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Document Title:	SEGS IX Facility Decommissioning Plan and Petition to Terminate License
Description:	Luz Solar Partners, Ltd., IX, an indirect wholly owned subsidiary of Terra-Gen, LLC (Project Owner), submits this Facility Decommissioning Plan and Petition to Terminate License for the Solar Energy Generating System (SEGS) IX (89-AFC-01C) to the California Energy Commission (CEC). This Plan fulfills the compliance requirement of Condition of Certification (COC) DECOMMISSIONING-2, as found in the Commission Final Decision for the SEGS IX.
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FINAL

**FACILITY DECOMMISSIONING PLAN AND
PETITION TO TERMINATE LICENSE**

SOLAR ENERGY GENERATING SYSTEM (SEGS) IX

(89-AFC-01C)

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

March 2022

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**FACILITY DECOMMISSIONING PLAN AND
PETITION TO TERMINATE LICENSE**

**SOLAR ENERGY GENERATING SYSTEM (SEGS) IX
(89-AFC-01C)
SAN BERNARDINO COUNTY, CALIFORNIA**

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March 2022

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EXECUTIVE SUMMARY

Luz Solar Partners, Ltd., IX, an indirect wholly owned subsidiary of Terra-Gen, LLC (Project Owner), submits this Facility Decommissioning Plan and Petition to Terminate License for the Solar Energy Generating System (SEGS) IX (89-AFC-01C) to the California Energy Commission (CEC). This Plan fulfills the compliance requirement of Condition of Certification (COC) DECOMMISSIONING-2, as found in the Commission Final Decision for the SEGS IX.

The SEGS IX facility is near Harper Lake in San Bernardino County, California. The CEC certified the SEGS IX and X projects in February 1990 (89-AFC-1C). SEGS IX completed construction and went online in October 1990; however, SEGS X was never fully constructed. SEGS X was removed from the CEC license in the Order Approving Post Certification Petition to Amend, dated October 15, 2021. SEGS IX generates a peak of 80 megawatts of solar thermal electricity for the Southern California Edison transmission grid. While SEGS IX shares a project footprint and numerous project facilities with SEGS VIII, this Plan is provided for the decommissioning of SEGS IX only. A separate Decommissioning Plan was submitted for SEGS VIII and approved by the CEC on August 20, 2020.

Although the SEGS IX facility has been in operation for over 30 years, and can continue to operate effectively as a concentrated thermal solar plant with proper maintenance, the Project Owner intends to decommission the existing SEGS IX concentrated solar thermal facility and replace it with a new solar photovoltaic (PV) facility (Lockhart Solar PV). As the CEC does not assume jurisdiction over solar PV facilities, the CEC license for SEGS IX would be terminated upon completion of decommissioning activities. Permitting and construction of the Lockhart Solar PV facility is under the local jurisdiction of the County of San Bernardino (County) and the County approved repowering SEGS IX to solar PV and battery storage on October 3, 2019, as part of the Lockhart Solar PV Facility (Conditional Use Permit [CUP] Project #201900125). The Lockhart Solar PV project is a California Environmental Quality Act (CEQA) Class 2 Categorical Exemption under Section 15302 for replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

SEGS IX could begin safe layup and decommissioning activities as early as August 2023, pending approval of this Decommissioning Plan and Petition to Terminate License. After safe layup and decommissioning activities have been completed, the CEC license will be terminated and the County of San Bernardino will assume jurisdiction for the redevelopment of the project site for the County-approved Lockhart Solar PV facility.

Environmental analysis of decommissioning activities shows that decommissioning would not result in environmentally significant, unmitigated adverse effects and would comply with applicable laws, ordinances, regulations, and standards (LORS).

Section 1.0 of describes the project background and provides an overview of this Plan. Section 2.0 provides a description of safe layup activities, including plant staffing, security, equipment lockout, removal of hazardous waste, and handling of utilities. Section 3.0 provides a complete description of decommissioning activities, the plan for reuse of the site, identification of facilities to remain on site, facilities to be removed, and the decommissioning schedule. Section 4.0 provides an analysis of the

potential environmental effects of decommissioning and the project's compliance with all applicable LORS. Section 4.0 also includes a discussion of alternatives considered and why decommissioning of the existing facility and reuse of the site as a solar PV facility is the preferred alternative. The current CEC COCs for SEGS IX are included in Appendix A of this Plan. Appendix B contains the County of San Bernardino Planning Commission Staff Report with the adopted findings, CUP, and Notice of Exemption, and Appendices C through F consist of supporting studies and documentation for air quality, biological resources, and soil and water resources.

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LIST OF ABBREVIATIONS AND ACRONYMS

AC	alternating current
AQS	Air Quality Supervisor
BESS	Battery Energy Storage System
BMP	best management practice
BRMIP	Biological Resources Mitigation Implementation Plan
Caltrans	California Department of Transportation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
COA	Condition of Approval
COC	Condition of Certification
County	County of San Bernardino
CPM	Compliance Project Manager
CUP	Conditional Use Permit
DCP	Dust Control Plan
DOT	U.S. Department of Transportation
DTSC	California Department of Toxic Substances Control
GHG	greenhouse gas
HDPE	high density polyethylene
HTF	heat transfer fluid
kV	kilovolt
LORS	laws, ordinances, regulations, and standards
MBTA	Migratory Bird Treaty Act
MCR	Monthly Compliance Report
MDAQMD	Mojave Desert Air Quality Management District
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
Project	SEGS IX Facility
Project Owner	Terra-Gen, LLC and its subsidiaries
PV	photovoltaic
RE	Renewable Energy
RECE	Renewable Energy and Conservation Element
RL	Rural Living
RWQCB	Regional Water Quality Control Board

