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<b>DOCKET</b>	
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Dear Mr. McFarlin,

We would like to submit the following comments on the Preliminary Staff Assessment (PSA) Ivanpah Solar Electric Generating System Application For Certification.

**Introduction:** The proposed project represents the efforts by some to sacrifice over one million acres of public lands and arid lands ecosystems in California alone to jump start the economy and attempt to save the world from global climate change. The scope of impacts and environmental devastation that will result from these projects will accomplish neither of these goals. Our comments will focus on many issues that illustrate that the negative impacts from the Ivanpah project far outweigh any benefits.

**POWER GENERATION:** For the natural gas-fired start-up boiler- What percentage of the megawatts would be from natural gas?

**AIR QUALITY:** For dust control during operation and construction, where will water come from? How much will be used? This should be explained and estimated numbers of gallons should be listed.

**GREENHOUSE GAS EMISSIONS:** “The proposed project as permitted would emit over 25,000 metric tonnes of CO<sub>2</sub>- equivalent per year if operated at its maximum permitted level.” The PEIS admits that natural gas, operations using gas burning vehicles, auxiliary boilers, diesel-fueled fire pump and the back-up generator engines will burn carbon releasing fuels. While these emissions are less than that of a conventional energy plant, the statement illustrates that this is not a very clean way to use renewable energy. Both the state and the federal government could avoid direct impacts to the Mojave Desert ecosystems as well as produce much cleaner energy by focusing on rooftop photovoltaic systems rather than create expensive boondoggles that really will not solve problems relating to dirty energy. Locally produced energy is the most efficient way to reduce carbon emissions.

Current research has proven that deserts serve as carbon sinks. Curiously, their findings indicate that certain desert ecosystems may exceed temperate forests and grasslands in their rapid absorption of CO<sub>2</sub>, and may exceed those systems due to the desert’s possible “processing” of CO<sub>2</sub>. It also appears that it is the soil itself acting as the carbon sink. Desert plants such as cacti also use Crassulacean Acid Metabolism (CAM) metabolic pathways, which allows for CO<sub>2</sub> uptake and storage and conversion into plant body. (*Science 13 June 2008: Vol. 320. no. 5882, pp. 1409 – 1410 DOI: 10.1126/science.320.5882.1409*) This should be included in the EIS. Will the non-carbon burning energy generated by this plant equal the amount of carbon released by destroying carbon-using and -storing desert plants, soil microfauna and flora?

The PEIS states: “The ISEGS project, as a solar project with a nightly shutdown will operate less than 60 percent of capacity and is therefore not subject to the requirements of SB 1368 and the Greenhouse Gas Emission Performance Standard.” If natural gas is used to compensate for the power at night during the shut down, than that would be a time of more significant GHG emissions.

**BIOLOGICAL RESOURCES:** A project of this size will make a significant impact to the overall diversity of life in the Mojave Desert. The EIS admits there is really no way to compensate for the loss of most of the rare plants that are listed. For most of the mitigation measures in Biological Resources Table 4 the mitigation measure is to “protect and enhance offsite populations or some other form of compensatory mitigation (**BIO-17**); implement weed management plan (**BIO-13**); implement Best Management Practices (**BIO-11**).” It seems obvious that there are few if any mitigation practices available to compensate for such a great loss of biological diversity. What are these mitigation practices? Will these plants be propagated from seed? If so where would they be planted? What will happen to succulents, yuccas and Joshua trees that are displaced? Will they be moved, sold for landscaping or destroyed? What habitats would be suitable for transplanting? What locations? While the PSA describes complete information on species and habitats, it fails to list adequate mitigation measures that need to be taken to minimize impacts. It is our opinion that the PSA has been written prematurely. The PSA should be updated after mitigation measures are thought out and given time to be reviewed by the public.

Noxious Weeds: What mitigation would be taken to prevent the spread of noxious weeds? Would herbicides be used? If so, which ones? What risks would this have on native species and groundwater?

Banded Gila Monster

Will the site be surveyed for this species? If so, what methods will be used?

Desert Tortoise: “The 2007/2008 protocol desert tortoise surveys found 25 live desert tortoises, 97 desert tortoise carcasses, 214 burrows, and 50 other tortoise sign.”

