

US EPA ARCHIVE DOCUMENT



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

September 13, 2010

ATTN: Rich Burns
Bureau of Land Management
Ukiah Field Office
2550 North State Street,
Ukiah, California 95482

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Walker Ridge Wind Project, Lake and Colusa Counties, California

Dear Mr. Burns:

The U.S. Environmental Protection Agency (EPA) has reviewed the August 13, 2010, Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS) for the Proposed Walker Ridge Wind Project, Lake and Colusa Counties, California. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005. Using renewable energy resources such as wind power can help the nation meet its energy requirements while reducing greenhouse gas emissions. To assist in the scoping process for this project, we have identified several issues for your attention in the preparation of the EIS. We are most concerned about impacts to water resources, biological resources, and habitat, as well as cumulative impacts associated with the potential development of multiple large-scale wind and solar projects.

We appreciate the opportunity to review this NOI and are available to discuss our comments. Please send two hard copy of the Draft EIS and two CD ROM copies to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 942-3545 or at mcpherson.ann@epa.gov.

Sincerely,

/s/

Ann McPherson
Environmental Review Office

Enclosures: EPA's Detailed Comments

US EPA DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED STATEMENT FOR THE PROPOSED WALKER RIDGE WIND PROJECT, LAKE AND COLUSA COUNTIES, CALIFORNIA, SEPTEMBER 13, 2010

Project Description

AltaGas Renewable Energy Pacific, Inc., (AltaGas) has requested a right-of-way (ROW) (CACA-49639) to construct, operate, maintain, and decommission a 67 megawatt (MW) wind energy project with an interconnection to the Pacific Gas and Electric 115-kilovolt (kV) distribution system. The proposed action will include up to 42 wind turbine generators, an underground electrical collection system, a substation, a 115-kV overhead transmission line, an interconnect station, an operations and maintenance building, access roads, and a temporary laydown area. The project site is about 10 miles south of the Mendocino National Forest and directly east of Indian Valley reservoir. The project will be located in the unincorporated areas of Lake and Colusa counties in California within the 8,157.35 acre ROW on Federal land under the jurisdiction of the Bureau of Land Management (BLM). No private land will be impacted by the project.

AltaGas intends to use 2.3 MW Siemens Wind Turbine Generators (WTGs) to produce the desired 60 to 70 MW output. Walker Ridge Road would be used as the primary access road during construction and operation. To the greatest extent feasible, proposed WTGs would be located in pre-disturbed land adjacent to Walker Ridge Road and in fire breaks constructed by CalFire to minimize environmental impacts. The project will use lands near an existing transmission line and would not require the construction of new utility corridors outside of the proposed project ROW.

Statement of Purpose and Need

The Draft Environmental Impact Statement (DEIS) should clearly identify the underlying purpose and need to which BLM is responding in proposing the alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Recommendation:

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The DEIS should discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting its renewable energy portfolio standards and goals.

Alternatives Analysis

NEPA requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of

alternatives will include options for avoiding significant environmental impacts. The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail. Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (low, medium, and high).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.).

Recommendations:

The DEIS should describe how each alternative was developed, how it addresses each project objective, and how it would be implemented. The alternatives analysis should include a discussion of locations, including on-site alternatives that demonstrate reducing impacts, as well as different generating technologies. The DEIS should describe the benefits associated with the proposed technology.

The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

Water Resources

Clean Water Act Section 303(d)

The Clean Water Act (CWA) requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

Recommendation:

The DEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The DEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Clean Water Act Section 404

The project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill material into waters of the United

States (WOUS), including wetlands and other *special aquatic sites*. The DEIS should describe all WOUS that could be affected by the project alternatives, and include maps that clearly identify all waters within the project area. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. In addition, EPA suggests that BLM include a jurisdictional delineation for all WOUS, including ephemeral drainages, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the December 2006 *Arid West Region Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. A jurisdictional delineation will confirm the presence of WOUS in the project area and help determine impact avoidance or if state and federal permits would be required for activities that affect WOUS.

If a permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (“404(b)(1) Guidelines”). Pursuant to 40CFR 230, any permitted discharge into WOUS must be the least environmentally damaging practicable alternative (LEDPA) available to achieve the project purpose. The DEIS should include an evaluation of the project alternatives in this context in order to demonstrate the project’s compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into WOUS, the DEIS should discuss alternatives to avoid those discharges.

The DEIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations, and identify whether any components of the proposed project are within a 50 or 100-year floodplain. We also recommend the DEIS include information on the functions and locations of WOUS and their direct relationship to waters downstream.

Recommendations:

The applicant should coordinate with the U.S. Army Corps of Engineers to obtain a jurisdictional delineation and determine whether or not a CWA Section 404 permit would be needed. If a permit is needed, the DEIS should demonstrate the project’s compliance with the CWA 404(b)(1) Guidelines.

The DEIS should describe any waters of the U.S. and the drainage patterns at the project location.

Water Supplies

Public drinking water supplies and/or their source areas often exist in many watersheds. Source water is water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water. Source water areas are delineated and mapped by the state for each federally-regulated public water system. The 1996 amendments to the Safe Drinking Water Act (SDWA) require federal agencies to protect sources of drinking water for communities. Therefore, EPA recommends that the EIS identify:

- a) source water protection areas within the project area;

- b) activities that could potentially affect source water areas;
- c) potential contaminants that may result from the proposed project; and
- d) measures that would be taken to protect the source water protection areas.

Large turbines require substantial foundations and associated structural and geotechnical engineering considerations. The substantial amount of concrete typically used in foundations for large wind turbines requires a large amount of cement, sand, and aggregate. A typical 1.5 MW WTG can require up to 6500 gallons of water for each turbine foundation mixture.

Recommendation:

The DEIS should describe whether a temporary batch plant will be installed on site for the needed concrete, estimate the quantity of water required for the concrete mixture and describe the source of this water and potential effects on other water users and natural resources in the project area.

Biological Resources, Habitat and Wildlife

During construction of the proposed project, vegetation would be cleared and soils moved during the construction of roads, wind turbine foundations, substation, switchyard, and other facilities. The DEIS should describe the current quality and capacity of habitat and its use by wildlife in the proposed project area, especially bats and avian populations. The DEIS should describe the critical habitat for the species; identify any impacts the proposed project will have on the species and their critical habitats; and how the proposed project will meet all requirements under the Endangered Species Act, including consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Game.

Wind energy generation projects have the potential to disrupt important wildlife species habitat, resulting in mortality of migratory species such as birds and bats due to collisions with rotors. The EIS should consider whether migratory birds are likely to use the project area and avoid, if possible: 1) areas supporting a high density of wintering or migratory birds, 2) areas with high level of raptor activity, and 3) breeding, wintering or migrating populations of less abundant species which may be sensitive to increased mortality as a result of collision.

A comprehensive monitoring program should be designed to evaluate impacts on bats and avian species. We suggest that the BLM conduct pre-construction baseline surveys to evaluate the site for its importance to bats and avian species, as well as post-construction surveys to determine the extent of mortalities and to determine the effectiveness of mitigation measures. Surveys should be conducted by a qualified biologist during the appropriate time of year. BLM actions should promote the recovery of declining populations of species. Collision risk depends on a range of factors related to species, numbers and behavior, weather conditions, topography, and lighting. The DEIS should identify and describe specific turbine types and their operating characteristics and consider turbine design standards that minimize adverse impacts to wildlife, particularly birds and bats. Consideration should be given to reducing the perching and nesting opportunities, which may help reduce potential collisions.

The DEIS should identify all petitioned and listed threatened and endangered species that might occur within the project area. The DEIS should identify and quantify which species might be directly or indirectly affected by each alternative. All raptor and owl species are protected under the Migratory Bird Treaty Act (MBTA). The golden eagle and bald eagle also receive protection under the Bald and Golden Eagle Protection Act (BGEPA). The MBTA, however, has no provision for allowing unauthorized take. In September 2009, the FWS finalized permit regulations¹ under the BGEPA for the take of bald and golden eagles on a limited basis, provided that the take is compatible with preservation of the eagle and cannot be practicably avoided. The final rule states that if advanced conservation practices (ACPs) can be developed to significantly reduce take, the operator of a wind-power facility may qualify for a programmatic take permit. Most permits under the new regulations would authorize *disturbance*, rather than take.

Recommendations:

Identify specific measures to reduce impacts to eagles and clarify how the proposed project will comply with the MBTA and BGEPA.

Discuss the applicability of the recently finalized FWS permit regulations (50 CFR parts 13 and 22) to the proposed project. Elaborate on process and/or likelihood of obtaining a permit via these regulations.

