UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901
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Allison Shaffer, Project Manager
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Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

Mike Monasmith, Project Manager
Siting, Transmission, and EPD
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Subject: Notice of Intent to Prepare an Environmental Impact Statement/Staff Assessment for the NextEra Ford Dry Lake Solar Power Plant, Riverside County, CA and Possible Land Use Plan Amendment

Dear Ms. Shaffer and Mr. Monasmith:

The U.S. Environmental Protection Agency (EPA) has reviewed the November 23, 2009 Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS)/ Staff Assessment for the NextEra Ford Dry Lake Solar Power Plant in Riverside County, 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 solar 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 solar installations in the desert southwest.

We appreciate the opportunity to review this NOI and are available to discuss our comments. Please send two hard copies 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) 972-3545 or at mcpherson.ann@epa.gov.

Sincerely,

Ann McPherson
Environmental Review Office

Enclosures: EPA's Detailed Comments

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U.S. EPA DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT/STAFF ASSESSMENT FOR THE NEXTERA FORD DRY LAKE SOLAR POWER PLANT, RIVERSIDE COUNTY, CALIFORNIA, NOVEMBER 30, 2009

Project Description

NextEra, LLC (NextEra) has requested a right-of-way (ROW) authorization to develop an 1,890-acre, 250-megawatt (MW) solar generation facility including a substation, administration, operations and maintenance facilities, evaporation ponds, surface storm water control facilities, and temporary construction areas. The project area is located approximately 25 miles west of the city of Blythe, California and north of Ford Dry Lake and Interstate 10 on lands managed by the Bureau of Land Management (BLM). The project area is located in an undeveloped area of the Sonoran Desert that has been used for grazing and off-highway vehicle (OHV) use in the past. The project area would include a Right-of-Way (ROW) for approximately 4,640 acres. Once constructed, the project would permanently occupy approximately 1,890 acres.

NextEra proposes to construct two, independent, concentrated solar electric generating facilities with a combined electrical output of 250 MW. Electrical power would be produced using steam turbine generators fed from solar steam generators. The solar steam generators would receive heated transfer fluid from arrays of parabolic solar troughs. The project would use a wet cooling tower for power plant cooling. Water for cooling tower makeup, process water makeup, and other industrial uses such as mirror washing would be supplied from on-site groundwater wells. Project cooling wastewater would be piped to lined, on-site evaporation ponds. The project would tie into a 230 kilovolt (kV) on-site switchyard and 500 kV transmission line with an interconnection to the Colorado River Substation.

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

The National Environmental Policy Act (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).

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 alternative sites, capacities, and generating technologies including different types of solar energy technologies, and 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).

The DEIS should discuss the feasibility of using residential and wholesale distributed generation, in conjunction with increased energy efficiency, as an alternative to the proposed project.

Water Resources

Water Supply and Water Quality

The DEIS should estimate the quantity of water the project will require and describe the source of this water and potential effects on other water users and natural resources in the project's area of influence. The DEIS should clearly describe existing groundwater conditions, potential cumulative impacts to groundwater quantity and quality, and avoidance measures to prevent impacts. The DEIS 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 DEIS should include:

- A discussion of the amount of water needed for the proposed solar thermal power plant, where this water will be obtained, 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 solar installations that have also been proposed;
- An analysis of different types of technology that can be used to minimize water use for the solar thermal power plant;
- A discussion of whether it would be feasible to use other sources of water, including wastewater or deep-aquifer water, as cooling water for the proposed solar thermal power plant;
- 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.

The Notice of Intent (NOI) does not include an estimate for the amount of water required by the proposed project. We understand that the preliminary design for the project utilizes wet cooling technology. Large-scale solar installations that utilize wet-cooling may require significant water resources. Solar installations that utilize dry-cooling require much less water—up to 90 percent less. We recognize that wet cooling technology has performance advantages over dry cooling, especially in arid regions, and may be less expensive; however, due to the general scarcity of water in the region, the large number of solar project applications submitted to BLM, and the ever-increasing demand for this commodity, EPA is concerned about the depletion of this resource.

Recommendation:
EPA recommends that the DEIS discuss the water demands of various solar technologies, including wet cooling and dry cooling systems. We also recommend that BLM consider utilization of technologies that will minimize water use and the implementation of conservation measures that will reduce water demands.