The finding of 97 desert tortoise carcasses may indicate a problem with respiratory disease or possible some other impact. How can a project that destroys so much habitat for this species be considered when such a die off is noted? A line distance sampling survey should be conducted during activity seasons for the next couple of years before approval of this project is considered.

Will total clearance be done where all tortoises be found and removed, including digging out burrows? Please specify this. Where will mitigation land be bought? Will all tortoises be placed on the same mitigation land? What will be the location? Will follow-up studies be carried out to determine the success of translocation and survival? How will coyote and other predation be prevented on translocated tortoises? “....develop a Desert Tortoise Translocation Plan” - this should be finished before the Ivanpah project is approved.

What kind of reduction measures would be taken to minimize raven predation on tortoises? If native predators are to be exterminated, the EIS needs to explain how this will take place. Will the same measures apply to coyotes on the translocation site? The EIS should be able to describe and admit the unattractive details that will need to be implemented for predator reduction. Please do not try to white wash these details.

Birds - Conduct pre-construction nesting surveys, implement avoidance measures.- Will construction take place during spring nesting? If so, will protection be given to nesting birds on the construction site, such as taping off the nesting area until nesting is complete for Brewer’s sparrow, Le Conte’s thrasher?

Burrowing owls: Where would burrowing owls be relocated to?

Nelson’s Bighorn Sheep:

“The applicant acknowledges that Nelson’s big horn sheep could occur in the project area (CH2M Hill 2008a). However, the AFC (BSG 2007a) does not provide sufficient project-specific information on use of the site by Nelson’s big-horn sheep to identify areas that might provide foraging habitat and movement

corridors, to assess potential impacts, or to develop appropriate mitigation measures. It may be possible to offset potential project impacts to Nelson's bighorn sheep with implementation of Condition of Certification **BIO-17**, the compensatory mitigation plan, if the plan included enhancement measures that would benefit bighorn."

The PSA seems to recognize this problem of foraging habitat, but provides no solution to the problem. The project should be delayed until more attention is given to this issue.

## **HAZARDOUS MATERIALS MANAGEMENT:**

The EIS should discuss the potential exposure of workers to hazardous Materials. If these are people hired locally, this could have an impact on local communities and the medical services.

Why do herbicides need to be used? How will this effect native plants?

All flammable hazardous materials used have the potential to spread wildfires to native ecosystems.

"Staff believes that this project's use of hazardous materials poses no significant risk but only if mitigation measures are used." This is a short sighted statement. A wildfire could impact native ecosystems and cost tax payers significant amounts of money to control. It would also pose safety hazards to anyone in the area.

**Transportation of Hazardous Materials:** Transporting dangerous chemicals poses a threat to native plants and wildlife as well as people in local areas and near by communities. This proposes an unneeded public health risk.

Please make a list of potential impacts hazardous material may have on specific flora and fauna including desert tortoise, bighorn sheep, rare plants and other wildlife.

The list of hazardous chemicals needed for this boondoggle hardly qualifies this project as "clean energy".

## **LAND USE:**

**Table 3 Applicable Federal and Local LORS Consistency**  
California Desert Conservation Area Plan (CDCA)

Northern and Eastern Desert Mohave Desert Management Plan (NEMO)

Table 3 states that it is unknown if the project is consistent with the CDCA plan and the NEMO plan . We feel it is not. The PSA should be delayed until this can be determined.

## **SOCIOECONOMICS:**

The PSA states the project will create 90 jobs and people will have to commute one hour each way. Will these people be required to drive electric cars? This does not really help reduce green house gases.

## **WATER:**

Wastewater: PSA- "For onsite processing of domestic wastewater, each phase would include a small package sewage system, including a larger system located at the Administration/warehouse

building. Sewage sludge would be removed from the site by a sanitary service. Recycled water from the sewage treatment plants would be used for landscaping."

Where will this landscaping be on site? Will recycled wastewater seep into groundwater and pollute nearby tortoise habitat?

