

RECREATION

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SUMMARY OF CONCLUSIONS

BLM and Energy Commission staff (hereafter jointly referred to as staff) have analyzed the potential impact of the proposed Ivanpah Solar Electric Generating System (ISEGS) project on recreational resources at the proposed project site. The staff concludes that the proposed project would not have any direct or indirect significant impacts to recreational resources, as considered under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

Recreation affected by the proposed action can be grouped into three categories; wind-powered sports located on the Ivanpah Dry Lake, recreationists that travel through the area to adjacent recreation opportunities, and to a small degree, dispersed recreation in the valley itself.

Wind-powered Sports

The project could impact land sailing on the Ivanpah Dry Lake surface if it were to modify stormwater and sedimentation characteristics or result in hazardous materials, waste or debris being transported to the Dry Lake. However, staff has proposed mitigation measures in the **Soil and Water, Hazardous Material and Waste Management** sections that would mitigate these impacts to less than significant. Staff concludes that the project would not modify wind characteristics, or impose a visual glare hazard that could appreciably distract land sailors.

Adjacent Recreation Opportunities

Through its visibility, the proposed project may affect the quality of recreational experiences in a large area outside of the proposed project boundaries by transforming the Ivanpah Valley area from a mostly natural setting to a more industrial setting. This might result in some recreational users choosing to move to other locations away from the more industrial setting. When the project is decommissioned, reclamation efforts would return the area to a more natural but still very noticeable setting, considering the extensive time needed for native vegetation to re-establish after long-term project disturbance.

Dispersed Recreation

Opportunities for this type of recreation have been mostly lost due to previous development of the area including Interstate 15, utility transmission lines, Primm Casino, and Primm Golf Course. Approval of the proposed project would require elimination or redirection of any existing access roads traversing through the proposed project area. Except for the realignment of Colosseum Road, any use of the land for recreational uses during the lifespan of the proposed facility would be precluded.

Selection of the No Action Alternative would result in no impacts to recreational resources. Existing roads and trails through the proposed project site would not be affected. There would be no visual changes that may impact recreation use in the vicinity.

The proposed project would contribute incrementally to the long-term reduction of outdoor recreation quality available in the Ivanpah Valley area of the California Desert due to the cumulative effects of development leading to a transformation from a natural setting to a more industrial setting. The adverse effect of development on recreational resources within the Ivanpah Valley area may become pronounced due to the proximity of the area to Las Vegas, ease of public access from Interstate 15, increasing tourist use of the Primm area, and planned development projects including FirstSolar, Desert Xpress, and the Southern Nevada Supplemental Airport. Staff concludes that the proposed project would contribute to diminishing the quality of outdoor recreation experiences in the Ivanpah Valley area, but even when considered with other existing and foreseeable projects, ISEGS would not contribute to a cumulatively considerable impact to recreation in the Ivanpah Valley and surrounding area.

Staff has proposed Condition of Certification **REC-1** to conform with Public Resources Code §25529 that would require the applicant to establish an area for public use by the development of a Solar / Ecological Interpretive Center within the Construction Logistics Area.

INTRODUCTION

The purpose of the **Recreation** section of this Final Staff Assessment/Draft Environmental Impact Assessment (FSA/DEIS) is to analyze the possible effects the proposed action and alternatives would have on recreation resources and determine if those impacts could be significant. Recreation has been and continues to be an important use of public land in the California Desert, including the Clark Mountain and Ivanpah Valley areas. The Federal Land Policy and Management Act of 1976 (FLPMA) recognizes recreation as a principal or major use of public land, and in its Declaration of Policy (Title I) states that it is the policy of the United States that the public lands be managed in a manner that will provide for outdoor recreation. Recreational uses of public lands may either be informal, casual uses which are managed by BLM through the land use planning process, or formally-approved uses managed through a BLM permitting process.

This section evaluates the proposed project and alternatives using the Recreational Resources section in the CEQA guidelines to determine if they would result in significant impacts under CEQA, and whether the proposed project and alternatives would comply with applicable state and local LORS pertaining to recreation. It also evaluates the scope of the potential impacts with respect to the definitions of significance provided in 40 CFR 1508.27.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

The following federal, state, and local laws and policies apply to the administration of recreation. Staff's analysis examines the project's compliance with these requirements.

RECREATION Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
Federal Land Policy and Management Act (FLPMA)	Recognizes that it is the policy of the United States that the public lands be managed in a manner which will provide for outdoor recreation.
California Desert Conservation Area (CDCA) Plan	Defines Multiple-Use Classes for BLM-managed lands in the CDCA, which includes the land area encompassing the proposed project location.
Northern and Eastern Mojave Desert Management Plan (NEMO) Amendment	The purpose of this amendment to the CDCA Plan was to evaluate land use changes necessary to protect threatened and endangered species. This included changes in permitted recreational uses and designated routes of travel.
State	
Warren-Alquist Act	§25529 requires that when a facility is proposed to be located in the coastal zone or any other area with recreational, scenic, or historic value, the commission will require, as a condition of certification that an area be established for public use.

