGFD disagrees with BLM's interpretation of NEPA (See comment 38). The ability of decision-making authorities to determine actual effects of windplant generation on environmental resources is limited if mitigation for potential losses is not described. Any decision on the FEIS may be incorrect if not based on all available information.
51. RE: Comment 111, (Lead Time for Raptor Mitigation). The last sentence of the response is unclear. What is meant by "unless situations offer for which exceptions may be granted"? Also, we were unable to locate the 3 year commitment in Appendix B of the FEIS. Please see comment 2 of this letter.
52. RE: Comment 115, (Impacts to Mountain Plovers). BLM has not addressed diminished habitat effectiveness and subsequent mitigation for mountain plovers as requested in the original comment.
53. RE: Comment 118, (Appendix B. Monitoring Lead Time). While BLM has adequately addressed most of the concerns raised in the original comment, they have not provided a clarification for sampling time as requested.
54. RE: Comment 119, (Weight of Evidence). We were unable to find Table 8.3 that was referenced in the response.
55. RE: Comment 120, (Pronghorn Survey Protocol). We were unable to find the text changes in Appendix B that were referenced in BLM's response.
56. RE: Comment 121, (Pellet Counts). Several questions posed

in the original comment have not been addressed. Have pellet counts worked elsewhere in determining population size and density? Will monitoring personnel remain constant so that observations of pronghorn antelope in the area will be consistent? Were the assumptions of this technique evaluated for this project?

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57. RE: Comment 122, (Carcass Searches). The response still violates the agreement made in the 11/5/94 draft monitoring protocol.
58. RE: Comment 123, (Scavenger Trials). BLM has not addressed WGFD concerns regarding types of carcasses as requested in our original comment. Also, BLM should identify what types of initial monitoring results would warrant replication for scavenging trials within a year.
59. RE: Comment 124, (Raptor Monitoring). WGFD did not recommend a reference area for raptor monitoring purposes. However, this does not imply that we approved the selected area. Both the WGFD and Kenetech's consultant (D. Strickland, pers. commun.) agree the Shirley Mountain reference is unacceptable due to significant differences in habitat, wind patterns, and species occurrence.
60. RE: Comment 125, (Non-Breeding Passerine Surveys). BLM should clarify how levels of mortality during the non-breeding season can be evaluated, or determined as substantial if no non-breeding surveys are planned.

Comments concerning revisions of Sections 3.2.2 (Affected Environment, Wildlife and Fisheries) and 5.1.1 (Mitigation and Monitoring Introduction):

61. RE: Construction. Construction is currently planned for April through September, with road construction commencing in the winter of 1995-1996. Construction during these time frames may significantly disturb wildlife during parturition and incubation. For example, several mountain plover pairs nested on Foote Creek Rim during 1994. While BLM has committed to a protective buffer around known nests, mountain plovers may be precluded from nesting in the area by construction activities. These concerns should be addressed and suitable mitigation for displacement of wildlife due to construction identified.

62. RE: Selection of Alternative Transmission Route. BLM has indicated that alternative transmission route # 3 is the preferred alternative. Section 3.2.2 indicates this alternative may have the largest negative impact on wildlife resources. Alternative 3 passes through pronghorn antelope crucial winter range (p 3-7), has the largest number of known raptor nests within 2 miles (p 3-41), and intercepts the greatest amount of probable sage grouse nesting habitat of all three alternatives (p 3-46). BLM should provide the rationale for selecting this transmission route as the preferred alternative, considering its environmental impacts.
63. RE: Negligible Impacts. Table 2.11 identifies 715 acres of habitat degradation as negligible for wildlife. WGFD does not concur with this conclusion, particularly when considered with other developments in this area. Also, habitat effectiveness of reclaimed surfaces, and areas around wind turbines have not been addressed. BLM should implement a big game monitoring program and assure that impacts to habitat effectiveness are mitigated.
64. RE: Raptor Nesting Data Collection. On page 3-43 the FEIS states "...the 1994 raptor nest survey and monitoring is the first complete record of raptor nesting activity for the proposed development area." WGFD disagrees with this statement. While the study is the first for this area, survey dates were insufficient to detect all potentially active nests. Surveys for active raptor nests typically begin in February (golden eagles and owls) and extend through July. Initiating surveys in late June and mid-July can result in misclassification of nesting activity for nests from which chicks have already fledged, and may totally miss earlier nesting activities.
65. RE: Goshawks. WGFD encourages the BLM to contact Dr. John Squires of the USFS Research Station in Laramie. Dr. Squires has collected data on goshawks on the Medicine Bow Forest indicating extensive foraging use of open grasslands and sagebrush, and limited wintering use of the same types of areas. The BLM should incorporate this information to determine potential impacts of windplant development on this species.
66. RE: Monitoring as Mitigation. WGFD has agreed to

Ms. Julie Hamilton
September 25, 1995
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monitoring studies for a minimum of 3 years to provide baseline data for later phases of the project. While this data will be helpful in determining mitigation, we do not concur that monitoring is mitigation (p 5-3). The CEQ definition of mitigation does not include monitoring. Monitoring is a means to identify mitigation needs.

Thank you for the opportunity to comment.

Sincerely,



JOHN BAUGHMAN
ACTING DEPUTY DIRECTOR

JB:TC:as
cc: Wildlife Division
USFWS

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Response to Comments from the Wyoming Game and Fish Department (WGFD)

BLM had classified WGFD comments (66 in total) into four categories for the purpose of addressing protests to the proposed decision.

The following comments requested information or clarification be provided in the ROD: 3, 5-7, 9-11, 14, 15, 17, 18, 26, 27, 29, 30, 36, 38, 39, 42, 44-46, 48, 51-56, 58, 60-62.

The following comments stated an opinion: 4, 8, 13, 16, 59, 64, 66.

The following comments objected to the project or a specific project feature. BLM provided a positive response to comments: 20, 33, 40, 47.

The following comments objected to the project or a specific project feature. BLM was unable to respond or address the concern in an affirmative manner: 1, 2, 12, 19, 21-25, 28, 31, 32, 34, 35, 37, 41, 43, 49, 50, 57, 63, 65.

Comment #1 The rationale for not analyzing alternative locations for the proposed project is presented in Section 8.2.2 in the FEIS. BLM considered the following factors during this evaluation:

- economic feasibility of other locations,
- results of initial site screening for serious concerns at the proposed site,
- practicality of completing an environmental analysis of alternative locations,
- proportion of Federal land in the project area and existing agreements with private landowners, and
- Federal policy on development of renewable energy resources.

Based on consideration of these factors (Sections 8.2.2.1 - 8.2.2.5 in the FEIS), BLM determined that alternative sites would not be analyzed in detail.

Comment #2 Section 8.2.3.3 in the FEIS clearly states that the AO would work in concert with the technical committee throughout the authorizing process for each phase. Page B-1 in the FEIS states BLM's commitment to monitor proposed development areas prior to issuing an NTP for future phases. Specifically, the language in Appendix B (page B-6, paragraph 2, line 5 in the DEIS) has been changed in the FEIS to state:

"Future development in the Simpson Ridge area will be monitored at least three years prior to **issuing an NTP** [emphasis added]. However, if KENETECH determines that wildlife, public recreation, or cultural resource concerns at Foote Creek Rim are substantial enough to avoid, then KENETECH may apply for a BLM NTP for the Simpson Ridge area. The application shall thoroughly document the reasons development cannot proceed on Foote Creek Rim."

The wildlife monitoring program was initiated in the Foote Creek Rim and Simpson Ridge project areas and the Laramie Range reference area in March 1995, suspended in March 1996, and restarted in February 1997.

The AO has the discretion to modify this requirement if a preponderance of evidence demonstrates that more data collection is unnecessary; the technical committee will be responsible for weighing the evidence and advising the AO (see Section 8.2.3.3 in the DEIS) prior to making any decisions.

Comment #3 The reference to text in Appendix B refers to the commitment to collect Simpson Ridge baseline data prior to issuing an NTP for future Simpson Ridge phases (see response to Comment #2).

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Page 2-8 in the FEIS describes BLM's authority to require retrofit of prior phases should wildlife or other concerns be borne out, "retrofit of prior phases could include but is not limited to relocating turbines, painting blades, and installing warning devices. If the operations of the project causes an asserted violation of Federal law (e.g., MBTA, ESA, or BEPA) the USFWS (in conjunction with other Federal agencies) can initiate legal proceedings to enforce the provisions of such law." In addition, ". . . if project operations cause a violation of stipulations promulgated in the ROW grant, BLM may require KENETECH to take measures to correct the violation and may revoke the ROW grant for use of Public Land if KENETECH fails to correct the violation."

Comment #4 Mitigation measures, including mitigation not already included in the proposed action or alternatives, are included in Sections 2.1.11 and Chapter 5.0 in the DEIS and FEIS. In addition, Section E (Mitigation and monitoring) of the ROD includes additional mitigation measures.

Comment #5 The referenced change is on page viii of the Executive Summary. The page referenced in the FEIS is in error.

Comment #6 In their comments on the DEIS, WGFD requested that we footnote Table 2.1 to clarify that the disturbance acres presented in the table does not account for wildlife displacement or loss of habitat function. On page 2-1 in the FEIS the following footnote was added to Table 2.1: "At this time, the BLM is unable to quantify displacement effects or loss of habitat function from project activities. Monitoring studies are designed to detect gross changes of habitat use around wind farm facilities. The need for mitigation tied to displacement will be addressed in environmental analysis for subsequent phases."

Comment #7 The text change is located on page B-1 in the FEIS. This issue is discussed in detail in response to Comment #2.

Comment #8 BLM's response to Comment AE31 (on page 8-53 in the FEIS) describes the rationale for not analyzing Phase I as an independent alternative. Pursuant to NEPA, because Phase I is an integral part of the proposed action, it need not be considered as an independent alternative (*Environmental Defense Fund Inc. v. Costle*, D.C. Cir. 1981, 657, F.2d, 275). Section 8.2.6 in the FEIS states that complete NEPA analyses will be completed for each subsequent phase of development.

Comment #9 The requested text change is located on page B-1 in the FEIS. Response to Comment #2 discusses this issue.

Comment #10 The purpose of KENETECH's Avian Task Force is to conduct research on the interaction of birds with KENETECH's wind turbines at Altamont Pass, California. This research was reviewed in the preparation of this EIS and relevant information incorporated. The Avian Task Force does not officially comment on EISs. No relevant discussion about this EIS occurred at the Task Force's May 1995 meeting. The Task Force was discontinued following KENETECH's bankruptcy.

Comment #11 The POD for the 230-kV power line addresses impacts to wetlands and mitigation measures; this POD was supplied to WGFD on October 18, 1995. There are no above-ground powerlines in the wind farm. The SeaWest POD was provided to WGFD in April, 1997.

Comment #12 BLM policy on off-site mitigation is discussed on page 8-21 in the FEIS. BLM policy does not prevent an applicant from agreeing to off-site mitigation at their own discretion.

Comment #13 Sections 8.2.5 and 8.2.6 in the FEIS state that:
executable mitigation for anticipated impacts have been included in the proposed action;

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

- as more data are collected, it may be possible to develop additional mitigation measures for impacted resources;
- as the project proceeds, deficient mitigation measures would be modified;
- the monitoring and subsequent phase analysis will allow identification of unanticipated impacts and implementation of appropriate mitigation measures; and
- for uncertain impacts, rather than developing a suite of potential measures, BLM is proposing a phased development with NEPA analysis prior to approval of each phase.

BLM believes that this process will provide a quick and responsive methodology to address unexpected project impacts, as appropriate.

Comment #14 The Avian Task Force has endorsed a blade pattern, tubular towers to eliminate perching, and variable speed turbines (e.g., slower blade speeds pose a lower risk to birds) as reasonable measures to reduce avian mortality. These were confirmed as the most recent Task Force recommendations by personal communication on October 10, 1995 with Dr. Richard Curry, Director of Environmental Research, KENETECH Windpower, a Task Force member.

BLM concurs that the west edge of Foote Creek Rim may be a high-use area for raptors. Where possible, turbine strings were located on top of the rim, away from the areas of highest raptor use. Other siting constraints (e.g., cultural resource setback requirements, wind patterns, etc.) precluded avoiding all raptor and mountain plover use areas. However, many of the factors that are thought to contribute to raptor mortality have been eliminated from this project. Perching opportunities will be limited by the use of tubular towers and no above-ground power lines in the wind farm. Slower rotor speeds and upwind turbines are also thought to reduce potential for collision-related mortality. During monitoring, the factors contributing to mortality will be evaluated and appropriate mitigation measures implemented.

The effects of disturbance on mountain plover habitat effectiveness may be adverse or beneficial. Mountain plovers have been observed nesting within or immediately adjacent to human disturbances and may be attracted to these areas [Parrish, T.L., S.H. Anderson, and W.F. Oelklaus. 1993. Mountain plover habitat selection in the Powder River Basin, Wyoming. *Prairie Naturalist* 25(3):219-226.]. Turbine setback requirements necessitate placing turbines on the east edge of the rim. Mountain plover use will be monitored. If the development is shown to have an adverse impact on mountain plovers (as determined by the technical committee, BLM, or the USFWS), appropriate mitigation measures will be implemented.

Comment #15 A Special Purpose Permit has been issued by USFWS. Carcass searches will identify facilities that cause bird mortality and their location. This information will be evaluated by the technical committee which will make recommendations to the AO for appropriate corrective actions. Relocation of offending turbines is only one option that may be considered.

Comment #16 SeaWest is not proposing above-ground powerlines in the wind farm.

Comment #17 "Certain areas" is used in the RMP to refer to areas within crucial winter range. Crucial winter ranges are delineated on maps in Section 3.2.2.1 in the DEIS and FEIS.

Comment #18 The POD was provided to WGFD in April 1997. There are no above-ground power lines in the wind farm.

Comment #19 1995 raptor nest data were considered in the Comparison report. These data were provided to WGFD on July 28, 1995. WGFD has agreed that Phase I may proceed without three years of baseline data.

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Comment #20 This commitment is made in BLM's response to Comment AE55 in the FEIS.

Comment #21 On page 8-12 in the FEIS, BLM provides justification that a full range of reasonable alternatives was considered. See response to Comment #1.

Comment #22 The comment refers to language in a preliminary version of the FEIS. The quotation is on page 8-8 of the FEIS and states: "Based on review of extant data, WGFD made no recommendations concerning avoiding or excluding portions of the Foote Creek Rim or Simpson Ridge areas." The language used in the preliminary final EIS, which was provided for WGFD review, was revised as requested before the FEIS was released to the public.

Comment #23 As stated on page 4-65 in the DEIS, swift fox are expected to be infrequent visitors to the KPPA, and it is unlikely that project development will adversely impact this species; therefore, it is not reasonable to conduct surveys for swift fox.

Comment #24 The Biological Assessment was provided to the Game and Fish Department on April 5, 1995.

Comment #25 The level of detail contained in the FEIS is commensurate with the phase of development and the level of concern for the vegetation resource. Section 3.2.1 provides a general description of vegetation within the KPPA and a specific vegetation map and detailed acres for the Phase I area. Site-specific vegetation data will be collected for subsequent phases as they are proposed and included in future NEPA documents.

Comment #26 Wetland delineations within the Phase I area were completed in July 1995. Results were provided to the U.S. Army Corps of Engineers (Corps) for verification. Less than 0.1 ac of jurisdictional wetlands would be disturbed due to Phase I development; therefore, no mitigation would be required. The wetlands report and Corps verification letter are available from the BLM. The Corps has also been notified that, because this is a phased project, cumulative disturbance of wetlands will possibly necessitate development of a wetland mitigation plan. Pursuant to Section 404 of the Clean Water Act (33 U.S.C. Section 1251-1376), the Corps will be consulted prior to any surface disturbance in potential wetlands to determine permitting and mitigation requirements.

Comment #27 Dr. Mark Fuller, Director of the Raptor Research and Technical Assistance Center was a member of KENETECH's Avian Task Force. Because of Dr. Fuller's role in these two groups, the Center was not specifically contacted for comments on the EIS.

Comment #28 Section 8.2.4 in the FEIS describes BLM's rationale for not requiring extensive baseline data collection. See response to Comment #2.

Comment #29 BLM concurs that because the 1994 helicopter surveys were conducted in the last week in May and the first week in June, early nesting attempts and failures were probably missed and this may bias the results. Helicopter surveys were scheduled to optimize the amount of data collected with the financial resources available; once the aerial surveys were completed, active nests of every raptor species within and adjacent to the KPPA were monitored until young either fledged or failed. The 1994 data, therefore, provide valuable estimates of nestling productivity and fledgling success for all raptor species within the KPPA.

Comment #30 See response to Comment #29. The sampling time in the Monitoring Protocol was established by WGFD.

Comment #31 Section 8.2.4 in the FEIS describes BLM's rationale for not requiring extensive baseline data collection. See also response to Comment #2.

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Comment #32 During development of the monitoring program, WGFD as well as other agency specialists were consulted to determine the species of concern within the KPPA. Merlins were not identified as a species of concern; therefore, it is not reasonable to specifically survey for merlin nests. Merlin nests will be documented if detected during searches for other nests.

Comment #33 In Section 8.5.2.5 in the DEIS, which is the section describing impacts on recreation, BLM states: "Construction, noise, dust, traffic, the presence of equipment, and associated human activity would change the character of the area and recreational experiences, such as backcountry hiking and camping, wildlife observation, horseback riding, nature photography and ORV use" Later, in the same paragraph, BLM states: "Because visual impacts will be significant in some areas (see Section 4.6), the aesthetic sense of a rural, undeveloped recreational area would be greatly reduced." BLM concurs that wildlife recreation users will experience visual resource impacts.

Comment #34 BLM's response to WGFD Comment AE94 provides BLM's rationale for the selected cumulative impact analysis area. Furthermore, to address impacts on migratory birds, radiotelemetry or satellite telemetry studies would be needed; WGFD has stated that marking birds, especially sensitive species, is not necessary unless the variables being monitored indicate that the wind farm may be having a substantial effect on one or more populations (personal communication, September 1994, with Bob Oakleaf, Nongame Coordinator, WGFD).

Comment #35 BLM acknowledges WGFD's opinion concerning mitigation. BLM's position concerning mitigation is stated in Section 8.2.5 in the FEIS.

Comment #36 Mitigation measures are described in Section 2.1.11 and Chapter 5.0 in the DEIS, Chapter 5.0 in the FEIS, Section E in the ROD, and in the POD for Phase I. All reasonable measures to mitigate impacts have been identified and will be implemented.

Comment #37 See response to Comment #12.

Comment #38 BLM will consider removal of non-native species if their removal would not cause substantial site disturbance.

Comment #39 On page 8-25 of the FEIS, BLM states "Although BLM has no scientific evidence to demonstrate that a loss of 1% of crucial habitat will result in a significant impact to any species, this threshold was used as a prudent measure to judge potential project impacts." We acknowledge that WGFD disagrees with this criterion. However, by using this criterion in this analysis, BLM determined that significant cumulative impacts to big game crucial ranges have already occurred within the cumulative impact analysis area, and that this project would contribute to this significant impact. Therefore, by using this criterion, impacts to these ranges were given the greatest weight possible (significant) as a result of the NEPA analysis. "For the proposed project, the 1% criterion affords big game species the greatest level of consideration (FEIS, page 8-25)."

Known habitat losses, presented as the amount of acreage disturbed during construction and for the LOP in Table 4.10 in the DEIS, are anticipated to be negligible to moderate, depending on species; therefore, no mitigation measures are proposed.

Comment #40 BLM acknowledges that continued incremental impacts to big game ranges may have increased negative influence to big game populations.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Comment #41 During monitoring, data will be collected to assist in the evaluation of impacts to pronghorn antelope, mule deer, and elk (see Appendix B in the DEIS). Section 8.2.4 in the FEIS describes BLM's rationale for not collecting more baseline data prior to authorizing the project.

Comment #42 BLM's response to WGFD Comment AE108 in the FEIS presents the only known available information concerning big game at the wind farm near Livingston, Montana.

Comment #43 See response to Comment #41.