Heavy metals: PSA- "Waste would be recycled where practical and nonrecyclable waste would be deposited in a Class III landfill. The hazardous waste generated during this phase of the project would consist of electrical equipment, used oils, universal wastes, solvents, and empty hazardous waste materials. Universal wastes are hazardous wastes that contain mercury, lead, cadmium, copper, and other substances hazardous to human and environmental health. Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices." What protocols would be used if such heavy-metal-containing wastes are spilled during construction or operation? How will environmental contamination be prevented?

Pipelines: "Natural gas for the project would be obtained by a new 5.3-mile long natural gas pipeline connection to the Kern River Gas Transmission Line, less than a half a mile to the north of the project site. Raw water for the project would be supplied by two groundwater wells east of Ivanpah 2. The water would be treated and used as boiler make-up water and to wash the heliostats. The plant would use a dry-cooling condenser to save water in the site's desert environment." Will tortoise monitoring and exclusion fences be placed along all new pipelines constructed in both California and Nevada?

PSA- "The three plants would be developed on contiguous property, sharing an administration and warehouse building, an operation and maintenance building, and a substation. The administration and warehouse building, a substation, a sewage package treatment plant, and detention ponds would be located in between Ivanpah No. 1 and Ivanpah No. 2." Are any toxins or pollutants present in these detention ponds that would harm birds or wildlife that drink from them? What liners will be used to prevent groundwater contamination?

13. PSA -"The transmission of the electricity that the generation facility produces would also require the construction of new transmission infrastructure and major upgrades to an existing transmission line. The ISEGS project would be interconnected to the Southern California Edison (SCE) grid by three new 115-kV transmission generation tie lines, a new substation that includes 230 kV/115-kV switch-racks, and upgrades to the SCE Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115-kV transmission line, which traverses the project site between the proposed Ivanpah No. 1 and Ivanpah No. 2 (CH2ML2008q). In order to transmit the full generation load projected for the ISEGS project and other planned electric generation projects, the California Independent Systems Operator (ISO) has determined that approximately 36 miles of the existing 115-kV transmission line would need to be upgraded. The upgrade would include constructing a new double-circuit 230-kV transmission line between the Eldorado Substation in Nevada and the proposed new Ivanpah Substation in California, a distance of approximately 36 miles. The existing 115-kV transmission line would be removed and replaced with the proposed 230-kV transmission line. SCE also plans to remove the portion of the subject transmission line from the project area southwest to the Mountain Pass Substation and to replace that portion of the line with two, double-circuit, 115-kV pole lines. Additional upgrades may be required as mitigation prior to final approval of interconnection to California ISO and Non-California ISO controlled facilities (California ISO 2008)." Will tortoise exclusion fences and biological monitors be present during all phases of upgrading and construction of transmission lines? Will new lines be insulated to prevent bird electrocution?

PSA- "The construction of the proposed project would also require the applicant to take steps to preserve existing public access routes that presently traverse the project area.

Vehicle trails run through the proposed project site. To allow continued use and access the applicant would reroute three public trails and one trail that serves as an access to a mining claim. Colosseum Road would be rerouted between Ivanpah No. 1 and Ivanpah No. 2." Will tortoise exclusion fences and biological monitors be present during grading of new roads in desert habitat? Will tortoises encountered in burrows be removed and placed away from construction? How will any Gila monsters encountered underground be dealt with to protect them? Will cacti and yuccas be moved or discarded in new roads? Will mitigation habitat equal to the amount of desert habitat destroyed for new roads be purchased by the applicant?

Water quality: PSA- "The applicant has not adequately modeled potential impacts to water quality due to pumping induced migration of low quality playa groundwater towards higher quality groundwater. Therefore, staff cannot reach a conclusion regarding the potential project-related water quality impacts."

Please provide this.

Sedimentation: PSA- "Altering, filling, or rerouting the existing ephemeral streams could change the flow and character of the runoff water reaching the Ivanpah playa. However, staff has not received a Sedimentation Report or revised grading plans, DESCP, or SWPPPs, and therefore, cannot evaluate the potential project-related impacts to the Ivanpah playa." Please provide this.

