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

February 23, 2015

Mr. Scott Flint
DRECP Program Manager
California Energy Commission
Dockets Office, MS-4
Docket No. 09-RENEW EO-01
1516 Ninth Street
Sacramento, California 95814-5512

Subject: Draft Desert Renewable Energy Conservation Plan and Environmental Impact Report/Environmental Impact Statement, Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties, California (CEQ # 20140278)

Dear Mr. Flint:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Desert Renewable Energy Conservation Plan (DRECP) 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.

We commend the Bureau of Land Management, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and California Energy Commission on the release of the Draft EIR/EIS for the DRECP. In 2008 and 2009, when a wave of utility-scale renewable energy projects were proposed on desert lands in Southern California, the EPA was one of the many voices that expressed concerns about the impacts associated with these projects, as well as the process by which they were being reviewed. The EPA, along with many environmental and desert advocacy groups, renewable energy developers, and various federal and state agencies involved in reviewing the environmental impacts of proposed projects, called for a different approach for evaluating and siting proposed renewable energy projects on desert lands—one that relies on long-term planning, landscape-scale assessments of resources, the comprehensive identification of disturbed sites, and the coordinated conservation of lands most valuable to sustaining endangered and threatened species.

The EPA believes that the Renewable Energy Action Team (REAT), through the development of the DEIS for the DRECP, has largely succeeded in laying the foundation for this more considered, integrated framework for proposing, siting, and thoughtfully constructing renewable energy projects on California's desert lands. Completing the DEIS has entailed marshalling considerable resources of staff time and expertise, coordinating a mix of federal and state agencies, convening a diverse group of stakeholders, and committing to an impressive degree of public outreach. Though we have concerns with the DRECP, which we discuss in detail in our enclosed comments, the DEIS nevertheless represents an important step in an unprecedented planning effort for the desert lands of Southern California, and all those who contributed to its development should be lauded for their efforts.

Based on our review of the DEIS, we have rated the Preferred Alternative and the document as *Environmental Concerns – Insufficient Information* (EC-2) (see the enclosed "Summary of EPA Rating Definitions"). The rating is based on our concerns regarding a range of issues, including: potential impacts to ephemeral streams and other sensitive waters; the direct, indirect, and cumulative impacts of construction and fugitive dust emissions; the inclusion of the Silurian Valley as a Special Analysis Area (and its potential to be designated as a development focus area); and the ability of the BLM and its federal and state partners to sufficiently monitor and address the impacts that could result from the operation and maintenance of renewable energy facilities.

A few key areas of concern warrant a more thorough discussion in the Final EIS. In particular, we recommend that the FEIS explain how compliance with Section 404 of the Clean Water Act would be accomplished; demonstrate that emissions from the both the construction and operational phases of proposed renewable energy projects would conform to the approved State Implementation Plan; and describe the process that BLM field offices and other agencies with project-specific NEPA responsibilities would use to determine whether an Environmental Assessment or EIS is required for proposed projects within the Plan Area. In addition, we recommend that the REAT agencies ensure that the FEIS is consistent with the Council on Environmental Quality's recently released "Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews."

The EPA also recommends that the REAT agencies conduct a re-evaluation of the amount of renewable energy that may need to be produced in the Plan Area. We recognize that federal and state directives compel the REAT agencies to plan for potential renewable energy development on Southern California's desert lands; however, significant market and policy developments affecting the renewable energy industry—such as the sharp decline in the cost of rooftop solar-powered electricity and rapid deployment of energy storage—warrant a re-evaluation of the renewable energy planning effort conducted for the Plan Area by the California Energy Commission in July 2012. These developments have the potential to drastically increase the amount of distributed forms of renewable energy (including rooftop solar) produced in the state, which could reduce the need for utility-scale solar projects to be developed in the Plan Area.

Finally, we recommend that the REAT agencies continue to coordinate with the seven counties with lands contained in the Plan Area to ensure that their respective renewable energy planning efforts inform the development of the DRECP. Collaboration with the counties can help to ensure the success of the Plan, as county staff can assist with the identification of sites that are disturbed or have low resource conflicts, as well as help to identify lands that should be excluded from the proposed development focus areas because of their conservation value. We also invite the REAT agencies to continue to work with the EPA, particularly our staff responsible for the Agency's *RE-Powering America's Land* initiative, to identify disturbed sites in the Plan Area.

We appreciate the opportunity to review this DEIS, and are available to discuss our comments. When the FEIS is released for public review, please send one hard copy and one CD to the address above (mail code: ENF-4-2). If you have any questions, please contact me at 415-972-3521, or Jason Gerdes, the lead reviewer for this project. Mr. Gerdes can be reached at 415-947-4221 or gerdes.jason@epa.gov.