Comment #44 The assumptions and possible large errors associated with the mortality estimates are described on pages 4-48 through 4-53 in the DEIS. The data from California are the only large-scale wind farm mortality data available from which to make even a crude estimate of potential mortality at the Wyoming wind farm. Because BLM is aware of the extreme biases in this type of estimate, the calculation was kept as simple as possible. The mortality rate in California (which **was** corrected for scavenging and observer biases) was computed by dividing the number of individuals of each species killed per unit time by the number of turbines sampled. The mortality rate for each species was then multiplied by the number of turbines proposed for Phase I and the 500 MW wind farm to estimate the number of individuals of each species that would be killed at the Wyoming wind farm. We applied these estimates (corrected for bias) to the Wyoming situation. There is no information available on different scavenging or observer bias from Wyoming.

Sections 4.6.3 and 4.6.4 of Appendix B in the DEIS describe methods to be used in Wyoming to evaluate scavenging and observer effectiveness at the Wyoming wind farm. The data will be used to "evaluate effectiveness of the carcass searching effort and to estimate the number of carcasses missed because they are removed by scavengers before they can be located by search crews." While it is not stated explicitly, these data will be used, if appropriate, as correction factors for mortality estimates.

Comment #45 This comment will be addressed as five separate comments.

Criteria for Raptor Population Studies. Section 8.2.3.2 describes the processes by which BLM, the USFWS, and the technical committee could require SeaWest to initiate additional studies. While "processes" are not "criteria," BLM believes they will be more effective in identifying and correcting problems than a rigid set of if/then criteria. Problem identification and correction will be a cooperative effort between BLM, USFWS, WGFD, and other project participants.

Passerine Impact Criteria. Relative use and density will be used as indicators of passerine population changes. As stated on page B-28 of the DEIS, changes in relative use and density will be evaluated by comparing density between the Foote Creek Rim and Simpson Ridge study areas and the reference area. These are considered general impact assessment methods.

Passerine Mitigation Criteria. Page 2-8 in the FEIS describes BLM's authority to require retrofit of prior phases should wildlife or other concerns be borne out, "retrofit of prior phases could include but is not limited to relocating turbines, painting blades, and installing warning devices. If the operations of the project causes an asserted violation of Federal law (e.g., MBTA, ESA, or BEPA) the USFWS (in conjunction with other Federal agencies) can initiate legal proceedings to enforce the provisions of such law." In addition, "if project operations cause a violation of stipulations promulgated in the ROW grant, BLM may require KENETECH [SeaWest] to take measures to correct the violation and may revoke the ROW grant for use of Public Land if KENETECH [SeaWest] fails to correct the violation." These are considered general mitigation criteria.

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Mountain Plover Mitigation Criteria. Numbers of mountain plovers, reproductive effort, and reproductive success (if it can be determined) will be used as indicators of mountain plover population dynamics. As stated on B-30 in DEIS, data from the project area will be compared with data from the reference area to evaluate project impacts on these parameters. BLM's approach to the mitigation process for these unknown impacts is described in Section 8.2.5 in the FEIS.

Negative impacts. Negative impacts on each resource are discussed in Chapter 4.0 in the DEIS. For example, in the section referring to big game, impacts such as direct mortality and habitat loss are discussed as negative impacts.

Comment #46 The Biological Opinion is attached to this ROD.

Comment #47 No monitoring or measures designed specifically to mitigate impacts to amphibians and reptiles are proposed because these are not considered species of concern. Mitigation measures for minimizing impacts to wetlands and riparian areas will help minimize impacts to these species.

Comment #48 The adequacy of baseline data for the purposes of decision making is discussed in Section 8.2.4 in the FEIS. Baseline data indicate Foote Creek Rim is not a migration corridor. Peregrine falcon mortality, as well as population indicators (i.e., relative abundance and use), will be monitored to obtain additional data on potential impacts to this species.

Comment #49 All available data concerning recreational use within the KPPA are presented in Section 3.5.4 in the DEIS. Because recreational use will continue on Public Lands, impacts are not considered significant; therefore, it is unreasonable to collect additional baseline data on recreational use of the area. Furthermore, KENETECH provided an access easement on 640 acres to WGFD to compensate for utilization of 30 acres in Section 18.

Comment #50 Land management agencies rarely, if ever, have comprehensive information on which to base their decisions; therefore, there is risk associated with every decision. All relevant available information is presented in the DEIS and FEIS, and while this information is not complete, it is adequate for the purposes of decision making.

Comment #51 The FEIS states "unless situations **occur** for which exceptions may be granted." See response to Comment #2.

Comment #52 The effects of disturbance on mountain plover habitat effectiveness may be adverse or beneficial. Mountain plovers have been observed nesting within or immediately adjacent to human disturbances and may be attracted to these areas [Parrish, T.L., S.H. Anderson, and W.F. Oelklaus. 1993. Mountain plover habitat selection in the Powder River Basin, Wyoming. *Prairie Naturalist* 25(3):219-226.]. Data collected during monitoring will be used to determine if wind farm development affects mountain plover habitat effectiveness. If it is determined that mitigation for loss of habitat effectiveness is needed, the technical committee will be consulted to recommend appropriate mitigation measures.

Comment #53 See response to Comment #2.

Comment #54 Table 8.3 is located on pages 8-59 and 8-60 in the FEIS.

Comment #55 The referenced text change is located on page B-1 in the FEIS.

Comment #56 The response to these comments is presented on page 8-61 (response to WGFD Comment AE153) in the FEIS.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Comment #57 Appendix B in the DEIS is the current proposed monitoring protocol. BLM is committed to adequate monitoring, including appropriate carcass search intervals. These procedures will be modified, in consultation with the technical advisory committee, if warranted.

Comment #58 Raptor carcasses will be used, if possible, during the scavenger and observer effectiveness studies. The technical committee will advise BLM concerning the need to obtain within-season replication during scavenging trials.

Comment #59 Thank you for clarifying this comment.

Comment #60 Passerine mortality data, which will be collected during all seasons, will be reviewed by the technical committee who will advise BLM concerning the level of significance associated with the observed mortality. If the technical committee deems that non-breeding season passerine mortality is substantial, then BLM may require SeaWest to conduct nonbreeding season passerine surveys.

Comment #61 BLM stipulations concerning construction in critical wildlife habitats during critical periods are presented in Section 2.1.11 in the DEIS. Additional mitigation measures are presented in Chapter 5.0 of the DEIS and FEIS, the POD, and Section E in this ROD. Parturition and incubation periods are periods when animals may be particularly sensitive to construction activity, these periods are considered crucial to the survival of individuals and the health of the population. BLM stipulations prevent construction during these periods. However, none of these areas are present at Foote Creek Rim, therefore, the restrictions are not applied. As discussed in Section 5.1.3.11 in the DEIS, construction workers and wind farm employees will be instructed to avoid unnecessary disturbance of wildlife and to obey speed limits at all times.

Mountain plovers may avoid development areas during construction. However, as discussed in response to Comment #52, mountain plovers also may be attracted to development areas. If they are precluded from nesting during construction, this would cause a loss of breeding habitat for one year in each development area where plovers nest, possibly more if they are permanently displaced from the area. As stated in the DEIS (page 4-68), impacts to plovers due to reduction of habitat on Foote Creek Rim are considered significant for the purposes of decision making. Mountain plover use, reproductive effort, and reproductive success (if it can be measured) will be monitored to assess impacts and, if necessary, the technical committee will be consulted to recommend appropriate mitigation measures.

Comment #62 With standard mitigation measures properly implemented, there will be no construction-related impacts to these species. Route numbers 1 and 2 have other factors that were considered undesirable (e.g., increased visual impacts, steep slopes).

Comment #63 BLM has implemented a big game monitoring program (see Appendix B in the DEIS). The technical committee will evaluate impacts to habitat effectiveness based on monitoring results and recommend mitigation measures, if appropriate.

Comment #64 BLM acknowledges the survey data may be incomplete. However, this data is the most comprehensive collected for this area.

Comment #65 Only one goshawk was observed during the October 1993-March 1995 avifauna surveys. Because this species uses the KPPA infrequently, impacts are expected to be negligible, and thus further data analysis is not warranted at this time. Thank you for providing the information concerning Dr. Squires' research; BLM will consult this resource if concern for goshawks escalates in the future.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

Comment #66 We appreciate the time and effort the WGFD personnel have spent in numerous meetings, phone calls and correspondence to assist BLM in understanding the issues and concerns held by the Department. With your continuing involvement throughout the development and monitoring phases - and your participation on the advisory committee, we hope to continue to count on your expertise in assisting us to provide the best assessment and management of this - the first large scale wind energy project in Wyoming.

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

**SEAWEST WINDPOWER PROJECT
LEGAL DESCRIPTION FOR RIGHT-OF-WAY GRANT WYW-130382
(WIND FARM)**

	ACRES
<u>T. 19 N., R. 78 W.</u>	
Section 06: Lots 1-3, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$	479.79
Section 18: Lots 1-4, N $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$	460.82
<u>T. 21 N., R. 80 W.</u>	
Section 06: Lots 1-7, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ (ALL)	639.68
Section 12: ALL	640.00
Section 14: ALL	640.00
Section 18: Lots 1-4, E $\frac{1}{2}$ W $\frac{1}{2}$	325.60
Section 30: Lots 1 & 2	80.80
<u>T. 22 N., R. 80 W.</u>	
Section 18: Lots 1-4, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ (ALL)	656.80
Section 20: ALL	640.00
Section 22: ALL	640.00
Section 26: N $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$	120.00
Section 28: E $\frac{1}{2}$, N $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ SW $\frac{1}{4}$	480.00
Section 30: Lots 1-4, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ (ALL)	652.31
Section 32: N $\frac{1}{2}$, SE $\frac{1}{4}$	480.00
Section 34: ALL	640.00
<u>T. 20 N., R. 81 W.</u>	
Section 02: Lots 1-4, S $\frac{1}{2}$ (Lying north of Interstate Hwy 80)	≈464.14
<u>T. 21 N., R. 81 W.</u>	
Section 02: Lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$ (ALL)	620.16
Section 04: Lots 1-4, S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$ (ALL)	620.00
Section 06: Lots 1-7, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ (ALL)	634.78
Section 08: W $\frac{1}{2}$	320.00
Section 10: N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$, SW $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$	560.00
Section 12: E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$	480.00
Section 14: ALL	640.00
Section 18: Lots 1-4, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ (ALL)	643.85
Section 20: ALL	640.00
Section 22: ALL	640.00
Section 24: W $\frac{1}{2}$ W $\frac{1}{2}$	160.00
Section 26: ALL	640.00
Section 28: ALL	640.00
Section 30: Lots 1-4, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ (ALL)	643.20
Section 32: N $\frac{1}{2}$, N $\frac{1}{2}$ S $\frac{1}{2}$ (lying north of Interstate Hwy 80)	≈360.00
Section 34: NE $\frac{1}{4}$ (lying north of Interstate Hwy 80)	≈ 80.00
<u>T. 22 N., R. 81 W.</u>	
Section 34: ALL	640.00
TOTAL ACRES	≈17,001.93

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

**SEAWEST WINDPOWER PROJECT
LEGAL DESCRIPTION FOR RIGHT-OF-WAY GRANT WYW-130929
(230 kV POWER LINE)**

100-foot ROW Width

T. 19 N., R. 78 W.

Section 06: NE $\frac{1}{4}$ NE $\frac{1}{4}$

T. 20 N., R. 79 W.

Section 02: LOT 4, S $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$
Section 12: E $\frac{1}{2}$ SE $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$

T. 21 N., R. 79 W.

Section 04: LOTS 1-4
Section 10: E $\frac{1}{2}$ E $\frac{1}{2}$ E $\frac{1}{2}$
Section 22: E $\frac{1}{2}$ E $\frac{1}{2}$ E $\frac{1}{2}$
Section 34: E $\frac{1}{2}$ E $\frac{1}{2}$ NE $\frac{1}{4}$

T. 22 N., R. 79 W.

Section 32: S $\frac{1}{2}$ S $\frac{1}{2}$ SW $\frac{1}{4}$

T. 22 N., R. 80 W.

Section 30: LOTS 3 & 4, E $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$
Section 32: NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$
Section 34: N $\frac{1}{2}$ S $\frac{1}{2}$

T. 22 N., R. 81 W.

Section 26: N $\frac{1}{2}$ N $\frac{1}{2}$, SE $\frac{1}{4}$ NE $\frac{1}{4}$

75-foot ROW Width

Section 28: S $\frac{1}{2}$ NE $\frac{1}{4}$

TOTAL LENGTH ON PUBLIC LAND: 50,660 FT. x 100 FT. = 116.30 acres
2,400 FT. x 75 FT. = 4.13 acres

53,060 FT. (10.05 MILES), 120.43 acres

RECORD OF DECISION - SEAWEST/PacifiCorp Windpower Project

**SEAWEST WINDPOWER PROJECT
LEGAL DESCRIPTION FOR RIGHT-OF-WAY GRANT WYW-136588
(ACCESS ROADS TO A kV POWER LINE)**

T. 19 N., R. 78 W.

Section 06: Lot 3, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$

T. 20 N., R. 78 W.

Section 20: S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$

T. 20 N., R. 79 W.

Section 02: LOT 1-3, SE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$
Section 12: E $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$

T. 21 N., R. 79 W.

Section 02: S $\frac{1}{2}$ NW $\frac{1}{4}$
Section 22: SE $\frac{1}{4}$ SE $\frac{1}{4}$
Section 26: S $\frac{1}{2}$ SW $\frac{1}{4}$

T. 22 N., R. 79 W.

Section 32: S $\frac{1}{2}$ S $\frac{1}{2}$
Section 34: S $\frac{1}{2}$ SW $\frac{1}{4}$

T. 22 N., R. 80 W.

Section 28: S $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$
Section 30: LOTS 2 - 4, SE $\frac{1}{4}$ SE $\frac{1}{4}$
Section 32: NW $\frac{1}{4}$ NE $\frac{1}{4}$
Section 34: S $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$

T. 22 N., R. 81 W.

Section 24: S $\frac{1}{2}$ SW $\frac{1}{4}$
Section 26: NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$
Section 28: W $\frac{1}{2}$ NE $\frac{1}{4}$

TOTAL LENGTH ON PUBLIC LAND: 67,040 FT. (12.70 MILES)

ATTACHMENT 1

Biological Opinion

for

**SeaWest/PacifiCrop
Windpower Project**



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region



IN REPLY REFER TO:

FWS/R6
MT/WY
6-WY-95-F-006

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228-1807

JUN 30 1997

Memorandum

To: District Manager, Bureau of Land Management, Rawlins, Wyoming

From: Geographic Assistant Regional Director, Montana/Wyoming

Subject: Biological Opinion for SeaWest/PacifiCorp Windpower Project

This document constitutes a revision to our March 18, 1996, biological opinion concerning the proposed KENETECH Windpower project. Since that date, KENETECH Windpower, Inc., filed for chapter 11 bankruptcy, and SeaWest Energy Corporation purchased the assets of the proposed windpower project, which is located in Carbon County, Wyoming. The change in ownership and project design modifications resulted in your June 17, 1997, letter to Mr. Chuck Davis of my staff requesting reinitiation of consultation. Enclosed with that letter was a final report entitled *SeaWest/KENETECH Windfarm Comparison, Carbon County, Wyoming* (June 1997).

The authority for this consultation is contained in section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). The Bureau of Land Management requested formal consultation as lead Federal agency on March 24, 1995. Your letter of July 28, 1995, acknowledged that consultation on facility design was still underway and agreed to extend the consultation period past the 135-day period. The March 1996 opinion was based on the information contained in the Biological Assessments, the Environmental Impact Statement for the project, and several meetings involving, at various times, your agency, the project proponents and their consultants, and the Wyoming Game and Fish Department. On May 25, 1995, Mr. Davis, then Wyoming Field Supervisor, and Mike Jennings of his staff attended an onsite meeting with your agency; the applicant and its consultants; and John Cornely, U.S. Fish and Wildlife Service Regional Migratory Bird Coordinator.

In December 1995 the Bonneville Power Administration, a cooperating agency on the EIS, notified Mr. Davis that it also was seeking compliance with section 7 on this project. The BPA proposes to execute a power purchase agreement with PacifiCorp in conjunction with the windpower project. The BPA contracted for an update of the BA, transmitted to the Wyoming Field Office on March 6, 1996, which contained updated information on species observations. The updates did not modify the conclusions presented in the October opinion.

In a related matter, a meeting was held on February 12, 1996, in Denver with Mr. Davis; Mr. Cornely; Service Assistant Regional Director for Law Enforcement Terry Grosz; Tom Graf of the Department of the Interior Solicitor's Office; Bureau and BPA personnel; and project proponents KENETECH, PacifiCorp, Tri-State Generation and Transmission Association, Inc., Public Service Company of Colorado, and Eugene [Oregon] Water and Power, to discuss compliance with Federal wildlife laws pertaining to avian mortalities. Tri-State and Public Service have since withdrawn from the project.

The updated BA and new Service guidance concerning integration of compliance with the ESA, the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act were included with the revised opinion issued on March 18, 1996.

All BA's developed for this project addressed potential impacts to the endangered American peregrine falcon (Falco peregrinus anatum) and the threatened bald eagle (Haliaeetus leucocephalus). The endangered black-footed ferret (Mustela nigripes) may exist in the project area, due to the project's proximity to the ferret Primary Management Zone established for the Shirley Basin experimental release site. However, the ferrets released in Shirley Basin have been designated as "nonessential," and in a March 20, 1995, memorandum we concurred with your determination that the proposed project is not likely to adversely affect the ferret.

The mountain plover (Charadrius montanus), a candidate species, nests on the project site and may soon be proposed for listing. If the Bureau determines that a proposed species may be jeopardized by the project, the agency should request a conference with the Service. Therefore, we have not addressed the impacts of Phase I development on this species, but we have provided recommendations regarding the plover that are included in the EIS for this project.

BIOLOGICAL OPINION

It is the biological opinion of the Service that the implementation of the proposed SeaWest/PacifiCorp Windpower Project near Arlington, Wyoming, is not likely to jeopardize the continued existence of the endangered American peregrine falcon or the threatened bald eagle.

DESCRIPTION OF THE PROPOSED ACTION

Based on the Bureau's request and supporting documentation dated June 21, 1995, and the comparison report enclosed with your June 17, 1997, request for reinitiation, this opinion specifically addresses only the first phase of the proposed project, as described below. This approach requires that the Bureau reinitiate consultation prior to authorization of each subsequent phase in the future.

The entire project would consist of a 500-megawatt (MW) windfarm in the Foote Creek Rim-Simpson Ridge area between the towns of Hanna and Arlington, in Carbon County, southeastern Wyoming. The project would require 60,619 acres of land, consisting of 28 percent Federal, 10 percent State, and 62 percent private ownership. The Bureau proposes to issue a 36-year renewable right-of-way permit to SeaWest Energy Corporation for construction of the full 500-MW windfarm, and a ROW grant to PacifiCorp, Inc., to construct a 230-kilovolt (kV) transmission line along one of three alternative routes. The BPA would purchase a portion of the power produced by the Windfarm and is a cooperating agency with the Bureau on the EIS.

The windfarm (including turbines and operations, maintenance, communications, and transmission facilities) would be developed in phases, beginning with 91-136 wind turbines to generate approximately 68 MW along Foote Creek Rim and a 230-kV transmission line from Foote Creek Rim to the existing Miner's substation near Hanna. This opinion addresses this first phase. Additional turbines and facilities would be constructed in phases of varying size (averaging 50-70 MW) over the next 10-12 years in the Foote Creek Rim and Simpson Ridge areas as electrical power demands increase. The Bureau has agreed to continue the consultation process through all phases of development. The complete windfarm would consist of approximately 200-300 turbines on Foote Creek Rim and 467-700 turbines at Simpson Ridge.

