

Solar Regional Mitigation Planning – Dry Lake Solar Energy Zone Pilot Project
Workshop 2
October 24-25, 2012

Workshop 2 Summary Report

1 Background

The U.S. Department of the Interior Bureau of Land Management (BLM) is continuing its Dry Lake SEZ Solar Regional Mitigation Planning (SRMP) Pilot Project, which is focused on the Dry Lake SEZ located about 15 mi (24 km) northeast of Las Vegas in Nevada. As proposed in the July 2012 Solar PEIS, the BLM is working extensively with stakeholders in the process of developing the Dry Lake SRMP. The pilot process pursued includes the identification of unavoidable adverse impacts and appropriate offset or mitigation of those impacts, taking stakeholder input into consideration. This outreach was initiated through a kickoff workshop held August 29–30, 2012, at the Tuscany Suites in Las Vegas. Approximately 70 participants attended that workshop, including representatives from other federal, state, and local government agencies; nongovernmental organizations (NGOs) concerned with issues such as environmental or recreational impacts; representatives from the solar development industry, mining industry, and utilities; one tribal representative; and individual members of the public.

Workshop 2 was held on October 24-25 at the Hampton Inn Tropicana in Las Vegas. There were 34 attendees; although some new faces were present, the range of representation of organizations and individuals was similar to that of the kickoff workshop. The agenda for Workshop 2 is included here as Attachment 1. Workshop 2 entailed a field visit to the Dry Lake SEZ in order to give the meeting participants a firsthand look at the SEZ. BLM staff experts were present and spoke about the range of resources present in the SEZ and possible mitigation opportunities available to avoid, minimize and mitigate potential impacts related to solar energy development. This report summarizes the content of Workshop 2 and the input received from participants.

As presented in the kickoff workshop, the need for regional mitigation planning to address unavoidable impacts of solar energy development was identified in the *Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* (Solar PEIS), which was published by the BLM and U.S. Department of Energy in July 2012. The Solar PEIS identified 17 solar energy zones (SEZs) in the six-state study area, which are areas that are well suited to solar energy development where the BLM will prioritize and facilitate utility-scale solar development. The Solar PEIS also identified an extensive inventory of design features (i.e., required mitigation measures) that would be applied for any right-of-way (ROW) grants for solar facilities on BLM-administered lands, and proposed a new Solar Energy Program that would establish ROW authorization policies and allow permitting of future solar energy development projects on public lands to proceed in a more efficient, standardized, and environmentally responsible manner. The Solar PEIS Record of Decision (ROD) was published on October 12, 2012.

The Final Solar PEIS outlined a framework for developing regional mitigation plans (see Appendix A, Section A.2.5). The framework included a “mitigation hierarchy” — avoidance, minimization, and then mitigation (or offset) of impacts. This hierarchy requires that avoidance and minimization strategies be implemented first to eliminate or reduce potential adverse impacts from solar energy development. For those impacts that are not fully avoided or minimized, the BLM will determine, in consultation with affected stakeholders, any appropriate measures to offset or mitigate these adverse impacts. In the Solar Energy Program, the BLM has implemented avoidance strategies through the identification of SEZs as priority areas for development; in general, the SEZs were selected to avoid as many potential impacts as possible. The BLM has implemented minimization strategies through the adoption of both programmatic and SEZ-specific design features. In anticipation that development may nonetheless result in significant unavoidable impacts, the BLM is working to develop Regional Mitigation Plans for each SEZ.

