UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

6/21/2010

Tom Hurshman
Bureau of Land Management
c/o Ecology and Environment, Inc.
130 Battery Street, Suite 400
San Francisco, CA 94111

Subject: Draft Environmental Impact Statement (DEIS) / Environmental Impact Report, Southern California Edison's Eldorado-Ivanpah Transmission Line Project, San Bernardino County California and Clark County Nevada, April 2010 (CEQ# 20100164)

Dear Mr. Hurshman:

The U.S. Environmental Protection Agency (EPA) has reviewed the above project 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. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA).

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as solar power can help the nation meet its energy requirements while minimizing the generation of greenhouse gases. While we acknowledge the need for transmission of renewable energy from in and around the Ivanpah Valley, we are concerned about the project's compliance with Section 404 of the Clean Water Act. We have enclosed our detailed comments, which also describe our concerns about water resources, biological resources and alternatives. Based on our review, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions."

We appreciate the opportunity to review this DEIS and look forward to continued coordination with the Corps and the Port. When the FEIS is published, please send a copy to the address above (Mail Code: CED-2). If you have any questions, please contact Tom Kelly, the lead reviewer for this project, at (415) 972-3856 or kelly.thomasp@epa.gov, or me at (415) 972-3521.

Sincerely,

/s/

Kathleen M. Goforth, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating System
EPA's Detailed Comments

US EPA DETAILED COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT SOUTHERN CALIFORNIA EDISON'S ELDORADO-IVANPAH TRANSMISSION LINE PROJECT

Clean Water Act Section 404

Section 404(b)(1) Guidelines

The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of waters of the United States (WUS, or jurisdictional waters). These goals are achieved, in part, by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. Pursuant to Section 404 of the CWA, discharge of dredged or fill material to WUS requires a permit issued by the Corps. If a permit is required, EPA will review the project for compliance with the *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230) (Guidelines), promulgated pursuant to Section 404(b)(1) of the CWA. The burden to demonstrate compliance with the Guidelines rests with the permit applicant.

> **Recommendation:**
> Discuss and demonstrate compliance with the Guidelines in the Final Environmental Impact Statement (FEIS).

Geographic Extent of Waters of the United States

EPA is concerned about the potential adverse impact to aquatic resources that could result from the proposed project. The DEIS states, in Table 1-2, that a Clean Water Act 404 Permit may be necessary for the discharge of dredged or fill material into jurisdictional waters. Since the proposed project impacts Ivanpah Dry Lake, which is a WUS, it would appear to require a 404 permit. A formal jurisdictional delineation of the full extent of WUS on the project site has not yet been completed, or verified by the U.S. Army Corps of Engineers (Corps).

> **Recommendation:**
> EPA strongly encourages BLM to include the results of a jurisdictional determination in the FEIS. A jurisdictional determination must be performed by the Corps. Additionally, the FEIS should list the acres of jurisdictional waters impacted by each alternative.

Analysis of Alternatives – 40 CFR 230.10(a)

In order to comply with the Guidelines, the applicant must comprehensively evaluate a range of alternatives to ensure that the *"preferred"* alternative is the *Least Environmentally Damaging Practicable Alternative* (LEDPA). Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, indirect, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. 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)).

EPA was pleased to see consideration of an alternative that avoids the known WUS, Ivanpah Dry Lake; however, it cannot be determined whether that alternative is the LEDPA without a Corps' delineation of the geographic extent of jurisdictional waters.

Recommendation:
The FEIS should consider sufficient analyses of the alternatives to identify the LEDPA. These analyses should consider changes to the preferred alternative or application of mitigation measure that could reduce the environmental impacts. The DEIS should also contain sufficient detail to allow for meaningful comparison between alternatives.

Mitigation of Potential Adverse Impacts

Pursuant to the Guidelines, mitigation of project impacts begins with the avoidance and minimization of direct, indirect, and cumulative impacts to the aquatic ecosystem, followed by compensatory measures if a loss of aquatic functions and/or acreage is unavoidable. Compensatory mitigation is, therefore, intended only for unavoidable impacts to jurisdictional waters after the LEDPA has been determined. For this reason, it would be premature to examine in detail any mitigation proposal before compliance with 40 CFR 230.10(a) is established.

Recommendations:
Include in the FEIS a mitigation plan for unavoidable impacts to waters of the United States, as required by Corps and EPA regulations.

Water Resources

Impacts to Ephemeral Streams

Ephemeral streams or natural washes perform diverse hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapt to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems: adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species.

The DEIS uses the term intermittent stream in describing hydrology, which is consistent with Figure 3.8-1. However, the DEIS uses different terms (ie. flowing stream channels and active drainage channels) to discuss applicant proposed mitigation measures #1, 3 and 5. The relationship between these terms, and the extent of the intended mitigation are unclear.

Recommendation:
The FEIS should commit to avoiding, if possible, or minimizing direct and indirect impacts to ephemeral streams (such as erosion, migration of channels, and local scour).

The FEIS should quantify the likely impacts to ephemeral streams from the proposed project, project alternatives, and the proposed ISEGS substation.
Demonstrate that downstream flows will not be disrupted due to proposed changes, including from the ISEGS substation, to any natural washes.

