

BLM and Energy Commission Staff Workshop

SES Solar Two Project (08-AFC-5)

Approach to Cumulative Analysis and Alternatives

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Approach to Cumulative Impact Analysis



Approach to Cumulative Impact Analysis

■ Definition of a Cumulative Impact

- The project has possible environmental effects that are individually limited but cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of probable future projects. *CEQA 14 Cal Code Regs §15065(a)(3)*
- The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (Federal or non-federal) or person undertakes such other actions. *NEPA 40 CFR § 1508.7*



The “List Approach”

■ The “list approach”

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency (*CEQA 14 Cal Code Regs §15130(b)(1)(a)*)

■ For Ivanpah Solar Electric Generating System (ISEGS) project, the list includes:

- Cumulative Figure 1 and Cumulative Table 1: Regional Renewable Applications – cumulative effects for some disciplines requires consideration of numerous solar and wind project applications for use of BLM land
- Cumulative Figure 2: Regional Renewable Applications (Detail) – highlights land uses not available for large scale renewable projects
- Cumulative Figure 3 and Cumulative Tables 2 and 3: illustrates past, present, and future foreseeable projects in the Ivanpah Valley area



Approach to Cumulative Impact Analysis

- **Analysis in for each discipline:**
 - Define geographic scope for each discipline
 - Large enough to provide a reasonable basis for evaluating cumulative impacts
 - Evaluate effects of the ISEGS project in combination with past and present projects in the area of geographic scope
 - Evaluate effects of the ISEGS project in combination with future foreseeable projects in the area of geographic scope



Cumulative Approach – Foreseeable Future Projects

- **CEQA guidelines for “probable future projects”**
 - Consider approved projects under construction and approved related projects not yet under construction
 - Consider projects currently under environmental review with related impacts (including projects under review by Lead Agency and projects under review by other relevant public agencies)
- **NEPA guidelines for “reasonably foreseeable”**
 - Projects for which there are “existing decisions, funding, formal proposals, or which are highly probable, based on known opportunities or trends
(Section 6.8.3.4 BLM NEPA Handbook)”



Cumulative Approach – Geographic Scope

- The area of cumulative effect varies by resource
- Geographic scope should be based on the natural boundaries of the resource affected, rather than on the jurisdictional boundaries (BLM NEPA Handbook)
- Variables:
 - geographic (spatial) limits
 - time (temporal) limits
 - the character of the resource being evaluated
 - should be based on topography surrounding the project and characteristics of each resource



Cumulative Approach – Geographic Scope (cont.)

- Solar or wind development applications have applied for use of approximately one million acres of CDCA BLM land (as of November, 2008)
- Potential geographic scope included renewable projects in the Ivanpah Valley and in the greater California, Nevada, and Arizona desert regions
 - Impacts could combine with the effects of the proposed project for some disciplines
- Acknowledge uncertainty regarding approval and construction of renewable projects



Examples of Cumulatively Considerable Effects: ISEGS PSA Analysis

■ Visual Resources:

- **Regional impacts** – Mojave Desert landscape is a unique and highly valued scenic resource of national importance as reflected by three national parks and numerous Wilderness Areas.
 - Other renewable projects in the CDCA, southern Nevada and Arizona would create widespread cumulative impacts to scenic resources -- a substantial decline in overall number and extent of scenically intact, undisturbed desert landscapes and a more industrial character.
- **Ivanpah Valley** – Future foreseeable projects in the Ivanpah Valley would transform the current highly intact natural landscape into one that is highly urbanized, industrialized and of relatively poor visual quality which would be considered cumulatively considerable and potentially significant.