As presented in the summary for the kickoff workshop (available at the Dry Lake SEZ SRMP Project Web site at: http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/dry_lake_solar_energy.html), the BLM has identified the following goals for developing SEZ-specific Solar Regional Mitigation Plans (SRMPs):

- Develop a consistent, regional approach to mitigating impacts associated with development in an SEZ, thereby establishing incentives for development in the SEZ;
- Reduce uncertainty about mitigation requirements (eliminate the current guessing game) and streamline the process for mitigating unavoidable adverse impacts;
- Establish science-based or other objective criteria for determining which unavoidable impacts will be mitigated and identify effective mitigation actions;
- Establish on-site avoidance and minimization requirements that support build-out plans for the SEZ;
- Obtain concurrence from the various regulatory agencies regarding the need for mitigation and the appropriate off-site mitigation strategy;
- Potentially reduce the costs, complexity, and timeline associated with off-site mitigation activities and obtaining project approvals;
- Establish a simple mitigation fee structure, and create an opportunity to pool funds collected from multiple developers and apply the pooled funds to mitigation projects that will produce the most significant results for the dollar;
- Support the BLM’s implementation of adaptive management approach to solar energy development;
- Provide relevant information for determining mitigation requirements for projects on variance lands; and

- Achieve a greater degree of stakeholder collaboration throughout the mitigation planning process.

2 Summary of Workshop Presentations

The presentations given at the workshop are available for viewing or downloading on the Dry Lake SEZ SRMP Project Web site (see Section 1 for URL). The following sections provide a brief summary of the presentations provided during the workshop.

2.1 Day 1: Introduction, Field Visit and Breakout Group Discussions on Unavoidable Impacts

2.1.1 Workshop 2: Baseline Conditions and Unavoidable Impacts – Introduction (Dick Bouts (BLM – Washington D.C., and Joe Vieira BLM, Dry Lake SRMP Project Manager)

Dick Bouts provided some background on the strong emphasis the BLM has on renewable energy development on public lands, and associated facilitation of development within the SEZs. There was a brief discussion of the rulemaking for competitive leasing within the SEZ; Dick stated that the Draft rule will be available for public comment within the next few months.

Joe Vieira presented a brief summary of BLM’s commitment to regional mitigation planning as stated in the Solar PEIS, and informed the group that there is an existing BLM off-site mitigation policy that can be used for guidance for this pilot project. He pointed out to the group that a new frequently asked questions handout on Solar Regional Mitigation Planning was included in the Workshop materials. Joe also reminded the group that the utility of the mitigation measures established through the Dry Lake SRMP project would be checked through long-term monitoring, as discussed during Workshop 1. The goals and elements of regional mitigation planning were also reviewed. Joe discussed the goals for this workshop, which are to present information on the Dry Lake SEZ and regional baseline conditions, and for participants to review and comment on the preliminary unavoidable impacts associated with solar development in the Dry Lake SEZ that were developed by the BLM.

2.1.2 Field Visit and Group Discussion (BLM Interdisciplinary Team representatives – Mike Dwyer, Greg Helseth, Fred Edwards, Kathleen Sprowl, and John McCarty)

Short, resource-specific presentations were conducted in the field. There were 4 stations headed by Fred Edwards (soils, vegetation, wildlife, hydrology, and invasive species), Greg Helseth (military, realty issues, including transmission, existing power plants, and pipelines, minerals, fire, recreation, and

transportation), Kathleen Sprowl (cultural resources, paleontology, Native American concerns, and environmental justice), and John McCarty (visual, specially designated lands, and wilderness). Participants were provided with a summary table of resources, impacts, and on-site mitigation for reference, and then broke into 4 groups and circulated among the stations. Resources present in the SEZ were discussed and preliminary thoughts were shared on whether there could be unavoidable impacts. Potential on-site mitigation strategies were discussed, as well as possible off-site mitigation options if the impacts were thought to be unavoidable.

Upon return to the meeting rooms, participants broke into groups to discuss the impacts from solar development within the Dry Lake SEZ, and particularly to comment on BLM's preliminary identification of unavoidable impact areas as presented in the summary table. Group comments were presented in the morning on Day 2, and are summarized in Section 3.2.

