



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

**DOCKET**

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Mr. Jim Bartel  
Field Supervisor  
Carlsbad Fish and Wildlife Office  
U.S. Fish and Wildlife Service  
6010 Hidden Valley Road, Suite 101  
Carlsbad, California 92011

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the Desert Renewable Energy Conservation Plan, Habitat Conservation Plan, and Possible Land Use Plan Amendment, Southern California

Dear Mr. Bartel:

The U.S. Environmental Protection Agency has reviewed the Notice of Intent to prepare an Environmental Impact Statement for the Desert Renewable Energy Conservation Plan pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The EPA strongly supports the objectives of the DRECP. Over the last two years, we have reviewed numerous EISs for renewable energy projects proposed at sites in the deserts of southern California, Nevada, and Arizona. We believe that an integrated approach that evaluates the potential for renewable energy development and conservation at the landscape scale, as is proposed for the DRECP, is far superior to attempting to avoid, minimize, and mitigate adverse ecological impacts for individual projects.

In addition to our enclosed detailed comments, we also encourage the U.S. Fish and Wildlife Service and its Renewable Energy Action Team partners to reference two other resources during scoping and the preparation of the EIS: 1) the DRECP Science Advisory Report (Report); and 2) the Restoration Design Energy Project being developed by the Arizona office of the BLM. The Report, which represents the consensus advice from a group of independent scientists to the REAT, contains many important recommendations, among these: maximizing the use of already disturbed lands, avoiding disrupting physical geological processes (such as active sand dunes and hydrological flows), and beginning monitoring studies and implementing adaptive management actions during planning. The RDEP, with its broad, statewide focus, utilizes various screening criteria to exclude areas with sensitive resources and includes a commitment to identify and prioritize renewable energy development on disturbed lands. Both the Report and the RDEP include many integral components that should be utilized during the preparation of the DRECP.

We appreciate the opportunity to review this NOI and are available to discuss our comments. When the Draft EIS is released for public review, please send two hard copies and one CD to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 947-4221 or [gerdes.jason@epa.gov](mailto:gerdes.jason@epa.gov).

Sincerely,



Jason Gerdes  
Environmental Review Office

Enclosures: EPA's Detailed Comments

**US EPA DETAILED COMMENTS ON THE SCOPING NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR THE DESERT RENEWABLE ENERGY CONSERVATION PLAN, HABITAT CONSERVATION PLAN, AND POSSIBLE LAND USE AMENDMENT, SOUTHERN CALIFORNIA – SEPTEMBER 8, 2011**

**Statement of Purpose and Need**

The EIS should clearly identify the underlying purpose and need to which the Fish and Wildlife Service (Service) 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, as it provides the framework for identifying project alternatives. The EIS should discuss the proposed Desert Renewable Energy Conservation Plan (DRECP or Plan) in the context of the larger energy market that this Plan would serve and identify potential purchasers of the power produced. The EIS should also discuss how the DRECP will assist the state in meeting its Renewable 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 EIS 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 proposed action 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 virgin desert impacted, tons per year of emissions produced, etc.).

***Recommendations:***

The EIS 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 the different types of renewable energy technologies that may be utilized in the planning area and describe the benefits and potential impacts associated with each of them.

The EIS should identify areas with potential use conflicts and provide specific recommendations for reducing or limiting conflict in these areas. These recommendations may include limitations on technology in specific areas.

The EIS 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).

## **Environmental Review Process**

### ***Recommendations:***

The EIS should describe: 1) how, and if, it will serve as a “tiering” document for subsequent NEPA analysis prepared for specific project applications; 2) the factors used to determine when a subsequent EIS will be required; and 3) the factors used to determine when an Environmental Assessment will be required.

## **Siting Renewable Energy Projects**

The most important recommendation that the EPA can make to the Service about the DRECP is to maximize the siting of renewable energy projects on previously disturbed land. Having participated in field tours for the DRECP and seen firsthand a mix of retired and fallowed agricultural lands that are proposed to be included in the planning area, the EPA feels strongly that these already-degraded lands should be prioritized for renewable energy development.

### ***Recommendations:***

To the greatest possible extent, renewable energy projects should be sited on previously disturbed land.

Project proponents should avoid and minimize any disturbance of fragile soils, as well as physical processes, such as washes and dunes, crucial to sustaining desert ecosystems.

## **Analysis of Transmission Lines Needs**

### ***Recommendations:***

When identifying solar, wind, and geothermal resource areas within the DRECP, the EIS should also identify: areas with established transmission lines; areas where there is a lack of transmission capacity; and areas where new transmission lines have been proposed in conjunction with proposed projects, both within and adjacent to, the planning area.