Sincerely,

/s/

Kathleen Martyn Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions
EPA Detailed Comments

Cc: Vicki Campbell, DRECP Program Manager, Bureau of Land Management
Ken Corey, Assistant Field Supervisor, U.S. Fish and Wildlife Service

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DESERT RENEWABLE ENERGY CONSERVATION PLAN, IMPERIAL, INYO, KERN, LOS ANGELES, RIVERSIDE, SAN BERNARDINO, AND SAN DIEGO COUNTIES, CALIFORNIA, FEBRUARY 23, 2015

Water Resources

Geographic Extent of Waters in Development Focus Areas

The EPA is concerned that Development Focus Area (DFA) boundaries were drawn based, in part, on an incomplete assessment and underestimation of the reach and extent of waters, including waters of the U.S. and waters of the State. The DEIS identifies 2,024,000 acres, within the DFAs proposed in the Preferred Alternative, for potential renewable energy development. The DEIS estimates that approximately 15,000 of these acres occur within a mapped 100 year floodplain (Table IV.5-6). It goes on to state, "However, it is important to recognize that overall, 66% of the Plan Area has not been assessed for flood potential, suggesting that development within the 100-year floodplain could occupy more than 1.7% of the total area of the DFA" (p. IV.5-27). Given the size and topographic complexity of the Plan Area, extrapolating on the existing mapping effort does not provide a reliable estimate of waters that may be subject to impacts from proposed Covered Activities.

The initial analysis of the Plan Area relied, in part, on use of the National Hydrography Dataset, as well as National Wetlands Inventory maps and quantification using stream lengths (p. IV.5-3). This approach, as described in the DEIS (p. IV.5-3-4), likely resulted in underestimation of the abundance, types, and distribution of waters. Scientists at Argonne National Laboratory's Environmental Science Division have developed an algorithm for mapping ephemeral stream channels in desert environments. Using 15-cm resolution multispectral aerial imagery, the Argonne algorithm couples desert landscape features and structures associated with surface hydrology to extract ephemeral channel networks in arid environments. The algorithm identifies well-defined single channels, complex braided streams, and small tributaries across desert landscape and creates a map of ephemeral stream networks. It maps the distribution of ephemeral stream networks in much greater detail than does the National Hydrography Dataset. In a study conducted by Argonne scientists of lands within the Riverside East Solar Energy Zone, the algorithm detected 900% more ephemeral streams than were mapped in the study area in the NHD.[1] The success of the Argonne algorithm in detecting ephemeral streams in places not identified through NHD analysis suggests that the initial analysis of the Plan Area may have drastically underestimated the ephemeral stream networks contained with the DFAs proposed in the Preferred Alternative.

Ephemeral waters may or may not be waters of the U.S. No jurisdictional delineation has been conducted to identify waters of the U.S. within the DFAs. Regardless of their jurisdictional status, ephemeral waters have substantial hydrological and ecological value, particularly in desert ecosystems.

The EPA is also concerned that certain assumptions identified in the DEIS precluded the analysis of some waters within the DRECP footprint. For example, the DEIS states that potential effects to federally designated Wild and Scenic Rivers (*e.g.,* Amargosa River) are not evaluated since they are already protected under the Wild and Scenic River Act (p. IV.5-1). Although identified as a Wild and Scenic

[1] See Argonne National Laboratory (Environmental Science Division) report: "Long-Term Monitoring of Utility-Scale Solar Energy Development and Application of Remote Sensing Technologies: Summary Report" at: http://www.evs.anl.gov/programs-areas/highlights/hydrologic-processes.cfm

River, waters such as the Amargosa River are still vulnerable to degradation through direct or indirect impacts of renewable energy development. The DEIS also states that potential effects to springs and seeps are not evaluated because they would be protected under conservation and management actions (CMA) and, "due to their limited areal footprint, can be readily identified and avoid development" (p. IV.5-2). These waters are a vital and rare resource in the desert. Contrary to the statement in the DEIS, their protection via CMAs is not guaranteed.

Recommendations:

- Utilize the Argonne algorithm for mapping ephemeral stream channels to assist with a planning level delineation of aquatic resources in the proposed DFAs, and to identify and exclude from development, previously undetected ephemeral streams.
- For each proposed renewable energy project, a jurisdictional delineation of waters of the U.S. should be conducted early in the planning process to identify waters on the site and help determine whether the site is suitable for renewable energy development. Clearly explain, in the FEIS, the circumstances under which a formal site-specific jurisdictional delineation would be required and at what point in the project planning process it would be conducted.
- Clarify how potential indirect effects to features such as Wild and Scenic Rivers and natural seeps and springs would be analyzed and avoided for proposed projects.

Compliance with Clean Water Act Section 404

Waters of the U.S. are protected by the provisions of the Federal Guidelines promulgated under section 404(b)(1) of the Clean Water Act at 40 CFR Part 230. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of waters. Pursuant to Section 404 of the CWA, discharge of dredged or fill material to waters requires a permit issued by the Corps. Fundamental to the Guidelines is the principle that dredged or fill material should not be discharged into the aquatic ecosystem unless it can be demonstrated that there is no less environmentally damaging practicable alternative (LEDPA) that achieves an applicant's project purpose. In addition, no discharge can be permitted if it will cause or contribute to significant degradation of waters. If a permit is required, the EPA will review the project for compliance with the Guidelines.