2.1.3 Solar Mapper Overview (Karen Smith)

Karen Smith provided a demonstration of the capabilities of the Solar Mapper tool that originally was designed for sharing information analyzed in the Solar PEIS. The tool provides access to view spatial information relevant to siting utility-scale solar projects, but is not a tool from which the underlying data can be downloaded for stakeholder use. Each of the menu groups were discussed (hydrography, PEIS development areas, energy corridors, protected resources, ecology, solar facilities, solar potential, and land management groups). There was some feedback from participants during the presentation on the contents of Solar Mapper. It was noted that the solar facilities data were somewhat incomplete and out-of-date regarding existing applications.

2.2 Day 2: Regional Ecological Assessments and Next Steps

2.2.1 Mojave Desert Ecoregional Assessment (Jim Moore, TNC)

The Nature Conservancy (TNC) conducted an ecoregional assessment of the Mojave Desert to assess land conservation values and their distribution across the Mojave, with the goal of informing regional land use decisions. *Lower conservation value* were defined as lands where development would have less impact, and *high conservation value* lands were defined as those where conservation would have the greatest impact. The assessment noted that eighty-five percent of the Mojave Desert is under public ownership. BLM, NPS, and DOD have the largest holdings. Ecoregional assessments can provide key information in describing the relative risk of siting developments across an ecoregion. The TNC assessment is a synthesis of the best available data on conservation values across the Mojave. It is not a map of where development or restoration should occur, more site-specific information would be needed to make those determinations. To assess conservation values and their distribution across

the region, conservation targets with goals were identified. Land use was characterized by impacts such as roads, urban areas, and agricultural uses. The TNC used MARXAN to help identify and map the relative conservation value of lands. They attributed high conservation values to areas with low levels of disturbance and unique/high concentrations of conservation target occurrences. The conservation values were categorized into four categories: Ecologically Core, Ecologically Intact, Moderately Degraded, and Highly Converted. Results showed 86% of Mojave lands in the high conservation value category. Results by land owner show that the BLM manages the greatest percentage of ecologically core lands and high conservation lands (relative to other federal land holders). 14%, almost 4.5 million acres, of the Mojave is moderately degraded or highly converted; these lands are primarily held by private landowners. These areas include many sites likely to have fewer environmental constraints for development. Ecological assessments can provide key information for describing the *relative risk* of siting developments in an ecoregion as well as identifying areas of higher conservation value for mitigation of impacts elsewhere within the region. The study emphasized the need to guide (or incentivize) development towards disturbed lands with low ecological value.

2.2.2 Mojave Basin and Range Rapid Ecoregional Assessment (Sandra Brewer, BLM)

Rapid Ecoregional Assessments (REAs) were initiated in 2010 for seven ecoregions in the western United States and Alaska, including for the Mojave Basin and Range ecoregion. The BLM REA methodology implements a landscape approach to help in planning and management. It was stressed that REAs were not NEPA documents. The REAs used best available information to get at conservation elements and change agents (versus stressors or drivers) to produce regional scale models. The models are not intended for project-level analyses, but do provide regional context. The non-proprietary data will be available in the near future through the REA Data Portal (anticipated to be released by the end of October).

2.2.3 Next Steps: Where Do We Go From Here? (Mike Dwyer and Jason Taylor)

Mike Dwyer reminded everyone that the focus of these workshops is on impacts that cannot be avoided or minimized, emphasizing BLM's role to "consider" off-site mitigation options, so that we don't eliminate incentives to develop in SEZs by overburdening the developers. The regional mitigation planning process should not be taken as a mandate to conduct off-site mitigation, instead it is an opportunity for the BLM to consider and discuss with stakeholders the rationale for identifying unavoidable adverse impacts that warrant mitigation. Our goals are to develop a regional mitigation plan for the Dry Lake SEZ, and to apply the lessons learned from the process in developing guidance for the mitigation planning for the remaining SEZs. Mike reviewed the framework that was established in Workshop 1 and where we stand in that process in Workshop 2. In