SeaWest proposes to purchase turbines from one of several companies that specialize in wind turbine manufacturing. Only one turbine type (in the range of 500 to 750 KW) will be used during Phase I development. The final site plan and number of turbine strings will be governed, in part, by the maximum output of the selected turbine. The turbines proposed by SeaWest will be supported by tubular steel towers that will provide no perchable surfaces for birds. The towers will be 131 to 151 feet tall, as opposed to the 80- to 120-foot-tall towers in KENETECH's proposal. Because the SeaWest turbines will have larger capacity, there will be fewer machines, rotor diameters will be larger, and rotor tip speed will be slower than the KENETECH Model KVS-33. SeaWest proposes 6 to 8 Phase I turbine strings, as opposed to the 12 strings proposed by KENETECH.

The project would be constructed in the grass/sagebrush habitat north of Interstate 80. Trees in that area are confined to ravines, slopes protected from the intense winds, and along water courses. As stated in the EIS, the mixed grass/sagebrush vegetation type covers 3,070 acres (61 percent) of the eastern and western slopes of Foote Creek Rim. The top of the rim is composed of a cushion plant community occupying 1,300 acres (26 percent), and approximately 150 acres (3 percent) of aspen woodlands are found on the eastern slope of the rim that is protected from the predominate westerly winds. There are approximately 420 acres (8 percent) of isolated patches of mountain shrubs on ridges with shallow soils. The remainder of the Foote Creek Rim area (2 percent) consists of isolated inclusions of ponderosa pine, meadow/riparian, and grassland.

STATUS OF THE SPECIES

American peregrine falcon--The decline of the endangered American peregrine falcon is attributed mostly to the pesticides DDT, and its metabolite DDE, and dieldrin. These compounds bioaccumulated through the food chain resulting in thin egg shells and a dramatic decline in peregrine nesting success. There has been an overall increase in peregrine populations in recent years, aided by nationwide efforts at establishing new eyries. Some of the success has been in urban areas, where tall buildings provide secure nesting habitat similar to natural cliffs, and pigeon populations provide a dependable food source.

The Service has initiated a status review for this species, in preparation for a possible delisting (Federal Register, Vol. 60, No. 126, June 30, 1995). Wyoming peregrines are considered part of the Southwest/Rocky Mountain population, which according to 1994 surveys, consists of 559 breeding pairs. This surpasses the recovery objective by 376 pairs (U.S. Fish and Wildlife Service 1984).

Falcons hunt mainly birds, and the flying prey is struck from above at high speed. Preferred hunting habitats include cropland, meadows, river bottoms, marshes, and lakes that attract potential bird species. The preferred sites for nesting are mountain cliffs and river gorges (U.S. Fish and Wildlife Service 1984).

Bald eagle--The bald eagle suffered a precipitous population decline similar to the peregrine, because of DDT and other toxins in the food chain. This species also has staged a comeback, and its status was upgraded from endangered to threatened on August 11, 1995 (50 CFR 17). In the Pacific Recovery Region, which includes Wyoming, delisting goals have been met in all categories except distribution in zones with nesting targets. According to the Greater Yellowstone Bald Eagle Working Group the number of breeding areas in Wyoming has increased from 5 in 1982 to 25 in 1995.

Bald eagles need cliffs and/or tall trees for nesting and roost sites. They also prefer sites near large water bodies that provide concentrated food sources, such as waterfowl and fish. Bald eagles forage widely during the nonnesting season and will scavenge on animal carcasses such as deer and elk (Mariah Associates, Inc., 1995).

ENVIRONMENTAL BASELINE

Bald eagle use of the habitats in the project area have been documented in the Bureau's biological assessment. Thirty-six bald eagles observations were made within the Foote Creek Rim area between March and November 1994. According to the June 1997 comparison report, very few bald eagles were observed during the 1995-1996 surveys. The majority of the use was in the western and northern portions of the rim, although eagles will use the entire rim for foraging, probably throughout the year. Forty-eight percent of the eagles were observed in flight patterns that would be at elevations within the sweep of turbine rotors. No communal roosts are known to occur in the study area, and one nest was active 2 miles south of Simpson Ridge in 1994.

Twenty-seven observations of peregrine falcons were made at Foote Creek Rim between February 1994 and March 1995. Approximately 65 percent of the observations were along the western side of the rim, and 70 percent occurred directly over the rim (these percentages do not sum to 100 percent as some birds were observed crossing several parts of the rim) (Mariah Associates, Inc., 1996). Seventy-eight percent of the falcons were at rotor blade altitude (26-184 feet) during 1994 observations. Due to the number of sightings, it is possible that peregrine falcons nest somewhere near Foote Creek Rim, possibly several miles to the south in Rock Creek Canyon. Ponds and lakes immediately east of the rim provide a waterfowl and shorebird food source that could attract wintering or migrating falcons to the area. Very few peregrine falcons were observed during the 1995-1996 surveys.

Effects of the Action

Phase I of the project would result in construction of roads, turbine strings, and power lines that would at least temporarily reduce foraging areas for bald eagles and peregrine falcons. The turbine strings in particular will displace potential foraging activities on Foote Creek Rim. The cushion plant community on top of the rim provides habitat for raptor prey species such as voles and white-tailed prairie dogs, but the project should have minimal effects on prey populations.

Collisions with Turbine Blades--The placement of 91 to 136 wind turbines on Foote Creek Rim will produce the potential for avian collisions with turbine blades. Both bald eagles and peregrine falcons have been observed in flight patterns on the rim at blade sweep elevation (Mariah Associates, Inc., 1994 and 1997). Raptors appear to be more susceptible than many other species to turbine blade mortality (Orloff and Flannery 1992).

Collisions with Wires--Brown (1993) found that avian collisions with utility wires are likely to occur when the lines transect a daily flight path. High velocity winds, very common on Foote Creek Rim, may push birds into power lines. Orloff and Flannery (1992) found an 11 percent raptor mortality caused by collisions with wires in the Altamont Pass wind farm in California. The BA recognizes the likelihood of mortality to bald eagles and peregrine falcons due to collisions during the life of the project. Although there are no studies extant that might help estimate potential mortalities for the subject species, Olendorff and Lehman (1986, as referenced in Orloff and Flannery 1992) documented 15 confirmed cases of bald eagles colliding with utility lines. The same report indicates that peregrine falcons are more vulnerable to collision with wires than other raptors.

Electrocution--In the wind farm at Altamont Pass 8 percent of all raptor deaths are from electrocution. Seventy-seven percent of all electrocution deaths occurred at riser poles, probably because those structures provide more electrical contact points (Orloff and Flannery 1992). Larger birds, such as golden eagles, buteos, and ravens, were impacted by electrocutions, and smaller birds were not. Thus, there is a potential for bald eagle electrocution mortalities, but, due to their small size, peregrine falcons are not considered vulnerable to this type of accident.

SeaWest proposes to mitigate the potential impact of electrocution and power line collisions by placing all lines in the windfarm underground.

Cumulative Effects

Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

The windfarm project would be located in an undeveloped rural area. The Service is not aware of any potential actions in this category, other than the subject project, that would affect the environmental baseline. Further development of Federal coal resources in the area may occur, but this will require additional Federal involvement that will trigger section 7 consultation.

CONCLUSION

It is the biological opinion of the Service that the implementation of the proposed SeaWest/PacifiCorp Windpower Project near Arlington, Wyoming, is not likely to jeopardize the continued existence of the endangered American peregrine falcon or the threatened bald eagle. However, the proposed project is expected to adversely affect those species, and incidental take of individuals is likely to occur. Therefore, reasonable and prudent measures to minimize incidental take are provided in this document.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA prohibits taking of a listed species without special exemption. The term "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is further defined under 50 CFR 17.3 as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." Harass is further defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding or sheltering." Under the terms of sections 7(b)(4) and 7(o)(2), taking that is incidental to, and not the purpose of, the agency action is not considered prohibited taking within the bounds of the ESA, provided that such taking is in compliance with the terms and conditions of this incidental take statement. Furthermore, the Service must conclude that such taking could occur without violation of section 7(a)(2) of the ESA (jeopardy to the species or critical habitat).

Based on the best information available on the use of the project site by bald eagles and peregrine falcons, the Service anticipates that one individual of each species could be taken as a result of this proposed action. The incidental take is expected to be lethal and caused by electrocution or collision with power lines or wind turbine rotor blades.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize incidental take of bald eagles and peregrine falcons:

1. Develop the project in phases, with incremental section 7 consultation.
2. Continue pre- and post-construction monitoring of bald eagle and peregrine use of the project area, in accordance with the study plan identified in the EIS.
3. Reduce the risk of take from collisions and electrocution through placement and design of project structures.

In order to be exempt from the prohibitions of section 9 of the ESA, the Bureau must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

- 1.a. The Bureau has requested incremental consultation, and this opinion is based on the design of the first phase of facilities at Foote Creek Rim only. The Bureau will request reinitiation of consultation prior to formulating its decision to permit subsequent phases of this project.
- 1.b. As proposed by the project operators, establish a project technical committee to review biological monitoring and study results and to make recommendations on study design and project operation. The team will meet at least quarterly (conference calls may suffice) and will consist of representatives from the Bureau, Service, and Wyoming Game and Fish Department. All biological monitoring reports will be submitted to this group, and the Service will utilize this committee to evaluate the impacts of Phase I on bald eagles and peregrine falcons.
- 2.a. In the case of peregrine or bald eagle take, the project operators shall secure any carcass or other pertinent materials at the scene. This includes protecting a carcass on site in a manner safe from predators and others forms of disturbance. The project operators shall immediately telephone a report of the take to the Wyoming Ecological Field Supervisor, or the nearest available Service special agent. The reporting party shall leave a voice

mail message to document the time of the report, if Service personnel are not available. If the Service is unable to respond soon enough to prevent deterioration of the carcass, the operators should contact a Wyoming Game and Fish Department law enforcement officer for assistance. If the operators determine that a delay in response of the agencies would result in deterioration of a carcass, this term and condition provides authority for removal and further protection of the bird(s), in accordance with the operators' Federal and State salvage permits.

- 2.b. Continue to perform, in coordination with the project technical committee, monitoring studies as outlined in the Bureau's EIS. This includes raptor relative use and density, raptor nest census, territory identification, breeding pair productivity, and raptor mortality.
- 2.c. Retrofit to the extent practicable existing towers and other project structures based on measures found to reduce raptor mortality.
3. Locate turbine strings as far as feasible from the edge of Foote Creek Rim, to reduce the likelihood of soaring eagles or falcons colliding with turbine blades.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these measures, the Service believes that no more than one bald eagle and one American peregrine falcon will be incidentally taken during Phase 1. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take represents new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

To the extent that this statement concludes that take of any threatened or endangered species of migratory bird will result from the agency action for which consultation is being made, the Service will not refer the incidental take of any such migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 USC 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 USC 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein. Because the golden eagle is not a listed species under the ESA, the preceding sentence does not apply to golden eagles. The Service has issued a special purpose permit under the Migratory Bird Treaty Act and 50 CFR 21.27 for this project which covers the take of migratory birds except for ESA listed species and bald and golden eagles.

CONSERVATION RECOMMENDATIONS

Sections 2(c) and 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of listed species. These are suggestions by the Service regarding discretionary measures to minimize and avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or develop information. The Service offers the following conservation recommendations.

1. Evaluate artificial perch structures in areas away from Foote Creek Rim, in coordination with the project technical committee.
2. The Bureau and project sponsors should assist in the development and operation of a worldwide central clearinghouse for reports and other data relating to avian impacts of windpower. The U.S. Department of Energy's National Renewable Energy Laboratory may be advancing the clearinghouse concept in the near future.

This concludes formal consultation on the first phase of the SeaWest/PacifiCorp Windpower Project. The Bureau has agreed to initiate a request for formal consultation on the next and subsequent phases of this project prior to permitting expansion. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that caused an effect on the listed species that was not considered in this opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the proposed action.

If you have any questions regarding this biological opinion, please contact the Wyoming Field Supervisor at 307-772-2374, or Mr. Chuck Davis of my staff at 303-236-7400, extension 235.

Paul E. Gentler

cc: Director, Wyoming Game and
Fish Department, Cheyenne, WY
Bonneville Power Administration,
Portland, OR

Literature Cited

- Brown, W.M. 1993. Avian collisions with utility structures: biological perspectives. In Proc. intl. workshop on avian interaction with utility structures, September 13-16, 1992, Miami, Florida. Electric Power Research Institute and Avian Powerline Interaction Committee, Palo Alto, California.
- Mariah Associates, Inc. 1994. Unpublished wildlife observation data for the KENETECH/ PacifiCorp Windpower Project. Available at Mariah Associates, Inc., Laramie, Wyoming.
- _____. 1995. Biological assessment for the KENETECH/PacifiCorp Windpower Project threatened, endangered, and candidate species. Prepared for the Bureau of Land Management, Rawlins District, Wyoming.
- _____. 1996. Biological assessment for the KENETECH/PacifiCorp Windpower Project threatened, endangered, and candidate species. Prepared for the Bonneville Power Administration, Portland, Oregon.
- _____. 1997. Final SeaWest/KENETECH windfarm development comparison, Carbon Co., Wyoming. Prepared for the Bureau of Land Management, Rawlins District, Wyoming.
- Orloff, S., and A. Flannery. 1992. Wind turbine effects on avian activity, habitat use, and mortality in Altamont Pass and Solano County Wind Resource Areas, 1989-1991. Final report. Prepared for the Planning Departments of Alameda, Contra Costa, and Solano Counties and the California Energy Commission.
- U.S. Fish and Wildlife Service. 1984. American Peregrine Falcon Recovery Plan (Rocky Mountain Southwest Populations). Prepared in cooperation with the American Peregrine Falcon Recovery Team. U.S. Fish and Wildlife Service, Denver, Colorado.

ATTACHMENT 2

Migratory Bird Special Purpose Permit

for

**SeaWest/PacifiCrop
Windpower Project**



United States Department of the Interior

FISH AND WILDLIFE SERVICE Mountain-Prairie Region

IN REPLY REFER TO:

USFWS/PERMITS
MAIL STOP 69400

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228-1807

Mr. Dino J. Pionzio, Jr.
Chief Executive Officer
Seawest Energy Corporation
1455 Frazee Road - Ninth Floor
San Diego, California 92108

APR 8 1997

Dear Mr. Pionzio:

You and those authorized under the attached Migratory Bird Special Purpose Permit, PRT 808690, are authorized to daily salvage, possess, and transport, bald or golden eagle remains, carcasses, or parts located in the applications described windpower site. Such remains will be tagged and retained in accordance with instructions contained in the Migratory Bird Special Purpose Permit. Furthermore, such remains are also subject to the recording/reporting requirements in accordance with instruction contained in the Migratory Bird Special Purpose Permit. Such remains shall only be surrendered to the Casper Special Agent or his designee. Employees salvaging eagles will be held strictly accountable for said collected eagles.

Such activities, as described in the paragraph above, will not be used as the basis for allegations of violations of 16 U.S.C., 668, prohibiting the possession or transportation of any bald or golden eagle. Provided, however, that nothing herein shall be construed as relieving the permittee from allegations of other actions prohibited by 16 U.S.C., 668, including, but not limited to, take and possession/transportation of eagles or their parts thereof when such eagles or parts thereof are not surrendered to authorized agents of the Fish and Wildlife Service.

The term of this Letter of Authorization shall be that of the Special Purpose Migratory Bird Permit.

Sincerely,

John E. Cornely
Migratory Bird Coordinator
Region 6



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(10/86)

FEDERAL FISH AND WILDLIFE PERMIT

AMENDMENT # 1

1. PERMITTEE

SEAWEST ENERGY CORPORATION
1455 FRAZEE ROAD
NINTH FLOOR
SAN DIEGO CA 92108

2. AUTHORITY-STATUTES

16 USC 703-712

REGULATIONS (Attached)

50 CFR Part 13
50 CFR 21.27

3. NUMBER

PRT-808690

4. RENEWABLE

YES
 NO

5. MAY COPY

YES
 NO

6. EFFECTIVE

3/21/97

7. EXPIRES

12/31/97

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)

CHIEF EXEC OFFICER
DINO J. PIONZIO

9. TYPE OF PERMIT

SPECIAL PURPOSE

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

FOOTE CREEK RIM AND SIMPSON RIDGE AREA BETWEEN ARLINGTON AND HANNA IN
CARBON COUNTY, WYOMING

****AMENDMENT #1** CHANGED OWNERSHIP NAME AND MAILING ADDRESS.**

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

And any other person(s) under the direct control of, employed by or under contract to the permittee only to the extent necessary in accomplishing the purpose authorized below.

D. Permittee, and any other person(s), is authorized to take, transport and temporarily possess those migratory bird species as specified in Attachment A.

E. Permittee is NOT authorized to take Bald or Golden eagles under the terms and conditions of this permit. Permittee is NOT authorized to take Threatened or Endangered species under the terms and conditions of this permit unless accompanied by the appropriate permits issued under the Endangered Species Act. For the salvage, collection, transport and possession of Bald and/or Golden eagles or their parts, see the attached Letter of Authorization.

ADDITIONAL CONDITIONS AND AUTHORIZATIONS ON REVERSE ALSO APPLY

12. REPORTING REQUIREMENTS

FIRST ANNUAL REPORT DUE 1/31/98
ANNUALLY BY JANUARY 31 FOR THE PRECEDING CALENDAR YEAR ENDING
DECEMBER 31 AS OUTLINED IN 50 CFR 21.27(C)(1).

ISSUED BY

John E. Lornely
ORIGINAL

TITLE

MIGRATORY BIRD COORDINATOR R-6

DATE

3/21/97

US FISH & WILDLIFE SERVICE
MIGRATORY BIRD PERMIT OFFICE
P.O. BOX 25486, DFC (69400)
DENVER, CO 80225-0486

F. Permittee shall collect all migratory bird carcasses or parts discovered on the windpower site described in Item 10 on the face of this permit and tag such specimens. Each tag shall have the following information: 1) date and location the bird was collected; 2) full printed name of the person who collected the specimen; 3) permit number under which the specimen was collected; and 4) any other information germane to the collection.

G. Permittee shall immediately freeze all tagged specimens and contact the Casper Special Agent at (307) 261-5796, WITHIN 24 HOURS. The Casper Special Agent will provide storage or disposal instructions. In the event a significant or large migratory bird kill occurs on the windpower site, the permittee shall notify the Casper Special Agent IMMEDIATELY. In the event an injured or

otherwise incapacitated migratory bird is discovered on the windpower site, the permittee shall notify the Casper Special Agent IMMEDIATELY.

H. Permittee, and any other person(s), shall carry a copy of this permit, Attachment A and Letter of Authorization whenever exercising its authority.

I. Permittee shall supply interim or completed information relative to the project to the Region 6 Migratory Bird Coordinator upon reasonable request.

J. In the event significant or unanticipated levels of mortality or harm to protected species populations which the U.S. Fish and Wildlife Service deems unacceptable, and an agreement cannot be immediately reached on appropriate equipment modifications or other response measures, the U.S. Fish and Wildlife Service may amend, modify or suspend

the permit pending corrective action by the permittee.

K. Permittee shall maintain records as required in 50 CFR 13.46 and 50 CFR 21.27(c)(1)(2).

L. Permittee shall submit an annual report to the Region 6 Migratory Bird Coordinator which shall include the following information: 1) date and location specimen was collected; 2) species and number collected; 3) full name of person who collected the specimen; and 4) date and method of final disposition. Said annual report shall be due by January 10 for the preceding calendar year.

M. This permit, Attachment A and Letter of Authorization is contingent upon acquisition of appropriate State, County, City or other municipal authorization.

PERMIT INVALID WITHOUT ATTACHMENT A AND
LETTER OF AUTHORIZATION.

Permittee: Seawest Energy Corp
Exp. Date: 12/31/97
PRT#: 808690

US FISH & WILDLIFE SERVICE
MIGRATORY BIRD PERMIT OFFICE
P.O. BOX 25486, DFC (D0400)
DENVER, CO 80225-0486

ATTACHMENT A.

Take for the avian species on the following list is restricted to no more than 10 individuals per species per annum.

Take for all other avian species, except Endangered or Threatened and Golden Eagles, is limited to no more than 100 individuals per species per annum.