## **Climate Change**

On December 7, 2009, the EPA determined that emissions of GHGs contribute to air pollution that “endangers public health and welfare” within the meaning of the CAA. One report, released by the California Energy Commission, indicates that observed changes in temperature, sea level, precipitation regime, fire frequency, and agricultural and ecological systems reveal that California is already experiencing the measurable effects of climate change<sup>1</sup>. These manifestations of climate change create additional urgency when evaluating potential impacts associated with development in fragile desert ecosystems. The proposed period of incidental take coverage (40 years) will likely be a time of profound change in the deserts of southern California. Consequently, the DRECP should include provisions to monitor and reassess the status of Covered Species, the distribution of species throughout the planning

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<sup>1</sup> Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071.

area, and the need for new or expanded conservation lands at regular intervals throughout the duration of the proposed period of coverage.

***Recommendations:***

The EIS should consider how the effects of climate change could potentially impact the DRECP, particularly sensitive resources, and what measures could be incorporated into the Plan to limit these impacts.

The EIS should quantify and disclose the anticipated climate change *benefits* of renewable 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 in tables within an appendix.

The Service should also develop a robust monitoring and adaptive management plan to account for, mitigate, and adapt to, the effects of climate change on the Covered Species and the habitats in which these species depend. Monitoring should be done at regular intervals throughout the entire period of coverage.

The EIS should describe water reliability for the proposed project and clarify how existing and/or proposed sources will be affected by climate change. At a minimum, the EPA expects a qualitative discussion of impacts of climate change to water supply, and the adaptability of the project to these changes.

**Water Resources Impacts**

***Water Supply and Water Quality***

The EIS should estimate the quantity of water that projects within the DRECP will require and describe the source of this water and potential effects on other water users and natural resources in the Plan's area of influence. The EIS should clearly describe existing groundwater conditions, potential cumulative impacts to groundwater quantity and quality, and avoidance measures to prevent impacts. The EIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to this resource. Specifically, the potentially-affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open water bodies and biologic resources should be analyzed. The EIS should include:

- A discussion of the amount of water needed for each renewable energy facility, where this water will be obtained, the reliability of this source, and the amount and source of power that would be needed to move the water to and through the facility;
- A discussion of availability of groundwater within the basin and annual recharge rates;
- A description of the water right permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated;
- A description of any water right permits that contain special conditions; measures to mitigate direct, indirect, and cumulative impacts; and provisions for monitoring and adaptive management;

- A detailed discussion of cumulative impacts to groundwater supply within the hydrographic basin(s) that would support the alternatives, including impacts from other large-scale energy installations that have also been proposed;
- An analysis of different types of technology that can be used to minimize water use;
- A discussion of whether it would be feasible to use other sources of water, including wastewater or deep-aquifer water;
- A discussion of whether it is possible to recycle the water that would be sent to the evaporation pond (if wet cooling is utilized) and re-inject or reuse this water; and
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

### *Disposal of Discharges*

The EIS should address the potential effects of project discharges, if any, on surface and groundwater quality. Discharges may include, but are not limited to, thermal changes, suspended solids, toxicity, metals, oil and grease, chlorine, salinity, and pH. At the project level, the specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed. The EIS should note that a National Pollutant Discharge Elimination System (NPDES) permit would be required for discharges to waters of the United States. The disposal of wastewater or other fluids into the subsurface is subject to the requirements of the Underground Injection Control Program, pursuant to the Safe Drinking Water Act. Permits may or may not be required, depending on project specifications and federal and/or state requirements. The subsequent EISs/EAs should address how the proposed project would be designed and operated to ensure that the facility meets federal and state water quality standards that provide for the protection and maintenance of beneficial uses downstream from the facility.

### *Clean Water Act Section 404*

The project applicants will need to coordinate with the U.S. Army Corps of Engineers to determine if proposed projects within the DRECP area will require a Section 404 permit under the 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*. In order to comply with the 404(b)(1) Guidelines, the applicant must determine the *geographic extent of waters* and comprehensively evaluate a *range of alternatives* to ensure that the “*preferred*” alternative is the *Least Environmentally Damaging Practicable Alternative* (LEDPA). Identification of the LEDPA is achieved by performing an *alternatives analysis* that estimates the direct, indirect, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. In particular, EPA would like to clarify that the alternatives analysis that is required for a Section 404 permit differs from the alternatives analysis required under NEPA. The Section 404 alternatives analysis must include on-site and off-site alternatives, which may include private land, BLM-administered land, and/or disturbed sites. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences.