SETTING

The Mojave Desert is a popular recreation destination, with people drawn to its open spaces, diverse landscapes, unique geography, and freedom from the restrictions of more urban areas. The desert provides resources that are necessary for a variety of recreational experiences. These resources include unique geography such as dry lakes and sand dunes, scenic values, solitude, and freedom from the structure and regulations of urban areas. In general, all recreational activities in the desert are dependent upon vehicle access to some degree, with visitors directed to travel on previously designated and marked motorized vehicle routes. Most public recreation use of BLM-administered lands is casual, and unsupervised. BLM management of some recreational activities occurs in relation to off-highway vehicle (OHV) events, permitted commercial and organized activities (bighorn sheep hunts, trail rides, and vision quests), and within specific local wildlife conservation sites. These activities are formally authorized through the Special Recreation Permit process.

A variety of recreational activities occur on public lands in the proposed project area. These include auto touring, backpacking, biking, camping, climbing, hiking, horseback riding, nature walks, star gazing, wilderness areas, and wildlife viewing. In addition, sightseers, painters, and photographers are drawn by spring wildflower displays, and year-round bird-watching. Clark Mountain, managed by the Mojave National Preserve (MNP) located within a few miles to the west of the proposed project location provides rock climbing, hiking, hunting, and wildlife viewing.

The proposed project would be located within Ivanpah Valley, which comprises approximately 37,280 acres. A prominent feature of Ivanpah Valley is the Ivanpah Dry Lake, located less than two miles to the east, and down gradient, of the proposed project location. Due to the unique character of its extensive flat surface, the Ivanpah Dry Lake has been designated by BLM for non-motorized, open-space recreational activities, and BLM issues both Special Recreation Permits and casual use permits for recreational use of the Dry Lake for land sailing and kite buggy use. The Dry Lake is the location of National and International Land Sailing Regattas. Additionally, world speed trials in which land sailing speed records have been set on Ivanpah Dry Lake. The Dry Lake is also used for photograph and film projects, for both recreational and commercial purposes. Additional recreational activities include long distance bow and arrow target shooting, hang gliding, and model rocket and airplane flying. BLM issues approximately 250 permits per year for recreational activities on the Dry Lake.

The area at the northern end of Ivanpah Dry Lake, where Interstate 15 (I-15) crosses the Nevada border, has undergone substantial development as a tourist destination. This development includes casinos and associated hotels and restaurants located 4.5 miles to the northeast of the proposed project location. The Primm Valley Golf Course is located within 0.5 miles of the proposed project location.

The property at the proposed project location is currently accessible to the public, on designated roads, used by recreationalists to access hiking, hunting, and/or viewing areas in the Clark Mountains, the Stateline, and Mesquite Wilderness, the Primm Valley Golf Course, the Primm Casinos, or the Ivanpah Valley and Playa. Roads within and adjacent to the proposed project site are used annually for the Los Angeles, Barstow to Las Vegas Dual Sport Motorcycle Tour.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

To evaluate whether the proposed project and alternatives would generate a potentially significant impact as defined by CEQA on recreational resources, the staff evaluated them against checklist questions posed in the 2006 CEQA Guidelines, Appendix G, Environmental Checklist established for Recreational Resources. These questions are:

- A. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- B. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The staff's evaluation of the significance of the impact of the proposed project on recreational resources includes an assessment of the context and intensity of the impacts, as defined in the NEPA implementing regulations 40 CFR Part 1508.27.

DIRECT/INDIRECT IMPACTS AND MITIGATION

CEQA CRITERIA

With respect to the CEQA significance criteria, the evaluation is as follows:

- A. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed project would not increase the use of parks or recreational facilities to the extent that physical deterioration of such facilities would occur. The primary recreational facilities in the area are the Primm Casinos, Primm Valley Golf Course, Ivanpah Dry Lake, and local roads and trails. The proposed project is not expected to increase the use of any of these resources, and may ultimately contribute to a decrease in their use due to increased industrialization of the desert in this area. Therefore, the proposed project would not have a significant impact based on this criterion.

- B. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed project does not include the construction or expansion of recreational facilities. Therefore, the proposed project would not have a significant impact based on this criterion.

The proposed project would indirectly impact recreational uses by imposing a visual viewscape which may reduce the desert experience for some recreational users, and by re-directing traffic that currently uses existing roads within the proposed project area to access their recreation destination. However, these impacts are not considered to be significant under the CEQA evaluation criteria.