ENGLISH NAME	ZOOLOGICAL NAME
1 Red-throated Loon	<i>Gavia stellata</i>
2 Pacific Loon	<i>Gavia pacifica</i>
3 Common Loon	<i>Gavia immer</i>
4 Homed Grebe	<i>Podiceps auritus</i>
5 Red-necked Grebe	<i>Podiceps grisegena</i>
6 American White Pelican	<i>Pelecanus erythrorhynchos</i>
7 American Bittern	<i>Botaurus lentiginosus</i>
8 Least Bittern	<i>Ixobrychus exilis</i>
9 Snowy Egret	<i>Egretta thula</i>
10 Green Heron	<i>Butorides virescens</i>
11 Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
12 White-faced Ibis	<i>Plegadis chihi</i>
13 Trumpeter Swan	<i>Cygnus buccinator</i>
14 Harlequin Duck	<i>Histrionicus histrionicus</i>
15 Oldsquaw	<i>Clangula hyemalis</i>
16 Northern Harrier	<i>Circus cyaneus</i>
17 Northern Goshawk	<i>Accipiter gentilis</i>
18 Broad-winged Hawk	<i>Buteo platypterus</i>
19 Swainson's Hawk	<i>Buteo swainsoni</i>
20 Ferruginous Hawk	<i>Buteo regalis</i>
21 Rough-legged Hawk	<i>Buteo lagopus</i>
22 Gyrfalcon	<i>Falco rusticolus</i>
23 Prairie Falcon	<i>Falco mexicanus</i>
24 Snowy Plover	<i>Charadrius alexandrinus</i>
25 Mountain Plover	<i>Charadrius montanus</i>
26 Upland Sandpiper	<i>Bartramia longicauda</i>
27 Long-billed Curlew	<i>Numenius americanus</i>
28 Wilson's Phalarope	<i>Phalaropus tricolor</i>
29 Franklin's Gull	<i>Larus pipixcan</i>
30 Black Tern	<i>Chlidonias niger</i>
31 Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
32 Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
33 Barn Owl	<i>Tyto alba</i>
34 Burrowing Owl	<i>Athene cunicularia</i>
35 Short-eared Owl	<i>Asio flammeus</i>
36 Lewis' Woodpecker	<i>Melanerpes lewis</i>
37 Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
38 Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>
39 Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>
40 Olive-sided Flycatcher	<i>Contopus borealis</i>
41 Willow Flycatcher	<i>Empidonax traillii</i>
42 Hammond's Flycatcher	<i>Empidonax hammondii</i>
43 Gray Flycatcher	<i>Empidonax wrightii</i>
44 Scissor-tailed Flycatcher	<i>Tyrannus forficatus</i>
45 Purple Martin	<i>Progne subis</i>
46 Violet-green Swallow	<i>Tachycineta thalassina</i>

47 Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
48 Bank Swallow	<i>Riparia riparia</i>
49 Rock Wren	<i>Salpinctes obsoletus</i>
50 Canyon Wren	<i>Catherpes mexicanus</i>
51 Bewick's Wren	<i>Thryomanes bewickii</i>
52 Golden-crowned Kinglet	<i>Regulus satrapa</i>
53 Veery	<i>Catharus fuscescens</i>
54 Wood Thrush	<i>Hylocichla mustelina</i>
55 Gray Catbird	<i>Dumetella carolinensis</i>
56 Northern Mockingbird	<i>Mimus polyglottos</i>
57 Sage Thrasher	<i>Oreoscoptes montanus</i>
58 Sprague's Pipit	<i>Anthus spragueii</i>
59 Northern Shrike	<i>Lanius excubitor</i>
60 Loggerhead Shrike	<i>Lanius ludovicianus</i>
61 Solitary Vireo	<i>Vireo solitarius</i>
62 Red-eyed Vireo	<i>Vireo olivaceus</i>
63 Orange-crowned Warbler	<i>Vermivora celata</i>
64 Virginia's Warbler	<i>Vermivora virginiae</i>
65 Black-throated Gray Warbler	<i>Dendroica nigrescens</i>
66 Ovenbird	<i>Seiurus aurocapillus</i>
67 Lazuli Bunting	<i>Passerina amoena</i>
68 Dickcissel	<i>Spiza americana</i>
69 Green-tailed Towhee	<i>Pipilo chlorurus</i>
70 Cassin's Sparrow	<i>Aimophila cassinii</i>
71 Clay-colored Sparrow	<i>Spizella pallida</i>
72 Vesper Sparrow	<i>Pooecetes gramineus</i>
73 Black-throated Sparrow	<i>Amphispiza bilineata</i>
74 Baird's Sparrow	<i>Ammodramus bairdii</i>
75 Grasshopper Sparrow	<i>Ammodramus savannarum</i>
76 McCown's Longspur	<i>Calcarius mccownii</i>
77 Chestnut-collared Longspur	<i>Calcarius ornatus</i>
78 Bobolink	<i>Dolichonyx oryzivorus</i>
79 Scott's Oriole	<i>Icterus parisorum</i>
80 Hoary Redpoll	<i>Carduelis homemanni</i>

ATTACHMENT 3

Eagle Management Plan

for

**SeaWest/PacifiCrop
Windpower Project**

STOEL RIVES LLP

ATTORNEYS

STANDARD INSURANCE CENTER
900 SW FIFTH AVENUE, SUITE 2300
PORTLAND, OREGON 97204-1268

Phone (503) 224-3380 Fax (503) 220-2480
TDD (503) 221-1045
Internet: www.stoel.com

July 1, 1997



BARBARA D. CRAIG

Direct Dial
(503) 294-9166
bdcraig@stoel.com

VIA FEDERAL EXPRESS

Mr. Chuck Davis
U.S. Fish and Wildlife Service
4000 Morrie Avenue
Cheyenne, WY 82001

Re: Eagle Management Plan for the SeaWest/PacifiCorp Windpower Project

Dear Chuck:

Enclosed is the Eagle Management Plan ("Plan") for the SeaWest/PacifiCorp Windpower Project. The Plan is a compilation of the substantial commitments to mitigation and monitoring of bald and golden eagles during project development, operations and maintenance contained in the draft and final environmental impact statements and the biological assessment and the SeaWest/Kenotech Comparison Report. SeaWest has reviewed the Plan and believes the Plan accurately reflects SeaWest's commitments to conservation measures identified during the development of this Project. This Plan was developed in consultation with the Bureau of Land Management, the Bonneville Power Administration and the U.S. Fish and Wildlife Service, presents the best available scientific information to date and provides for extensive monitoring as well as project modification as additional information becomes available. The Plan measures provide to the maximum extent practicable the avoidance of take of bald and golden eagles. We appreciate your assistance and look forward to a continued cooperative working relationship.

Sincerely,

Barbara D. Craig

Enclosure

cc (w/encl.): Mr. Walt George, Bureau of Land Management (*via Federal Express*)
Mr. Michael Azeka, SeaWest Energy Corporation (*via Federal Express*)
Ms. Sarah McNary, Bonneville Power Administration (*via messenger*)
Mr. Tom Graf, Solicitor's Office (*via Federal Express*)
Mr. Alan Larsen, Eugene Water & Electric Board (*via messenger*)
Ms. Gail Miller, PacifiCorp (*via messenger*)
Mr. Monte Garrett, PacifiCorp (*via messenger*)

Eagle Management Plan
SeaWest/PacifiCorp Windpower Project
Carbon County, Wyoming
July 1, 1997

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I. INTRODUCTION

SeaWest Energy Corporation (SeaWest) proposes to construct a 500-megawatt (MW) windpower facility (Windfarm) in the Foote Creek Rim (FCR) and Simpson Ridge (SR) areas between the towns of Hanna and Arlington, in southeastern Wyoming. SeaWest has applied for a right-of-way (ROW) grant from the Bureau of Land Management (BLM) to construct and access wind turbines and associated facilities on approximately 60,619 acres of federal, state, and private land. Currently, one transmission line is proposed to connect the Windfarm to existing transmission grids to transport the power to buyers in the Pacific Northwest and Rocky Mountain regions. PacifiCorp has applied for a ROW grant to construct a 230-kilovolt (kV) transmission line from the proposed Windfarm at FCR to the existing Miner's substation near Hanna. The SeaWest/PacifiCorp Project Area (SPA) consists of the FCR and SR areas, plus three alternate transmission line routes.

The proposed Windfarm would be constructed in phases. Phase I would consist of approximately 91 - 136 turbines located on top of FCR north of Arlington and would have a generating capacity of up to 68.25 MW. The Bonneville Power Administration (BPA), which proposes to buy a portion of the power from Phase I, is a cooperating agency with the BLM in analyzing the environmental impacts associated with the proposed Windfarm.

In 1995, the BLM, in cooperation with the BPA, prepared draft and final environmental impact statements (EIS) pursuant to the National Environmental Policy Act (NEPA). During the NEPA process, the concern over the potential for birds to collide with wind turbine generators (WTGs) and other Windfarm facilities, and other potential sources of bird mortality related to Windfarm operation and maintenance (O&M), were identified as potentially significant adverse impacts of Windfarm development. Of particular concern were impacts to bald and golden eagles. The objective of this Eagle Management Plan is to summarize actions planned to minimize Windfarm impacts to eagles and other large birds.

During the scoping process, Kenetech Windpower Inc. ("Kenetech") proposed elements in the project design to mitigate Windfarm impacts. SeaWest, in cooperation with the agencies, has made additional changes for mitigation and monitoring during project development and O&M. Potential impacts and mitigation measures are described in detail in the draft and final EIS for the project (BLM 1995a, 1995b), the Biological Assessment (TRC Mariah Associates 1995), and the SeaWest/Kenetech Comparison Report (TRC Mariah Associates 1997).

The bald eagle is listed as a threatened species in the coterminous states of the United States under the federal Endangered Species Act (ESA) (16 USC §§ 1531-1544). Pursuant to the ESA, the BLM and the BPA completed formal consultation with the U.S. Fish and Wildlife Service (USFWS) concerning potential project impacts to the bald

eagle.¹ The USFWS issued a "no jeopardy" biological opinion with an incidental take statement.

All native species of migratory birds in the United States, including bald and golden eagles, are protected under the Migratory Bird Treaty Act (MBTA), 16 USC §§ 703-712. On November 13, 1995, the USFWS issued a special purpose permit to Kenetech (pursuant to 50 CFR § 21.27 and the MBTA), which authorizes the take of up to 10 individuals per year of each species identified in Attachment A of the MBTA permit.² Take of all other migratory avian species, except threatened or endangered species and golden eagles, is limited to no more than 100 individuals per species per year.

Bald eagles and golden eagles are also protected under the Bald and Golden Eagle Protection Act, 16 USC § 668. The Eagle Management Plan consolidates information from the draft and final EIS for the project (BLM 1995a, 1995b), the Biological Assessment (TRC Mariah Associates 1995), the Final Biological Opinion (USFWS 1995), 1995-1996 monitoring studies (West 1997), and the comparison report (TRC Mariah Associates 1997) regarding the conservation measures that should avoid to the maximum extent practicable the take of bald and golden eagles. Commensurate with analysis presented in the EIS, this Eagle Management Plan focuses on Phase I impacts and mitigation measures based on data collected through March 1996. As monitoring progresses and more data are collected, the Eagle Management Plan will be modified to reflect new information and additional mitigation measures may be recommended for future phases of development. Any modifications would be consistent with future NEPA documents, which would be prepared as additional phases are proposed. This Eagle Management Plan was developed in consultation with the USFWS, presents the best available scientific information to date, and provides for extensive monitoring as well as project modification as additional information becomes available.

II. TAXONOMY, LIFE HISTORY, AND HABITAT OF THE BALD AND GOLDEN EAGLE

A. Bald Eagle

Bald eagles (*Haliaeetus leucocephalus*) are widely distributed throughout North America and are often associated with large bodies of water (Newton 1979:52). Bald eagles typically build their nests on prominent features that overlook aquatic foraging areas and usually migrate during the winter months in response to prey availability (Stalmaster 1976, Swenson et al. 1986). This species is characterized by opportunistic foraging behavior and

¹ In addition, the BLM and the BPA consulted with the USFWS regarding potential impacts to the peregrine falcon, an endangered species protected under the ESA.

² On December 16, 1996, the U.S. Bankruptcy Court for the Northern District of California ordered the sale of the Wyoming windpower project and all associated assets and permits from Kenetech to SeaWest, including the MBTA permit. The USFWS revised the MBTA permit on March 21, 1997 to reflect that SeaWest is the designated permittee.

frequently scavenges for animal carcasses such as elk and deer during winter migrations. Population declines of bald eagles are related to habitat destruction, shooting, and environmental pollutants (Sprunt et al. 1973, Wiemeyer et al. 1984, Anthony et al. 1982, 1994). Due to recovery efforts, the bald eagle was reclassified in 1995 from endangered to threatened throughout the lower 48 states (FR 60 (133): 36000-36010). Most recovery goals for bald eagles are directed toward the breeding population. The number of breeding areas in Wyoming has increased from five in 1982 to 25 in 1995 (Greater Yellowstone Bald Eagle Working Group, referenced in Final Biological Opinion [USFWS 1995]).

Raptor nesting surveys were conducted between May and August 1994 (BLM 1995a) and between April and July 1995 (West 1997) in the SPA (including both the FCR and SR areas). Nesting surveys in 1994 included a 16-km buffer around FCR and a 3.2-km buffer around SR and the three transmission line routes. In 1995, nesting surveys also included a 16-km buffer around the SR area. Use surveys were conducted between February 1994 and March 1995 (BLM 1995b) and between March 1995 and March 1996 (West 1997). Use surveys were conducted from observation stations within the study areas (methods described in Thomas et al. [1995] and West [1997]).

During 1994, one active bald eagle nest was documented approximately 3.2 km south of SR; one young successfully fledged from this nest (BLM 1995a). Continued monitoring in 1995 found two active nests in the SPA (1.5 young/nest; West 1997). Use surveys documented 37 bald eagle observations in the FCR area and 13 observations in the SR area in 1994. Monitoring studies in 1995-1996 documented bald eagle use infrequently (1.3 percent of surveys) only in the FCR area during winter (West 1997). No known communal roosts exist within the SPA, but it is likely that cottonwood trees along the Medicine Bow River, Rock Creek, Foote Creek, and other perennial drainages are regularly used as perches in winter (BLM 1995a).

B. Golden Eagle

Golden eagles (*Aquila chrysaetos*) are widely distributed throughout the world and typically build their nests on cliffs or rocky escarpments that provide access to prey (Terres 1980:478). Golden eagles forage primarily on small mammals, such as ground squirrels and lagomorphs (Beecham and Kochert 1975). Golden eagles perch during hunting, feeding, territorial broadcasting, and resting. Perch locations probably coincide with hunting opportunities. Most golden eagles in North America migrate when prey numbers decline in their northern range (Terres 1980). Olendorff et al. (1981) reported an estimated 63,000 golden eagles in the arid grasslands and shrublands of the western United States. Analysis of data from migration censuses from the late 1970s through 1991 suggests an annual decline of 6.1 percent for the golden eagle population in western United States (Hoffman et al. 1992). Lehman et al. (1993) reported that the number of occupied golden eagle nesting areas in the Snake River Birds of Prey Area, Idaho, has declined significantly since the late 1970s; however, actual numbers were only slightly lower and productivity (young/occupied site) was higher than the previous 10 years. Causes of golden eagle mortality include poisoning,

shooting, electrocution associated with power lines, and collisions with power lines and wind turbines (Newton 1979, Orloff and Flannery 1992, APLIC 1996).

Raptor nesting surveys were conducted between May and August 1994 (BLM 1995a) and between April and July 1995 (West 1997) in the SPA (including both the FCR and SR areas). Nesting surveys in 1994 included a 16-km buffer around FCR and a 3.2-km buffer around SR and the three transmission line routes. In 1995, nesting surveys also included a 16-km buffer around SR. Use surveys were conducted between February 1994 and March 1995 (BLM 1995a) and between March 1995 and March 1996 (West 1997). Use surveys were conducted from observation stations within the study areas (methods described in Thomas et al. [1995]).

During the 1994 nesting surveys, five active golden eagle nests were located within the SPA (one nest was located within 3.2 km of an alternate transmission line ROW); all nests successfully produced young. An additional 38 inactive nests were also located (BLM 1995b). In 1995, eight active nests were monitored in the FCR area (0.88 young/nest), and eight active nests were monitored in the SR area (0.63 young/nest) (West 1997).

Golden eagles composed the majority of raptor observations (43 percent) during raptor use surveys of the FCR area in 1994 (pers. comm., Diane Thomas, TRC Mariah Associates Inc., February 1996). Eagles were observed most frequently along the west side of FCR. It is likely that a combination of favorable winds for soaring, a substantial prey base, and preferred perch sites are present in these areas (BLM 1995b). During 1995-96, golden eagles were the most frequently observed raptor during all seasons at FCR, with highest use occurring in the fall season (1.48/survey) (West 1997). Eagle use of FCR was concentrated on the western side and within 50 m of the rim's edge. There was less raptor use documented at the SR area, but the golden eagle was the most common species during fall (0.12/survey) and winter (0.13/survey). Highest use was on north-south oriented ridges with steep slopes.

III. POTENTIAL IMPACTS OF THE PROPOSED PROJECT ON BALD AND GOLDEN EAGLES

Potential impacts to golden and bald eagles from development and operation of wind generating facilities at FCR (Phase I of Windfarm development) could be direct or indirect (BLM 1995a). The direct effect would be Windfarm-related mortality; indirect effects would include changes in essential habitat components (e.g., prey availability and nesting sites) and which may affect mortality and reproductive success.

Collision-related mortality at windpower facilities is related to raptor abundance, behavior, and flight characteristics (Howell and DiDonato 1991, Howell and Noone 1992, Orloff and Flannery 1992). Given that these characteristics may contribute to the probability of turbine collision, the most abundant species that fly at rotor height may have the greatest risk of collision. Golden eagles were the most commonly observed raptor species in the FCR area during 1994-95 surveys. West (1997) developed a relative index of risk based on mean

use, time spent flying, and proportion of flight heights within the rotor-swept area. Based on monitoring during 1994-95 and 1995-96, 53 percent and 49 percent, respectively, of eagles in the FCR area were observed flying at rotor height (BLM 1995b, West 1997). A tendency to fly within the rotor-swept area on the rim edge was consistently observed for golden eagles and other raptors. Calculations of relative risk for raptors and other large birds suggest that the golden eagle is the species at greatest risk of turbine collision during all seasons in the FCR area.

The rotor-swept area categories used for monitoring from 1994-96 were based on turbines originally proposed by Kenetech (BLM 1995b); in comparison, the rotors proposed by SeaWest would be slightly larger and higher. Thus, those species that tend to fly at heights of >20 m (e.g., buteo hawks and eagles) may be at greater risk of collision per turbine under the current proposal (TRC Mariah Associates 1997). However, analysis of data collected at Altamont Pass suggests that rotor-swept area per turbine may not be an important factor in the probability of raptor collision (Orloff and Flannery 1996). Further, the larger rotor-swept area per turbine may be offset by the installation of 65 to 110 fewer turbines under the current proposal. Preliminary study by Howell (1995) suggested that the number of turbines present may be more important than rotor-swept area. Under the current proposal, the effect of rotor-swept area on mortality is unknown, but mortality due to collision will be monitored beginning with Windfarm development.

Orloff and Flannery (1992) reported that golden eagles were killed more often than expected based upon their abundance at Altamont Pass, California. Based on mortality rates reported at Altamont Pass, the annual loss of golden eagles for Phase I of the Windfarm would range from 0.002 to 0.005 per turbine per year, or 0.4 to 1.01 golden eagles per year (pers. Comm., Sue Orloff, Ibis Environmental Services, February 1996). However, due to numerous physical and biological differences between the California and the Wyoming windfarm sites, this mortality estimate will probably change as data are collected during monitoring. For example, golden eagles are more abundant on the SPA than at the California windfarm. In California, carcasses were primarily recovered from turbines on lattice towers; the Windfarm will utilize only tubular towers (see below). There is little information on population structure for golden eagles at the FCR area. Because total number of nesting territories and geographic origins of resident birds and their movement patterns are unknown for this area, potential impacts on golden eagles are difficult to quantify.