SBCFD	San Bernardino County Fire Department
SEGS	Solar Energy Generating System
SOPA	Society of Professional Archaeologists
SPCC	Spill Prevention Countermeasure Control
SWPPP	Stormwater Pollution Prevention Plan
TSDF	treatment, storage, and disposal facility
TSM	Transportation System Management
USEPA	United States Environmental Protection Agency
WEAP	Worker Environmental Awareness Program



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1.0 INTRODUCTION

1.1 BACKGROUND

The Solar Energy Generating System (SEGS) IX facility (Project) is near Harper Lake in San Bernardino County, California (see Figure 1, Project Location). The California Energy Commission (CEC) certified the SEGS IX and X projects in February 1990 (89-AFC-1C). SEGS IX completed construction and went online in October 1990; however, SEGS X was never fully constructed. SEGS X was removed from the CEC license in the Order Approving Post Certification Petition to Amend, dated October 15, 2021. Additionally, the CEC issued a Notice of Decision approving the SEGS VIII and IX Post Certification Petition to Add Battery Energy Storage System (BESS) on July 13, 2020. However, to date, the BESS has not been constructed and is no longer needed to support SEGS IX.. SEGS IX generates a peak of 80 MW of solar thermal electricity for the Southern California Edison transmission grid using fields of parabolic solar collector mirrors. Heat from the mirrors is concentrated on tubes of heat transfer fluid, which is circulated to steam boilers to produce electricity.

It was assumed that decommissioning of the permanent plant facilities would begin 25 to 30 years after the commercial operation date of the Project, which was anticipated to be first quarter of 2019. However, during the second quarter of 2015, a useful life memorandum was completed, and the analysis revealed that the facility could continue to operate for an additional 20 years with the proper maintenance activities. Although the facility can continue to operate as a concentrated thermal solar plant, the Project Owner¹ intends to decommission the existing SEGS IX concentrated solar thermal facility, and the existing SEGS IX facility would be replaced with a new solar photovoltaic (PV) and BESS facility.

The Lockhart Solar PV facility is under the local jurisdiction of the County of San Bernardino. It is sited entirely within the existing SEGS VIII and IX footprint and would have the same solar utility purpose and capacity as the existing SEGS solar thermal facilities. The Lockhart Solar PV facility would reuse existing transmission equipment and some of the existing structures currently on site. The County of San Bernardino issued a Conditional Use Permit (CUP) for the decommissioning and demolition of the existing SEGS VIII and IX solar thermal facilities and redevelopment at the same location, of a new solar PV and BESS facility (Lockhart Solar PV). The CUP was approved on October 3, 2019. The Lockhart Solar PV facility is a California Environmental Quality Act (CEQA) Class 2 Categorical Exemption under Section 15302 for replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. Appendix B contains the County of San Bernardino Planning Commission Staff Report with the adopted findings, CUP, Conditions of Approval (COAs) and Notice of Exemption (posted January 8, 2020).

¹ Luz Solar Partners, Ltd., IX (SEGS IX Project) and Lockhart Solar PV, LLC (Lockhart Solar PV Project) are indirect wholly owned subsidiaries of Terra-Gen, LLC.



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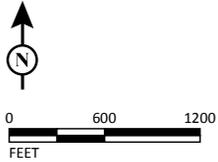
FIGURE 1

LSA

LEGEND

 SEGS Project Footprint

Note: Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022.



SOURCE: Luz Solar Partners VIII and IX, LLC (6/2019), Google (9/2015)
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SEGS IX
 Project Location



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While SEGS IX shares a project footprint and numerous project facilities with SEGS VIII, this Plan is for the decommissioning and termination of license of SEGS IX only. A separate Decommissioning Plan was submitted for SEGS VIII and approved by the CEC on August 20, 2020. Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022.

This Decommissioning Plan and Petition to Terminate License is being submitted for CEC approval of decommissioning of the existing SEGS IX facility and termination of the CEC license upon completion of decommissioning activities. This Plan describes the decommissioning activities and plans for continued use of facility land and equipment and provides an analysis of potential environmental impacts associated with the shutdown and decommissioning of SEGS IX.

1.2 DECOMMISSIONING PLAN

This Decommissioning Plan and Petition to Terminate License is being submitted to the CEC pursuant to Condition of Certification (COC) DECOMMISSIONING-2 of the Commission Decision for SEGS IX (89-AFC-01C). DECOMMISSIONING-2 states the following:

Prior to commencing decommissioning activities for SEGS Unit IX, the Project Owner shall file a decommissioning plan with the CEC Compliance Project Manager (CPM). The decommissioning plan shall:

- Identify and discuss the proposed decommissioning activities and schedule for the power plant site, transmission line corridor, and all appurtenant facilities constructed as a part of/or because of the project;
- Identify all applicable laws, ordinances, regulations, standards, (LORS) and local/regional plans applicable at that time;
- Discuss how the specific proposed decommissioning activities would comply with those identified LORS and plans;
- Contain an analysis of all decommissioning alternatives considered, including restoration of the site to its pre-construction, natural state; and
- Discuss the reasons for selecting the preferred proposal.

1.3 PLAN OBJECTIVES

Consistent with DECOMMISSIONING-2, the objectives of this Decommissioning Plan are to include the following:

- Describe decommissioning activities;
- Describe plans for continued use of facility land and equipment;
- Describe plans for reuse and recycling of equipment and materials;
- Describe procedures to be used to demolish and transport equipment and materials;

- Analyze potential environmental impacts of shutdown and decommissioning; and
- Where applicable, propose COCs to be implemented during decommissioning and demolition to further ensure that activities conform with applicable LORS.