NEPA CRITERIA

RECREATIONAL RESOURCES WITHIN PROPOSED PROJECT BOUNDARIES

Approval of the proposed project would directly remove approximately 3,712 acres associated with ISEGS permanent disturbance from potential use for recreational opportunities such as camping, hiking, hunting, and wildlife viewing. This comprises approximately 10% of the land area available for recreation within the Ivanpah Valley, but is a small fraction of the overall land area available in the eastern Mojave Desert. The proposed project would not have a direct impact on recreational resources within the proposed right-of-way grant boundaries, because it is unlikely that the proposed project area is substantially used for recreation except for providing traffic access to other locations. Any impacts on traffic access to these other areas would be readily mitigated by the re-direction of roads around the facility and realignment of Colosseum Road through the logistics area between Ivanpah 1 and 2. The re-direction of roads is expected to be minor; however, the development of the power generation plant will change the experience from that of a primitive driving experience to the experience of driving around a commercially developed urban area. Therefore, no mitigation measures are recommended to address the re-direction of roads.

REGIONAL RECREATIONAL RESOURCES

The geographic scope of the impact would not be limited to the proposed land area of the project, but could potentially include the entire Ivanpah Valley from which the project site is visible. Recreational visitors in the Ivanpah Valley are attracted to the combination of desert scenery, close proximity to a major population center (Las Vegas), proximity to tourist destinations (Primm casinos and Primm Valley Golf Course), proximity to organized recreational events (the Los Angeles, Barstow-to-Vegas Dual Sport Event and land sailing events), designated wilderness (Clark Mountain, Stateline, Mesquite) and easy access by I-15.

The proposed project would have an indirect impact on recreational users in the region due to its diminishing of the quality of the outdoor setting. The project would transform the Ivanpah Valley area from a mostly natural setting to a more industrial setting. The sight of a large-scale solar power facility may attract some recreational users, so the impact would be beneficial to some users, and adverse to others. However, based on scoping comments and other communications with the public, the number of recreationists that will consider the impact of the proposed action adverse will far exceed those that consider it a benefit.

Staff has determined that recreationists to the region primarily come to experience one of the outstanding recreational experiences in the Ivanpah region, such as land sailing at Ivanpah Dry Lake, hiking and camping in nearby BLM wilderness, or rock climbing on Clark Mountain. While the outdoor setting will be diminished, staff does not anticipate that this will cause these recreationists to forgo the enjoyment of these recreational opportunities.

Scoping comments identified specific concerns with the potential affects to the Ivanpah Dry Lake, specifically the potential effects of a change in sedimentation and wind patterns. These concerns are specifically analyzed below.

POTENTIAL IMPACTS TO IVANPAH DRY LAKE

Recreational land sailing occurs at Ivanpah Dry Lake, and this lakebed is a regionally and globally important land sailing site where world speed records are established. The world record was most recently established on the Ivanpah Dry Lake in March, 2009, at 126.2 miles per hour (mph). The proposed project could have a direct impact on recreational use of Ivanpah Dry Lake for land sailing events if the construction or operation of the facility had any of the following effects:

- Modification of water flow and sedimentation rates onto the Dry Lake surface;
- Introduction of foreign materials (garbage, debris, or hazardous materials) to the Dry Lake surface;
- Modification of wind characteristics; or
- If the visual character of the facility were to present a distraction that could cause either a nuisance or a safety hazard to wind sailors.

Modified Sedimentation Characteristics

The Dry Lake surface is unique in not only being very flat, but also in having a hard surface that can support wheeled vehicles. The proposed project is located on the active alluvial fan between the mountains to the west which are a source of stormwater runoff and sediment, and the Dry Lake surface to the east which is the ultimate depositional destination of the stormwater flow and sediment. Construction of the 3,712-acre facility would potentially modify the existing hydrologic flow conditions that provide both water flow and sediment to the Dry Lake surface. Hydrologic flow modification could cause changes in the Dry Lake surface by a variety of methods, including promoting erosion of the surface, increasing or decreasing current sedimentation rates to the surface, or providing sediment of a different grain size and composition. To address this possibility, as well as to protect biological resources downstream of the facility, the staff has evaluated the effect of the proposed project development on stormwater runoff and sedimentation in the FSA/DEIS section on **Soil and Water Resources**. The analysis presented in that section concluded that proposed project would not significantly modify stormwater flow or sedimentation characteristics downstream of the proposed facility. However, that section also noted that this conclusion is based on computer modeling assumptions that are approximate, and that there is little operational experience with developments of this magnitude in the Mojave Desert. To address this uncertainty, that section proposed Condition of Certification **Soil&Water-6**, which specified stormwater monitoring and response measures to evaluate the effect of the proposed project on downstream runoff and sedimentation characteristics.