Workshop 2 the focus has been on the first element of determining which impacts are unavoidable. The next filter is which of the unavoidable impacts warrant off-site mitigation. Three selection criteria to address determining unavoidable impacts that warrant off-site mitigation are: degree of impact, threat to resilience/sustainability of the region, and feasibility. Jason Taylor then provided an example of what the BLM envisions as a conceptual model to move forward in a systematic and comprehensive way. The plan is to start at a high level and define what major ecosystem components need to function well in order for the larger system to work. Mike Dwyer then gave some examples (visual and special status species vegetation) in a matrix format to answer the questions regarding which of the unavoidable impacts represent significant threats to the various (ecological, social, and/or cultural) regional systems. Mike discussed the need to develop a methodology for identifying and prioritizing off-site mitigation projects by developing a prioritized list of off-site projects using existing tools, models, and protocols; documenting the process; and presenting the results to the participants of Workshop 3 in January.

3 Summary of Participant Feedback

3.1 General Feedback

Input from workshop participants was received during the various question-and-answer periods after presentations, during the group discussions, and via e-mail after the workshop. The bullet points below represent the feedback received from the workshop participants during the group discussion session, and also during other discussion periods. In many cases, similar comments were received from several groups.

Workshop Participant Feedback

- In addition to ensuring that the SRMP process continues to provide incentives for development in SEZs (and, conversely, doesn't create any disincentives), BLM should establish metrics for measuring this outcome.
- Mitigation requirements established for SEZs should at least establish a minimum standard for development on variance lands. BLM should establish metrics for measuring this outcome.
- BLM should incorporate information from existing solar projects and projects under construction in order to refine its understanding of potential impacts and opportunities to mitigate impacts.
- BLM should continue to refine its understanding of the best places within SEZs and variance lands for development.
- SRMPs need to be developed as quickly as possible for each SEZ, but it's important that they be effective, not just fast.

- As part of the process of identifying unavoidable impacts, more detail than was provided in the summary table is needed in order for stakeholders to provide complete input regarding BLM’s preliminary recommendations (i.e., the table was too cursory and the information was not complete for some resources).
- BLM needs to more fully define baseline conditions for each resource in order to more accurately assess the significance of unavoidable impacts. For example, the magnitude of night sky impacts of future development at the Dry Lake SEZ needs to be determined in the context of existing night sky conditions. As another example, the aerial extent of offsets around existing ROWs needs to be mapped in order to understand the potential amount of new disturbance that might occur in the SEZ.
- BLM needs to document the methodologies used throughout the process (e.g., the process for identifying unavoidable impacts, the process for evaluating the significance of these impacts).
- In establishing off-site mitigation requirements, the SRMP process needs to strike an appropriate balance that (1) maximizes future development of solar energy, thus providing environmental (and national security) benefits and (2) ensures appropriate mitigation of regional and local impacts.
- BLM should focus mitigation requirements on desired outcomes at an SEZ rather than on technology-specific restrictions. For example, BLM should establish water use limits or thresholds rather than specify that wet-cooled technologies will not be allowed. Another example would be establishing height restrictions rather than specifying that power towers would not be allowed.

3.2 Feedback on Table of Unavoidable Impacts for the Dry Lake SEZ

The table of resources, impacts, and on-site mitigations provided to workshop participants is included here as Attachment 2. The bullet points below represent comments expressed by the participants on the table, which summarized the BLM interdisciplinary team’s first cut at identifying unavoidable impacts in the SEZ (see Attachment 3).

- Indirect and Cumulative impacts should be addressed.
- Methodology for determining conclusions in table needs to be provided.
- More detail needed in table to better assess the validity of the determination (especially details regarding the specific special status species and specially designated areas considered).
- Air quality needs to be added to the table.
- Include impacts of soil transport.
- Include kit fox and Gila monster under Special Status Species - Animals.
- Add yucca to vegetation discussion.
- Change conclusion of hydrology unavoidable impacts to “maybe” or “yes” because of over-allocation of water and indirect and cumulative impacts

- Change conclusion for Native American concerns unavoidable impacts to “yes” because of habitat loss and hydrology impacts associated with CSP technologies.
- Change invasive/noxious weeds and riparian conclusions to “maybe.”
- Change conclusion for military to “yes” because the SEZ is still in the bailout zone, and because there would be impacts from glare, thermal sources (if present in the solar facilities), and tall structures.
- Change conclusion for specially designated areas to “maybe” for Coyote Springs ACEC.
- Avoidance description for minerals should be revised to state “no leasing” rather than “prohibit development.”
- Condition of the resources present in the SEZ needs to be assessed versus just presence/absence of resource to get at a significance determination.