1.4 DECOMMISSIONING AND REUSE OVERVIEW

Upon termination of current solar thermal power generation activities, the following initial decommissioning activities would take place to remove SEGS IX from service:

- Drain all fluid systems, collect all contents, and dispose of or recycle within applicable LORS to ensure public health and safety, and protection of the environment.
- Categorize all wastes including heat transfer fluid (HTF), lubricating oils, fuels, water treatment chemicals, universal waste, and possible lead and asbestos-containing materials, etc. These materials would be managed for proper containerization, profiling, and shipment off site for disposal or recycling.
- Identify infrastructure required for operation of the future Lockhart Solar PV facility.
- Design and install temporary facilities for support of SEGS decommissioning and contractor personnel such as office trailers, temporary power, potable water, and sanitary service.
- Administer equipment liquidation/sale and recycle or disposal activities.

Certain Project facilities and equipment would remain in place at the Project site to support the future Lockhart Solar PV facility. Certain other equipment would be decommissioned and placed into temporary storage (at either the Project site or elsewhere) or permanently removed from the site. The planned disposition of the current Project facilities and equipment is discussed in Section 3.0 of this Plan.

SEGS IX decommissioning activities are subject to the jurisdiction of the CEC until all open COCs are closed and the termination of license is issued.

1.5 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS OF DECOMMISSIONING

This Decommissioning Plan and Petition to Terminate License provides an environmental analysis and discussion of impacts associated with decommissioning of SEGS IX. Section 4.0 of this Plan identifies all applicable LORS and local/ regional plans and discusses how decommissioning activities would comply with the identified LORS and plans. Section 4.0 concludes that there would be no significant environmental impacts associated with decommissioning of the existing SEGS IX facility and that the decommissioning process would comply with all applicable LORS and plans.

Additionally, where applicable, the County of San Bernardino Planning Commission Staff Report findings and required COAs (Appendix B) are incorporated into this Plan to further demonstrate that

decommissioning would comply with all applicable LORS and plans and not result in significant environmental impacts.

The County of San Bernardino Planning Commission Staff Report findings item number 6 (see page 13 of Appendix B) states the following:

6. The lawful conditions stated in the approval are deemed reasonable and necessary to protect the overall public health, safety and general welfare.

The Project conditions of approval include measures that require the developer to comply with the performance measures outlined in the Development Code. The Project has been evaluated by County departments and as part of the environmental review process to respond to specific development needs and reduce potential environmental impacts.

As discussed previously in Section 1.1, Background, the County of San Bernardino determined that the Lockhart Solar PV Project, which includes decommissioning and demolition of the existing SEGS VIII and IX solar thermal facilities and redevelopment, at the same location, with a new solar PV and BESS facility, is exempt from CEQA as a Class 2 Categorical Exemption under Section 15302(c) of the CEQA Guidelines related to the replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The Lockhart Solar PV facility would be located on the same site and within the same footprint and would have the same solar utility purpose and capacity as the structures being replaced. In addition, as it uses solar PV technology, the Lockart Solar PV facility, reduces water usage and visual impacts through reduced panel heights and reduces greenhouse gas (GHG) emissions by shutting down the existing gas fired heaters.

In compliance with CEQA, the Lockhart Solar PV facility is exempt pursuant to CEQA Guidelines Section 15302(c); "Replacement or Reconstruction" (c) replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. Therefore, the filing of a Notice of Exemption was recommended and posted on January 8, 2020.



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2.0 SAFE LAYUP

This section describes the initial measures that the Project Owner would take to ensure safe and secure layup of SEGS IX. Shutdown and initial layup may commence as early as August 2023, pending CEC approval of this Decommissioning Plan and Petition to Terminate License and favorable market conditions.

2.1 PLANT STAFFING AND SECURITY

Select plant staff would remain on site throughout decommissioning activities. Existing security measures on site that restrict access will continue to be employed during decommissioning and layup. The existing chain-link security perimeter fencing around the site with electronic gate access will continue to be maintained. Controlled access gates are located at the entrance to the facility, and access through the main gate requires electronic control number input or to be opened by control room personnel once identification is confirmed, preventing unaccompanied visitors from accessing the facility. All facility personnel, contractors and visitors would be logged in and out of the facility at the main office or at the main gate during normal business hours. Visitors and non-SEGS IX employees would be allowed entry only with approval from a staff member at the facility.

In addition, at each point of access from a public road, an easily visible sign shall be posted indicating the facility name and other pertinent information, as required.

2.2 SAFE POWER PLANT EQUIPMENT LOCKOUT

The layup of a power generation facility has the potential for accidental energization of equipment, which can result in hazards to personnel and equipment damage. The safe layup process includes the de-energization of certain control systems and the partial de-energization of others. If not specifically mitigated, these conditions can lead to equipment starting or closing unintentionally. Accordingly, SEGS would lockout specific equipment according to the Project Lockout/Tagout Procedures to ensure unintentional operation does not occur.

Some of the major equipment to be locked out are listed below; however, all equipment requiring lockout/tagout would be appropriately locked out and de-energized before handling and removal:

- Steam turbine: Disable and decouple starting means
- Generator step-up transformer: Remove high and low side connections
- Generators: Remove links to iso-phase busses
- Natural gas supply: Blind and/or air gap the supply
- Steam turbine starting motors: Disconnect and ground cabling to motors

The safe layup process identified for SEGS IX would mitigate hazards to personnel and prevent equipment damage associated with inadvertent energization during the layup process. All other maintenance work during the safe layup activities would be conducted in accordance with the Project Owner's existing safety and maintenance procedures.