Commit to additional data collection/analysis to identify areas that are important to bald and golden eagles to ensure proper siting and avoid take of these species.

If alternatives cannot be developed that avoid the take of eagles, develop an operational monitoring and adaptive management plan to address this issue.

BLM Areas of Critical Environmental Concern (ACEC) are managed for the protection of specific sensitive resources or habitats. The project site is located adjacent to two units of the Indian Valley ACEC. Walker Ridge Road bisects a part of the ACEC just north of Highway 20 within the project site. This ACEC has been established for the protection of special status plants. The region surrounding Walker Ridge contains a diverse ecological community including serpentine chaparral, grasslands, oak woodlands, and endemic species. Because the project may have impacts on native and rare plants, the DEIS should include general locations of rare plants, and how these sites will be managed to minimize impacts on the plants. If any pesticides and herbicides will be used for vegetation treatment during the proposed project operations, the DEIS should address any potential toxic hazards related to the application of the chemicals, and describe what actions will be taken to assure that impacts by toxic substances released to the environment will be minimized. If vegetation would be burned, then the DEIS should include a smoke management program that would be followed to reduce public health impacts and potential ambient air quality exceedances.

¹ See Eagle Permits, 50 CFR parts 13 and 22, issued Sept. 11, 2009. See internet address: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/Final%20Disturbance%20Rule%209%20Sept%202009.pdf>

Recommendation:

A comprehensive monitoring program should be designed to evaluate impacts on bats and avian species, and the DEIS should discuss design and management measures to minimize adverse impacts to wildlife and native and rare plants.

Invasive Species

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. If the proposed project will entail new landscaping, the DEIS should describe how the project will meet the requirements of Executive Order 13112.

Recommendation:

The DEIS should include an invasive plant management plan to monitor and control noxious weeds.

Indirect and Cumulative Impacts

The cumulative impacts analysis should provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety (CEQ's Forty Questions, #18). The DEIS should clearly identify the resources that may be cumulatively impacted, the time over which impacts are going to occur, and the geographic area that will be impacted by the proposed project. The DEIS should focus on resources of concern – those resources that are “at risk” and/or are significantly impacted by the proposed project, before mitigation. In the introduction to the *Cumulative Impacts Section*, identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the DEIS should:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify opportunities to avoid and minimize impacts, including working with other entities.

As an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendations:

The DEIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, its likely location, and the biological and environmental resources at risk.

The DEIS should consider the direct and indirect effects of the inter-connecting transmission line for the proposed project, as well as the cumulative effects associated with the transmission needs of other reasonably foreseeable projects.

Implementation of Adaptive Management Techniques for Mitigation Measures

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. The effectiveness of adaptive management monitoring depends on a variety of factors including:

- a) The ability to establish clear monitoring objectives;
- b) Agreement on the impact thresholds being monitored;
- c) The existence of a baseline or the ability to develop a baseline for the resources being monitored;
- d) The ability to see the effects within an appropriate time frame after the action is taken;
- e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
- f) The resources needed to perform the monitoring and respond to the results.

Recommendation:

EPA recommends that BLM consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure the successful implementation of mitigation measures. EPA recommends that BLM review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality (CEQ) on *Modernizing NEPA*.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. Global warming can affect weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates, resulting in climate change. Reports also indicate that deserts may store as much carbon as temperate forests.

Recommendations:

The DEIS should consider how climate change could potentially influence the proposed project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

The DEIS should consider the cumulative impacts associated with multiple large-scale wind and solar projects proposed in the desert southwest and clarify how existing and/or proposed resources will be affected by climate change.

The DEIS should quantify and disclose the anticipated climate change *benefits* of wind energy. We suggest quantifying greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear and compiling and comparing these values.

Air Quality

The DEIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect impacts). Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

The DEIS should describe and estimate air emissions from the proposed facility, including potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. EPA recommends an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics).