Introduction of Foreign Materials

In addition to modified stormwater and sediment, the proposed project could affect the Dry Lake surface if garbage, hazardous materials, or debris were to be released from the project area and move downstream during storm events. Management of garbage and hazardous materials on the proposed project property is addressed in the FSA/DEIS sections on **Waste Management** and **Hazardous Materials**. Those sections concluded that the proposed management and disposal procedures for these materials would be adequate to protect against their release. The potential for debris is related to the potential for stormwater events to cause flood damage to project structures including heliostats, heliostat wiring, fencing, buildings, and stormwater management structures. The potential for these items to be damaged and transported during storm events was also evaluated in the FSA/DEIS section on **Soil and Water Resources**. Similar to the analysis of sedimentation, that analysis concluded that the proposed low-impact development method and evaluation of flood impacts on heliostats and other structures was likely to be adequate to avoid downstream transport of debris. In addition, proposed Condition of Certification **Soil&Water-5** is designed to monitor the potential for stormwater damage to site structures, and would require a response should debris be transported downstream.

Modification of Wind Characteristics

Land sailing occurs throughout the year, with major racing events occurring in late March and other racing events occurring around Thanksgiving and at other times during the year (Hatch 2009). Most of the dry lake bed, on both sides of the I-15, is used for

land sailing. In general, the most desirable wind speeds for land sailing are between 12 mph up to 30 mph; however, land sailing can occur during lower wind speeds down to 6 mph, and world record runs will occur at higher wind speeds over 30 mph gusting to 40 mph. Land sailing does not occur when the lake bed is wet, when wind speeds are too low, and when wind speeds are too high.

The potential for the project to impact to the wind patterns at Ivanpah Dry Lake are expected to be limited to when winds cross the project site towards the lake bed (when the project is upwind of the lake bed). The project site ranges from just less than two miles to the lake bed (Ivanpah 1) to just less than three miles to the lake bed (Ivanpah 3). The project site is very large so it can be upwind of some portion of the active land sailing area of the lake bed, using the extreme corners of the site border and lake bed border, when winds are from 200 degrees to 320 degrees, or a full one third arc of the compass. However, a 90 degree wind arc of concern (215 degrees to 305 degrees) is where the potential for maximum downwind impacts would occur as winds travel through longer cross-sections of the project site and through longer cross sections of the lake bed. Winds statistics (percent of annual) for these two arcs determined through two years of meteorological data from Jean, Nevada, are as follows:

RECREATION Table 2
Percent of Total Annual Winds Occurring From a Direction in Which ISEGS is Up-Wind of Ivanpah Dry Lake Bed and Could Have an Effect on Land Sailing for Various Wind Speeds

Average Hourly Wind Speed	Wind From 200° to 320° Where ISEGS Could Have Some Effect	Wind From 215° to 305° Where ISEGS Could Have Its Maximum Effect
< 6 mph	5.8%	4.5%
> 6 mph	44.1%	33.4%
> 12 mph	21.3%	16.7%
> 18 mph	7.4%	6.7%
> 24 mph	2.4%	2.3%
> 30 mph	0.6%	0.6%
All Winds Within Arc	49.8%	38.0%

Winds between 12 mph and 30 mph (most desirable to land sailing) will cross any part of the project site and the lake bed more than 20 percent of the time, and for marginal winds that frequency increases to more than 40 percent of the time. Wind between 12 mph and 30 mph will go through deep cross sections of the project site and deep cross sections of the lake bed more than 16 percent of the time, and for marginal winds that frequency increases to more than 30 percent of the time. Therefore, the location of the site, based on its size and direction from the lake is a concern, and there is a potential impact to winds at the lake bed.

It can be seen from the wind statistics that winds higher than desired for land sailing occur very infrequently, so anything that would decrease wind speeds would not be beneficial, and anything that would increase wind speeds should be considered potentially beneficial to land sailing.

The ISEGS project will be comprised of low-lying heliostat mirrors that focus onto one solar power tower each at Ivanpah 1 and 2, and five solar power towers at Ivanpah 3. Additionally, larger buildings/structures will exist near the central power tower within the power block at each of the power plants, including an air cooled condenser that will have large, vertical, hot air exhaust streams. The specific components of the project that could impact local wind patterns are as follows:

Structural Components Impacting Wind Flow

1. The mirrors will to some degree block wind flow through the site at low heights.
2. The larger central area buildings will cause localized wind turbulence.

Energy Components Impacting Wind Flow

1. Project will cause a reduction in the natural heating of the soils and reduce temperature convection from the soils to the atmosphere (thermals)
2. There will be an increase in localized thermal effects at the power towers and the air cooled condensers

In general, any new structural components will increase drag and turbulence in the area and will take some energy out of the winds, reducing their average velocity. The extent of this energy loss is unknown; however, most of the turbulence, or downwash, from the buildings and mirror fields should dissipate within the two or more miles from the site to the lake bed.