Pursuant to the Guidelines, *mitigation* of project impacts begins with the *avoidance* and *minimization* of *direct, indirect, and cumulative impacts* to the aquatic ecosystem, followed by *compensatory measures* if

a *loss of aquatic functions and/or acreage* is unavoidable. Compensatory mitigation is, therefore, intended only for unavoidable impacts to waters after the LEDPA has been determined. If a Section 404 permit is required, EPA will review the project for compliance with the Guidelines; the burden to demonstrate compliance with the Guidelines rests with the permit applicant.

### *Planning-level Assessment of Aquatic Resources*

Ideally, to facilitate tiering of project-level environmental reviews to the DRECP, a jurisdictional determination (JD) would be completed for each area designated for energy development; however, we recognize that this would be a resource-intensive undertaking. At a minimum, EPA recommends that a *planning level delineation of aquatic resources* be performed within each of the energy development areas. This may not disclose all aquatic resources, but it would provide additional information on the presence of aquatic resources within the study area subject to NEPA that may be subject to federal jurisdiction under Section 404 of the CWA. A proposed project's impacts to waters subject to federal jurisdiction could result in significant degradation, as defined at 40 CRF Part 230 (Guidelines).

#### ***Recommendations:***

EPA recommends that a *planning level delineation of aquatic resources* be performed within each of the designated energy development areas. This would include the identification of aquatic resources using aerial photography, existing mapping data available, and field verification. The results of such delineations should be included in the DEIS.

The DEIS should clearly explain the circumstances under which a formal site-specific JD would be required and at what point in the project planning process it would be conducted.

### *Drainages, Ephemeral Washes, and Floodplains*

Ephemeral and intermittent streams make up over 81% of streams in the arid and semi-arid Southwest (Arizona, California, Colorado, Nevada, New Mexico, and Utah).<sup>2</sup> Ephemeral washes, playas, and other aquatic resources within the desert perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The evaluation of these aquatic resources should not be discounted.

#### ***Recommendations:***

The EIS should describe the natural drainage patterns within the DRECP, including the 50 or 100 year floodplain, and characterize the general functions of the main aquatic features within the DRECP area.

The EIS should include information on the functions and locations of WOUS, as well as ephemeral washes, because of the important hydrologic and biogeochemical role these washes play in direct relationship to higher-order waters downstream.

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<sup>2</sup> See Internet address: <http://azriparian.org/docs/arc/publications/EphemeralStreamsReport.pdf>

EPA recommends utilizing existing natural drainage channels on site and more natural features, such as earthen berms or channels, rather than concrete-lined channels to avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels and local scour).

EPA recommends committing to the use of natural washes in their present location and natural form.

#### *Clean Water Act Section 303(d)*

The 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 EIS should provide information on CWA Section 303(d) impaired waters in the DRECP planning area, if any, and efforts to develop and revise TMDLs. The EIS 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.

#### **Biological Resources and Habitat**

The wind energy generation projects proposed in the DRECP 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 DEIS should consider whether migratory birds are likely to use the planning 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 Service 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. Service 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 planning area. The DEIS should identify and quantify which species might be directly or indirectly affected by each alternative. The DEIS should discuss the potential for habitat fragmentation and impediments to wildlife movements which are among the greatest threats to desert communities and

species, and that maximizing habitat connectivity is essential to climate change adaptation<sup>3</sup>. The California Condor is listed as an endangered species under the Federal Endangered Species Act and is also fully protected pursuant to Fish and Game Code, Section 3511. All raptor and owl species are protected under the Migratory Bird Treaty Act. The golden eagle and bald eagle also receive protection under the Bald and Golden Eagle Protection Act. The MBTA, however, has no provision for allowing unauthorized take. In September 2009, the Service finalized permit regulations<sup>4</sup> 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 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. In February 2011, the Service issued Draft Eagle Conservation Plan Guidance which provides additional background information necessary for wind energy project proponents to prepare an Eagle Conservation Plan that will assess the risk of their project(s) to eagles and how siting, design, and operational modifications can mitigate that risk.

***Recommendations:***

Design a comprehensive monitoring program to evaluate impacts on bats and avian species, and discuss design and management measures to minimize adverse impacts to wildlife and native and rare plants.

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

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.

Consider site specific risk mapping for avian species of concern as a means to site individual wind turbines in lower risk areas. An example of this type of study was performed at the Altamont Wind Resource Area<sup>5</sup>. This study was funded by the California Energy Commission's Public Interest Energy Research program.

Discuss the applicability of the recently finalized Service 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.

Discuss in the DEIS the applicability of the recent Eagle Conservation Plan Guidelines to the proposed project. Elaborate on siting, design, and operational modifications that will mitigate impacts.