Mortality or injury to bald eagles may occur as a result of the Windfarm (USFWS 1995). However, only 37 observations of bald eagles occurred in the FCR area during the 1994 surveys, and bald eagles were infrequently observed during winter in subsequent monitoring (BLM 1995b, West 1997). Further, the SPA has not been identified as critical habitat for the bald eagle. No bald eagle carcasses have been recovered from the California windfarms; thus there are no data with which to estimate mortality due to collision at the SPA (BLM 1995a). But because bald eagles are probably present year-round in the SPA, mortality due to collision may occur during the life of the project ("LOP"). Bald eagle mortality will be monitored beginning with Windfarm development.

Other windfarm facilities may also impact bald and golden eagles. In Altamont Pass, 11 percent of raptor deaths were attributed to collisions with electrical and guy wires and electrocution caused 8 percent of raptor deaths (Orloff and Flannery 1992). Although considered an unusual event, bald eagle collisions with power lines have been documented (Olendorff and Lehman 1986). Collisions may occur when wires transect daily flight paths and high-velocity winds push birds into the lines (Brown 1993). Electrocution may occur when large birds perch on power poles, especially riser or other poles with additional electrical hardware (Orloff and Flannery 1992, APLIC 1996). Construction standards used in the development of the Windfarm are designed to avoid these impacts (see below).

Food availability is one of the primary factors that potentially limits raptor populations (Newton 1979). Phase I would result in construction of roads, turbine strings, and power lines that would at least temporarily reduce foraging areas for eagles. Impacts of Phase I on prey populations are unknown but would be monitored beginning with Phase I development (see below). If prey availability decreases, raptor reproductive success and winter survival could also decrease. If prey increases, reproductive success may improve, but more raptors may be attracted to the Windfarm, which could result in increased collisions. However, because wind generating facilities at FCR are expected to permanently modify only 68 acres (1.4 percent of the FCR area), it is believed that prey populations will not appreciably change due to Windfarm operation throughout the LOP (BLM 1995a, TRC Mariah Associates 1997).

Given the large number of active raptor nests found during surveys (e.g., 65 and 122 total nests in 1994 and 1995, respectively, and 4 and 10 eagle nests in the FCR area) (BLM 1995b, West 1997), suitable nest sites are probably not limiting for most species of raptors within the SPA that typically nest in open, arid grasslands. Disturbance of active eagle nest sites will be avoided or minimized by following the procedures outlined below. Bald eagles generally nest near aquatic ecosystems that provide abundant prey and large dominant trees to support their nests (Anthony et al. 1982). Parts of the SPA may provide suitable habitat for winter perching by bald eagles (Bob Oakleaf, pers. comm., Wyoming Game and Fish [WGF]), and it is likely that bald eagles use the areas for foraging throughout the year (BLM 1995a). The grass/sagebrush habitat within the FCR project boundary is not believed to provide suitable habitat for nesting by bald eagles, but habitat suitable for nesting is available along the Rock Creek drainage adjacent to FCR.

IV. CONSERVATION MEASURES TO AVOID TAKE OF BALD AND GOLDEN EAGLES

Recent research on windpower projects has suggested factors that contribute to avian mortality at windpower developments (Howell and DiDonato 1991, Howell and Noone 1992, Orloff and Flannery 1992, 1996; ref. in Colson and Associates 1995). These include higher mortality associated with:

- windpower developments located in bird migration corridors and areas of high bird concentrations;
- WTGs located at the end of turbine strings, closer to canyon edges, and in proximity to high-density prey populations;
- increased perching opportunities provided by turbines supported on lattice towers;
- WTGs with a higher number of operating hours; and
- WTGs with higher rotor tip speeds.

It is unclear whether larger turbines (greater rotor-swept area) contribute to increased mortality, but a preliminary study suggested that the number of turbines is a more important factor than the amount of rotor-swept area (Howell 1995).

Based on research of windpower effects on raptors and results of studies in the SPA, on-site measures to avoid take of bald and golden eagles during Phase I include the following:

1. Siting options have taken into consideration the entire annual cycle and pattern of eagle use of FCR. The size and physical configuration of the Phase I development, turbine spacing, and locations of turbine strings will be evaluated with respect to eagles and their activities in the area. High-use areas and known nesting areas will be considered when evaluating siting options and avoided, whenever possible. Suggested disturbance buffers for wintering eagles will be strictly adhered to (Holmes et al. 1993).
2. Only six to eight turbine strings will be constructed; thus the number of end-row turbines will be 12 - 16, and 12 - 25 turbines will be located within 50 m of the rim's edge. No WTGs will be located on Arlington Peak, an area heavily used by raptors.
3. Turbines and towers will be designed to reduce the likelihood of collisions by reducing perching opportunities. Only tubular towers will be used with no railings, walkways, ladders, or other potential bird perching sites.

4. Turbine rotors and nacelles will be coated with paint that is highly reflective in the ultraviolet range, which may improve visibility to birds under a range of conditions. Selection of appropriate paint will be in consultation with the USFWS.
5. All within-plant collection and communication lines will be buried to reduce the potential for electrocution and to reduce potential perching substrate that may attract birds near project facilities. Only two power/riser poles will be installed and constructed to raptor-safe standards (APLIC 1996).
6. If bald eagle winter communal roosting areas are found, a no surface occupancy restriction will be applied to a 1.6-km buffer zone around the roosts, and the area will be closed to surface-disturbing activities (e.g., construction) from November 1 through April 1. However, normal operation of Windfarm facilities will be allowed.
7. If active (i.e., used within the last three years) bald eagle nests are found, no surface disturbance or construction activity will be allowed within a 1.6-km radius buffer zone around the nests during the nesting season (February 1 through July 31). However, normal operation of Windfarm facilities will be allowed.
8. Construction within 1.2 km of active golden eagle nest sites will be avoided during the nesting season (February 1 through July 31). However, normal operation of Windfarm facilities will be allowed. If construction must occur within the area, it will occur outside the nesting season.
9. Approval from the BLM authorizing officer (AO), in consultation with the technical committee (see below), will be obtained before construction or any other surface disturbing activity in restricted areas during restricted periods described in 7-9 above.
10. When necessary, based on monitoring and consultation with the technical committee, power lines will be marked with visibility devices following state-of-the-art practices (APLIC 1994).

Windfarm impacts on golden and bald eagles are part of continuing study in the SPA (BLM 1995b, West 1997). Because the magnitude of impacts are not completely understood at this time, monitoring will be an integral part of the mitigation program.

V. MONITORING

Results of site-specific studies within the SPA have been used to design an intensive monitoring program for the entire SPA, beginning with Phase I (BLM 1995a, 1995b). The monitoring program will help determine project impacts on raptors and will also assist in

the development of appropriate mitigation measures for future phases of Windfarm development. During monitoring, there will be two reference areas (i.e., the Morton Pass area and SR before development) to compare with the FCR area. The Morton Pass reference area was evaluated during the initial field season to determine its suitability (West 1997). The FCR area and reference areas are similar in terms of topography and habitat features. The same sampling methods, intensity, and frequency are being used to compare raptor use and relative abundance in the three areas.

The protocol for monitoring combines pre- and post-construction data from baseline studies and subsequent monitoring activities (before/after) with data from reference and development areas (control/treatment). By sampling both the reference area and the development areas before and after windpower development, both temporal and spatial controls are utilized, optimizing the design impact (Green 1979).

Monitoring activities include relatively intensive surveys of bald and golden eagles and other large raptors. Several outcomes are possible from monitoring studies. For example, a decline in eagle use on the FCR (i.e., the area with wind turbines) without a similar decline on the reference area may be interpreted as evidence of an effect of windpower development. The presence of carcasses near turbines or a decline in nesting activity increases the weight of evidence that an effect can be attributed to windpower. A decline in use of both the reference and development area coupled with few to no carcasses may be interpreted as a population response unrelated to the Windfarm.

The level at which mortalities are considered significant from a population perspective depends on the species involved. A significant number of carcasses associated with a decline in use relative to the reference area or a decline in number of active nests may be interpreted as a probable population effect. These efforts will yield indices of population effects. If evidence indicates significant negative impacts to eagles, additional, more detailed studies may be necessary to determine the significance of impacts (e.g., the effect of mortalities on the dynamics of the populations).

Specific monitoring tasks include the following:

1. Point-count surveys for eagles (and other raptors) to estimate the spatial and temporal use of the FCR area and the reference areas.
2. Nest surveys to evaluate the number and distribution of nesting eagles (and other raptors) that may be potentially influenced by the project.
3. Prey availability studies to determine an index of prey availability within a 16-km buffer of the FCR and the reference areas.

4. Avian carcass searches to determine the level of direct mortality associated with turbines, adjusted for scavenging and detectability biases. The frequency of carcass searches will be based on scavenging tests conducted before beginning the searches.

More detailed descriptions of these studies are presented in West (1997). These studies are equivalent to those included in the Final Biological Opinion (USFWS 1995). For all parameters, data will be plotted by survey date for the FCR area and the permanent reference area. For many of the parameters estimated, statistical comparisons will be made (1) between the FCR and the reference areas and (2) between data collected pre- and post-construction within the study areas, using randomizing tests and the computer package RT (Manly 1991). Significance levels (*i.e.*, p-values) will be reported, and those below $\alpha=0.10$ (one-tailed) will be judged as significant.

As a component of the Monitoring Plan, a technical committee has been meeting informally to assist the BLM in evaluating and weighing information collected during monitoring, identifying project impacts, and evaluating mitigation measures (BLM 1995b). The technical committee will be formally established within six weeks of the Notice to Proceed. The technical committee will advise the BLM AO throughout the development of Phase I and all subsequent phases of project development. The technical committee will consist of personnel representing the BLM, the USFWS, and the WGF. The technical committee's principal objectives will be to identify project-related impacts on wildlife and develop additional proposed mitigation measures for any unexpected impacts identified. The committee will meet a minimum of once annually but may conduct more frequent meetings, especially during initial review of monitoring information. All meetings of the committee will be open to the public.

SeaWest will prepare an annual monitoring and technical report. The report will include a description of the technical committee activities for the year and a discussion of the committee's recommendations and SeaWest's actions.

The technical committee will be disbanded when it is determined that monitoring is no longer necessary. Monitoring will be terminated if (1) impacts are shown to be minimal and adequately mitigated (as determined by the AO in consultation with the USFWS) or (2) the Windfarm is decommissioned and all disturbed areas are reclaimed.

VI. REFERENCES

- Anthony, R.G., R.L. Knight, G.T. Allen, B.R. McClelland, and J.I. Hodges. 1982. Habitat use by nesting and roosting bald eagles in the Pacific Northwest. *Trans. N. Am. Wildl. Nat. Res. Conf.* 47:332-342.
- _____, R.W. Frenzel, F.B. Isaacs, and Garrett. 1994. Probable causes of nesting failures in Oregon's bald eagle population. *Wildl. Soc. Bull.* 22:576-582.
- Avian Power Line Interaction Committee (APLIC). 1994. Mitigating bird collisions with power lines: the state of the art in 1994. Edison Electric Institute. Washington, D.C.
- _____. 1996. Suggested practices for raptor protection on power lines: the state of the art in 1996. Avian Power Line Interaction Committee. Edison Electric Institute. Washington, D.C.
- Beecham, J.J., Jr., and M.N. Kochert. 1975. Breeding biology of the golden eagle in southwestern Idaho. *Wilson Bull.* 87:506-513.
- Brown, W.M. 1993. Avian collisions with utility structures: biological perspectives. Pages 1-21 - 12-13 In: Proc. Intl. Workshop on avian interactions with utility structures, September 13-16, 1992, Miami, Florida. Electric Power Research Institute and Avian Power Line Interaction Committee.
- Bureau of Land Management. 1995a. Draft environmental impact statement: KENETECH/PacifiCorp windpower project, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Laramie, Wyoming.
- _____. 1995b. Final environmental impact statement: KENETECH/PacifiCorp windpower project, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Laramie, Wyoming.
- Green, R.H. 1979. Sampling design and statistical methods for environmental biologists. Wiley, New York.
- Hoffman, S.W., S.R. DeRagon, J.C. Bednarz. 1992. Patterns and recent trends in counts of migrant hawks in western North America 1977-1991. Unpubl. rep. HawkWatch International. 147 pp.
- Holmes, T.L., R.L. Knight, L. Stegall, G.R. Craig. 1993. Responses of wintering grassland raptors to human disturbance. *Wildl. Soc. Bull.* 21:461-468.

- Howell, J.A., and J.E. DiDonato. 1991. Assessment of avian use and mortality related to wind turbine operations, Altamont Pass, Alameda and Contra Costa Counties, California. September 1988 through August 1989. Final report. Prepared for U.S. Windpower, Inc., Livermore, California. 72 pp.
- _____, and J. Noone. 1992. Examination of avian use and mortality at a U.S. Windpower wind energy development site, Montezuma Hills, Solano County, California. Prepared for Solano County Dept. Environ. Manage., Fairfield, California. 41 pp.
- _____. 1995. Avian mortality at rotor swept area equivalents, Altamont Pass and Montezuma Hills, California. Unpubl. Report prepared for Kenetech Windpower, San Francisco, California. 12 pp.
- Lehman, R.M., K. Steenhof, M.N. Kochert, and L.B. Carpenter. 1993. Raptor abundance and reproductive success in the Snake River Birds of Prey Area. Pages 12-39 in Snake River Birds of Prey Area 1993 Annual Report. K. Steenhof, ed. USDI Bureau of Land Manage. 371 pp.
- Manly, B.F.J. 1991. Randomization and Monte Carlo methods in biology. Chapman and Hall. New York. 281 pp.
- TRC Mariah Associates Inc. 1995. Final Biological Assessment for the KENETECH/PacifiCorp Windpower Project; Threatened, Endangered, and Candidate Species. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 77 pp.
- _____. 1997. SeaWest/KENETECH windfarm development comparison, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 87 pp.
- Newton, I. 1979. Population ecology of raptors. Buteo Books. Vermillion, South Dakota. 399 pp.
- Olendorff, R.R., and R.N. Lehman. 1986. Raptor collisions with utility lines: an analysis using subjective field observations. Pacific Gas and Electric Co., San Ramon, California. 73 pp.
- _____, A.D. Miller, and R.N. Lehman. 1981. Suggested practices for raptor protection on power lines: the state of the art in 1981. Raptor Research Report No. 4, Raptor Research Foundation, Inc. 111 pp.
- Orloff, S., and A. Flannery. 1992. Wind turbine effects on avian activity, habitat use, and mortality in Altamont Pass and Solano County Wind Resource Areas, 1989-1991. Final report. Prepared for the Planning Departments of Alameda, Contra Costa, and Solano Counties and the California Energy Commission.

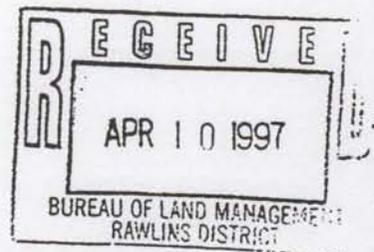
- _____. 1996. A continued examination of avian mortality in the Altamont Pass Wind Resource Area. Prepared for the California Energy Commission by Biosystems Analysis, Inc., Santa Cruz, California. 52 pp.
- Sprunt, A., W.B. Robertson, Jr., S. Postupulsky, R.J. Hensel, C.E. Knoder, and F.J. Ligas. 1973. Comparative productivity of six bald eagle populations. *Trans. N. Am. Wildl. Nat. Res. Conf.* 38:96-106.
- Stalmaster, M.V. 1976. Winter ecology and effects of human activity on bald eagles in the Nooksack River Valley, Washington. M.S. Thesis, Western Washington State College, Bellingham. 100 pp.
- Swensen, J.E., K.L. Alt, and R.L. Eng. 1986. Ecology of bald eagles in the Greater Yellowstone ecosystem. *Wildl. Monogr. No. 95.* 46 pp.
- Terres, J.K. 1980. *The Audubon Society encyclopedia of North American birds.* Alfred A. Knopf, New York. 1109 pp.
- Thomas, D.M., J.M. Ward, and R. Pickering. 1995. Baseline avian studies for the Proposed Kenetech/PacifiCorp Wyoming windplant. MAI Project 11071. TRC Mariah Associates Inc., Laramie, Wyoming.
- U.S. Fish and Wildlife Service. 1986. Recovery plan for the Pacific bald eagle. U.S. Fish and Wildl. Serv., Portland, Oregon. 160 pp.
- U.S. Fish and Wildlife Service. 1995. Final biological opinion for KENETECH/PacifiCorp windpower project. U.S. Fish and Wildl. Serv., Cheyenne, Wyoming. 15 pp.
- Western EcoSystems Technology, Inc. (West). 1997. 1995-1996 Wildlife monitoring studies, SeaWest windpower plant, Carbon County, Wyoming. Prepared for SeaWest Energy Corporation and Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 153 pp.
- Wiemeyer, S.N., T.G. Lamont, C.M. Bunck, C.R. Sindelar, F.J. Gramlich, J.D. Fraser, and M.A. Byrd. 1984. Organochlorine pesticide, polychlorobiphenyl, and mercury residues in bald eagle eggs--1969-79--and their relationships to shell thinning and reproduction. *Arch. Environ. Contam. Toxicol.*

ATTACHMENT 4

Memorandum of Agreement

for

**Phase 1 of the
SeaWest/PacifiCrop
Windpower Project**



MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF LAND MANAGEMENT
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
AND THE WYOMING STATE HISTORIC PRESERVATION OFFICER
REGARDING THE SEA WEST/PACIFICORP PHASE 1 WINDPOWER PROJECT

WHEREAS, the Bureau of Land Management, Great Divide Resource Area (BLM), proposes to issue a Right-of-Way grant for the Sea West/Pacificorp (Sea West) Windpower Project under a Memorandum of Understanding among the BLM Sea West, and the Bonneville Power Administration which designates the BLM as the lead Federal agency; and

WHEREAS, the BLM has determined that the Phase 1 Windpower project, located in Sections 5, 6, 7, 18, 19, T.19N., R.78W; Section 24, T.19N., R.79W; Sections 20, 21, 28, 29, 32, 33, T.20N., R.78W., will have an adverse effect upon 48CR5834, a property eligible for inclusion in the National Register of Historic Places and has consulted with the Advisory Council on Historic Preservation (Council) and the Wyoming State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act; (16 U.S.C. 470f); and

WHEREAS, Sea West, the Medicine Wheel Coalition for Sacred Sites of North America (Coalition) and the Eastern Shoshone Tribe participated in consultation and have been invited to concur in this Agreement; and

WHEREAS, all parties to this Agreement acknowledge that the inherent nature of this project is such that the Agreement will not adequately mitigate some of the adverse effects to the historic property, particularly the destruction of spiritual values which make the property significant to Native Americans, but the parties have concluded that this document reflects the best possible mitigation measures given the nature of the project; and

WHEREAS, the BLM has a unique legal relationship with Indian Tribes and Indian people and, in recognition of its responsibilities under the American Indian Religious Freedom Act (AIRFA) and Executive Order 13007 and by extension its own policies on Native American coordination and consultation in accordance with Manual Section 8160 and Handbook H-8160-1, the BLM seeks to develop mutually acceptable ways to avoid or minimize disturbance of traditional Native American sacred places and to provide opportunities for Native Americans to carry out traditional religious practices. A letter, attached as Appendix B, documents these efforts to date; and

WHEREAS, the Coalition, on behalf of all Native Americans, has signed an agreement with affected private landowners to provide access to Native Americans for ceremonial purposes (see attached

agreement);

NOW, THEREFORE, the BLM, the Council, and the SHPO agree that the Phase 1 Windpower Project shall be administered in accordance with the following stipulations to satisfy the BLM's Section 106 responsibility for all individual undertakings of the program.