2.3 REMOVAL OF HAZARDOUS MATERIALS

Table 2.1 lists the primary hazardous materials expected to be handled during the decommissioning process. These materials include HTF, lead acid batteries, diesel, hydraulic oil, lubricating oil, and mineral oil. Any additional operational chemicals listed as hazardous in the Spill Prevention Countermeasure Control (SPCC) Plan, or otherwise used at the site, would also be removed as part of the terminal shutdown of the plant prior to decommissioning activities. Lead and asbestos-containing structures and materials are not known to be present on site, but testing would be performed prior to the start of demolition.

Table 2.1: Hazardous Materials¹

Material	Site Use	Location	Decommissioning and Reuse Strategy
Lead acid batteries (sulfuric acid and lead), size of batteries are approximately 10 cm x 5 cm x 7 cm	Electrical power	Collectors	Remove prior to demolition
Lead	None known	Unknown (testing of structures and pipes would be conducted prior to demolition)	Perform testing prior to demolition. If lead-containing materials are encountered, waste would be disposed of properly at a licensed facility.
Asbestos	None known	Unknown (testing of structures and pipes would be conducted prior to demolition)	Perform testing prior to demolition. If structures or pipes containing asbestos are encountered, waste would be disposed of properly at a licensed facility.
Heat transfer fluid	Heat transfer from solar collectors to solar steam generator	Solar collector assemblies, storage tanks, ullage system	Drain liquid from equipment prior to removal. Triple-rinse tanks and piping prior to processing and recycling. Product and rinsate fluid would be disposed of off site.
Diesel No. 2	Fuel for pump engine/generators	Near fire pump; (maximum quantity 9,000 gallons)	
Hydraulic oil	Used in turbine starter system, turbine control valve actuators	Contained within equipment; (maximum quantity on site 500 gallons)	
Lubricating oil	Used to lubricate rotating equipment	Contained within equipment; (maximum quantity on site 30,000 gallons)	
Mineral oil	Used in transformers	Contained within transformers; (maximum quantity on site 105,000 gallons)	

Sources: Luz Solar Partners, Ltd., VIII; Luz Solar Partners, Ltd., IX (2016).

¹ The SEGS IX water evaporation ponds would be closed per the Lahontan Regional Water Quality Control Board (RWQCB) requirements. The SEGS VIII and IX Evaporation Ponds Closure Plan, prepared and submitted to Lahontan RWQCB on May 29, 1992 (Appendix F), would be updated, as needed, per the RWQCB's most current standards. The updated Ponds Closure Plan will include and address hazardous materials expected to be handled during pond closure.

cm = centimeter

All residual materials and chemicals would be removed prior to demolition for recycling or for proper disposal at licensed facilities. Fuel, HTF, hydraulic fluids and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks/vessels would be rinsed and rinsate would also be transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as smaller containers of lubricants, paints, thinners, solvents, cleaners, batteries, and sealants, would be kept in a locked utility building with integral secondary containment that meets local and State requirements for hazardous waste storage until removal for proper recycling or disposal. It is anticipated that all oils and batteries would be recycled at an appropriate facility. Decommissioning personnel involved in handling these materials would be trained in proper handling. Containers used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Additional procedures would be specified in the Hazardous Materials Business Plan for decommissioning and submitted to the required agency.

Transportation of the removed hazardous materials would comply with regulations for transporting hazardous materials, including those set by the United States Department of Transportation (DOT), the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC), the California Highway Patrol, and the California State Fire Marshal. Table 2.2 lists the properties and toxicity of the primary hazardous waste materials that are expected to be removed.

Table 2.2: Hazardous Waste Properties and Toxicity

Material	Physical Description	Health Hazard	Flammability
Sulfuric acid	Oily, colorless liquid	Corrosive to skin, eyes, and digestive tract; respiratory tract irritant	Non-flammable
Diesel No. 2	Oily, light liquid	Skin irritant; hazardous if ingested; inhalation hazard	Combustible
Heat transfer fluid	Oily, dark liquid	Hazardous if ingested	Combustible
Hydraulic oil	Oily, dark liquid	Hazardous if ingested	Combustible
Lubricating oil	Oily, dark liquid	Hazardous if ingested	Combustible
Mineral oil	Oily, clear liquid	Minor health hazard	Combustible

Sources: Luz Solar Partners, Ltd. VIII; Luz Solar Partners, Ltd., IX (2016).

The SPCC Plan for the site was updated prior to the start of decommissioning of SEGS VIII and would be updated to cover spill prevention and countermeasures for handling of these materials during decommissioning of SEGS IX, as needed. A site-specific Health and Safety Plan would document health and safety requirements for establishing and maintaining a safe working environment during decommissioning and demolition activities. Additional procedures to decrease the potential release of contaminants to the environment and contact with stormwater would be specified in the Stormwater Pollution Prevention Plan (SWPPP), which would be updated for decommissioning activities, if necessary.

2.4 GENERATOR TIE-LINE

The existing 13.5-mile 220 kilovolt (kV) generator tie-line would remain in place and be utilized for the future Lockhart Solar PV facility. During safe layup, SEGS IX would be isolated from the generator tie-line by disconnection of the generator tie-line conductors between the switchyard and the

associated substation. On-site transmission poles and conductors would remain in place if they can be used to support the future Lockhart Solar PV facility; otherwise, they would be removed. Conductors would either be sold as scrap metal to be recycled or sent to a licensed disposal facility. The switchyard would remain in place for continued use by the future Lockhart Solar PV facility. The SEGS IX substation would be removed.