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<sup>3</sup> Recommendations of Independent Science Advisors for the California Desert Renewable Energy Conservation Plan, DRECP Independent Science Advisors, October, 2010,

<sup>4</sup> 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%2009%20Sept%202009.pdf>

<sup>5</sup> Smallwood, K. S., and L. Neher. 2008. Map-Based Repowering of the Altamont Pass Wind Resource Area Based on Burrowing Owl Burrows, Raptor Flights, and Collisions with Wind Turbines. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2009-065.

The DEIS should describe the potential for habitat fragmentation and obstructions for wildlife movement.

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

Determine if the proposed project is within the existing or historical ranges of the California condor or have the potential to impact future expanded populations and consult with FWS and CDFG early in the process.

Indicate what mitigation measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed covered activities.

Discuss mechanisms in the DEIS that would: 1) protect into perpetuity any compensatory mitigation lands that are selected; and 2) exclude the non-developed portion of a subject ROW from further disturbance or development.

The DEIS should include the requirement for the owner to provide financial assurance for any required mitigation projects. Such assurances can be provided by third-party institutions, such as surety bonding companies, insurance companies, banks and other financial institutions that agree to hold themselves financially liable for the failure of a responsible party to perform compensatory mitigation obligations.

The Service published on March 4, 2010, a set of guidelines and recommendations<sup>6</sup> on how to avoid and minimize impacts of land-based wind farms on wildlife and habitat. Further revisions and clarifications were published in February 2011 in the Draft Voluntary Land-Based Wind Energy Guidelines.<sup>7</sup> The document was prepared by the Wind Turbine Guidelines Advisory Committee and contains both policy recommendations and recommended voluntary guidelines for siting and operating wind energy projects in order to avoid or minimize potential impacts to wildlife and habitat.

The Committee's Guidelines utilize a "tiered approach" to assess potential impacts to wildlife and their habitats. The five tiers include: 1) preliminary evaluation or screening of sites; 2) site characterization; 3) field studies to document site wildlife conditions and predict project impacts; 4) post-construction fatality studies; and 5) other post-construction studies. The Committee's Guidelines provide a consistent methodology for conducting pre-construction risk assessments and post-construction impact assessments to guide siting decisions by developers and agencies. Furthermore, the Guidelines address all elements of a wind energy facility, including the turbine string or array, access roads, ancillary buildings, and the above-and below-ground electrical lines which connect a project to the transmission system.

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<sup>6</sup> U.S. Fish and Wildlife Service Wind Turbine Guidelines Advisory Committee Recommendations, submitted to the Secretary of the Interior by the U.S. Fish and Wildlife Service, March 4, 2010. See Internet address: [http://www.fws.gov/habitatconservation/windpower/Wind\\_Turbine\\_Guidelines\\_Advisory\\_Committee\\_Recommendations\\_Secretary.pdf](http://www.fws.gov/habitatconservation/windpower/Wind_Turbine_Guidelines_Advisory_Committee_Recommendations_Secretary.pdf)

<sup>7</sup> U.S. Fish and Wildlife Service Draft Land-Based Wind Energy Guidelines, February 8, 2011. See Internet address: <http://www.fws.gov/windenergy/>

***Recommendations:***

Discuss in the DEIS the applicability of the recent Land-Based Wind Energy Guidelines to the proposed project. Elaborate on siting, design, and operational modifications that will mitigate impacts.

Consider utilizing unique types of radar technology to monitor for bird and bats.<sup>8</sup>

Consider a tactical shut down option during critical hours of species activity, as appropriate, to minimize adverse impacts on such species.

Consider blade feathering/idling (including on-the-spot and seasonal shutdowns), reducing cut-in speeds, and adjusting turbine speeds during strategic intervals to reduce take and to prevent mortality.

**Air Quality**

The EIS 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 Covered Activities (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 EIS should describe and estimate air emissions from the proposed Covered Activities, including potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. The 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 EIS should provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in all areas considered for renewable energy development.
- *Quantify Emissions* – The EIS 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 EIS should describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions.
- *Specify Emission Sources* – The EIS 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.

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<sup>8</sup> For example, see <http://www.detect-inc.com/avian.html> and [http://www.upi.com/Science\\_News/Resource-Wars/2010/03/18/Radar-reduces-wind-farm-risk-to-birds/UPI-71441268920323/](http://www.upi.com/Science_News/Resource-Wars/2010/03/18/Radar-reduces-wind-farm-risk-to-birds/UPI-71441268920323/). These resources are provided as examples only and do not constitute endorsement of any particular product by EPA.