In order to comply with the Guidelines, an applicant must comprehensively evaluate a range of alternatives to ensure that the *"preferred"* alternative is the LEDPA. Identification of the LEDPA is achieved by performing an analysis evaluating the direct, indirect, and cumulative impacts to jurisdictional waters for each alternative. 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. Only when this analysis has been performed can the applicant and the permitting authority be assured that the selected alternative is the LEDPA (40 CFR 230.10(a)).

In the absence of information on the reach and extent of jurisdictional waters, impacts to aquatic resources from the proposed Covered Activities cannot be assessed. Thus, the information in the DEIS is insufficient to determine whether lands within the DFAs are suitable for development under Section 404 of the CWA. Each individual renewable energy project will be required to demonstrate compliance with the Guidelines.

Recommendations:

- Discuss, in the FEIS, how renewable energy developers would demonstrate compliance with the CWA Section 404 Guidelines.
- Explain, in the FEIS, what the presence of jurisdictional waters on a proposed project site would mean in terms of subsequent environmental documentation. For example, specify the circumstances under which the need for an individual CWA Section 404 permit would trigger the need for a project-level EIS, rather than an Environmental Assessment..

Minimize Potential Adverse Impacts and Mitigation – 40 CFR 230.10(d)

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 intended only for unavoidable impacts to waters after the LEDPA has been determined.

For impacts to waters located within DFAs, the DEIS describes CMAs that are required for the conservation of biological resources during implementation of Covered Activities (p. II.3.18). CMAs are designed to avoid and minimize impacts to biological resources, contribute to the assembling of the reserve through compensation for the loss of biological resources and implement other conservation actions that benefit species and natural communities (p. II.3-21). CMAs are similar to requirements under the Guidelines, in that they are intended to result in avoidance and minimization of impacts. While the focus of CMAs is on biological resources, many of the measures, such as seasonal restrictions, siting and design considerations, techniques to preserve water quality, erosion control measures and control of invasive species (p. II.3-27), may also serve to meet mitigation requirements of the Guidelines. We note, however, that the method described in the DEIS for calculating CMA compensation requirements is based on ratios (p. II.3-22). The results of this approach may differ from the determination of compensation needed for unavoidable impacts to waters pursuant to the Corps/EPA 2008 Mitigation Rule, which also relies, in part, on compensation ratios; therefore, it should not be assumed that the mitigation proposed for impacts to biological resources would fully satisfy the requirements for mitigation of impacts to waters. In addition, we are concerned by the fact that the DEIS does not identify any mechanisms to enforce the CMAs.

Recommendations:

- Discuss compliance with the 2008 Mitigation Rule.
- In the FEIS, discuss how the CMAs will be enforced.

Groundwater Resources

The DEIS states that renewable energy development within the Plan Area would not result in any new appropriation or diversion of surface water resources to meet water supply demands during construction, operation, maintenance, or decommissioning of projects. Water supply would primarily come from groundwater resources or existing supplies of local water purveyors. The use of groundwater can result in indirect impacts to surface water flows and should be assessed in the FEIS. Development proposed on BLM lands could affect groundwater in twelve basins characterized as either in overdraft or stressed (p. IV.6-41). The EPA's concerns extend to areas such as the Amargosa Valley, Calvada Springs/South Pahrump Valley DFA and areas in the vicinity of Death Valley National Park, Joshua Tree National Park, and the Mojave National Preserve.

Over-appropriation of groundwater in areas such as the Amargosa Valley, and potential impacts on aquatic and riparian communities, particularly in Devils Hole and Ash Meadows NWR, could result in significant degradation of aquatic resources. Several springs of regional importance are located nearby in the Ash Meadows National Wildlife Refuge (NWR), including Devils Hole, a 40-acre detached unit of Death Valley National Park. Devils Hole provides habitat for the only naturally occurring population of the endangered Devils Hole Pupfish.

Water rights in the Amargosa Valley have been scrutinized for many years due to the proximity of environmentally sensitive areas at Devils Hole, Ash Meadows, and Death Valley. In the late 1960s/early 1970s, ranching and farming operations in the Ash Meadows area resulted in a decline in water levels in Devils Hole, which threatened the survival of the Devils Hole Pupfish. In 1978, the U.S. District Court issued a permanent injunction to limit pumping. More recently, concerns were raised that the pool level would fall below the court mandated minimum level in the intermediate to long-term future. To further protect federally reserved water rights[2] at Devils Hole, the Nevada State Engineer issued Order 1197, ruling that conditions warranted the curtailment of future appropriations of underground water and additional regulation of change applications within portions of the Amargosa Desert Hydrographic Basin (November 4, 2008).