4 Summary of Input Received through the Evaluation Forms

A copy of the evaluation forms used for the workshop is included here as Attachment 3. Sixteen evaluation forms were received.

4.1 Presentation Ratings

The participants’ ratings for individual presentations were consistently positive. Some general observations are provided below:

- The introduction and orientation was thought to be useful for those who had not attended Workshop 1, but not necessary for those who did attend.
- The field visit to the Dry Lake SEZ was found to be very useful by the workshop participants.
- The group presentations on unavoidable impacts received positive feedback. The participants requested methodology and more detail for the impact table.

4.2 Additional Specific Feedback

The information provided in answers to the individual questions on the evaluation form is as follows:

- Webinars between workshops would be helpful to keep participants focused and up to date on what is being accomplished or planned.
- One county representative expressed concern that NGOs have a greater ability to do research and express their views at workshops than the counties do.
- NGO’s and counties were very vocal, this was viewed as a good forum for discussion and to provide feedback

- Participants noted concerns with conceptual models not being complete since they should be the “gateway” to thinking about the system. One commenter impressed with the usefulness of the model for developing guidance.
- One commenter suggested holding one workshop per SEZ, followed by assignments to workgroups of subject experts that could schedule their own meetings.
- One commenter noted that the process seems to be making the planning more complex, which counters the goal of streamlining the process.
- One commenter noted that the BLM should be clearer on prioritizing on-site mitigation versus off-site mitigation.

4.3 Specific Offers of Potential Contribution to the Project

Several organization and individuals offered to contribute to the Dry Lake SEZ SRMP project, as noted below:

Participant Volunteers to work on conceptual model: John Tull (TWS), Jon Belak (DOW), Laura Crane (TNC), Jim Moore (TNC), James Castle (Ultra Systems), Nikki Springer (BLM/Yale)

Participant Volunteers to work on mitigation fee costing: Mike Baughman (Lincoln County), John Hiatt (Red Rock Audubon), Laura Crane (TNC), John McCarty (BLM), Mark Chandler (BLM), Sue Wainscott (Clark County), Donna McClay (NRG Solar).

5 Next Steps (Joe Vieira)

With the feedback received through this workshop, the BLM will continue work on the Dry Lake SEZ SRMP, revising the process as appropriate on the basis of participant feedback. The BLM will carefully evaluate all of the suggestions received. A summary of this workshop will be provided, and information will be sent to participants and other interested parties on the next workshop dates, venue, and content as soon as these are established. The third workshop has been planned for the week of January 28 (Jan 30-31) in Las Vegas; the planned content is review of mitigation objectives, what mitigation projects and/or actions should be undertaken, and review of possible fee structures for mitigation. There will be at least one interim webcast prior to the late January workshop to provide a status update of activities and/or to provide background information for Workshop 3; the date for the first webcast will be December 6th, other webcast dates will be announced through the project Web site and through email. Adaptive management and monitoring is the planned focus of the Workshop 4 in February.