2.5 NATURAL GAS SUPPLY LINE

During safe layup for SEGS IX, the natural gas pipeline serving SEGS IX would be cut and capped in place at the on-site isolation point at the natural gas distribution yard. The pipeline would be left in place in accordance with applicable LORS.

3.0 DECOMMISSIONING AND REUSE OF FACILITIES REMAINING ON SITE

3.1 FACILITIES TO REMAIN IN PLACE

Some of the SEGS IX facilities may remain in place, including solar tracker foundations, underground utilities and installations, the switchyard, and the off-site generation transmission (gen-tie) line to support the future Lockhart Solar PV facility. Please note that although the CEC issued a Notice of Decision approving the SEGS VIII and IX Post Certification Petition to Add BESS on July 13, 2020, to date, the BESS has not been constructed and is therefore not included as an existing facility to remain in place. A plot plan of existing facilities is included as Figure 2.

The following lists SEGS facilities that would remain in place:

- Distribution lines and poles (if they can be reused to support the future Lockhart Solar PV facility)
- Switchyard
- Employee building
- Control building
- Warehouse building
- Perimeter fencing, including desert tortoise exclusion fencing
- Access gates
- On-site water wells
- Septic system
- Natural gas supply line (to be cut/capped and left in place)
- Generation transmission (gen-tie) line and towers
- 34.5 kV electric disconnect equipment
- Site access roads
- Parking lot
- Concrete foundations (may remain in place if they do not interfere with future solar PV facilities)
- Several support and miscellaneous buildings (e.g., sheds and mechanical shop, etc.)

3.2 FACILITIES TO BE REMOVED

The following lists SEGS facilities that would be removed, and Figure 2, Plot Plan, shows the location of the existing facilities:

- Substation
- On-site gen-tie/distribution lines poles and towers (if they cannot be reused to support the future Lockhart Solar PV facility)
- Cooling towers: This includes an evaporative cooling tower system



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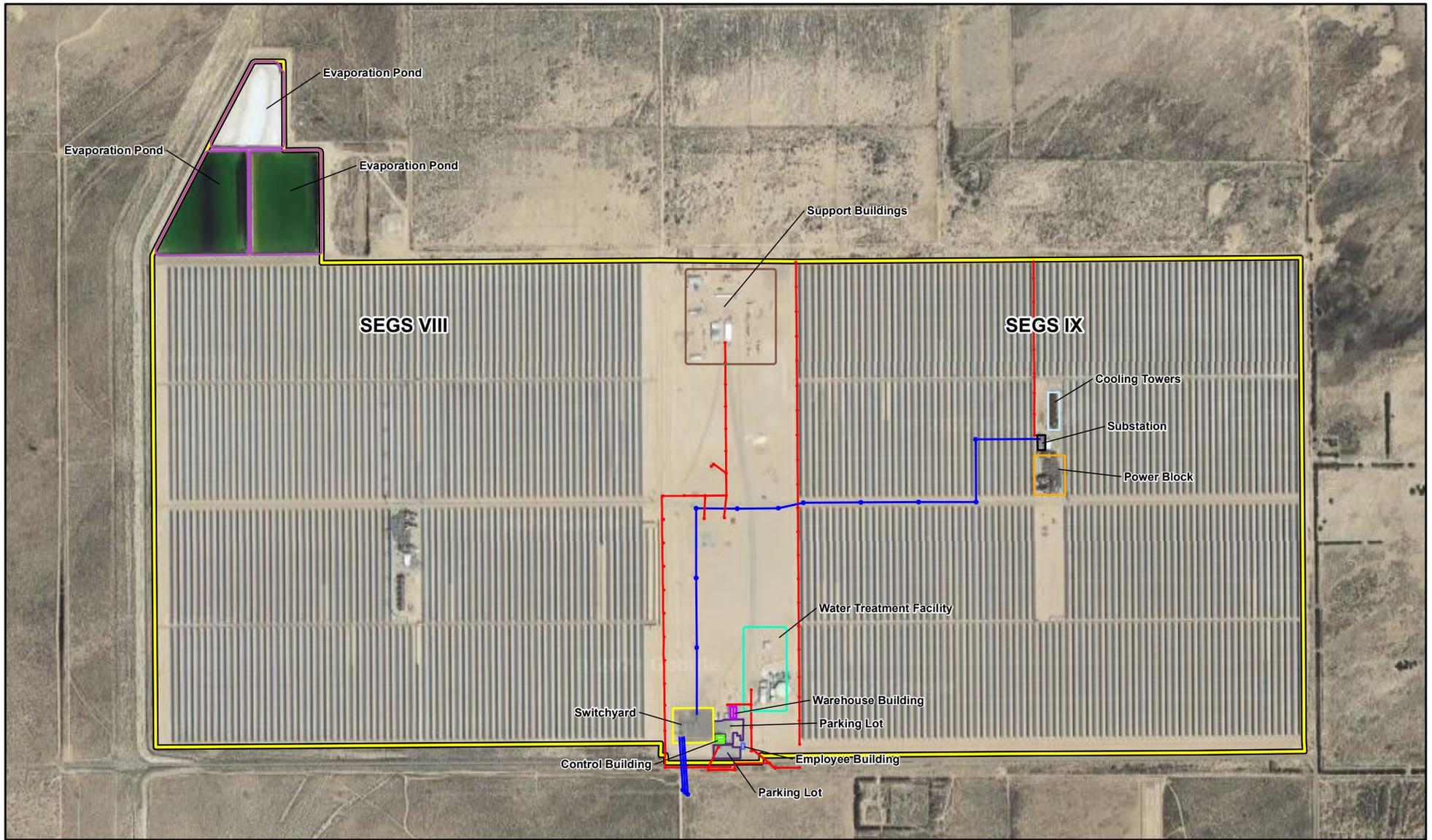
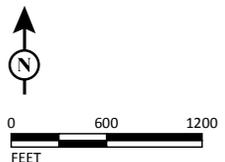