The ISEGS project, as a solar energy project, works to take energy out of the natural system (approximately 1,000 MW with 400 MW made into useful electrical energy) and the mirrors would shade the ground and reduce ground heating and related convection from the hot ground into the atmosphere. Besides the convective heat reduction in the mirror fields, there will be concentrated heat rejection from the air cooled condensers and radiated and convective heat loss around the power towers. The bulk of the heat rejection will come from the air cooled condensers (ACCs), the three of which will reject more than 500 MW into the air under maximum operating conditions. The localized impact on wind flows around the ACCs will be more dramatic than at any other location within each of the power units, but this will generally impact winds aloft more than at ground level. However, there will be a suction effect below the ACCs that will create turbulence and modify the localized wind fields.

Staff believes that the project's total cumulative impact to ground level winds will be to cause a slight overall average decrease in ground level wind speeds and a slight increase in ground level wind turbulence. Staff believes that this will not cause a significant adverse impact to land sailing on Ivanpah Dry Lake.

Glare Impacts to Land Sailing

The proposed project would be visible to land sailors from the Dry Lake surface. The potential for this visibility to provide a nuisance to the land sailors, and potentially modify their use of the Dry Lake for their events, is evaluated in the subsection on Regional Recreational Resources above. In addition to this nuisance effect, the safety of land

sailors could potentially be impacted by the bright glare that would result from the sun reflections to the receivers at the top of the seven power towers associated with the proposed project. The potential impact of this glare on drivers on I-15 is evaluated within this FSA/DEIS in the section on **Traffic and Transportation** which concludes there would not be a health and safety impact associated with reflected solar radiation or glare. However, the concern in that section is that the distraction caused by the brightness of the power towers could increase the potential for accidents on the highway. This potential effect could also apply to land sailors traveling at high speeds (more than 100 mph) on the Dry Lake surface. Staff has concluded in the **Traffic and Transportation** section that with staff's recommended mitigation, there would not be an appreciable adverse impact to motorists on I-15 and other local roads associated with glare. Therefore, considering land sailors would be at a greater distance from the power towers than motorists on I-15, staff concludes that there would not be an appreciable impact to land sailors associated with glare.

IMPACT CONCLUSIONS

The proposed project is not expected to have significant impacts on recreational resources within the proposed project boundaries. There will be no direct impacts because rerouting affected routes of travel would accommodate the limited amount of recreational use in the project location.

Staff believes that ISEGS would have adverse impacts to recreational resources outside of the project boundaries attributable to the project diminishing the quality of the outdoor setting. These adverse impacts are not considered intense enough to cause visitation to decrease, because the recreationists are generally focused on a particular recreational experience, e.g. land sailing on Ivanpah Dry Lake, rock climbing on Clark Mountain, or hiking and camping in BLM wilderness, which will continue to be provided.

The proposed project is unlikely to notably impact the characteristics of wind or the Dry Lake surface that affects use for land sailing, if recommended mitigation measures are implemented as described in the Mitigation section below.

Mitigation

The proposed project is unlikely to notably impact the characteristics of the Dry Lake surface that affects use for land sailing, but only if mitigation measures are implemented. Staff recommends the mitigation measures identified under Conditions of Certification for Hazardous Materials Management **HAZ-1 through HAZ-6**, Waste Management **WASTE-1 through WASTE-7**, and **SOIL&WATER-5**, which would address the potential for stormwater modification of the Dry Lake surface, as well as transport of hazardous materials, waste or debris to the Dry Lake surface.

DECOMMISSIONING AND CLOSURE

Once operations of the generation plant have ceased, all generation facilities and equipment would be removed from the site, and the site would be recontoured and reclaimed to mimic the natural setting. Roads that would not be needed for public access through the area would be reclaimed during this process. Roads that would be used by the public would not be reclaimed and would remain open to vehicular use.

While reclamation would result in removing the attraction for those users who enjoyed the sight of the facility, it would restore the desert experience for those users who prefer to visit a more natural setting. Once the reclamation effort is complete, the lands would become available for the same types of dispersed recreational use as were available prior to construction. Therefore, the commitment of the project site for ISEGS is not permanent, although it is long-term. The viewscape would return to a more natural setting, once reclamation efforts were complete, although recovery of the site with native vegetation would likely take many years.

No Project/No Action Alternative

The No Project/No Action alternative would leave the land area undisturbed, and would therefore allow current recreational uses in the area to continue without interruption. The No Project/No Action alternative would also avoid diminishing the quality of outdoor recreational experiences in the Ivanpah Valley area by not contributing to a transformation from a mostly natural to a more industrial setting. Therefore, the No Project/No Action alternative would not affect recreational resources.