ATTACHMENT 1: WORKSHOP 2 AGENDA

Solar Regional Mitigation Planning – Dry Lake Solar Energy Zone Pilot Project
Workshop on Unavoidable Impacts & Baseline Conditions
October 24-25, 2012
Hampton Inn Tropicana, Las Vegas, NV

AGENDA

Wednesday, Oct. 24

- 7:30 – 8:00 Registration
- 8:00 – 9:00 Introduction and Orientation – Joe Vieira, BLM; Karen Smith, Argonne
Overview of BLM objectives for project and desired outcomes, review of BLM off-site mitigation policy, review of August workshop, and purpose of this workshop; Field Trip Orientation & Objectives, Health and Safety Volunteer Services Agreement
- 9:00 – 2:00 Field Visit to Dry Lake SEZ
- Participants travel to the Dry Lake SEZ by bus, arriving around 10 AM and staying until about 1 PM. The bus will stop at the Love's Truck Stop near the SEZ to allow people to purchase picnic lunches to eat at the SEZ.*
- On the ride to the SEZ, distribute and explain the table summarizing resources, impacts, and on-site mitigation.*
- While on-site, everyone will divide into smaller groups for more focused resource-specific presentations by BLM on baseline conditions in the SEZ, whether impacts can be mitigated on-site, how they can be mitigated using avoidance and/or minimization. Participants will rotate through the groups in order to hear all the resource discussions.*
- 2:00 – 4:00 Break-Out Group Discussions on Unavoidable Impacts - Karen Smith, Argonne
Participants will divide into smaller groups for facilitated discussion on this topic and other information presented during the day.
- 4:00 – 4:15 Break
- 4:15 – 4:45 Presentation on Solar Mapper – Karen Smith, Argonne
- 4:45 – 5:00 Summary and review of Day 2 agenda -- Joe Vieira, BLM

Thursday, Oct. 25

- 8:00 – 8:15 Summary of Day 1 and Orientation for Day 2 – Karen Smith, Argonne
- 8:15 – 9:30 Break-Out Group Presentations on Unavoidable Impacts
- 9:30 – 9:45 Break
- 9:45 – 11:30 Presentations of regional ecological assessments:
- *Mojave Desert Ecoregional Assessment* – Jim Moore, The Nature Conservancy
 - *Mojave Basin and Range Rapid Ecoregional Assessment* – Joe Tague, BLM
- 11:30 – 1:00 Lunch
- 1:00 – 2:00 Where Do We Go From Here? – Mike Dwyer, BLM
Review framework and process for identifying which impacts warrant mitigation
- 2:00 – 2:15 Break
- 2:15 – 2:30 Questions and Comments on Process for Identifying Which Impacts Warrant Mitigation
- 2:30 – 3:00 Addressing Other Parts of the Framework – Joe Vieira
Processes for identifying mitigation actions/locations/fee structures
- 3:00 – 3:30 Wrap Up and Evaluation
- 3:30 Adjourn

ATTACHMENT 2: SUMMARY IMPACTS TABLE

Dry Lake SEZ: Resources, Impacts, & On-site Mitigation

Resource/Issue	Impacts	On-site Mitigation		Unavoidable Impacts*?
		Avoidance	Minimization	
Soils/Erosion	Soils may be impacted through compaction and erosion. Loss of biotic soils and desert pavement.	n/a	Require soil stabilization during construction and operation.	Yes
Special Status Species - Animals	There are 6 BLM sensitive species known to occur in the SEZ, and the Threatened Mojave Desert Tortoise and migratory bird species. Loss of habitat is the main concern. Additional species may be identified within the SEZ through pre-disturbance surveys, for example, or outside of the SEZ, such as groundwater-dependent species, and would need to be addressed.)	n/a	Require construction only outside of migratory bird breeding season. Desert tortoise minimization measures include: translocation/relocation, project fencing, education programs, perch deterrents, trash program, authorized biologists/monitors on site during construction, clearance surveys, educational signs, minimize ground disturbance, no pooling of water (dust control), cover holes and trenches when not in use.	Yes
Special Status Species - Vegetation	While six special status species are known to occur in the region, only one is known to occur within the SEZ: the Rosy two-tone beardtongue (<i>Penstemon bicolor</i> spp. <i>roseus</i>). Development may result in a loss of plants and habitat. (Additional species may be identified within the SEZ through pre-disturbance surveys, for example, or outside of the SEZ, such as groundwater-dependent species, and would need to be addressed.)	n/a	n/a	Yes
Vegetation	Development will adversely affect vegetation, through the destruction of vegetation and habitat, and may result in the loss of cactus species.	n/a	Possible to minimize disturbance of existing vegetation for some technologies. Salvage cactus prior to disturbance. Post operations - reclaim with native vegetation.	Yes