Recommendations:

- Due to the high sensitivity and nationally important resources located in basins experiencing stress or in overdraft, the EPA recommends prohibiting renewable energy development in such areas, and designating them for conservation within the Reserve Design Envelope.
- Impacts to surface waters from groundwater depletion should be analyzed in the FEIS.

Air Quality

The EPA is concerned about the direct, indirect and cumulative impacts of construction and fugitive dust emissions associated with the proposed 20,000 megawatts (MW) of renewable energy facilities to be developed. In our scoping comments, we recommended that the EIS describe and estimate air emissions from all proposed construction and operational activities, and identify mitigation measures that would minimize those emissions. The DEIS provides only a single estimate of the average construction emissions for each criteria pollutant per megawatt, based on a mix of existing renewable energy projects. This average emission factor is applied to the number of MW expected in each air basin to calculate estimated construction-phase emissions. While we recognize the programmatic nature of the air quality analysis in the DEIS and note that future project level analyses will be conducted (p. IV.2-1), more specific information and analysis of potential air quality impacts is needed at this stage, including an estimate of air emissions from operational activities, to more accurately reflect the likely geographic distribution of impacts, identify source categories and appropriate mitigation measures, and better inform programmatic decision making.

Recommendations:

- Quantify, in the FEIS, estimated emissions for each pollutant by source category (mobile, stationary, and area sources such as ground disturbance). This source specific information

[2] Since 1989, the U.S. Fish and Wildlife Service (USFWS) has acquired certified water rights for 19,250 afy to protect groundwater sources that feed the springs and seeps in the Ash Meadows National Wildlife Refuge, making it the largest water rights holder in the basin (pg. 3-37).

should be used to identify appropriate mitigation measures and areas in need of the greatest attention.

- Estimate and include, in the FEIS, a low, medium and high emissions estimate for construction and operational activities in each air basin and DFA, to further characterize the potential range of emissions expected. Differentiate, for each air basin and DFA, the expected contributions from wind, solar, geothermal and transmission development activities. Ensure construction and operations emissions estimates reflect estimated fugitive dust emissions that would result from on-site grading and vegetation removal.
- Estimate and include, in the FEIS, average emission factors for constructing and operating each potential type of renewable energy project (e.g. solar PV, solar parabolic trough, solar power tower, wind farm, geothermal, etc.), as well as transmission lines. Provide supporting documentation in the FEIS for these figures.

Sensitive Receptors and Class I Areas

The DEIS indicates that "renewable energy facilities and their associated transmission facilities could expose sensitive receptors to substantial concentrations of hazardous or toxic air pollutants, especially from diesel-powered equipment" (p. IV.2-3). We note that areas available for renewable energy development, under each alternative, surround multiple cities with residences, hospitals, and schools. Thirteen such cities are identified under the preferred alternative (p. IV.2-22).

The EPA is concerned that localized air quality modeling has not been performed for areas that include sensitive receptor populations in the vicinity of DFAs. Similarly, modeling was not performed for potential impacts to Class I areas. We note that the Programmatic Environmental Impact Statement for Solar Energy Development (Solar PEIS) modeled potential exceedances of the PM_{10} NAAQS at residences near proposed Solar Energy Zones. The Solar PEIS also modeled impacts to Class I areas and included a comparison to Prevention of Significant Deterioration (PSD) thresholds. Comparable analyses for the DRECP would help inform, and further refine, siting criteria and boundaries for projects proposed near these population centers and sensitive areas.

Recommendations:

- Model and include, in the FEIS, estimated concentrations of emitted air pollutants at the nearest sensitive receptors for each DFA.
- Model and include, in the FEIS, estimated concentrations of emitted air pollutants for each Class I area expected to be impacted through energy development, and compare to appropriate permitting thresholds.
- Discuss whether any modeled exceedances of NAAQS or applicable thresholds can be addressed through mitigation, and consider refining the DFAs to prevent potential exceedances.

Mitigation Measures

According to the DEIS, eight of the ten ecoregion subareas encompassed by the DRECP are in nonattainment for the federal ozone standard, all ecoregion subareas are in federal nonattainment for $PM_{10,}$ and portions of the Plan Area are in federal nonattainment for $PM_{2.5}$ (p. IV.2-3). All air basins in the Plan Area are in nonattainment for the State ozone and PM_{10} standards (p. III.2-38). The DEIS indicates that renewable energy project construction would generate emissions that would contribute to existing ozone, PM_{10}, and $PM_{2.5}$ violations, but concludes that all potential impacts would be less than significant with application of mitigation measures (p. IV.2-10).

We note the list of potentially applicable mitigation measures provided in Chapter IV and in Appendix W of the DEIS, and agree that those measures, if appropriately designed and implemented, could be effective in reducing fugitive dust and construction emissions. The DEIS, however, does not specify the measures that would be required, and the discussion is insufficient to assess the extent to which mitigation would reduce adverse impacts across all action alternatives.