CUMULATIVE IMPACTS AND MITIGATION

The cumulative impact analysis area for recreation includes the Ivanpah Valley region including the surrounding mountain ranges. The period for the analysis is long term. In addition to the proposed ISEGS facility, there are many other past, present, or reasonably foreseeable future actions that contribute to both positive and negative impacts to recreational use of the Ivanpah Valley area as listed in the **Cumulative Scenario** section of the FSA/DEIS. Examples of recent and future development and land use changes in the Ivanpah area that may impact recreational use of the area include:

- Authorized and unauthorized vehicle use.
- Maintenance and construction of utility rights of way.
- Mineral exploration and production.
- Other solar projects, including the proposed FirstSolar facility that would also be located within Ivanpah Valley.
- Various proposed high-speed rail lines connecting Las Vegas to the Los Angeles area, including the Desert XPress rail line, and proposed Maglev projects.
- The proposed Southern Nevada Supplemental Airport facility at Jean, Nevada.

Regionally, there have been both positive and negative impacts to recreational resources as a result of development projects within Ivanpah Valley. Improvement of highway access to the Valley, through the construction of I-15, provided direct vehicular access to open desert scenery for residents throughout southern California and Las Vegas. This increased access certainly improved the recreational experience for some users by making the area more accessible, and detracted from the recreational experience for other users who preferred remote camping, hiking, and hunting away from populated areas. Some industrial and commercial development projects, including the proposed project, would remove some lands from potential recreational use, and would provide an impact on the viewscape that would diminish the recreational

experience to some degree. Other development projects, including the Primm casinos and Primm Valley Golf Course, have been successful in drawing people to the area for different recreational activities.

Overall, the impact to recreationists from these projects is subjective, because some may be drawn to the development, while others would seek to avoid it. Recreational use of the Primm Casinos and Primm Valley Golf Course is likely to be unaffected, or possibly increase, due to increased ease of access and development of other similar attractions. Conversely, visitors looking to enjoy quality hiking, camping, and other outdoor activities in the surrounding area will be impacted by the diminished natural setting during their drive to those locations, but will be able to continue to enjoy those opportunities recognizing a degraded visual background in some settings.

Recreational use of Ivanpah Dry Lake for land sailing and related events may be impacted if the unique character of the Dry Lake surface is modified through these developments, although staff cannot conclude that this would occur based on information currently available. Staff's recommended mitigation measures identified under Conditions of Certification for Hazardous Materials Management **HAZ-1 through HAZ-6**, Waste Management **WASTE-1 through WASTE-7**, and **SOIL&WATER-5** would address the potential for stormwater modification of the Dry Lake surface, as well as transport of hazardous materials, waste or debris to the Dry Lake surface as attributable to the ISEGS project. Staff concludes that ISEGS would not contribute to an effect that would be cumulatively considerable.

COMPLIANCE WITH LORS

In general, the Federal LORS (FLPMA and CDCA Management Plan) encourage multiple land uses, which recognize and protect the values associated with outdoor recreation. None of these LORS prescribe the use of this or any property for recreational use only, so approval of the proposed project would not result in noncompliance.

Warren-Alquist Act (Pub. Resources Code § 25500 et seq.)

Pursuant to § 25529 of the Warren-Alquist Act, the Energy Commission shall require the establishment of an area for public use as a condition of certification of a facility proposed in an area of recreational and scenic value as follows:

"When a facility is proposed to be located in the Coastal Zone or any other area with recreational, scenic, or historic value, the [Energy] Commission shall require, as a condition of certification of any facility contained in the application, that an area be established for public use, as determined by the Commission. Lands within such area shall be acquired and maintained by the Applicant and shall be available for public access and use, subject to restrictions required for security and public safety. The Applicant may dedicate such public use zone to any local agency agreeing to operate or maintain it for the benefit of the public. If no local agency agrees to operate or maintain the public use zone for the benefit of the public, the Applicant may dedicate such zone to the state. The [Energy] Commission shall also require that any facility to be located

along the coast or shoreline of any major body of water be set back from the shoreline to permit reasonable public use and to protect scenic and aesthetic values."

Staff concludes that § 25529 of the Warren-Alquist Act is applicable on the basis that the project area has both recreation and scenic values. Recreation value is recognized on BLM's land within the project area and greater Ivanpah Valley under FLPMA and the CDCA Management Plan. Scenic value is also recognized under these plans and as determined under the Visual Resources analysis of this document. Energy Commission staff have discussed with BLM how the applicant can best meet the statutory requirement for public use for this project based on the following analysis.

Selection Criteria

Staff used the following criteria as guidance for selecting an appropriate public use area:

- Would the public use area provide a specific and tangible benefit to the community?
- Are the public use area plans prepared or can they be readily prepared within the time frame of other plan preparations for the proposed ISEGS project?
- Is the public use area environmental review and permitting underway or completed, or can it be integrated with the ISEGS project?
- Would the public use area cause a public nuisance?
- Would the public use area be properly operated and maintained?
- Can the public use area that would be funded by the applicant be developed without dependency on additional funding sources?