EPA encourages BLM to include in the DEIS a description of all water conservation measures that will be implemented to reduce water demands. Project designs should maximize conservation measures such as appropriate use of recycled water for landscaping and industry, xeric landscaping, and water conservation education. Water saving strategies can be found in the EPA's publications *Protecting Water Resources with Smart Growth* at www.epa.gov/piedpage/pdf/waterresources_with_sg.pdf, and *USEPA Water Conservation Guidelines* at www.epa.gov/watersense/docs/app_a508.pdf.

In addition, the DEIS 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,

EPA expects a qualitative discussion of impacts of climate change to water supply, and the adaptability of the project to these changes.

Disposal of Discharges

The DEIS should address the potential effects of project discharges, if any, on surface and groundwater quality. The specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed. If the facility is a zero discharge facility, the DEIS should disclose the amount of process water that would be disposed of onsite and explain methods of onsite containment. If evaporation ponds will be used for disposal of condensate or other process water, identify chemical characteristics of the pond water and how seepage into groundwater will be prevented. Identify the storm design containment capacity of ponds, explain how overflow in larger storm events will be managed, and discuss potential environmental impacts (drainage channels affected, water quality, biological resources) in the event of overflow.

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.

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 40 CFR 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, as well as ephemeral washes in the project area, because of the important hydrologic and biogeochemical role these washes play in direct relationship to higher-order waters downstream.

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 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.

Biological Resources and Habitat

The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the Endangered Species Act (ESA). If there are threatened or endangered species present, we recommend that the BLM consult with the U.S. Fish and Wildlife Service and prepare a Biological Opinion under Section 7 of the ESA. The DEIS should include the most recent status update of this report if this action has been or will be undertaken. Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species;
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area;
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

EPA is also concerned about the potential impact of construction, installation, operation, and maintenance activities (deep trenching, grading, filling, and fencing) on habitat. The DEIS should describe the extent of these activities and the associated impacts on habitat and threatened

and endangered species. We encourage habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species. EPA is also concerned about the potential for adverse impacts to native vegetation and/or animal species due to increased shade from the parabolic troughs after installation is complete.

Recommendations:
The DEIS should describe the condition of the land selected for the proposed project and disclose whether the land is classified as disturbed or impaired.

The DEIS should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed covered activities and to ensure that desert areas are minimally impacted. We encourage BLM to maximize options to protect habitat and minimize habitat loss and habitat fragmentation.

The DEIS should discuss the impacts associated with constructing fences around the project site(s), and consider whether there are options that could facilitate better protection of covered species.

The DEIS should discuss the impacts associated with an increase of shade in the desert environment on vegetation and/or species.

If the project includes evaporation and/or storm water ponds, potential hazards and impacts to humans and wildlife, especially birds, should be discussed.

Recommendation:
Explain whether any ponded water associated with the project has the potential to attract wildlife, particularly migratory waterfowl. If there is potential for exposure of wildlife to contaminants in these waters, identify mitigation measures to avoid such impacts.

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.

The BLM has received more than 150 applications for solar projects in the desert southwest. The BLM and Department of Energy (DOE) are preparing a Programmatic EIS to explain how they will process existing and future solar energy development applications on BLM-administered lands in six Western states. EPA is concerned about the cumulative impacts associated with the development of multiple large-scale solar projects in the desert region.

Recommendations:
The DEIS should identify whether the proposed project is located within one of the solar energy study areas or in close proximity to one.

The DEIS should consider the cumulative impacts associated with multiple large-scale solar projects proposed in the desert southwest and the potential impacts on various resources including: water supply, endangered species, and habitat.

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 DEIS 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 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 solar 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.

The DEIS should discuss whether the trenching, grading, and filling associated with the construction of this project and the installation of the solar troughs, will affect the deserts ability to store carbon, and to what degree this may occur.

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 power plant, 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 solar 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 NOx 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.

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 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. Guidance[1] 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.

Evaporation Ponds

Should the proposed project utilize evaporation ponds, the DEIS should describe the concentrated, dewatered solid waste associated with the evaporation pond(s) and describe whether this waste product will be transported off site for disposal.

Parabolic Trough Production/Recycling

Parabolic trough production can address the full product life cycle, from raw material sourcing through end of life collection and reuse or recycling. Parabolic trough companies can minimize their environmental impacts during raw material extraction and minimize the amount of rare materials used in the product. Parabolic trough companies can facilitate future material recovery for reuse or recycling. Several solar companies have developed approaches to recycling solar modules that enable treatment and processing of components into new modules or other projects. Solar companies can facilitate collection and recycling through buy-back programs or collection and recycling guarantees. Some companies provide recycling programs that pay all packaging, transportation, and recycling costs.

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[1]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.

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

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 it they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).