- *Equipment Emissions Mitigation Plan (EEMP)* – The EIS should identify the need for an EEMP. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NO<sub>x</sub> 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 EIS 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.

### *General Conformity*

The EIS should address the applicability of CAA Section 176 and EPA’s general conformity regulations at 40 CFR Parts 51 and 93. Federal agencies need to ensure that their actions, including construction emissions subject to state jurisdiction, conform to an approved implementation plan. Emissions authorized by a CAA permit issued by the State or the local air pollution control district would not be assessed under general conformity but through the permitting process.

#### ***Recommendation:***

Cumulative impacts to air quality should be analyzed given the potential air quality impacts from construction activities.

### *New Source Review (NSR) Construction Permit Program*

New major stationary sources of air pollution and major modifications to existing sources are required by the CAA to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources in attainment areas are referred to as Prevention of Significant Deterioration (PSD) permits, while permits for sources located in nonattainment areas are referred to as nonattainment (NAA) NSR permits. The entire program, including both PSD and NAA permitting, is referred to as the NSR program and is established in Parts C and D of Title I of the CAA. Based upon an area's attainment/nonattainment designations and a proposed project's anticipated criteria pollutant emission rates, a project may require both a PSD and NAA permit.

***Recommendation:***

The EIS should discuss if NSR program permits will be required for any geothermal, solar, or wind power plants that may be constructed. If so, the EIS should describe the permitting process and the information that must be addressed in the permits.

**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 EIS 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 EIS 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 EIS 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 EIS 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 EIS should consider the direct and indirect effects of the inter-connecting transmission lines for the proposed DRECP projects, as well as the cumulative effects associated with the transmission needs of other reasonably foreseeable projects.

**Mitigation and Pollution Prevention**

The EIS should evaluate the feasibility of adopting mitigation to avoid, reduce, or compensate for, adverse environmental impacts from construction and operation. NEPA does not require that an impact be “significant” before mitigation can be presented in an EIS. “All relevant, reasonable mitigation measures that could improve the project are to be identified. . . . Mitigation measures must be considered even for impacts that by themselves would not be considered ‘significant.’ Once the proposal itself is considered as a whole to have significant effects . . . mitigation measures must be developed where it is feasible to do so.” (CEQ’s Forty Questions, #19a)

CEQ also issued guidance<sup>9</sup> on integrating pollution prevention measures in NEPA documents. Many strategies can reduce pollution and protect resources, including using fewer toxic inputs, altering manufacturing and facility maintenance processes, and conserving energy. Consistent with CEQ’s guidance, we recommend presenting all reasonable mitigation and pollution prevention measures and how these may be incorporated into future agreements.

**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.

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<sup>9</sup>Memorandum to Heads of Federal Departments and Agencies Regarding Pollution Prevention and the National Environmental Policy Act, CEQ, January 12, 1993.

***Recommendation:***

The EPA recommends that the Service consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure the successful implementation of mitigation measures.

To be most effective, the monitoring studies and the adaptive management plan should be implemented during planning.

**Project Decommissioning, Site Restoration, and Financial Assurance**

On the average, a lifespan of a renewable energy facility is 25-30 years. The life of the proposed projects in the DRECP should be taken into consideration regarding decommissioning and reclamation.

***Recommendation:***

The EPA recommends that the DEIS include a requirement for a decommissioning and site restoration plan to include cost estimates; the project owner to secure a performance bond surety bond, letter of credit, corporate guarantee, or other form of financial assurance adequate to cover the cost of decommissioning/restoration; description of the conditions when decommissioning will commence; description of time allotted to complete the decommissioning; description of the structures, facilities, and foundations to be removed; and restoration of the site by recontouring the surface and revegetation to a condition reasonably similar to the original condition.

**Coordination with Tribal Governments**

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 EIS should describe the process and outcome of government-to-government consultation between the Service 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 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, accessibility, or use of 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 EIS should address the existence of Indian sacred sites in the project areas. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how the Service will avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist. The EIS 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), and the “Memorandum of Understanding on Environmental Justice and Executive Order 12898,” released on August 4, 2011, direct 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. Guidance<sup>10</sup> 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 EIS should include an evaluation of environmental justice populations within the geographic scope of the project. If such populations exist, the EIS 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.

**Coordination with Land Use Planning Activities**

The EIS 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).

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<sup>10</sup>Environmental 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.

## **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 EIS should describe how the project will meet the requirements of Executive Order 13112.

### ***Recommendation:***

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

## **Hazardous Materials/Hazardous Waste/Solid Waste**

The EIS 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.