Examples of Cumulatively Considerable Effects: ISEGS PSA Analysis

■ Biology

- **Regional Impacts** – Proposed renewable energy projects have the potential to reduce and degrade native plant and animal populations, especially sensitive species such as desert tortoise
 - Contributes to the cumulative significant loss and degradation of habitat for desert plants and wildlife
- **Ivanpah Valley** – ISEGS plus the numerous past and present projects would contribute to the cumulative degradation of biological resources in the region. The contribution of the ISEGS projects could be reduced to less than significant levels with appropriate levels of compensatory mitigation



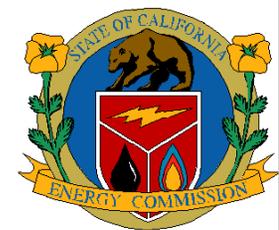
Examples of Cumulatively Considerable Effects: ISEGS PSA Analysis

■ Land Use

- **Regional impacts** – Numerous renewable projects would preclude the use of hundreds of thousands of acres of land throughout the California desert and southern Nevada and eastern Arizona for recreation, open space, wildlife habitat, grazing, agriculture, etc.
- **Ivanpah Valley** – Development of the ISEGS project would preclude and restrict existing and future uses on 4,065 acres of public land designated as MUC L. Land use impacts when combined with impacts of the OptiSolar PV project, Southern Nevada Supplemental Airport, proposed wind development would result in significant unavoidable land use impacts.



Approach to Alternatives



Alternatives Guidelines – CEQA/NEPA

■ CEQA

- An evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.” (Guidelines §15126.6(a)):
- Must address the “no project” alternative (Guidelines § 15126.6(e))

■ NEPA

- An EIS consider all reasonable alternatives, those that are practical or feasible from the technical and economic standpoint and from using common sense, rather than simply desirable from the standpoint of the applicant. (NEPA’s 40 Questions, 1A)
- “[i]n determining the scope of alternatives to be considered, the emphasis is on what is ‘reasonable’ rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative...” (CEQ Forty Questions, No. 2A)



Alternatives Methodology

- Describe proposed project, its basic objectives, potentially significant adverse impacts.
- Alternatives include:
 - Technology alternatives (e.g., increased energy efficiency or demand-side management)
 - Use of alternative technologies (e.g. solar or other renewable or nonrenewable technologies)
- Alternative locations for the proposed project
- No Project / No Action Alternative
 - The impacts of not constructing the project



Alternatives Methodology (cont.)

- **Each potential alternative was evaluated for its ability to:**
 - **Avoid or substantially lessen potential significant effects**
 - **Meet most project objectives**
 - **Not create significant impacts of its own**



Alternative Sites

- **Applicant's site selection criteria define requirements:**
 - Area of high solarity (low cloudiness), of a certain size and a ground slope of less than 5 percent
 - Land available for sale or use
 - Near existing and planned infrastructure
 - Avoid highly pristine or biologically sensitive areas
 - Consistent with existing jurisdictional policies



Alternative Sites Limitations, Cont.

- **BLM process gives first applicants for development projects prior rights to BLM-administered lands.**
 - Alternative sites on BLM land are not considered where there is a valid pending application for a renewable project unless the application is from the same applicant as the proposed project.
 - In ISEGS PSA, sites retained for detailed analysis were located on land identified by the applicant as possible future renewable power plant sites.



ISEGS Site Alternatives

- **Six alternative sites were considered:**
 - **Four sites would not significantly lessen project impacts without creating significant impacts of its own, so were eliminated from detailed analysis**
 - **Two sites (the Private Land alternative and the West of Clark Mountain alternative) were considered based on scoping comments but were not found to be feasible**
 - **Two sites were considered in greater detail and required Data Requests to the applicant for additional cultural and biological resources information**



ISEGS Alternative Technologies Considered

- **Four other solar technologies and five other renewable technologies were analyzed:**
 - One solar technology (linear Fresnel) was found to have fewer environmental impacts than the ISEGS project but was found infeasible because of the proprietary nature of the solar technology
 - Biomass and geothermal technologies were found to have fewer environmental impacts than the ISEGS project (due to reduced land requirements) but were not found feasible because they would not achieve the required generation capacity
- **Non-renewable technologies (gas-fired generation) were evaluated but were eliminated because they would not produce renewable energy**