Based on the above criteria, staff determined that a Solar / Ecological Interpretive Center developed within the Construction Logistics Area would best meet the needs of the public, as well as the statutory requirement for a public use area. The concept for the Solar / Ecological Interpretive Center would include the following elements: surfaced public parking for 12 vehicles (4 of which would allow vehicles with trailers), information kiosks describing ISEGS solar energy technology, picnic area with 8 shaded tables, garbage cans, interpretive signs identifying local landmarks and ecological features, two stall contained restroom facility (or a facility with flush toilets and sinks), drinking fountain, and native plant landscaping with plant identification labels.

Cost Assessment

In addition to the site selection criteria, staff looked at the cost of the public use area under consideration for ISEGS and compared it to the costs for public use areas on past siting cases. The following is a list of several recent siting cases and an estimate of what was spent by project developers for public use areas pursuant to § 25529 of the Warren-Alquist Act (adjusted for 2009 dollars using an inflation factor of 3.5 percent per year):

- El Segundo – Bike trail widening and park benches - \$100,000 in 2005, or $1.14 \times \$100,000 = \$114,000$ in 2009 dollars;

- Moss Landing – Easements and Trails - \$410,000 in costs in 2000, or $1.315 \times \$410,000 = \$539,000$ in 2009 dollars; and
- Morro Bay – A purchase of seven acres for \$1,400,000 was used to satisfy both § 25529 of the Warren-Alquist Act and the City of Morro Bay requirements for a public use area/coastal access. Therefore, the estimated cost in 2009 dollars (for the Energy Commission requirement only) would be $1.175 \times \$700,000 = \$823,000$.
- Humboldt Bay – Hiking Trail - \$230,000 in costs in 2009.

The above information provided staff with some guidelines to assess an appropriate dollar amount for public use associated with ISEGS.

Other Considerations

Staff notes that if the Energy Commission certifies ISEGS and BLM issues a ROW grant, the applicant would receive the right for dedicated use of lands currently available to the public, and that by development of the ISEGS project, would preclude public use for approximately 30 to 50 years. Should the applicant fund a public use area as a requirement of licensing, the ongoing use of the ISEGS site, while predominantly industrial, would not preclude the public's use and enjoyment of a small portion of the project area.

Applicant's Cost

Staff estimates that the capital cost of the Solar Ecological Interpretive Center located within the ISEGS Construction Logistics Area would be approximately \$300,000 - \$400,000. This cost estimate is provided as a ballpark indicator of financial liability to the applicant for decision purposes, and is not intended as an upper limit. Ongoing operation and maintenance (O&M) that would be conducted by the applicant would include trash removal, restroom cleaning and pumping, and other related activities. Staff expects that ongoing operation and maintenance could be accomplished primarily with ISEGS staff with little incremental increase in ISEGS overall O&M costs.

Staff's Recommendation

Staff proposes that the applicant conform with § 25529 of the Warren-Alquist Act by constructing, operating and maintaining a public use area consisting of a Solar / Ecological Interpretive Center within the ISEGS Construction Logistics Area in accordance with Condition of Certification **REC-1**.

NOTEWORTHY PUBLIC BENEFITS

Approval of the proposed project would likely result in the attraction of a small number of visitors to the area who are interested in large-scale power and solar facilities.

PUBLIC AND AGENCY COMMENTS ON THE PRELIMINARY STAFF ASSESSMENT (PSA)

Recreation was not included as a section within the PSA.

CONCLUSIONS

The proposed project location itself is not specifically permitted, used, or designated for any recreational activity. The proposed location represents a small portion of the overall area available for recreation in the Mojave Desert, and although the proposed project would require re-direction of access roads to recreation areas, the magnitude of this re-direction is expected to be small. However, the issue of recreational resources is still directly applicable to the proposed project because part of the attraction of the area, historically, has been driven by easy vehicular access to an unspoiled desert viewscape. While the presence of the proposed facility would likely attract some tourists who are interested in unusual and large-scale industrial operations, the impact on the quality of outdoor recreational experience would diminish the experience of campers, hikers, hunters, and other recreational users. These impacts are not expected to be significant as a recreation impact under the primary CEQA thresholds of significance because they do not increase the level of use which could damage recreational facilities, and do not require the construction or expansion of recreational facilities which could impact the environment. Under NEPA and CEQA, the project's direct impacts are not considered significant because ISEGS would not disrupt recreation opportunities, and the project's indirect impacts by itself would not substantially diminish the quality of outdoor recreation experiences. Development of a public use area as specified in Condition of Certification REC-1 in conformance with § 25529 of the Warren-Alquist Act would be constructed in the Construction Logistics Area within the boundaries of the proposed ROW, and would not impact the environment beyond considerations already analyzed in this document.