STIPULATIONS

All parties to this MOA agree to carry out the following measures that fall within their area of responsibility as set forth herein:

1. BLM and Sea West will ensure that all facilities associated with Phase 1 of the Windpower Project (turbines, roads, electrical corridors, etc.) will be sited in accordance with the map attached as Appendix A.
2. All features located within 150 feet of construction will be protected from construction by a fence. The fence will consist in large wooden or metal posts, placed at intervals not to exceed 50 feet with one strand of cord (i.e. mason's line) run between the posts.
2. BLM will ensure that Native Americans will have access to all public lands within the project area which are not otherwise limited by access to private lands, unless specifically agreed to by private land owners as per the attached agreements.
3. Sea West, in coordination with the BLM, will provide training for all workers associated with the construction and maintenance of the project with regard to the importance of the cultural features of the historic property and the possible penalties to individuals who might disturb those cultural features. Workers shall also specifically be informed that cement trucks will not be washed out on Foote Creek Rim itself.
4. All construction will be monitored by an archaeologist hired by Sea West and permitted by BLM under the Archaeological Resources Protection Act (ARPA) to ensure avoidance of all features. The parties shall also be permitted to have site visits on at least a monthly basis, should they so choose, to monitor construction activity. If any previously undiscovered cultural material is discovered during construction of Phase I, BLM shall notify the parties to this Agreement immediately and shall consult with the parties regarding the proper treatment of the discovery in accordance with the provisions of 36 CFR 800.11. If any grave sites are discovered as a result of Phase I construction, BLM and Sea West agree that they will immediately notify and consult with the parties to this Agreement and the affected landowner(s) and, in the case of

Federal Land, the BLM will fully comply with BLM policy for inadvertent discovery of human remains and the requirements of the Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001 et seq. Every effort will be made to preserve such discoveries in situ if at all possible.

5. Sea West will allow Native Americans the opportunity to hold a ceremony at the project location prior to all construction and again after construction is completed.
6. Any offerings left by Native Americans for ceremonial purposes will not be removed or disturbed in any fashion by parties to this agreement.
7. Sea West will place prominent signs on all project access roads to the Project Area stating as follows: "NO TRESPASSING WITHOUT AUTHORIZATION OF THE LANDOWNER OR PROJECT DEVELOPER. VIOLATORS WILL BE PROSECUTED." Where necessary, Sea West agrees to obtain the approval of private landowners to place such signs on their property.
8. Upon signing of this MOA, all parties will enter into a good faith discussion to develop a Programmatic Agreement (PA) that will guide Native American consultation for future phases of the Sea West/Pacificorp Windpower Project. The PA discussions will address identification of sacred sites, requirements and standards for ethnographic and archaeological investigations, and potential mitigation measures. The goal of the PA will be to create a process whereby future phases of the project avoid damaging or disturbing traditional cultural and sacred places located in the Project Area, including the integrity of setting, feeling and association of those sites, to the maximum extent feasible.
9. The BLM and Sea West agree that the "Plan of Development" to be approved for this project will require Sea West to restore and reclaim the land in the Project Area when the project is abandoned and will include provisions requiring that all structures associated with the Windpower Project be removed from Foote Creek Rim within a limited and reasonable time frame after abandonment. The BLM agrees to circulate the "Plan of Development" to the parties to this agreement at least 10 days prior to its approval for their review. Sea West agrees that it will restore and reclaim the land and remove structures on private land within the Project Area to the same extent required by the "Plan of Development" for public lands that are part of the project area.
10. This Memorandum of Agreement expires at the time Sea West's Right-of-Way grant expires. Should the Right-of-Way grant be renewed without changes to the provisions of the grant, this Agreement shall continue coincident with the renewal

grant. If new provisions of the renewal grant could have an effect on historic properties, the grant shall be considered a new undertaking and will be subject to consultation with the Council, SHPO, and others in accordance with 36 CFR Part 800 regulations. The BLM shall notify the parties to this Agreement of pending expiration or renewal of the grant 30 days prior to either action.

11. The BLM, SHPO, or the Council may terminate this Memorandum of Agreement by providing 30 days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.
12. Should any party to this Agreement object within 30 days to any plans provided for review or actions proposed pursuant to the stipulations of this Agreement, the BLM shall consult with the objecting parties to resolve the objection. If the BLM determines that the objection cannot be resolved, the BLM shall forward all relevant documentation to the Council. Within 30 days of receipt of all pertinent documentation, the Council will either:
 - a. provide the BLM with recommendations, which the BLM will take into account in reaching a final decision regarding the dispute; or
 - b. notify the BLM that it will comment pursuant to 36 CFR Section 800.6(b). Any Council comment provided in response to such a request will be taken into account by the BLM in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; the responsibility of all parties to this agreement to carry out actions under this Agreement that are not subjects of the dispute will remain unchanged.
13. Any party to this Agreement may request that it be amended, whereupon the BLM, Council and SHPO will consult in accordance with Section 800.5(e) to consider such amendment. All parties, including the concurring parties, will be consulted regarding any amendments to the Agreement.

Execution of this Memorandum of Agreement and implementation of its terms evidence that the BLM has afforded the Council an opportunity to comment on the Phase 1 Windpower Project and its effects on historic properties, and that the BLM has taken into account the effects of the Phase 1 Windpower Project on historic properties.

BUREAU OF LAND MANAGEMENT, RAWLINS DISTRICT

BY: Kurt J. Kottler DATE: 4/3/97
TITLE: Rawlins District Manager

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: Alan W. Soule DATE: 5/23/97
TITLE: Acting Ex Dir.

WYOMING STATE HISTORIC PRESERVATION OFFICER

BY: John J. Keck DATE: 4/9/97
TITLE: _____

CONCUR

SEA WEST ENERGY LAND ASSOCIATES, LLC by: SEAWEST ENERGY CORPORATION, MEMBER
BY: [Signature] DATE: 6/24/97
TITLE: SR. vice president

MEDICINE WHEEL COALITION FOR SACRED SITES OF NORTH AMERICA

BY: _____ DATE: _____
TITLE: _____

EASTERN SHOSHONE TRIBE

BY: _____ DATE: _____
TITLE: _____

BUREAU OF LAND MANAGEMENT, RAWLINS DISTRICT

BY: Kurt J. Kotter
TITLE: Rawlins District Manager

DATE: 4/3/97

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: _____
TITLE

DATE: _____

WYOMING STATE HISTORIC PRESERVATION OFFICER

BY: _____
TITLE

DATE: _____

CONCUR

SEA WEST

BY: _____
TITLE

DATE: _____

NORTHERN ARAPAHO TRIBE

BY: Richard Brannan
Richard Brannan, Chairman

DATE: 6-23-97

BY: Francis Brown
Francis Brown, Traditional Leader

Date: 6/24/97

ATTACHMENT 2

Migratory Bird Special Purpose Permit

for

**SeaWest/PacifiCrop
Windpower Project**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Mountain-Prairie Region

IN REPLY REFER TO:

USFWS/PERMITS
MAIL STOP 69400

MAILING ADDRESS:
Post Office Box 25486
Denver Federal Center
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Blvd.
Lakewood, Colorado 80228-1807

Mr. Dino J. Pionzio, Jr.
Chief Executive Officer
Seawest Energy Corporation
1455 Frazee Road - Ninth Floor
San Diego, California 92108

APR 8 1997

Dear Mr. Pionzio:

You and those authorized under the attached Migratory Bird Special Purpose Permit, PRT 808690, are authorized to daily salvage, possess, and transport, bald or golden eagle remains, carcasses, or parts located in the applications described windpower site. Such remains will be tagged and retained in accordance with instructions contained in the Migratory Bird Special Purpose Permit. Furthermore, such remains are also subject to the recording/reporting requirements in accordance with instruction contained in the Migratory Bird Special Purpose Permit. Such remains shall only be surrendered to the Casper Special Agent or his designee. Employees salvaging eagles will be held strictly accountable for said collected eagles.

Such activities, as described in the paragraph above, will not be used as the basis for allegations of violations of 16 U.S.C., 668, prohibiting the possession or transportation of any bald or golden eagle. Provided, however, that nothing herein shall be construed as relieving the permittee from allegations of other actions prohibited by 16 U.S.C., 668, including, but not limited to, take and possession/transportation of eagles or their parts thereof when such eagles or parts thereof are not surrendered to authorized agents of the Fish and Wildlife Service.

The term of this Letter of Authorization shall be that of the Special Purpose Migratory Bird Permit.

Sincerely,

John E. Cornely
Migratory Bird Coordinator
Region 6



DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(10/86)

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES

16 USC 703-712

REGULATIONS (Attached)

50 CFR Part 13
50 CFR 21.27

1. PERMITTEE

AMENDMENT # 1

SEAWEST ENERGY CORPORATION
1455 FRAZEE ROAD
NINTH FLOOR
SAN DIEGO CA 92108

3. NUMBER

PRT-808690

4. RENEWABLE

YES
 NO

5. MAY COPY

YES
 NO

6. EFFECTIVE

3/21/97

7. EXPIRES

12/31/97

8. NAME AND TITLE OF PRINCIPAL OFFICER (If #1 is a business)

CHIEF EXEC OFFICER
DINO J. PIONZIO

9. TYPE OF PERMIT

SPECIAL PURPOSE

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

FOOTE CREEK RIM AND SIMPSON RIDGE AREA BETWEEN ARLINGTON AND HANNA IN
CARBON COUNTY, WYOMING
AMENDMENT #1 CHANGED OWNERSHIP NAME AND MAILING ADDRESS.

11. CONDITIONS AND AUTHORIZATIONS:

- A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.
- B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.
- C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

And any other person(s) under the direct control of, employed by or under contract to the permittee only to the extent necessary in accomplishing the purpose authorized below.

D. Permittee, and any other person(s), is authorized to take, transport and temporarily possess those migratory bird species as specified in Attachment A.

E. Permittee is NOT authorized to take Bald or Golden eagles under the terms and conditions of this permit. Permittee is NOT authorized to take Threatened or Endangered species under the terms and conditions of this permit unless accompanied by the appropriate permits issued under the Endangered Species Act. For the salvage, collection, transport and possession of Bald and/or Golden eagles or their parts, see the attached Letter of Authorization.

ADDITIONAL CONDITIONS AND AUTHORIZATIONS ON REVERSE ALSO APPLY

12. REPORTING REQUIREMENTS

FIRST ANNUAL REPORT DUE 1/31/98
ANNUALLY BY JANUARY 31 FOR THE PRECEDING CALENDAR YEAR ENDING
DECEMBER 31 AS OUTLINED IN 50 CFR 21.27(C)(1).

ISSUED BY

TITLE

DATE

MIGRATORY BIRD COORDINATOR R-6

3/21/97

ORIGINAL

US FISH & WILDLIFE SERVICE
MIGRATORY BIRD PERMIT OFFICE
P.O. BOX 25488, DFC (69400)
DENVER, CO 80225-0486

F. Permittee shall collect all migratory bird carcasses or parts discovered on the windpower site described in Item 10 on the face of this permit and tag such specimens. Each tag shall have the following information: 1) date and location the bird was collected; 2) full printed name of the person who collected the specimen; 3) permit number under which the specimen was collected; and 4) any other information germane to the collection.

G. Permittee shall immediately freeze all tagged specimens and contact the Casper Special Agent at (307) 261-5796, WITHIN 24 HOURS. The Casper Special Agent will provide storage or disposal instructions. In the event a significant or large migratory bird kill occurs on the windpower site, the permittee shall notify the Casper Special Agent IMMEDIATELY. In the event an injured or

otherwise incapacitated migratory bird is discovered on the windpower site, the permittee shall notify the Casper Special Agent IMMEDIATELY.

H. Permittee, and any other person(s), shall carry a copy of this permit, Attachment A and Letter of Authorization whenever exercising its authority.

I. Permittee shall supply interim or completed information relative to the project to the Region 6 Migratory Bird Coordinator upon reasonable request.

J. In the event significant or unanticipated levels of mortality or harm to protected species populations which the U.S. Fish and Wildlife Service deems unacceptable, and an agreement cannot be immediately reached on appropriate equipment modifications or other response measures, the U.S. Fish and Wildlife Service may amend, modify or suspend

the permit pending corrective action by the permittee.

K. Permittee shall maintain records as required in 50 CFR 13.46 and 50 CFR 21.27(c)(1)(2).

L. Permittee shall submit an annual report to the Region 6 Migratory Bird Coordinator which shall include the following information: 1) date and location specimen was collected; 2) species and number collected; 3) full name of person who collected the specimen; and 4) date and method of final disposition. Said annual report shall be due by January 10 for the preceding calendar year.

M. This permit, Attachment A and Letter of Authorization is contingent upon acquisition of appropriate State, County, City or other municipal authorization.

PERMIT INVALID WITHOUT ATTACHMENT A AND
LETTER OF AUTHORIZATION.

Permittee: Seawest Energy Corp
Exp. Date: 12/31/97
PRT#: 808690

US FISH & WILDLIFE SERVICE
MIGRATORY BIRD PERMIT OFFICE
P.O. BOX 25486, DFC (D400)
DENVER, CO 80225-0486

ATTACHMENT A.

Take for the avian species on the following list is restricted to no more than 10 individuals per species per annum.

Take for all other avian species, except Endangered or Threatened and Golden Eagles, is limited to no more than 100 individuals per species per annum.

ENGLISH NAME	ZOOLOGICAL NAME
1 Red-throated Loon	<i>Gavia stellata</i>
2 Pacific Loon	<i>Gavia pacifica</i>
3 Common Loon	<i>Gavia immer</i>
4 Horned Grebe	<i>Podiceps auritus</i>
5 Red-necked Grebe	<i>Podiceps grisegena</i>
6 American White Pelican	<i>Pelecanus erythrorhynchos</i>
7 American Bittern	<i>Botaurus lentiginosus</i>
8 Least Bittern	<i>Ixobrychus exilis</i>
9 Snowy Egret	<i>Egretta thula</i>
10 Green Heron	<i>Butorides virescens</i>
11 Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
12 White-faced Ibis	<i>Plegadis chihi</i>
13 Trumpeter Swan	<i>Cygnus buccinator</i>
14 Harlequin Duck	<i>Histrionicus histrionicus</i>
15 Oldsquaw	<i>Clangula hyemalis</i>
16 Northern Harrier	<i>Circus cyaneus</i>
17 Northern Goshawk	<i>Accipiter gentilis</i>
18 Broad-winged Hawk	<i>Buteo platypterus</i>
19 Swainson's Hawk	<i>Buteo swainsoni</i>
20 Ferruginous Hawk	<i>Buteo regalis</i>
21 Rough-legged Hawk	<i>Buteo lagopus</i>
22 Gyrfalcon	<i>Falco rusticolus</i>
23 Prairie Falcon	<i>Falco mexicanus</i>
24 Snowy Plover	<i>Charadrius alexandrinus</i>
25 Mountain Plover	<i>Charadrius montanus</i>
26 Upland Sandpiper	<i>Bartramia longicauda</i>
27 Long-billed Curlew	<i>Numenius americanus</i>
28 Wilson's Phalarope	<i>Phalaropus tricolor</i>
29 Franklin's Gull	<i>Larus pipixcan</i>
30 Black Tern	<i>Chlidonias niger</i>
31 Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
32 Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
33 Barn Owl	<i>Tyto alba</i>
34 Burrowing Owl	<i>Athene cunicularia</i>
35 Short-eared Owl	<i>Asio flammeus</i>
36 Lewis' Woodpecker	<i>Melanerpes lewis</i>
37 Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
38 Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>
39 Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>
40 Olive-sided Flycatcher	<i>Contopus borealis</i>
41 Willow Flycatcher	<i>Empidonax traillii</i>
42 Hammond's Flycatcher	<i>Empidonax hammondii</i>
43 Gray Flycatcher	<i>Empidonax wrightii</i>
44 Scissor-tailed Flycatcher	<i>Tyrannus forficatus</i>
45 Purple Martin	<i>Progne subis</i>
46 Violet-green Swallow	<i>Tachycineta thalassina</i>

47 Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
48 Bank Swallow	<i>Riparia riparia</i>
49 Rock Wren	<i>Salpinctes obsoletus</i>
50 Canyon Wren	<i>Catherpes mexicanus</i>
51 Bewick's Wren	<i>Thryomanes bewickii</i>
52 Golden-crowned Kinglet	<i>Regulus satrapa</i>
53 Veery	<i>Catharus fuscescens</i>
54 Wood Thrush	<i>Hylocichla mustelina</i>
55 Gray Catbird	<i>Dumetella carolinensis</i>
56 Northern Mockingbird	<i>Mimus polyglottos</i>
57 Sage Thrasher	<i>Oreoscoptes montanus</i>
58 Sprague's Pipit	<i>Anthus spragueii</i>
59 Northern Shrike	<i>Lanius excubitor</i>
60 Loggerhead Shrike	<i>Lanius ludovicianus</i>
61 Solitary Vireo	<i>Vireo solitarius</i>
62 Red-eyed Vireo	<i>Vireo olivaceus</i>
63 Orange-crowned Warbler	<i>Vermivora celata</i>
64 Virginia's Warbler	<i>Vermivora virginiae</i>
65 Black-throated Gray Warbler	<i>Dendroica nigrescens</i>
66 Ovenbird	<i>Seiurus aurocapillus</i>
67 Lazuli Bunting	<i>Passerina amoena</i>
68 Dickcissel	<i>Spiza americana</i>
69 Green-tailed Towhee	<i>Pipilo chlorurus</i>
70 Cassin's Sparrow	<i>Aimophila cassinii</i>
71 Clay-colored Sparrow	<i>Spizella pallida</i>
72 Vesper Sparrow	<i>Pooecetes gramineus</i>
73 Black-throated Sparrow	<i>Amphispiza bilineata</i>
74 Baird's Sparrow	<i>Ammodramus bairdii</i>
75 Grasshopper Sparrow	<i>Ammodramus savannarum</i>
76 McCown's Longspur	<i>Calcarius mccownii</i>
77 Chestnut-collared Longspur	<i>Calcarius ornatus</i>
78 Bobolink	<i>Dolichonyx oryzivorus</i>
79 Scott's Oriole	<i>Icterus parisorum</i>
80 Hoary Redpoll	<i>Carduelis hornemanni</i>

ATTACHMENT 3

Eagle Management Plan

for

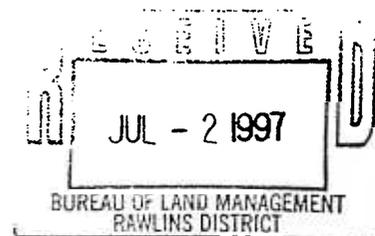
**SeaWest/PacifiCrop
Windpower Project**

STOEL RIVES LLP

ATTORNEYS

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900 SW FIFTH AVENUE, SUITE 2300
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July 1, 1997



BARBARA D. CRAIG
Direct Dial
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VIA FEDERAL EXPRESS

Mr. Chuck Davis
U.S. Fish and Wildlife Service
4000 Morrie Avenue
Cheyenne, WY 82001

Re: Eagle Management Plan for the SeaWest/PacifiCorp Windpower Project

Dear Chuck:

Enclosed is the Eagle Management Plan ("Plan") for the SeaWest/PacifiCorp Windpower Project. The Plan is a compilation of the substantial commitments to mitigation and monitoring of bald and golden eagles during project development, operations and maintenance contained in the draft and final environmental impact statements and the biological assessment and the SeaWest/Kenotech Comparison Report. SeaWest has reviewed the Plan and believes the Plan accurately reflects SeaWest's commitments to conservation measures identified during the development of this Project. This Plan was developed in consultation with the Bureau of Land Management, the Bonneville Power Administration and the U.S. Fish and Wildlife Service, presents the best available scientific information to date and provides for extensive monitoring as well as project modification as additional information becomes available. The Plan measures provide to the maximum extent practicable the avoidance of take of bald and golden eagles. We appreciate your assistance and look forward to a continued cooperative working relationship.