Recommendations:

- *Existing Conditions* – The DEIS should provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in all areas considered for wind development.
- *Quantify Emissions* – The DEIS should estimate emissions of criteria pollutants from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project. The DEIS should describe and estimate emissions from

- potential construction activities, as well as proposed mitigation measures to minimize these emissions.
- *Specify Emission Sources* – The DEIS should specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
 - *Equipment Emissions Mitigation Plan (EEMP)* – The DEIS should identify the need for an EEMP. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NO_x associated with construction activities. We recommend that the EEMP require that all construction-related engines:
 - are tuned to the engine manufacturer’s specification in accordance with an appropriate time frame;
 - do not idle for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
 - are not tampered with in order to increase engine horsepower;
 - include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project site;
 - use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
 - include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.
 - *Fugitive Dust Control Plan* - The DEIS should identify the need for *Fugitive Dust Control Plan*. We recommend that it include these general recommendations:
 - Stabilize open storage piles and by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
 - Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
 - When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.
 - The DEIS should contain an analysis of emissions from on site concrete production, including estimated mitigated annual emissions.

Naturally Occurring Asbestos

The Ultramafic rocks commonly found along the Walker Ridge area consist almost entirely of serpentinite. Disturbance of rocks and soils that contain naturally occurring asbestos (NOA), such as serpentine soils, can result in the release of asbestos fibers to the air and exposure to the public. Asbestos is a known human carcinogen and represents a potential human health risk for those exposed while using roads or trails where it occurs.

Recommendations:

EPA recommends that the BLM review the asbestos occurrence information on the California Geological Survey website: http://www.consrv.ca.gov/cgs/minerals/hazardous_minerals/asbestos/index.htm and the California Air Resources Board (CARB) regulations and guidance at: <http://www.arb.ca.gov/toxics/asbestos/asbestos.htm>. The CARB website addresses California's Asbestos Airborne Toxic Control Measures for surfacing Applications, which apply to unpaved roads.

EPA also recommends that the BLM review the recommendations presented in the Department of Toxic Substances Control report, "Study of Airborne Asbestos from a Serpentine Road in Garden Valley, California" at: <http://www.dtsc.ca.gov/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=33546>.

The DEIS should identify and include commitments for measures that can be implemented to protect human health from NOA, and include this discussion in the DEIS.

Noise Impacts

The DEIS should include an assessment of noise levels from the wind turbines. Decibel levels of the turbines should be evaluated as should the effects of noise levels on a variety of species, as well as effects on property values, residences, and recreational use.

Visual Impacts

Careful attention should be given to how a wind turbine array is set against the landscape. Steps should be taken to minimize the visual impacts and make the wind turbines less obtrusive.

Coordination with Tribal Governments

The POD states that the project is located in the BLM's Indian Valley Management Area, which is part of the BLM's Ukiah FO. Cultural resources in the planning area range from early Native American habitation sites and activity areas to the remains of historic structures associated with mining, transportation, and ranching industries.

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

The DEIS should describe the process and outcome of government-to-government consultation between BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

National Historic Preservation Act and Executive Order 13007

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act (NHPA). Historic properties under the National Historic Preservation Act (NHPA) are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Recommendation:

The DEIS should address the existence of Indian sacred sites in the project area. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how BLM will avoid adversely affecting the physical integrity of sacred sites, if they exist. The DEIS should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity

to participate in the decision-making process. Guidance² by CEQ clarifies the terms low-income and minority population (which includes American Indians) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

Recommendation:

The DEIS should include an evaluation of environmental justice populations within the geographic scope of the project. If such populations exist, the DEIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the project's impact on minority and low-income populations should reflect coordination with those affected populations.

Hazardous Materials/Hazardous Waste/Solid Waste

The DEIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the proposed project. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less toxic materials should be evaluated as mitigation. This potentially reduces the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

Wind Turbine Production and Recycling

WTG production can address the full product life cycle, from raw material sourcing through end of life collection and reuse or recycling. Wind turbine companies can minimize their environmental impacts during raw material extraction and minimize the amount of rare materials used in the product. Collection and recycling can be facilitated through buy-back programs or collection and recycling guarantees. Some companies provide recycling programs that pay all packaging, transportation, and recycling costs.

Recommendation:

EPA recommends that the proponent strive to address the full product life cycle by sourcing wind turbine components from a company that: 1) minimizes environmental impacts during raw material extraction; 2) manufactures wind turbines in a zero waste facility; and 3) provides future disassembly for material recovery for reuse and recycling.

Project Decommissioning

On the average a lifespan of a wind park is 20-30 years. The life of the proposed wind project should be taken into consideration regarding decommissioning and reclamation.

²Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.

Recommendation:

EPA recommends that the DEIS identify bonding or financial assurance strategies for decommissioning and reclamation.

Coordination with Land Use Planning Activities

The DEIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project area. The term “land use plans” includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).