Location of Ephemeral Streams

EPA is concerned about the quality of information provided on ephemeral streams. The DEIS states on page 3.8-1, "[i]n Ivanpah Valley, the proposed project crosses Ivanpah Dry Lake and is relatively close to Roach Dry Lake, Jean Dry Lake, and at least 15 dry washes (see Figure 3.8-2)." This estimate appears consistent with Figure 3.8-2, but inconsistent with the USGS website at http://viewer.nationalmap.gov/viewer/. In comparison, Figure 3.8-1 shows two ephemeral streams entering Roach (Dry) Lake from the south side, near the power line. The USGS website appears to show 10 ephemeral streams entering the lake.

Recommendation:
The FEIS should contain the most current USGS information on intermittent streams in the project area.

Flooding and Debris Flow

The DEIS discusses the potential for flooding and debris flows on alluvial fans and includes mitigation measure W-5, hydrological model of alluvial fan. The purpose of the model is to "determine the active and inactive portions of the alluvial fans in the site area relative to surface water, sediment transport, and flash flooding." To the extent feasible, tower locations will avoid the active areas. A USGS map[1] classifies several miles of the power line route as "very high" relative flood hazard. Even if the project's towers avoid intermittent streams, the towers are unlikely to avoid these areas near Roach Dry Lake and the valley between the Sheep and Lucy Gray mountains. These areas are likely to correspond to active areas of the alluvial fan.

Recommendation:
The FEIS should identify areas subject to flash floods where structures are likely to be placed and discuss the impacts of the project on flood flows.

Biological Resources

Threatened and Endangered Species

The project will impact 72 acres of critical desert tortoise habitat and more than 300 acres of non-critical habitat (page 5-48). The EIS states the impacts to desert tortoises may be "adverse, moderate, both short term and long term, and localized," or "could be considered major and extensive" (page 3.4-83). Mitigation Measure Bio-12 clarifies that the applicant cannot begin construction until issuance of: a biological opinion from the U.S. Fish and Wildlife Service (USFWS); permit 2081 from the California Department of Fish and Game (CDFG); and an authorization from the Nevada Department of Wildlife (NDOW). These approvals could significantly change elements of the project and, therefore, should be included in the FEIS to better inform regulators and the public about the proposed action and necessary mitigation measures.

Recommendation:
The FEIS should include the USFWS biological opinion, CDFG permit, and NDOW authorization.

[1] Geologic Assessment of Piedmont and Playa Flood Hazards in the Ivanpah Valley Area, Clark County, Nevada (http://www.nbmg.unr.edu/dox/m158.pdf)

Consistency of Mitigation Measures

Mitigation Measure BIO-12 contains four provisions only applicable in California. One of these specifies a process for rehydrating a desert tortoise that has voided its bladder as a result of being handled. Elsewhere in the DEIS, page 3.4-75 and 76, the DEIS states, "[b]ladder voiding would cause tortoises to lose potentially critical water reserves and in some cases might lead to death." The FEIS should include a plan to rehydrate any desert tortoise that has voided its bladder due to handling during project implementation. The applicant should commit to this practice in both states affected by the project: Nevada as well as California.

> **Recommendation:**
> The FEIS should apply the same mitigation measures in California and Nevada, unless requirements or relevant guidance from different state agencies conflict. In the case of conflicting requirements or guidance by states, the FEIS should specifically discuss the differences.

Invasive Plant Management

The DEIS includes an applicant proposed measure BIO-10 (page 3.4-68) to develop an invasive species mitigation plan. Mitigation measure (MM-BIO 4) requires the applicant to model the invasive species plan on the BLM Las Vegas DRAFT Weed Plan (page 3.4-92). The content of the plan will include preventative measures, treatment methods, agency-specific requirements, monitoring requirements, and herbicide treatment protocols, but the DEIS provides no details on these measures.

> **Recommendation:**
> The FEIS should summarize the preventative measures, treatment methods, agency specific requirements, monitoring requirements and herbicide treatment protocols that would be included in the plan. To the extent feasible, the use of herbicides should be minimized.
>
> The FEIS should include a requirement that any biologic material brought on-site (e.g. hay bails that may be used for controlling stormwater under APM GEO-3, and native seed mixes for revegetation in MM BIO-2) will be "weed-free."

<u>Greenhouse Gas Emissions</u>

EPA is pleased that the DEIS includes greenhouse gas (GHG) emissions (Table 3.3-7). The dominant component of GHG emissions is sulfur hexafluoride (or SF_6). We note that one pound of SF_6 has the same global warming potential as 11 tons of CO_2, due to its long atmospheric life and high global warming potential, which is 23,000 times higher than CO_2.

> **Recommendation:**
> The project proponent should consider joining EPA's SF_6 Emission Reduction Partnership for Electric Power Systems (http://www.epa.gov/highgwp/electricpower-sf6/basic.html), and, at a minimum, consider:
>
> - Annual inspection and estimation of SF_6 emissions using an emissions inventory protocol;

- For equipment that will contain SF_6, purchase only new equipment that meets International Council on Large Electric Systems (CIGRE) standards for leak rates;
- Implement SF_6 recovery and recycling; and
- Ensure that only knowledgeable personnel handle SF_6.

Alternatives

The applicant's objectives include reliable interconnection of new solar generation resources in the Ivanpah Valley (page 1-8). The project would transmit power 35 miles east. Since the project is also expected to help the utilities meet California's Renewable Portfolio Standard in an expedited manner, we presume the power will eventually be transmitted westward. The DEIS does not discuss any trade-offs (e.g. line losses) of the circuitous route to California's power users, and whether renewable energy projects in the Ivanpah area could connect to existing power lines at a closer location.

Recommendation:
The FEIS should discuss any trade-offs of the proposed route, and the possibility of a more direct route to power users to the west.