Visual Resources	Development will adversely affect visual resources. The Solar PEIS identified moderate to strong visual impact to the following specially designated areas in the vicinity of the SEZ are possible: Desert National Wildlife Refuge; Old Spanish Trail; Arrow Canyon WA; Muddy Mountains WA; and Nellis Dunes SRMA. There already is significant development in the SEZ resulting in visual impact.	n/a	Required design features reduce contrast.	Yes
Wildlife	Loss of habitat for several species of reptiles, mammals, birds, and invertebrates.	n/a	Avoiding nesting bird nesting season, minimize disruptions during lambing season.	Yes
Cultural	Development may adversely affect cultural resources (including the Old Spanish Trail). Although surveys have not been completed, most known sites are not eligible; BLM does not expect many newly discovered sites to be eligible. Mormon Road/Old Spanish Trail is eligible and goes through the SEZ, but it is not the Congressional National Historic Trail route. A trail with spiritual significance already is impacted (has power lines over it).	Conduct pre-development surveys. If eligible sites are discovered, it is likely that impacts could be avoided or mitigated on-site. Prohibit development on the Old Spanish Trail/ Mormon Road.	Develop and execute a Programmatic Agreement. Require surveys before ground disturbing activities.	Maybe
Hydrology (Water/ Watershed/ Water Quality)	Groundwater withdrawals for development may cause declines in groundwater elevations that can impact water availability for surface water features, vegetation, ecological habitats, regional groundwater flow paths, and other groundwater users in the basin. Development may alter ephemeral stream channels that can impact flooding and debris flows during storms, groundwater recharge, ecological habitats, and riparian vegetation communities. A hydrologic basin model has been completed, showing that the water is over-allocated, but not over-pumped at this time. New withdrawals within the basin could result in the impacts listed above. Impacts to recharge expected to be minimal because of the recharge that occurs in the mountains that surround basin.	n/a	Impacts related to water consumption could be minimized through selection of technologies with low water requirements. Impacts to on-site recharge can be mitigated with engineered facilities such as detention basins to allow infiltration to occur.	Maybe

Native American Concerns	Consultation with the Southern Paiute Tribe has identified potential concerns with respect to the cultural importance of any loss of plant and/or animal species. Other issues may be identified through consultation with affected Tribes. There are Tribal concerns with water drawdown and its effect on the entire hydrologic system.	To be determined through government-to government consultation	To be determined through government-to government consultation	Maybe
Environmental Justice	No adverse impacts are anticipated. There are minority and/or low income populations within 50 miles, but they are more than 10 miles away and are separated by mountains.	n/a	n/a	No
Fire	While the risk is generally low, fire occurrence has been historically a regular event in the area. There is the potential for wildfires started by construction and/or operations. Also there is potential for wild land fire occurring on adjacent lands impacting proposed solar facilities or infrastructure.	n/a	Require fire safety and emergency response plan be developed and executed during construction and operations, including fire/fuel breaks and possible protection measure in the design features to help protect facilities.	No
Hazardous Waste	Potential risk of release of hazardous substances during construction and operation.	n/a	Require a hazardous materials safety and emergency response plan be developed and executed during construction and operations.	No
Invasive/Noxious Weeds	Development may result in the establishment of noxious weeds.	Avoid travel through weed-infested areas; inspect and clean vehicles and equipment to avoid the spread of weeds; limit ground disturbance and avoid creating soil conditions that promote weed germination and establishment, dispose of weed seed and plant parts.	Minimize impacts through development of a Weed Management Plan; use weed-free seed to support revegetation efforts.	No
Lands & Realty	There are many existing right-of-way grants within the SEZ that must be accommodated by solar development. Construction and operation will add traffic to public roads. Development may require additional transmission and/or substation capacity.	Where proposed development intersects existing rights-of-way, analyze compatibility and adjust development boundaries as necessary to achieve compatibility.	Complete a traffic impact analysis.	No