Flash floods: PSA-"The power plant would be constructed on cut-and fill material with storm water intercepted by upgradient cascading retention ponds. These retention basins would be discharged with non-point source flows that would be equal to or less than the pre-developed peak flows. The retention basins would also capture debris and sediment that washes down the alluvial fan, and therefore, periodically require cleaning to remove the debris and sediment filling the basin." Would detention basin maintenance affect tortoises, and how will this be mitigated? Will tortoise exclusion fences be maintained? Will tortoises be allowed to access the detention basins?

Devastating floods: PSA-"The ISEGS site may be located within the 100-year floodplain as defined by Federal Emergency Management Agency." If a very large flood occurs, which has happened more frequently in our experience in the Mojave desert, what will happen to the plant? Will hazardous waste be strewn across tortoise habitat? What measures are going to be taken to divert large floods?

Groundwater: PSA - "To meet the construction water demand, the applicant estimates that daily water demand during construction would average 99,333 gallons per day (gpd) for Ivanpah 1 and 2 and 194,000 gpd for Ivanpah 3 with up to an additional 47,000 gallons used during pipeline hydrotesting." "Based on a 250-day work-year, this water use equates to 76 to 149 AFY. " "The project construction workforce size would be on average 474 persons and 959 persons during peak times." " Construction of Ivanpah 1 and 2 is expected to require 27 months to complete. Ivanpah 3 would take 22 months to complete." "Grading for each phase is expected to take five months. During grading of the second and third phases of the project, dust would be generated that may result in the need for more frequent washing of the existing heliostats. This heliostat washing could result in an additional 50 acre-feet per year (AFY) of groundwater use." "Approximately 60 cubic meters per night (16,000 gallons) of water would be used for mirror washing. The mirrors would be washed using a pressure washer or other method to minimize the amount of water use." "Mirror Washing. The AFC States that the heliostat washing would be continuous with every heliostat washed once every 2 weeks." "The project also proposes to use groundwater during project

operations. The AFC shows maximum estimated consumptive use is approximately 18 AFY for each of the 100-MW power projects and 36 AFY for the 200-MW power plant." "Groundwater would be consumed only by potable water discharged through the treatment system and by the steam boiler as boiler blowdown" "The applicant also indicates the maximum annual water use is not expected to exceed 100 AFY." "... the project's total groundwater use of 5,000 AF (50 years x 100 AFY)..." Will this amount of water use combined with other projects in Ivanpah Valley such as the Primm Golf Course negatively impact groundwater resources used by desert plants, succulents, animals, nearby springs? Future solar projects are planned for Ivanpah Valley, so more groundwater will be pumped. How does the this project project competition from future renewable projects that will also pump groundwater?

PSA- "Over the next 50 years, the use of the IVGB groundwater is expected to increase and, along with that increased use, the overdraft in the sub-basin is expected to become greater. The project's pumping of groundwater alone would contribute to this overdraft, but currently amounts to only 2.1 percent of the existing cumulative pumping volume in the IVGB. This increase is nominal and not cumulatively considerable. Therefore, staff believes there would not be an adverse impact to the groundwater resources in the basin. As shown in Soil and Water Table 10, an additional 61 to 1,940 AFY of groundwater could be pumped from the IVGB, with some component of return flow. The project's contribution to this groundwater use would be minimal. Staff believes, therefore, that there would be no significant cumulative impacts to the groundwater resources." Ivnapah Valley is already overdrafted from groundwater pumping. How does this justify pumping even more water in an arid region?

PSA- "An herbicide would be used to eradicate noxious weeds and nonnative species." How will herbicide spraying be controlled so that toxins do not blow into adjacent deserts or accumulate in dust that blows into desert habitats nearby during windstorms?

### **VISUAL RESOURCES:**

The EIS admits in no uncertain terms that the project will have negative, degrading impacts to the visual quality of Ivanpah Valley, Clark Mountain, adjacent wilderness areas and the night sky in the area. It fails to address how the visual impacts will adversely effect the tourism in the area. Slapping class designations on the views is arbitrary and will have little significance to those of us who love the area. We can not think of a worse way to maintain the visual quality of public lands. The negatives will far outweigh the positives.

**Conclusion:** Due to the environmental devastation that this project will cause as well as the admitted unresolved issues, we would like to request that this PSA be modified and released for another 3 month public comment period.

Thank you

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