In light of the nonattainment designations, the expected adverse effects from emissions and fugitive dust, and the numerous projects proposed in the Plan Area, all feasible measures should be implemented to reduce and mitigate air quality impacts to the greatest extent possible. We encourage the REAT agencies to use this regional planning effort to identify up-to-date mitigation measures, incorporate the use of the best available technology and emission controls, and ensure consistent implementation of these measures for all future project activities.

Recommendations:

- Include, in the FEIS, a list of all mitigation measures to be adopted in the Record of Decision for constructing and operating future projects. In addition to measures necessary to meet all applicable local, state, and federal requirements, we recommend that the following measures be included:

  Fugitive Dust Source Controls:
  - Stabilize open storage piles and disturbed areas 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.
  - When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 mph.

  Mobile and Stationary Source Controls:
  - Minimize use, trips, and unnecessary idling of heavy equipment.
  - Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies.
  - Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile source anti-idling requirements which should be employed (http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm).
  - Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
  - In general, commit to the best available emissions control technologies for project equipment:
    - *On-Highway Vehicles* - On-highway vehicles used for future covered activities should meet or exceed the US EPA exhaust emissions standards

for model year 2010 and newer heavy-duty on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, etc.).[3]

- *Nonroad Vehicles & Equipment* - Nonroad vehicles & equipment used for all future activities should meet or exceed the US EPA Tier 4 exhaust emissions standards for heavy-duty nonroad compression-ignition engines (e.g., construction equipment, nonroad trucks, etc.).[4]
- *Low Emission Equipment Exemptions* – The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.
- *Advanced Technology Demonstration & Deployment* – REAT agencies are encouraged to demonstrate and deploy heavy-duty technologies that exceed the latest US EPA emission performance standards for the equipment categories that are relevant for the anticipated activities (e.g., plug-in hybrid-electric vehicles - PHEVs, battery-electric vehicles - BEVs, fuel cell electric vehicles - FCEVs, etc.).

Administrative controls:

- Specify the means by which REAT agencies would minimize impacts to sensitive receptors, such as children, the elderly, and the infirm. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.
- Prepare an inventory of all equipment prior to construction.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.

- Update, in the FEIS, the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.
- Describe, in the FEIS, how these mitigation measures would be made an enforceable part of future covered activities. We recommend implementation of applicable mitigation measures prior to or, at a minimum, concurrently with the commencement of construction of all future activities.

Table IV.27-5 of the DEIS lists the Preferred Alternative as having 516,000 acres of soil with moderate-to-high wind erosion potential within DFAs. Inhalation of dust particles can lead to a number of respiratory problems, including asthma and Valley fever. Children, in particular, have greater sensitivities to various environmental contaminants, including air pollutants, as do the elderly and those with existing respiratory or cardiac disease. The EPA supports minimizing disturbance to the natural landscape as much as possible, so that the need for measures to reduce wind erosion and fugitive dust emissions is minimized or eliminated.

[3] http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm
[4] http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm

Recommendations:

- Evaluate and quantify, in the FEIS, the fugitive dust emission reduction benefits of maximizing the retention of natural vegetation at solar, wind and geothermal facilities, and compare emission estimates for this approach to those of other site preparation methods such as grading, cut-and-fill and mowing.
- Include, in the FEIS, additional discussion of soil stabilization techniques that would be used during construction and operational phases, including the effectiveness of each technique, and any environmental impacts that would be expected to result as a consequence of their use.
- Consider adopting mitigation measures to limit grading and cut-and-fill of renewable energy sites to the maximum extent practicable. Discuss, in the FEIS, the feasibility of including a requirement to prohibit grading and cut-and-fill on portions of a site that fall below a certain gradient (e.g. 3%). We note that BLM discussed this approach in the FEIS for the Stateline Solar project.
- Consult with the USDA to identify soils particularly vulnerable to wind erosion in the DFAs. Identify areas with such soils in the FEIS and consider excluding these areas from development.

General Conformity

Although the DEIS indicates conformity analyses and determinations will be necessary for all project authorizations (p. IV.2-24), the DEIS does not describe how a general conformity applicability analysis will be conducted.

Recommendations:

- Demonstrate, in the FEIS, how REAT agencies will ensure that emissions from both the construction and operational phases of solar, wind and geothermal development projects will conform to the approved State Implementation Plan (SIP) and not cause or contribute to violations of the NAAQS, in accordance with the final general conformity rule (see 75 FR 17254, April 5, 2010).
- Include, in the FEIS, a detailed description of how a general conformity applicability analysis will be conducted.