FIGURE 2

LSA



LEGEND

- | | | |
|------------------------|-------------------|--------------------------|
| SEGS Project Footprint | Evaporation Ponds | Substation |
| Existing Plot Plan | Gen-Tie | Support Buildings |
| Control Building | Parking Lot | Switchyard |
| Cooling Towers | Power | Warehouse Building |
| Employee Building | Power Block | Water Treatment Facility |

Note: Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022



SEGS IX
Existing Plot Plan

SOURCE: Luz Solar Partners VIII and IX, LLC (10/2019), Google (9/2015)

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- Power block: This includes storage tanks, a steam turbine generator, transformers, heat exchangers, a power block, pumps, and other ancillary equipment
- Parabolic mirrors, aboveground supports, aboveground HTF piping, and related equipment
- Water evaporation ponds: Ponds would be closed per Lahontan Regional Water Quality Control Board (RWQCB) requirements
- Water treatment facility: This includes ancillary equipment associated with the on-site water treatment process
- Several support and miscellaneous buildings (e.g., sheds, mechanical shop, etc.) currently on site, which are not listed in the Section 3.1 list of facilities to remain in place, may be removed if they would not be reused for the PV facility

The facilities planned for removal would be disconnected from existing electrical, fuel, lubrication, and other lines and removed from their foundations. Above-ground demolition entails breakdown and removal of above-ground structures and facilities. Residual materials from these activities would be transported via heavy haul dump truck to one or more central recycling/staging areas where the debris would be processed for transport to an off-site recycler or a licensed disposal facility.

The strategy for demolition consists of the use of mechanized equipment and trained personnel in the safe dismantling and removal of the following above-ground structures.

- Parabolic mirrors, supports and related equipment using low environmental impact equipment.
- Support and miscellaneous buildings using conventional dismantling, deconstruction, and demolition techniques. Temporary or stationary facilities such as storage buildings, containers and small tanks would be detached, disassembled as minimally as possible and as required for safe transport, then hauled off for reuse or recycling.
- Storage tanks would be emptied of all remaining residues and products such as HTF, diesel, hydraulic oil, lubricating oil, and mineral oils, and other materials (where feasible) to reduce potential personnel and environmental exposure and to facilitate decommissioning. Hazardous material and petroleum containers and pipelines would be rinsed clean when feasible and the rinsate collected for off-site disposal. In general, these materials would be placed directly into tanker trucks or other transport vessels and removed from the site at the point of generation to reduce the need for hazardous material and waste storage at the site.
- Removal of the turbine generators, heaters, condensers and related equipment, transmission lines and towers that cannot be reused on site, and above-ground pipelines using conventional deconstruction and demolition equipment and techniques.

Evaporation ponds would be closed in accordance with the Lahontan RWQCB regulations. The SEGS VIII and IX Evaporation Ponds Closure Plan, prepared and submitted to Lahontan RWQCB on May 29, 1992 (Appendix F), would be updated as needed per the RWQCB's most current standards. The current plan assumes that all solid waste (e.g., salts, sands, high density polyethylene (HDPE) liners, PVC leak detection drains, and Geonet Geotextile, etc.) from two of the ponds would be moved into the third pond. The two ponds that have been emptied would then be "clean" closed. The third pond would be sealed/capped as a landfill. Long-term monitoring would be conducted for the landfill pond per Lahontan RWQCB requirements.

3.3 DECOMMISSIONING AND RECYCLING

Some materials decommissioned from SEGS IX may be retained as spare parts for the Lockhart Solar PV facility. Materials and equipment at the site that would not be reused would be decommissioned, removed, and transported for recycling and salvage value to the greatest extent possible. This includes the cooling towers, power block, heaters, and water treatment facility, as well as other ancillary equipment. These materials would be transported off site by the contractor to be sold for salvage value (e.g., any working equipment), or recycling/scrap value (e.g., metal scrap, piping, etc.).

The Project Owner intends to limit concrete and foundation removal to the extent practical. Where practical, concrete may be crushed or broken and backfilled into SEGS IX foundation basements/open pits and/or may be used as road base for the future Lockhart Solar PV facility as permitted by regulatory entities.

The natural gas pipeline serving SEGS IX would be cut and capped in place at the on-site natural gas distribution yard. Upon decommissioning of SEGS IX, the natural gas pipeline would be disconnected at the street/property line by the gas supply company and the line would be purged. The pipeline would be left in place in accordance with applicable LORS.

Other underground utility lines and piping that would not be reused for the future Lockhart Solar PV facility would be cut and capped at or below the ground surface but not removed.