Sincerely,

Barbara D. Craig

Enclosure

cc (w/encl.): Mr. Walt George, Bureau of Land Management (*via Federal Express*)
Mr. Michael Azeka, SeaWest Energy Corporation (*via Federal Express*)
Ms. Sarah McNary, Bonneville Power Administration (*via messenger*)
Mr. Tom Graf, Solicitor's Office (*via Federal Express*)
Mr. Alan Larsen, Eugene Water & Electric Board (*via messenger*)
Ms. Gail Miller, PacifiCorp (*via messenger*)
Mr. Monte Garrett, PacifiCorp (*via messenger*)

Eagle Management Plan
SeaWest/PacifiCorp Windpower Project
Carbon County, Wyoming
July 1, 1997

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I. INTRODUCTION

SeaWest Energy Corporation (SeaWest) proposes to construct a 500-megawatt (MW) windpower facility (Windfarm) in the Foote Creek Rim (FCR) and Simpson Ridge (SR) areas between the towns of Hanna and Arlington, in southeastern Wyoming. SeaWest has applied for a right-of-way (ROW) grant from the Bureau of Land Management (BLM) to construct and access wind turbines and associated facilities on approximately 60,619 acres of federal, state, and private land. Currently, one transmission line is proposed to connect the Windfarm to existing transmission grids to transport the power to buyers in the Pacific Northwest and Rocky Mountain regions. PacifiCorp has applied for a ROW grant to construct a 230-kilovolt (kV) transmission line from the proposed Windfarm at FCR to the existing Miner's substation near Hanna. The SeaWest/PacifiCorp Project Area (SPA) consists of the FCR and SR areas, plus three alternate transmission line routes.

The proposed Windfarm would be constructed in phases. Phase I would consist of approximately 91 - 136 turbines located on top of FCR north of Arlington and would have a generating capacity of up to 68.25 MW. The Bonneville Power Administration (BPA), which proposes to buy a portion of the power from Phase I, is a cooperating agency with the BLM in analyzing the environmental impacts associated with the proposed Windfarm.

In 1995, the BLM, in cooperation with the BPA, prepared draft and final environmental impact statements (EIS) pursuant to the National Environmental Policy Act (NEPA). During the NEPA process, the concern over the potential for birds to collide with wind turbine generators (WTGs) and other Windfarm facilities, and other potential sources of bird mortality related to Windfarm operation and maintenance (O&M), were identified as potentially significant adverse impacts of Windfarm development. Of particular concern were impacts to bald and golden eagles. The objective of this Eagle Management Plan is to summarize actions planned to minimize Windfarm impacts to eagles and other large birds.

During the scoping process, Kenetech Windpower Inc. ("Kenetech") proposed elements in the project design to mitigate Windfarm impacts. SeaWest, in cooperation with the agencies, has made additional changes for mitigation and monitoring during project development and O&M. Potential impacts and mitigation measures are described in detail in the draft and final EIS for the project (BLM 1995a, 1995b), the Biological Assessment (TRC Mariah Associates 1995), and the SeaWest/Kenetech Comparison Report (TRC Mariah Associates 1997).

The bald eagle is listed as a threatened species in the coterminous states of the United States under the federal Endangered Species Act (ESA) (16 USC §§ 1531-1544). Pursuant to the ESA, the BLM and the BPA completed formal consultation with the U.S. Fish and Wildlife Service (USFWS) concerning potential project impacts to the bald

eagle.¹ The USFWS issued a “no jeopardy” biological opinion with an incidental take statement.

All native species of migratory birds in the United States, including bald and golden eagles, are protected under the Migratory Bird Treaty Act (MBTA), 16 USC §§ 703-712. On November 13, 1995, the USFWS issued a special purpose permit to Kenetech (pursuant to 50 CFR § 21.27 and the MBTA), which authorizes the take of up to 10 individuals per year of each species identified in Attachment A of the MBTA permit.² Take of all other migratory avian species, except threatened or endangered species and golden eagles, is limited to no more than 100 individuals per species per year.

Bald eagles and golden eagles are also protected under the Bald and Golden Eagle Protection Act, 16 USC § 668. The Eagle Management Plan consolidates information from the draft and final EIS for the project (BLM 1995a, 1995b), the Biological Assessment (TRC Mariah Associates 1995), the Final Biological Opinion (USFWS 1995), 1995-1996 monitoring studies (West 1997), and the comparison report (TRC Mariah Associates 1997) regarding the conservation measures that should avoid to the maximum extent practicable the take of bald and golden eagles. Commensurate with analysis presented in the EIS, this Eagle Management Plan focuses on Phase I impacts and mitigation measures based on data collected through March 1996. As monitoring progresses and more data are collected, the Eagle Management Plan will be modified to reflect new information and additional mitigation measures may be recommended for future phases of development. Any modifications would be consistent with future NEPA documents, which would be prepared as additional phases are proposed. This Eagle Management Plan was developed in consultation with the USFWS, presents the best available scientific information to date, and provides for extensive monitoring as well as project modification as additional information becomes available.

II. TAXONOMY, LIFE HISTORY, AND HABITAT OF THE BALD AND GOLDEN EAGLE

A. Bald Eagle

Bald eagles (*Haliaeetus leucocephalus*) are widely distributed throughout North America and are often associated with large bodies of water (Newton 1979:52). Bald eagles typically build their nests on prominent features that overlook aquatic foraging areas and usually migrate during the winter months in response to prey availability (Stalmaster 1976, Swenson et al. 1986). This species is characterized by opportunistic foraging behavior and

¹ In addition, the BLM and the BPA consulted with the USFWS regarding potential impacts to the peregrine falcon, an endangered species protected under the ESA.

² On December 16, 1996, the U.S. Bankruptcy Court for the Northern District of California ordered the sale of the Wyoming windpower project and all associated assets and permits from Kenetech to SeaWest, including the MBTA permit. The USFWS revised the MBTA permit on March 21, 1997 to reflect that SeaWest is the designated permittee.

frequently scavenges for animal carcasses such as elk and deer during winter migrations. Population declines of bald eagles are related to habitat destruction, shooting, and environmental pollutants (Sprunt et al. 1973, Wiemeyer et al. 1984, Anthony et al. 1982, 1994). Due to recovery efforts, the bald eagle was reclassified in 1995 from endangered to threatened throughout the lower 48 states (FR 60 (133): 36000-36010). Most recovery goals for bald eagles are directed toward the breeding population. The number of breeding areas in Wyoming has increased from five in 1982 to 25 in 1995 (Greater Yellowstone Bald Eagle Working Group, referenced in Final Biological Opinion [USFWS 1995]).

Raptor nesting surveys were conducted between May and August 1994 (BLM 1995a) and between April and July 1995 (West 1997) in the SPA (including both the FCR and SR areas). Nesting surveys in 1994 included a 16-km buffer around FCR and a 3.2-km buffer around SR and the three transmission line routes. In 1995, nesting surveys also included a 16-km buffer around the SR area. Use surveys were conducted between February 1994 and March 1995 (BLM 1995b) and between March 1995 and March 1996 (West 1997). Use surveys were conducted from observation stations within the study areas (methods described in Thomas et al. [1995] and West [1997]).

During 1994, one active bald eagle nest was documented approximately 3.2 km south of SR; one young successfully fledged from this nest (BLM 1995a). Continued monitoring in 1995 found two active nests in the SPA (1.5 young/nest; West 1997). Use surveys documented 37 bald eagle observations in the FCR area and 13 observations in the SR area in 1994. Monitoring studies in 1995-1996 documented bald eagle use infrequently (1.3 percent of surveys) only in the FCR area during winter (West 1997). No known communal roosts exist within the SPA, but it is likely that cottonwood trees along the Medicine Bow River, Rock Creek, Foote Creek, and other perennial drainages are regularly used as perches in winter (BLM 1995a).

B. Golden Eagle

Golden eagles (*Aquila chrysaetos*) are widely distributed throughout the world and typically build their nests on cliffs or rocky escarpments that provide access to prey (Terres 1980:478). Golden eagles forage primarily on small mammals, such as ground squirrels and lagomorphs (Beecham and Kochert 1975). Golden eagles perch during hunting, feeding, territorial broadcasting, and resting. Perch locations probably coincide with hunting opportunities. Most golden eagles in North America migrate when prey numbers decline in their northern range (Terres 1980). Olendorff et al. (1981) reported an estimated 63,000 golden eagles in the arid grasslands and shrublands of the western United States. Analysis of data from migration censuses from the late 1970s through 1991 suggests an annual decline of 6.1 percent for the golden eagle population in western United States (Hoffman et al. 1992). Lehman et al. (1993) reported that the number of occupied golden eagle nesting areas in the Snake River Birds of Prey Area, Idaho, has declined significantly since the late 1970s; however, actual numbers were only slightly lower and productivity (young/occupied site) was higher than the previous 10 years. Causes of golden eagle mortality include poisoning,

shooting, electrocution associated with power lines, and collisions with power lines and wind turbines (Newton 1979, Orloff and Flannery 1992, APLIC 1996).

Raptor nesting surveys were conducted between May and August 1994 (BLM 1995a) and between April and July 1995 (West 1997) in the SPA (including both the FCR and SR areas). Nesting surveys in 1994 included a 16-km buffer around FCR and a 3.2-km buffer around SR and the three transmission line routes. In 1995, nesting surveys also included a 16-km buffer around SR. Use surveys were conducted between February 1994 and March 1995 (BLM 1995a) and between March 1995 and March 1996 (West 1997). Use surveys were conducted from observation stations within the study areas (methods described in Thomas et al. [1995]).

During the 1994 nesting surveys, five active golden eagle nests were located within the SPA (one nest was located within 3.2 km of an alternate transmission line ROW); all nests successfully produced young. An additional 38 inactive nests were also located (BLM 1995b). In 1995, eight active nests were monitored in the FCR area (0.88 young/nest), and eight active nests were monitored in the SR area (0.63 young/nest) (West 1997).

Golden eagles composed the majority of raptor observations (43 percent) during raptor use surveys of the FCR area in 1994 (pers. comm., Diane Thomas, TRC Mariah Associates Inc., February 1996). Eagles were observed most frequently along the west side of FCR. It is likely that a combination of favorable winds for soaring, a substantial prey base, and preferred perch sites are present in these areas (BLM 1995b). During 1995-96, golden eagles were the most frequently observed raptor during all seasons at FCR, with highest use occurring in the fall season (1.48/survey) (West 1997). Eagle use of FCR was concentrated on the western side and within 50 m of the rim's edge. There was less raptor use documented at the SR area, but the golden eagle was the most common species during fall (0.12/survey) and winter (0.13/survey). Highest use was on north-south oriented ridges with steep slopes.

III. POTENTIAL IMPACTS OF THE PROPOSED PROJECT ON BALD AND GOLDEN EAGLES

Potential impacts to golden and bald eagles from development and operation of wind generating facilities at FCR (Phase I of Windfarm development) could be direct or indirect (BLM 1995a). The direct effect would be Windfarm-related mortality; indirect effects would include changes in essential habitat components (e.g., prey availability and nesting sites) and which may affect mortality and reproductive success.

Collision-related mortality at windpower facilities is related to raptor abundance, behavior, and flight characteristics (Howell and DiDonato 1991, Howell and Noone 1992, Orloff and Flannery 1992). Given that these characteristics may contribute to the probability of turbine collision, the most abundant species that fly at rotor height may have the greatest risk of collision. Golden eagles were the most commonly observed raptor species in the FCR area during 1994-95 surveys. West (1997) developed a relative index of risk based on mean

use, time spent flying, and proportion of flight heights within the rotor-swept area. Based on monitoring during 1994-95 and 1995-96, 53 percent and 49 percent, respectively, of eagles in the FCR area were observed flying at rotor height (BLM 1995b, West 1997). A tendency to fly within the rotor-swept area on the rim edge was consistently observed for golden eagles and other raptors. Calculations of relative risk for raptors and other large birds suggest that the golden eagle is the species at greatest risk of turbine collision during all seasons in the FCR area.

The rotor-swept area categories used for monitoring from 1994-96 were based on turbines originally proposed by Kenetech (BLM 1995b); in comparison, the rotors proposed by SeaWest would be slightly larger and higher. Thus, those species that tend to fly at heights of >20 m (e.g., buteo hawks and eagles) may be at greater risk of collision per turbine under the current proposal (TRC Mariah Associates 1997). However, analysis of data collected at Altamont Pass suggests that rotor-swept area per turbine may not be an important factor in the probability of raptor collision (Orloff and Flannery 1996). Further, the larger rotor-swept area per turbine may be offset by the installation of 65 to 110 fewer turbines under the current proposal. Preliminary study by Howell (1995) suggested that the number of turbines present may be more important than rotor-swept area. Under the current proposal, the effect of rotor-swept area on mortality is unknown, but mortality due to collision will be monitored beginning with Windfarm development.

Orloff and Flannery (1992) reported that golden eagles were killed more often than expected based upon their abundance at Altamont Pass, California. Based on mortality rates reported at Altamont Pass, the annual loss of golden eagles for Phase I of the Windfarm would range from 0.002 to 0.005 per turbine per year, or 0.4 to 1.01 golden eagles per year (pers. Comm., Sue Orloff, Ibis Environmental Services, February 1996). However, due to numerous physical and biological differences between the California and the Wyoming windfarm sites, this mortality estimate will probably change as data are collected during monitoring. For example, golden eagles are more abundant on the SPA than at the California windfarm. In California, carcasses were primarily recovered from turbines on lattice towers; the Windfarm will utilize only tubular towers (see below). There is little information on population structure for golden eagles at the FCR area. Because total number of nesting territories and geographic origins of resident birds and their movement patterns are unknown for this area, potential impacts on golden eagles are difficult to quantify.

Mortality or injury to bald eagles may occur as a result of the Windfarm (USFWS 1995). However, only 37 observations of bald eagles occurred in the FCR area during the 1994 surveys, and bald eagles were infrequently observed during winter in subsequent monitoring (BLM 1995b, West 1997). Further, the SPA has not been identified as critical habitat for the bald eagle. No bald eagle carcasses have been recovered from the California windfarms; thus there are no data with which to estimate mortality due to collision at the SPA (BLM 1995a). But because bald eagles are probably present year-round in the SPA, mortality due to collision may occur during the life of the project ("LOP"). Bald eagle mortality will be monitored beginning with Windfarm development.

Other windfarm facilities may also impact bald and golden eagles. In Altamont Pass, 11 percent of raptor deaths were attributed to collisions with electrical and guy wires and electrocution caused 8 percent of raptor deaths (Orloff and Flannery 1992). Although considered an unusual event, bald eagle collisions with power lines have been documented (Olendorff and Lehman 1986). Collisions may occur when wires transect daily flight paths and high-velocity winds push birds into the lines (Brown 1993). Electrocution may occur when large birds perch on power poles, especially riser or other poles with additional electrical hardware (Orloff and Flannery 1992, APLIC 1996). Construction standards used in the development of the Windfarm are designed to avoid these impacts (see below).

Food availability is one of the primary factors that potentially limits raptor populations (Newton 1979). Phase I would result in construction of roads, turbine strings, and power lines that would at least temporarily reduce foraging areas for eagles. Impacts of Phase I on prey populations are unknown but would be monitored beginning with Phase I development (see below). If prey availability decreases, raptor reproductive success and winter survival could also decrease. If prey increases, reproductive success may improve, but more raptors may be attracted to the Windfarm, which could result in increased collisions. However, because wind generating facilities at FCR are expected to permanently modify only 68 acres (1.4 percent of the FCR area), it is believed that prey populations will not appreciably change due to Windfarm operation throughout the LOP (BLM 1995a, TRC Mariah Associates 1997).

Given the large number of active raptor nests found during surveys (e.g., 65 and 122 total nests in 1994 and 1995, respectively, and 4 and 10 eagle nests in the FCR area) (BLM 1995b, West 1997), suitable nest sites are probably not limiting for most species of raptors within the SPA that typically nest in open, arid grasslands. Disturbance of active eagle nest sites will be avoided or minimized by following the procedures outlined below. Bald eagles generally nest near aquatic ecosystems that provide abundant prey and large dominant trees to support their nests (Anthony et al. 1982). Parts of the SPA may provide suitable habitat for winter perching by bald eagles (Bob Oakleaf, pers. comm., Wyoming Game and Fish [WGF]), and it is likely that bald eagles use the areas for foraging throughout the year (BLM 1995a). The grass/sagebrush habitat within the FCR project boundary is not believed to provide suitable habitat for nesting by bald eagles, but habitat suitable for nesting is available along the Rock Creek drainage adjacent to FCR.

IV. CONSERVATION MEASURES TO AVOID TAKE OF BALD AND GOLDEN EAGLES

Recent research on windpower projects has suggested factors that contribute to avian mortality at windpower developments (Howell and DiDonato 1991, Howell and Noone 1992, Orloff and Flannery 1992, 1996; ref. in Colson and Associates 1995). These include higher mortality associated with:

- windpower developments located in bird migration corridors and areas of high bird concentrations;
- WTGs located at the end of turbine strings, closer to canyon edges, and in proximity to high-density prey populations;
- increased perching opportunities provided by turbines supported on lattice towers;
- WTGs with a higher number of operating hours; and
- WTGs with higher rotor tip speeds.

It is unclear whether larger turbines (greater rotor-swept area) contribute to increased mortality, but a preliminary study suggested that the number of turbines is a more important factor than the amount of rotor-swept area (Howell 1995).

Based on research of windpower effects on raptors and results of studies in the SPA, on-site measures to avoid take of bald and golden eagles during Phase I include the following:

Siting options have taken into consideration the entire annual cycle and pattern of eagle use of FCR. The size and physical configuration of the Phase I development, turbine spacing, and locations of turbine strings will be evaluated with respect to eagles and their activities in the area. High-use areas and known nesting areas will be considered when evaluating siting options and avoided, whenever possible. Suggested disturbance buffers for wintering eagles will be strictly adhered to (Holmes et al. 1993).

2. Only six to eight turbine strings will be constructed; thus the number of end-row turbines will be 12 - 16, and 12 - 25 turbines will be located within 50 m of the rim's edge. No WTGs will be located on Arlington Peak, an area heavily used by raptors.
3. Turbines and towers will be designed to reduce the likelihood of collisions by reducing perching opportunities. Only tubular towers will be used with no railings, walkways, ladders, or other potential bird perching sites.

4. Turbine rotors and nacelles will be coated with paint that is highly reflective in the ultraviolet range, which may improve visibility to birds under a range of conditions. Selection of appropriate paint will be in consultation with the USFWS.
5. All within-plant collection and communication lines will be buried to reduce the potential for electrocution and to reduce potential perching substrate that may attract birds near project facilities. Only two power/riser poles will be installed and constructed to raptor-safe standards (APLIC 1996).
6. If bald eagle winter communal roosting areas are found, a no surface occupancy restriction will be applied to a 1.6-km buffer zone around the roosts, and the area will be closed to surface-disturbing activities (*e.g.*, construction) from November 1 through April 1. However, normal operation of Windfarm facilities will be allowed.
7. If active (*i.e.*, used within the last three years) bald eagle nests are found, no surface disturbance or construction activity will be allowed within a 1.6-km radius buffer zone around the nests during the nesting season (February 1 through July 31). However, normal operation of Windfarm facilities will be allowed.
8. Construction within 1.2 km of active golden eagle nest sites will be avoided during the nesting season (February 1 through July 31). However, normal operation of Windfarm facilities will be allowed. If construction must occur within the area, it will occur outside the nesting season.
9. Approval from the BLM authorizing officer (AO), in consultation with the technical committee (see below), will be obtained before construction or any other surface disturbing activity in restricted areas during restricted periods described in 7-9 above.
10. When necessary, based on monitoring and consultation with the technical committee, power lines will be marked with visibility devices following state-of-the-art practices (APLIC 1994).

Windfarm impacts on golden and bald eagles are part of continuing study in the SPA (BLM 1995b, West 1997). Because the magnitude of impacts are not completely understood at this time, monitoring will be an integral part of the mitigation program.