Cumulative Impacts

The EPA is concerned about cumulative impacts from emissions and fugitive dust during construction and operation of future energy facilities. According to the DEIS, "because of the size of the Plan Area and the long-term nature of Plan, it is unlikely the timing (e.g. construction) and location of projects would overlap" (p. IV.2-1); however, no support is provided for this statement. We also note that the DEIS estimates that the Plan Area currently contains 114 renewable energy projects in various stages of environmental review or development (Tables IV.25-1 through IV.25-4). These are in addition to 31 other existing or reasonably foreseeable 'large projects' (e.g. CA High Speed Rail, High Desert Corridor) identified in the cumulative impacts chapter.

Recommendations:

- Document, in the FEIS, the potential for cumulative air quality impacts related to energy development in the DFAs, particularly on sensitive receptor populations and Class I areas.

- Estimate by year, in the FEIS, a range of potential cumulative construction and operational emissions for each DFA, assuming projects move forward with reasonably foreseeable degrees of overlap. We recommend that these annual cumulative emissions data be used to develop, in consultation with local air quality management agencies, a phased construction schedule for projects that would undergo construction concurrently. The EPA recommends incremental construction on-site to ensure air quality standards are not exceeded.
- Provide, in the FEIS, technical justification for any determination that a project is too far from a specific DFA to contribute to cumulative regional air quality impacts or sensitive receptor impacts.
- If additional mitigation measures would be needed, based on the evaluation of cumulative emissions, or if the project would affect the ability of other foreseeable projects to be permitted, the FEIS should discuss this.

New Source Review (NSR) Construction Permit Program

New major stationary sources of air pollution, and major modifications to existing sources, are required by the Clean Air Act 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 area (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:

- Discuss, in the FEIS, whether NSR program permits would be required for any geothermal, solar, or wind power plants that may be constructed. If so, the FEIS should describe the permitting process and the information that must be addressed in the permits.

EPA's Proposed Clean Power Plan

On June 2, 2014, the EPA proposed guidelines[5] to cut carbon pollution from existing power plants. Power plants account for roughly one-third of all domestic greenhouse gas emissions in the United States. While there are limits in place for the level of arsenic, mercury, sulfur dioxide, nitrogen oxides, and particulate pollution that power plants can emit, there are currently no national limits on carbon pollution levels. The Clean Power Plan will be implemented through a state-federal partnership under which states identify a path forward using either current or new electricity production and pollution control policies to meet the goals of the proposed program.

[5] For additional information on EPA's proposed Clean Power Plan, please use the following webpage: http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule

Recommendation:

- Discuss, in the FEIS, how the DRECP would further the goals of the Clean Power Plan and fit into the State of California's implementation of that Plan, to the extent that the State's implementation plans are known.

Climate Change

On December 24, 2014, the Council on Environmental Quality released revised draft guidance for public comment that describes how federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010. This new draft guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action.

Recommendations:

- Update, in the FEIS, the Regulatory Setting section of the Meteorology and Climate Change chapter to reflect the new CEQ draft guidance.
- Describe any measures that would be undertaken to improve the adaptability and resilience of the proposed Plan to climate change.

Avian Mortality

The threats posed to birds and bats from the construction, and particularly the operation, of renewable energy projects is not new (as evidenced by the long history of avian mortality at wind energy facilities). A more recent phenomenon, currently the subject of scrutiny by federal, state, and renewable energy industry biologists, is the avian mortality that has resulted from the construction and operation of utility-scale solar installations. The occurrences of avian mortality at utility scale solar sites was still emerging as an issue during scoping and preparation of the DEIS for the DRECP. Since then, the number of solar sites (both solar thermal facilities, as well as solar photovoltaic) reporting deaths of avian species has increased dramatically.

The Fish and Wildlife Service's recognition of the severity of this problem is evidenced by recent efforts by the Service and its state and federal partners to research design features and best practices to minimize and, ideally, prevent, occurrences of avian mortality at utility scale solar sites, as well as to develop a standard monitoring protocol to identify and assess these occurrences. The EPA acknowledges that the DEIS includes conservation and management actions [identified in the DEIS as "Project-Specific Bird and Bat Operational Actions for Covered Species" (AM-LL-4)] that are intended to address these impacts. The sheer size of the Plan Area, however, and the numerous utility-scale solar installations that could be subject to the provisions of the DRECP, portends avian mortality as a concern throughout the term of Incidental Take Permit coverage, while the extended planning horizon for the DRECP warrants the development of strong on-site monitoring for all renewable energy projects developed within the Plan Area.

Recommendations:

- Include an updated discussion, in the FEIS, devoted to the occurrence of avian mortality at utility scale solar sites, informed with the best available scientific research conducted on this topic.

- Include, in the DRECP, a comprehensive monitoring protocol to catalog and analyze occurrences of avian mortality throughout the term of ITP coverage.
- Include provisions, in the DRECP, to potentially adapt, in response to monitoring and the recommendations of federal and state biologists, the siting or operation of renewable energy facilities to avoid or minimize impacts to avian species.