3.4 SCHEDULE

Decommissioning is scheduled to begin as early as August 2023, pending the approval of this Plan and market-driven business decisions. Decommissioning will be completed using traditional heavy construction equipment including but not limited to front-end loaders, track mounted and rubber-tired excavators, bull dozers, concrete crushers, dump trucks and heavy haul trucks. Although various types of decommissioning and demolition equipment would be utilized to dismantle each type of structure or equipment, dismantling would proceed according to the following general staging process. The first stage consists of safe layup of Project facilities including removal of HTF, which will take approximately 30 to 60 days. The second stage consists of dismantling and demolition of above-ground structures to be removed. This is anticipated to take approximately 3 months. The third stage consists of concrete removal and crushing as needed to ensure that no concrete structure remains within 3 feet of final grade (i.e., floor slabs, below-ground walls, and footings) in areas that need to be cleared for future Lockhart Solar PV facilities. This stage would

take approximately 30 to 60 days. The fourth stage consists of removal/dismantling of underground utilities within 3 feet of final grade if the underground utility conflicts with placement of PV equipment. The fifth stage consists of the closure of the evaporation ponds in accordance with the Lahontan RWQCB requirements. This stage would take approximately 30 days. The Project Owner intends to limit the need for underground utility removal to the maximum extent practical. This stage would take approximately 30 days.



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4.0 ENVIRONMENTAL ANALYSIS OF DECOMMISSIONING

This section provides an environmental analysis for each discipline area and addresses the potential effects of decommissioning on the environment and public health and safety. This section identifies the LORS and local/regional plans and discusses how the decommissioning of SEGS IX would comply with those LORS and plans. This section also identifies COCs that are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS. Since the SEGS IX project is the same size as SEGS VIII and shares the same project footprint, the proposed COCs for the decommissioning of SEGS IX include those identified by the CEC for the decommissioning of SEGS VIII. Additionally, this section provides an analysis of decommissioning alternatives considered and the reasons for selecting the preferred proposal.

4.1 AIR QUALITY

This section presents an analysis of LORS compliance and potential environmental impacts and benefits related to air quality and GHG emissions that may result from decommissioning of the Project. The Project Owner intends to replace the current solar thermal facilities with a cleaner operating solar PV facility. Solar PV does not require gas-fired heaters, exhaust tower or cooling tower operation. With the cessation of current project operations, there is a reduction in emissions, which would be temporarily replaced with short-term emissions related to decommissioning and demolition. Decommissioning activities would result in short-term, minor, and localized air quality impacts from fugitive dust, tailpipe emissions from construction equipment used, waste/recycling truck trips, and construction worker commutes.

Given the small amount of construction-related emissions anticipated to be generated during decommissioning activities, and that emissions would be temporary, SEGS IX decommissioning would not create a significant cumulative impact on air quality. Decommissioning of the SEGS IX solar thermal energy facilities' natural gas fired heaters and cooling towers would result in substantial emission reductions of criteria pollutants ranging into the hundreds of pounds. Cleaner, zero emission solar PV technologies would be commissioned that would result in substantial emission reductions at the SEGS IX Project site. Implementation of solar PV technologies after decommissioning would produce less than the annual permitted emission levels during operations of the existing SEGS IX facility, which would represent a net air quality benefit due to the elimination of the natural gas fired heaters and cooling tower emissions. Therefore, cessation of solar thermal operations and decommissioning of SEGS IX would not produce substantial impacts and would present a net air quality benefit to the region.

As indicated in the Air Quality Technical Analysis Memorandum (Appendix C), prior to issuance of decommissioning permits or approvals, the Project Owner will develop a Dust Control Plan (DCP) per Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2. The DCP shall comply with MDAQMD rules to control fugitive dust by addressing objectives, key contacts, roles and responsibilities, dust sources, and control measures. The DCP follows control strategies as required by the MDAQMD's 2017 Dust Control Plan Guidance Document.

Additionally, on-road trucks shall comply with United States Environmental Protection Agency (USEPA) 2010 on-road emission standards or better, unless the contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of the MDAQMD.

As concluded in the air quality technical memorandum (Appendix C), emissions generated from SEGS IX decommissioning would not exceed significance thresholds for criteria pollutants or GHG emissions. Annual emissions for all criteria pollutants would be less than significant for decommissioning of the Project. Further, SEGS IX decommissioning is not expected to generate odors which would cause a public nuisance or impact a substantial population at off-site locations. Benefits from decommissioning of the Project include less GHG generated with the shutdown of the gas-fired heaters, and fewer air quality impacts with the shutdown of gas-fired backup heaters, exhaust towers, and cooling towers.

Compliance with the LORS applicable to air quality would ensure that temporary and localized air quality impacts associated with decommissioning of SEGS IX would be less than significant.

Table 4.1 lists the LORS applicable to air quality.

Table 4.1: LORS Applicable to Air Quality

LORS	Description	Comments
Federal		
40 Code of Federal Regulations Part 60 – New Source Performance Standards (NSPS), Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	Establishes emission standards for stationary compression ignition internal combustion engines, including emergency fire water pump and generator engines over a specific size.	All SEGS IX operating stationary engines would be shut down, drained of fluids (fuel and lubricants), and potentially sold off/recycled before the start of demolition. No MDAQMD permits would be required for decommissioning and demolition activities. If portable equipment requiring permits is used, that equipment would be registered through the California Air Resources Board (CARB) Portable Equipment Registration Program (PERP).
Title V Permits	Sets forth permitting requirements for major sources of emissions across the country.	No MDAQMD permits would be required for decommissioning and demolition activities. Once operations cease for SEGS IX, the Title V permit would be retired. The MDAQMD requires a signed original application to change ownership of an existing permitted unit. Name change can be made by the MDAQMD in response to a written letter.