Military	The SEZ is located under the path of military aircraft flying between Nellis AFB and the Nevada Test and Training Range. The AF has expressed concerns that tall towers could pose a collision risk, and that emergencies could result in things falling from the sky onto the solar development.	n/a	Impose height restrictions on development in the SEZ or coordinate with military on a project-specific basis..	No
Minerals	There are existing mining claims and two active mine authorizations within the SEZ – the mill site is of most concern with respect to limiting solar development. Existing mining claims may adversely affect solar development	Prohibit development in areas with existing mining and mill-site claims.	n/a	No
Paleontological	No paleontological resources or the geologic conditions associated with such resources are known to occur within the SEZ. Thus, the potential for impacts to paleontological resources is low. However, if certain geological formations or paleontological resources are found within the SEZ, potential impacts to these resources may occur.	Conduct surveys if determined necessary. If found that geological formations with potential for significant paleontological resources are present, they potentially could be avoided.	If resources are discovered, protect, document, and excavate the site as directed by BLM.	No
Livestock Grazing	None -- there are no active grazing allotments within the SEZ.	n/a	n/a	No
Recreation (includes Travel Management Areas)	Development may preclude current recreational activities that occur within the SEZ boundary: OHV use, shooting practice, etc. Development may preclude the use of existing access routes to public lands to the west of the SEZ – one road provides the only access for sheep hunting and access to the Arrow Canyon wilderness area.	n/a	Maintain access to the Arrow Canyon Mountains (hunting area).	No
Riparian	Development may alter ephemeral stream channels that can impact flooding and debris flows during storms, groundwater recharge, ecological habitats, and riparian vegetation communities.	Prohibit development in major washes	Require engineering controls on surface water runoff/erosion	No
Socioeconomics	Development may adversely affect socioeconomics (e.g., in terms of community services).	n/a	Require developers to secure agreements for local government services as a condition of a Notice to Proceed.	No

Specially Designated Areas	Moderate to strong visual contrasts would be experienced in several SDAs in the vicinity of the SEZ. The Coyote Springs ACEC is located to the west of the SEZ – Designated to protect desert tortoise habitat. Additional analysis may be required to determine if this ACEC would be impacted by development.	n/a	Required design features minimize contrast. Assess impacts to the Coyote Springs ACEC.	No
Transportation	Development may prevent access to public lands to the west of the SEZ. Development will add traffic to existing roads serving the area.	n/a	Maintain or reroute the existing access road to the dry lake bed north of the SEZ. Coordinate any potential impacts to RS-2477 roads with Clark County.	No
Wild Horses and Burros	None – no wild horse or burro herds exist in the SEZ. The SEZ is not in a Herd Management Area.	n/a	n/a	No
Wilderness & Lands with Wilderness Characteristics	None – there are no designated wilderness or wilderness areas within or adjacent to the SEZ. Because of extensive existing development within the SEZ (roads, power lines, pipelines, active mill-site, electrical sub-station, and natural gas-fired power plant), the area lacks wilderness characteristics.	n/a	n/a	No

***Unavoidable impact:** Impacts that cannot be adequately mitigated on-site by avoidance and/or minimization. Avoidance is accomplished by imposing spatial and/or temporal restrictions. Minimization is accomplished using design features and/or best management practices.

3. Please comment on the planned schedule and likelihood that you (or another representative from your organization) will participate in future workshops:

Workshop	Ability to Participate/Comments
January: Review mitigation objectives and what mitigation projects and/or actions should be undertaken; review possible fee structures	
February: Discuss how to determine if mitigation strategies, projects, and actions are achieving the desired outcomes	

4. Other Comments