Special Analysis Area in the Silurian Valley

There are two areas in the DRECP that are defined as Special Analysis Areas (SAA). The SAAs, located in the Silurian Valley and an area just west of Highway 395 in Kern County, represent areas subject to ongoing analysis because they are "known to have high value for renewable energy development and high value for ecological and cultural conservation and recreation" (p. II.3-2). These areas are expected to be designated in the FEIS as either DFAs or components of the Reserve Design/Conservation Designation (p. IV.6-31).

The EPA is concerned that the SAA in the Silurian Valley is being considered for designation as a DFA. As the map of the Interagency Preferred Alternative (Figure II.3-1) makes clear, the Silurian Valley SAA is surrounded by lands that have already been legislatively and legally protected (such as Death Valley National Park and Mojave National Preserve); are proposed to be legislatively protected (as part of Senator Dianne Feinstein's recently reintroduced California Desert Conservation and Recreation Act); or proposed to be protected through BLM land use plan amendment designations (as National Landscape Conservation System lands or Areas of Critical Environmental Concern).

The great value of the Silurian Valley, both as a corridor connecting these aforementioned protected lands, and as a scenic valley with its own biological and cultural resources worth preserving, was recently affirmed by BLM California State Director Jim Kenna through his rejection, in November 2014, of Iberdrola Renewables' variance application to build the 200-megawatt Silurian Valley solar project. In the statement announcing his decision, Mr. Kenna said that the project site was not suitable for commercial-scale solar development because the "impacts to the Silurian Valley, a largely undisturbed valley that supports wildlife, an important piece of the Old Spanish National Historic Trail, and recreational and scenic values" were too great and "likely could not be mitigated." He went on to say that the "Silurian Valley solar project was not in the public interest because of its potential impacts to important biological, cultural, recreational and scenic values."

Recommendation:

- Remove the Silurian Valley Special Analysis Area from consideration as a DFA. We further recommend that this Area be conserved, through a new designation in the DRECP FEIS and Record of Decision, as National Landscape Conservation System lands.

Renewable Energy Calculator

The DEIS states that staff with the California Energy Commission conducted a planning effort to calculate the amount of renewable energy that may need to be produced in the Plan Area by 2040 to meet State of California and federal renewable energy goals. This planning effort resulted, after a July 2012 revision, in a projection that between 17,163 and 19,419 megawatts (MW) of renewable electricity generating capacity may be needed (p. I.3-39). The REAT agencies ultimately decided that the "uncertainties of long-term energy projections and the need to plan for a level of renewable development that will not fall short of the basic goals for the DRECP planning effort," warranted the establishment of 20,000 MW as an appropriate planning objective for the DRECP (p. I.3-50).

Significant market and policy developments affecting the renewable energy industry, since the aforementioned 2012 revision, warrant a re-evaluation of the 20,000 MW planning objective. Three developments, in particular, have the potential to dramatically alter how electricity is produced, transmitted, and stored in California: the sharp decline in the cost of rooftop solar-powered electricity; the growing demand for, and deployment of, energy storage; and Governor Jerry Brown's recent proposal to raise State's renewable portfolio standard. The drop in distributed solar photovoltaic (PV) system prices, since the development of the DRECP DEIS commenced, has been dramatic. According to an October 2014 report[6] on PV pricing trends, prices for distributed solar PV systems (including rooftop solar) dropped 12 to 19 percent nationwide in 2013, and were expected to drop another 3 to 12 percent in 2014. This drop in distributed solar prices has been significant, but the rapid deployment of energy storage could prove even more disruptive. The passage of A.B. 2514, which mandates 1.325 gigawatts of new energy storage by California's three large investor-owned utilities by 2020, has resulted in contracts being secured for hundreds of megawatts of new energy storage. In addition, the "road map" for smoothly deploying energy storage into California's grid, which was detailed in a report released in January 2015 by the California Independent System Operator, the California Energy Commission, and the California Public Utilities Commission, should make it easier to use batteries and other devices to store renewable power and release it at more opportune times, thereby enabling greater amounts of energy from rooftop and other distributed solar systems to be fed into the grid.

We recognize that the passage of a law codifying Gov. Brown's recent proposal to raise California's renewable energy standard to 50 percent by 2030 could lead to renewed interest in developing utility-scale renewable energy projects within the DRECP Plan Area. It should be noted, however, that many of the projects in the proposed Plan Area that have completed construction relied, to varying degrees, on federal loan guarantees or tax credits. Many of these incentives either may not be available or will have been reduced during the proposed term of DRECP incidental take coverage (for example, the federal investment tax credit for solar projects drops from 30 percent to 10 percent in 2017). For this reason, the financial viability of future utility-scale renewable energy projects in the Plan Area is far from certain. Each of the market and policy developments detailed above—drastically reduced distributed solar costs, the rapid infusion of energy storage to the grid, and the potential passage of a bill raising California's renewable portfolio standard—could have profound implications for the DRECP planning effort and should be analyzed and discussed in the FEIS.