The impacts related to changes in the viewscape, contributing to the transformation of a mostly natural to a more industrial setting, would be long-term, even though the land could be potentially restored and the associated viewscape as affected by the project could be repaired following facility decommissioning.

The project could potentially impact land sailing on the Ivanpah Dry Lake surface if it were to modify stormwater and sedimentation characteristics or result in hazardous materials, waste or debris being transported to the Dry Lake. However, staff has proposed mitigation measures in the **Soil and Water, Hazardous Materials Management and Waste Management** sections that would mitigate these impacts to less than significant. Staff concludes that the project would not notably modify wind characteristics, or impose a visual glare hazard that would affect the health and safety of land sailors.

The No Action Alternative would not have any impact on the characteristics or administration of recreational resources.

The proposed project would contribute incrementally to diminishing the quality of the outdoor recreation experience over a long term in the California Desert due to the cumulative effects of development. The impacts to recreational resources caused by approval of the proposed project would include the overall adverse visual impact of the facility on campers, hikers, and other outdoor recreational users whose interest in the area is based on an unspoiled, primarily natural setting of the desert. The adverse effect of development on recreational resources within the Ivanpah Valley area may become pronounced due to the proximity of the area to Las Vegas, ease of public access from

Interstate 15, increasing tourist use of the Primm area, and planned development projects including FirstSolar, Desert Xpress, and the Southern Nevada Supplemental Airport. Staff concludes that the proposed project would contribute to diminishing the quality of outdoor recreational experiences in the Ivanpah Valley area, but even when considered with other existing and foreseeable projects, ISEGS would not contribute to a cumulatively considerable impact to recreation in the Ivanpah Valley and surrounding area.

MITIGATION MEASURES/PROPOSED CONDITIONS OF CERTIFICATION

The proposed project is unlikely to notably impact the characteristics of wind or the Dry Lake surface that affects use for land sailing, but only if mitigation measures are implemented. Staff recommends the mitigation measures identified under Conditions of Certification Hazardous Materials Management **HAZ-1 through HAZ-6**, Waste Management **WASTE-1 through WASTE-7**, and **SOIL&WATER-5**, which would address the potential for stormwater modification of the Dry Lake surface, as well as reduce the potential for transport of hazardous materials, waste or debris to the Dry Lake surface.

Additionally, staff proposes Condition of Certification **REC-1** to conform with Public Resources Code §25529 that would require the applicant to establish an area for public use by the development of a Solar / Ecological Interpretive Center.

REC-1: Prior to the start of construction and in conformance with § 25529 of the Warren-Alquist Act, the project owner shall prepare plans for a Solar / Ecological Interpretive Center to be developed in the ISEGS Construction Logistics Area and submit them to BLM's Authorized Officer and the CPM for review and approval. The plans shall propose a location that if possible provides a vantage point to observe as many features as is possible of the ISEGS project without compromising ISEGS security requirements. The Solar / Ecological Interpretive Center shall include the following features:

1. surfaced public parking for 12 vehicles (4 of which would allow vehicles with trailers);
2. information kiosks describing ISEGS solar energy technology;
3. picnic area with 8 shaded tables;
4. garbage cans;
5. interpretive signs identifying local landmarks and ecological features;
6. a two stall contained restroom facility (or a facility with flush toilets and sinks);
7. a drinking fountain; and
8. native plant landscaping with plant identification labels.

Prior to commercial operation of the first constructed power plant of the ISEGS development, the project owner shall complete construction of the Solar / Ecological Interpretive Center and request final approval by both BLM's Authorized Officer and the CPM. The project owner shall operate and maintain the Solar / Ecological Interpretive Center for the life of the ISEGS project.

Verification: At least 30 days prior to construction of the first power plant of the ISEGS development, the project owner shall submit plans for a Solar / Ecological Interpretive Center to be developed in the ISEGS Construction Logistics Area and submit them to BLM's Authorized Officer and the CPM for review and approval.

Prior to commercial operation, the project owner shall submit notice to BLM and the Energy Commission that it has completed construction of the Solar / Ecological Interpretive Center and shall request final approval by both BLM's Authorized Officer and the CPM.

After commercial operation and in each Annual Compliance Report for the life of the ISEGS project, the project owner shall provide a summary of estimated public utilization of the Solar / Ecological Interpretive Center and summarize any issues associated with operating and maintenance activities.

REFERENCES

BSE2007a – Bright Source Energy/ Solar Partners I, LLC/ J. Woolard (tn: 42174). Application for Certification, Volumes I and II, for the Ivanpah Solar Electric Generating System. Submitted to CEC/Docket Unit on 8/31/2007.

Hatch 2009 - Telephone conversation between Kent Hatch, former president of the North American Land Sailing Association, and William Walters, Aspen Environmental Group. August 14, 2009.