V. MONITORING

Results of site-specific studies within the SPA have been used to design an intensive monitoring program for the entire SPA, beginning with Phase I (BLM 1995a, 1995b). The monitoring program will help determine project impacts on raptors and will also assist in

the development of appropriate mitigation measures for future phases of Windfarm development. During monitoring, there will be two reference areas (i.e., the Morton Pass area and SR before development) to compare with the FCR area. The Morton Pass reference area was evaluated during the initial field season to determine its suitability (West 1997). The FCR area and reference areas are similar in terms of topography and habitat features. The same sampling methods, intensity, and frequency are being used to compare raptor use and relative abundance in the three areas.

The protocol for monitoring combines pre- and post-construction data from baseline studies and subsequent monitoring activities (before/after) with data from reference and development areas (control/treatment). By sampling both the reference area and the development areas before and after windpower development, both temporal and spatial controls are utilized, optimizing the design impact (Green 1979).

Monitoring activities include relatively intensive surveys of bald and golden eagles and other large raptors. Several outcomes are possible from monitoring studies. For example, a decline in eagle use on the FCR (i.e., the area with wind turbines) without a similar decline on the reference area may be interpreted as evidence of an effect of windpower development. The presence of carcasses near turbines or a decline in nesting activity increases the weight of evidence that an effect can be attributed to windpower. A decline in use of both the reference and development area coupled with few to no carcasses may be interpreted as a population response unrelated to the Windfarm.

The level at which mortalities are considered significant from a population perspective depends on the species involved. A significant number of carcasses associated with a decline in use relative to the reference area or a decline in number of active nests may be interpreted as a probable population effect. These efforts will yield indices of population effects. If evidence indicates significant negative impacts to eagles, additional, more detailed studies may be necessary to determine the significance of impacts (e.g., the effect of mortalities on the dynamics of the populations).

Specific monitoring tasks include the following:

- 1 Point-count surveys for eagles (and other raptors) to estimate the spatial and temporal use of the FCR area and the reference areas.
- 2 Nest surveys to evaluate the number and distribution of nesting eagles (and other raptors) that may be potentially influenced by the project.
3. Prey availability studies to determine an index of prey availability within a 16-km buffer of the FCR and the reference areas.

- 4 Avian carcass searches to determine the level of direct mortality associated with turbines, adjusted for scavenging and detectability biases. The frequency of carcass searches will be based on scavenging tests conducted before beginning the searches.

More detailed descriptions of these studies are presented in West (1997). These studies are equivalent to those included in the Final Biological Opinion (USFWS 1995). For all parameters, data will be plotted by survey date for the FCR area and the permanent reference area. For many of the parameters estimated, statistical comparisons will be made (1) between the FCR and the reference areas and (2) between data collected pre- and post-construction within the study areas, using randomizing tests and the computer package RT (Manly 1991). Significance levels (*i.e.*, p-values) will be reported, and those below $\alpha=0.10$ (one-tailed) will be judged as significant.

As a component of the Monitoring Plan, a technical committee has been meeting informally to assist the BLM in evaluating and weighing information collected during monitoring, identifying project impacts, and evaluating mitigation measures (BLM 1995b). The technical committee will be formally established within six weeks of the Notice to Proceed. The technical committee will advise the BLM AO throughout the development of Phase I and all subsequent phases of project development. The technical committee will consist of personnel representing the BLM, the USFWS, and the WGF. The technical committee's principal objectives will be to identify project-related impacts on wildlife and develop additional proposed mitigation measures for any unexpected impacts identified. The committee will meet a minimum of once annually but may conduct more frequent meetings, especially during initial review of monitoring information. All meetings of the committee will be open to the public.

SeaWest will prepare an annual monitoring and technical report. The report will include a description of the technical committee activities for the year and a discussion of the committee's recommendations and SeaWest's actions.

The technical committee will be disbanded when it is determined that monitoring is no longer necessary. Monitoring will be terminated if (1) impacts are shown to be minimal and adequately mitigated (as determined by the AO in consultation with the USFWS) or (2) the Windfarm is decommissioned and all disturbed areas are reclaimed.

VI. REFERENCES

- Anthony, R.G., R.L. Knight, G.T. Allen, B.R. McClelland, and J.I. Hodges. 1982. Habitat use by nesting and roosting bald eagles in the Pacific Northwest. *Trans. N. Am. Wildl. Nat. Res. Conf.* 47:332-342.
- R.W. Frenzel, F.B. Isaacs, and Garrett. 1994. Probable causes of nesting failures in Oregon's bald eagle population. *Wildl. Soc. Bull.* 22:576-582.
- Avian Power Line Interaction Committee (APLIC). 1994. Mitigating bird collisions with power lines: the state of the art in 1994. Edison Electric Institute. Washington, D.C.
1996. Suggested practices for raptor protection on power lines: the state of the art in 1996. Avian Power Line Interaction Committee. Edison Electric Institute. Washington, D.C.
- Beecham, J.J., Jr., and M.N. Kochert. 1975. Breeding biology of the golden eagle in southwestern Idaho. *Wilson Bull.* 87:506-513.
- Brown, W.M. 1993. Avian collisions with utility structures: biological perspectives. Pages 1-21 - 12-13 In: *Proc. Intl. Workshop on avian interactions with utility structures, September 13-16, 1992, Miami, Florida.* Electric Power Research Institute and Avian Power Line Interaction Committee.
- Bureau of Land Management. 1995a. Draft environmental impact statement: KENETECH/PacifiCorp windpower project, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Laramie, Wyoming.
- 1995b. Final environmental impact statement: KENETECH/PacifiCorp windpower project, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Laramie, Wyoming.
- Green, R.H. 1979. *Sampling design and statistical methods for environmental biologists.* Wiley, New York.
- Hoffman, S.W., S.R. DeRagon, J.C. Bednarz. 1992. Patterns and recent trends in counts of migrant hawks in western North America 1977-1991. Unpubl. rep. HawkWatch International. 147 pp.
- Holmes, T.L., R.L. Knight, L. Stegall, G.R. Craig. 1993. Responses of wintering grassland raptors to human disturbance. *Wildl. Soc. Bull.* 21:461-468.

- Howell, J.A., and J.E. DiDonato. 1991. Assessment of avian use and mortality related to wind turbine operations, Altamont Pass, Alameda and Contra Costa Counties, California. September 1988 through August 1989. Final report. Prepared for U.S. Windpower, Inc., Livermore, California. 72 pp.
- , and J. Noone. 1992. Examination of avian use and mortality at a U.S. Windpower wind energy development site, Montezuma Hills, Solano County, California. Prepared for Solano County Dept. Environ. Manage., Fairfield, California. 41 pp.
1995. Avian mortality at rotor swept area equivalents, Altamont Pass and Montezuma Hills, California. Unpubl. Report prepared for Kenetech Windpower, San Francisco, California. 12 pp.
- Lehman, R.M., K. Steenhof, M.N. Kochert, and L.B. Carpenter. 1993. Raptor abundance and reproductive success in the Snake River Birds of Prey Area. Pages 12-39 in Snake River Birds of Prey Area 1993 Annual Report. K. Steenhof, ed. USDI Bureau of Land Manage. 371 pp.
- Manly, B.F.J. 1991. Randomization and Monte Carlo methods in biology. Chapman and Hall. New York. 281 pp.
- TRC Mariah Associates Inc. 1995. Final Biological Assessment for the KENETECH/PacifiCorp Windpower Project; Threatened, Endangered, and Candidate Species. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 77 pp.
1997. SeaWest/KENETECH windfarm development comparison, Carbon County, Wyoming. Prepared for Great Divide Resource Area, Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 87 pp.
- Newton, I. 1979. Population ecology of raptors. Buteo Books. Vermillion, South Dakota. 399 pp.
- Olendorff, R.R., and R.N. Lehman. 1986. Raptor collisions with utility lines: an analysis using subjective field observations. Pacific Gas and Electric Co., San Ramon, California. 73 pp.
- , A.D. Miller, and R.N. Lehman. 1981. Suggested practices for raptor protection on power lines: the state of the art in 1981. Raptor Research Report No. 4, Raptor Research Foundation, Inc. 111 pp.
- Orloff, S., and A. Flannery. 1992. Wind turbine effects on avian activity, habitat use, and mortality in Altamont Pass and Solano County Wind Resource Areas, 1989-1991. Final report. Prepared for the Planning Departments of Alameda, Contra Costa, and Solano Counties and the California Energy Commission.

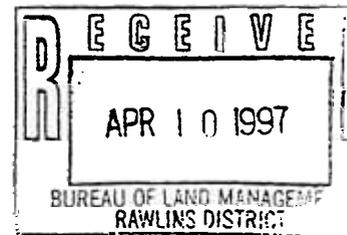
- . 1996. A continued examination of avian mortality in the Altamont Pass Wind Resource Area. Prepared for the California Energy Commission by Biosystems Analysis, Inc., Santa Cruz, California. 52 pp.
- Sprunt, A., W.B. Robertson, Jr., S. Postupulsky, R.J. Hensel, C.E. Knoder, and F.J. Ligas. 1973. Comparative productivity of six bald eagle populations. *Trans. N. Am. Wildl. Nat. Res. Conf.* 38:96-106.
- Stalmaster, M.V. 1976. Winter ecology and effects of human activity on bald eagles in the Nooksack River Valley, Washington. M.S. Thesis, Western Washington State College, Bellingham. 100 pp.
- Swensen, J.E., K.L. Alt, and R.L. Eng. 1986. Ecology of bald eagles in the Greater Yellowstone ecosystem. *Wildl. Monogr. No. 95.* 46 pp.
- Terres, J.K. 1980. *The Audubon Society encyclopedia of North American birds.* Alfred A. Knopf, New York. 1109 pp.
- Thomas, D.M., J.M. Ward, and R. Pickering. 1995. Baseline avian studies for the Proposed Kenetech/PacifiCorp Wyoming windplant. MAI Project 11071. TRC Mariah Associates Inc., Laramie, Wyoming.
- U.S. Fish and Wildlife Service. 1986. Recovery plan for the Pacific bald eagle. U.S. Fish and Wildl. Serv., Portland, Oregon. 160 pp.
- U.S. Fish and Wildlife Service. 1995. Final biological opinion for KENETECH/PacifiCorp windpower project. U.S. Fish and Wildl. Serv., Cheyenne, Wyoming. 15 pp.
- Western EcoSystems Technology, Inc. (West). 1997. 1995-1996 Wildlife monitoring studies, SeaWest windpower plant, Carbon County, Wyoming. Prepared for SeaWest Energy Corporation and Rawlins District, USDI Bureau of Land Manage., Rawlins, Wyoming. 153 pp.
- Wiemeyer, S.N., T.G. Lamont, C.M. Bunck, C.R. Sindelar, F.J. Gramlich, J.D. Fraser, and M.A. Byrd. 1984. Organochlorine pesticide, polychlorobiphenyl, and mercury residues in bald eagle eggs--1969-79--and their relationships to shell thinning and reproduction. *Arch. Environ. Contam. Toxicol.*

ATTACHMENT 4

Memorandum of Agreement

for

**Phase 1 of the
SeaWest/PacifiCrop
Windpower Project**



MEMORANDUM OF AGREEMENT
AMONG
THE BUREAU OF LAND MANAGEMENT
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
AND THE WYOMING STATE HISTORIC PRESERVATION OFFICER
REGARDING THE SEA WEST/PACIFICORP PHASE 1 WINDPOWER PROJECT

WHEREAS, the Bureau of Land Management, Great Divide Resource Area (BLM), proposes to issue a Right-of-Way grant for the Sea West/Pacificorp (Sea West) Windpower Project under a Memorandum of Understanding among the BLM Sea West, and the Bonneville Power Administration which designates the BLM as the lead Federal agency; and

WHEREAS, the BLM has determined that the Phase 1 Windpower project, located in Sections 5, 6, 7, 18, 19, T.19N., R.72W; Section 24, T.19N., R.79W; Sections 20, 21, 28, 29, 32, 33, T.20N., R.78W., will have an adverse effect upon 48CR5834, a property eligible for inclusion in the National Register of Historic Places and has consulted with the Advisory Council on Historic Preservation (Council) and the Wyoming State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act; (16 U.S.C. 470f); and

WHEREAS, Sea West, the Medicine Wheel Coalition for Sacred Sites of North America (Coalition) and the Eastern Shoshone Tribe participated in consultation and have been invited to concur in this Agreement: and

WHEREAS, all parties to this Agreement acknowledge that the inherent nature of this project is such that the Agreement will not adequately mitigate some of the adverse effects to the historic property, particularly the destruction of spiritual values which make the property significant to Native Americans, but the parties have concluded that this document reflects the best possible mitigation measures given the nature of the project; and

WHEREAS, the BLM has a unique legal relationship with Indian Tribes and Indian people and, in recognition of its responsibilities under the American Indian Religious Freedom Act (AIRFA) and Executive Order 13007 and by extension its own policies on Native American coordination and consultation in accordance with Manual Section 8160 and Handbook H-8160-1, the BLM seeks to develop mutually acceptable ways to avoid or minimize disturbance of traditional Native American sacred places and to provide opportunities for Native Americans to carry out traditional religious practices. A letter, attached as Appendix B, documents these efforts to date; and

WHEREAS, the Coalition, on behalf of all Native Americans, has signed an agreement with affected private landowners to provide access to Native Americans for ceremonial purposes (see attached

agreement);

NOW, THEREFORE, the BLM, the Council, and the SHPO agree that the Phase 1 Windpower Project shall be administered in accordance with the following stipulations to satisfy the BLM's Section 106 responsibility for all individual undertakings of the program.

STIPULATIONS

All parties to this MOA agree to carry out the following measures that fall within their area of responsibility as set forth herein:

1. BLM and Sea West will ensure that all facilities associated with Phase 1 of the Windpower Project (turbines, roads, electrical corridors, etc.) will be sited in accordance with the map attached as Appendix A.
2. All features located within 150 feet of construction will be protected from construction by a fence. The fence will consist in large wooden or metal posts, placed at intervals not to exceed 50 feet with one strand of cord (i.e. mason's line) run between the posts.
2. BLM will ensure that Native Americans will have access to all public lands within the project area which are not otherwise limited by access to private lands, unless specifically agreed to by private land owners as per the attached agreements.
3. Sea West, in coordination with the BLM, will provide training for all workers associated with the construction and maintenance of the project with regard to the importance of the cultural features of the historic property and the possible penalties to individuals who might disturb those cultural features. Workers shall also specifically be informed that cement trucks will not be washed out on Foote Creek Rim itself.
4. All construction will be monitored by an archaeologist hired by Sea West and permitted by BLM under the Archaeological Resources Protection Act (ARPA) to ensure avoidance of all features. The parties shall also be permitted to have site visits on at least a monthly basis, should they so choose, to monitor construction activity. If any previously undiscovered cultural material is discovered during construction of Phase I, BLM shall notify the parties to this Agreement immediately and shall consult with the parties regarding the proper treatment of the discovery in accordance with the provisions of 36 CFR 800.11. If any grave sites are discovered as a result of Phase I construction, BLM and Sea West agree that they will immediately notify and consult with the parties to this Agreement and the affected landowner(s) and, in the case of

Federal Land, the BLM will fully comply with BLM policy for inadvertent discovery of human remains and the requirements of the Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001 et seq. Every effort will be made to preserve such discoveries in situ if at all possible.

5. Sea West will allow Native Americans the opportunity to hold a ceremony at the project location prior to all construction and again after construction is completed.
6. Any offerings left by Native Americans for ceremonial purposes will not be removed or disturbed in any fashion by parties to this agreement.

Sea West will place prominent signs on all project access roads to the Project Area stating as follows: "NO TRESPASSING WITHOUT AUTHORIZATION OF THE LANDOWNER OR PROJECT DEVELOPER. VIOLATORS WILL BE PROSECUTED." Where necessary, Sea West agrees to obtain the approval of private landowners to place such signs on their property.

8. Upon signing of this MOA, all parties will enter into a good faith discussion to develop a Programmatic Agreement (PA) that will guide Native American consultation for future phases of the Sea West/Pacificorp Windpower Project. The PA discussions will address identification of sacred sites, requirements and standards for ethnographic and archaeological investigations, and potential mitigation measures. The goal of the PA will be to create a process whereby future phases of the project avoid damaging or disturbing traditional cultural and sacred places located in the Project Area, including the integrity of setting, feeling and association of those sites, to the maximum extent feasible.
9. The BLM and Sea West agree that the "Plan of Development" to be approved for this project will require Sea West to restore and reclaim the land in the Project Area when the project is abandoned and will include provisions requiring that all structures associated with the Windpower Project be removed from Foote Creek Rim within a limited and reasonable time frame after abandonment. The BLM agrees to circulate the "Plan of Development" to the parties to this agreement at least 10 days prior to its approval for their review. Sea West agrees that it will restore and reclaim the land and remove structures on private land within the Project Area to the same extent required by the "Plan of Development" for public lands that are part of the project area.
10. This Memorandum of Agreement expires at the time Sea West's Right-of-Way grant expires. Should the Right-of-Way grant be renewed without changes to the provisions of the grant, this Agreement shall continue coincident with the renewal

grant. If new provisions of the renewal grant could have an effect on historic properties, the grant shall be considered a new undertaking and will be subject to consultation with the Council, SHPO, and others in accordance with 36 CFR Part 800 regulations. The BLM shall notify the parties to this Agreement of pending expiration or renewal of the grant 30 days prior to either action.

The BLM, SHPO, or the Council may terminate this Memorandum of Agreement by providing 30 days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination.

- 12 Should any party to this Agreement object within 30 days to any plans provided for review or actions proposed pursuant to the stipulations of this Agreement, the BLM shall consult with the objecting parties to resolve the objection. If the BLM determines that the objection cannot be resolved, the BLM shall forward all relevant documentation to the Council. Within 30 days of receipt of all pertinent documentation, the Council will either:
- a. provide the BLM with recommendations, which the BLM will take into account in reaching a final decision regarding the dispute; or
 - b. notify the BLM that it will comment pursuant to 36 CFR Section 800.6(b). Any Council comment provided in response to such a request will be taken into account by the BLM in accordance with 36 CFR Section 800.6(c)(2) with reference only to the subject of the dispute; the responsibility of all parties to this agreement to carry out actions under this Agreement that are not subjects of the dispute will remain unchanged.

Any party to this Agreement may request that it be amended, whereupon the BLM, Council and SHPO will consult in accordance with Section 800.5(e) to consider such amendment. All parties, including the concurring parties, will be consulted regarding any amendments to the Agreement.

Execution of this Memorandum of Agreement and implementation of its terms evidence that the BLM has afforded the Council an opportunity to comment on the Phase 1 Windpower Project and its effects on historic properties, and that the BLM has taken into account the effects of the Phase 1 Windpower Project on historic properties.

BUREAU OF LAND MANAGEMENT, RAWLINS DISTRICT

BY: Kurt J. Kotter DATE: 4/3/97
TITLE: Rawlins District Manager

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: Alan W. Butler DATE: 5/23/97
TITLE: Acting Exec Dir.

WYOMING STATE HISTORIC PRESERVATION OFFICER

BY: John J. Keck DATE: 4/9/97
TITLE: _____

CONCUR

SEA WEST ENERGY LAND ASSOCIATES, LLC by: SEAWEST ENERGY CORPORATION, MEMBER

BY: [Signature] DATE: 6/24/97
TITLE: SR. vice president

MEDICINE WHEEL COALITION FOR SACRED SITES OF NORTH AMERICA

BY: _____ DATE: _____
TITLE: _____

EASTERN SHOSHONE TRIBE

BY: _____ DATE: _____
TITLE: _____

BUREAU OF LAND MANAGEMENT, RAWLINS DISTRICT

BY: Kurt J. Kotter
TITLE: Rawlins District Manager

DATE: 4/3/97

ADVISORY COUNCIL ON HISTORIC PRESERVATION

BY: _____
TITLE

DATE: _____

WYOMING STATE HISTORIC PRESERVATION OFFICER

BY: _____
TITLE

DATE: _____

CONCUR

SEA WEST

BY: _____
TITLE

DATE: _____

NORTHERN ARAPAHO TRIBE

BY: Richard Brannan
Richard Brannan, Chairman

BY: Francis Brown
Francis Brown, Traditional Leader

DATE: 6-23-97

Date: 6/24/97