Recommendations:

- Update the evaluation of the amount of renewable energy that may need to be produced in the Plan Area by 2040 to meet State of California and federal renewable energy goals, in light of the market and policy developments discussed above. Describe the factors considered and include the results of this re-evaluation in the FEIS.
- Conduct such a re-evaluation on a regular basis, perhaps every two to five years, to account for changing market conditions and policies affecting the renewable energy industry in California.

Project-Level NEPA Analysis

The DEIS states that renewable energy and transmission projects covered by the DRECP will require project-level environmental review of site-specific impacts on resources as part of the subsequent

[6] Report written jointly by the Department of Energy's National Renewable Energy Lab and Lawrence Berkeley National Laboratory; available at: http://www.nrel.gov/docs/fy14osti/62558.pdf

approval process, and that the REAT agencies anticipate that subsequent site-specific environmental analysis for these projects would tier from the DRECP and EIR/EIS (p. I.0-7). The DRECP does not describe the mechanism, screening criteria, or thresholds that would be used by BLM field offices and other federal agencies responsible for future project-specific NEPA environmental reviews to determine the level of environmental analysis needed for each project.

Done properly, tiering can shorten the environmental review process and streamline permitting. With respect to renewable energy development in the DRECP Plan Area, the applicability and success of this approach will depend greatly on the extent to which the BLM and its federal and state partners identify and characterize appropriate DFAs with low risks of resource conflicts. The EPA believes that a focus on disturbed, degraded, or contaminated sites would be helpful in this regard.

Recommendations:

- Describe, in the FEIS, the process that BLM field offices and other agencies with future project-specific NEPA responsibilities would use to assess whether an EA or EIS is required for a given project.
- Identify and implement consistent standards for determining the appropriate level of NEPA review for individual projects to ensure that tiering is done properly.

County Planning Efforts and the DRECP

The success or failure of the DRECP may ultimately rest on the level of coordination between the REAT agencies and the seven counties with lands contained within the Plan Area. As described in the DEIS, the great majority of land within the proposed DFAs would be private lands subject to county land use provisions; and much of the lands proposed as mitigation to compensate for the impacts associated with Covered Activities would come from willing sellers of private land. For several of the DRECP Plan Area counties, renewable energy production on lands within their jurisdiction has boomed, necessitating new planning efforts to accommodate, and plan for, the sector's continued growth. Many of the counties have already implemented, or are currently working on, updates to their general plans specific to renewable energy production. The California Energy Commission, through its "Renewable Energy and Conservation Planning Grants," has issued awards to Imperial, Inyo, Riverside, and San Bernardino counties to assist in completing these updates. Coordination between the REAT agencies and the DRECP Plan Area counties on these renewable energy planning efforts is important to the successful implementation of the DRECP. The county plans could identify disturbed lands, or lands with low resource conflicts, that could be included in the DFAs, and could help to identify lands that should be excluded from the DFAs because of their conservation value.

Recommendations:

- Continue to engage the seven counties with lands contained within the DRECP on development of the Plan, and coordinate on their respective county renewable energy planning efforts.
- Describe in the FEIS the coordination between the REAT agencies and the DRECP Plan Area counties on the development of county renewable energy planning efforts, and how these county plans may inform the development of the DFAs, conservation lands, and other components of the DRECP.

Operation and Maintenance of Renewable Energy Facilities

Since 2009, the BLM has issued rights-of-way for 18 solar, wind, and geothermal power plants in California. Several of these have been constructed and are fully operational. Many of the projects in this first wave of completed renewable energy facilities on federal land are now encountering impacts during operation and maintenance that are posing management challenges to the BLM and Fish and Wildlife Service, among other agencies, and imposing burdens on surrounding communities. Some of these impacts were anticipated and efforts were made to mitigate them; others were unforeseen. For example, in interagency meetings regarding the Ocotillo Wind project, and in discussions with homeowners living adjacent to that facility, the EPA has been briefed on a multitude of issues afflicting that site, including high levels of airborne dust, noise coming from the spinning blades, lights that are too bright at night, oil leaks from the turbines, etc. Despite efforts by BLM and other agencies to address potential impacts from the operation of Ocotillo and other utility-scale renewable energy facilities before they became a cause of concern for regulators and the surrounding community, on-the-ground feedback suggests the need for even greater efforts to be made to avoid impacts from the operation and maintenance phase of future projects. This is particularly important since much of the land identified in the Preferred Alternative as DFAs is clustered on parcels that, as with the Ocotillo Wind project, are located close to existing communities.

Recommendations:

- Include, in the FEIS, a discussion of the impacts that have resulted from the operation of renewable energy projects that have been constructed in California to date.
- Ensure that the Environmental and Construction Compliance Monitoring Plan developed for the DRECP and the project specific NEPA reviews that tier from it provides maximum flexibility to conduct additional monitoring, as needed, and to address impacts that may arise from the operation of renewable projects approved within the DRECP Plan Area.