Table 4.1: LORS Applicable to Air Quality

LORS	Description	Comments
Title 40, Code of Federal Regulations, Part 61 (National Emission Standards for Hazardous Air Pollutants)	Part 61 establishes national emission standards for hazardous air pollutants. Subpart M establishes requirements for demolition and renovation activities.	MDAQMD Rule 1000 incorporates Subpart M by reference. Proposed Condition of Certification (COC) D-PH-1 (see Section 4.8.1) would require the Project Owner to comply with the MDAQMD asbestos program. The MDAQMD asbestos program is consistent with Subpart M requirements.
State		
Title 17 California Code of Regulations, Section 93115, Airborne Toxic Control Measure for Stationary Compression Ignition Engines	Establishes emission limits, operating limits, fuel use restrictions, monitoring and recordkeeping requirements for large (>50 horsepower [hp]) stationary compression ignition engines, including emergency fire water pump and generator engines.	No MDAQMD permits would be required for decommissioning and demolition activities. If portable equipment requiring permits is used, that equipment would be registered through the CARB PERP.
California Health and Safety Code, Section 41700 (Nuisance Regulation)	Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.	The Project Owner would ensure the contractor complies with this requirement.
California Health and Safety Code, Section 2451, et seq. (Portable Equipment Registration Program)	Allows the permitting of portable equipment under a Statewide registration program.	If portable equipment requiring permits is used for decommissioning and demolition activities, that equipment would be registered through the CARB PERP.
Title 13, California Code of Regulations, Article 4.8, Chapter 9, Section 2449, Regulation for In-Use Off-Road Diesel-Fueled Fleets	Establishes requirements for diesel-fueled, mobile off-road vehicle fleets in order to reduce criteria pollutant emissions from engines greater than 25 hp, including requirements on excess idling, CARB-assigned equipment identification numbers, and year-by-year fleet average requirements, as well as recordkeeping and reporting.	An Air Quality Supervisor (AQS) shall be responsible for determining the compliance status of all mobile off-road equipment that would be operated during decommissioning at the Project site, including verifying that all equipment is properly identified and that equipment fleets meet the appropriate annual reporting and compliance schedules.
Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025, Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants for In-Use Heavy Duty Diesel-Fueled Vehicles	Regulates diesel-fueled, on-highway vehicles over 14,000 pounds Gross Vehicle Weight Rating (GVWR) by establishing dates by which certain model year engines can no longer be operated in California, with separate requirements for medium-duty (14,000-26,000 GVWR) and heavy-duty (over 26,000 GVWR) vehicles, including recordkeeping and reporting for some vehicles.	The AQS shall be responsible for determining the compliance status of all mobile on-road vehicles over 14,000 GVWR that are used during decommissioning and demolition of the Project.

Table 4.1: LORS Applicable to Air Quality

LORS	Description	Comments
Local – Mojave Desert Air Quality Management District (MDAQMD)		
Rule 201 – Permit to Construct, Rule 202- Temporary Permit to Operate, Rule 203 – Permit to Operate	Rules 201, 202 and 203 require that permits be obtained for any equipment that emits air contaminants.	No MDAQMD permits would be required for decommissioning and demolition activities. If portable equipment requiring permits is used, that equipment would be registered through the CARB PERP.
Rule 401 – Visible Emissions	Limits visible emissions from applicable equipment or processes to values no darker than Ringelmann #1 for periods greater than 3 minutes in any hour.	The Project Owner would ensure the contractor complies with this requirement.
Rule 402 – Nuisance	Prohibits emissions in quantities that would adversely affect public health, other businesses, or property.	The Project Owner would ensure the contractor complies with this requirement.
Rule 403.2 – Fugitive Dust	Limits fugitive particulate matter (PM) emissions from transport, construction, handling and storage activities.	The Project Owner would ensure the contractor would use appropriate dust suppression mitigation to limit fugitive PM emissions consistent with the requirements outlined in Rule 403.2, including preparing a Dust Control Plan that describes all applicable dust control measures that would be implemented.
Rule 404 – Particulate Matter Concentration	Limits PM emissions concentration from point sources.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.
Rule 405 – Solid Particulate Matter Weight	Limits PM emissions based on process weight.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.
Rule 407 – Liquid and Gaseous Contaminants	Limits carbon monoxide (CO) emissions from combustion sources.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.
Rule 409 – Combustion Contaminants	Limits emissions of combustion contaminants.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.
Rule 431 – Sulfur Content of Fuels	Limits sulfur content of liquid and solid fuels.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.

Table 4.1: LORS Applicable to Air Quality

LORS	Description	Comments
Regulation II– Permits	Sets forth permitting requirements for large stationary sources	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment. Once operations cease for SEGS IX, the Title V permit would be retired.
Regulation X– Emission Standards for Additional Specific Air Contaminants Rule 1000 (National Emission Standards for Hazardous Air Pollutants)	Incorporates by reference all the applicable provisions regarding National Emission Standards for Hazardous Air Pollutants in Title 40, Code of Federal Regulations, Part 61.	MDAQMD Rule 1000 incorporates Subpart M by reference. Proposed Condition of Certification (COC) D-PH-1 (see Section 4.8.1) would require the Project Owner to comply with the MDAQMD asbestos program. The MDAQMD asbestos program is consistent with Subpart M requirements.
Regulation XIII – New Source Review	Sets forth the pre-construction review requirements for new, modified or relocated facilities.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.
Regulation XV – Emission Standards for Specific Toxic Air Contaminants	Sets limits on toxic air contaminants from stationary sources.	No MDAQMD permits would be required for decommissioning and demolition activities. If portable equipment requiring permits is used for decommissioning activities, that equipment would be registered through the CARB PERP.
Regulation XVI- Prevention of Significant Deterioration	Sets forth the pre-construction review of all new Major Prevention of Significant Deterioration (PSD) Facilities and Major PSD Modifications requirements for stationary sources.	No MDAQMD permits would be required for decommissioning and demolition activities. This requirement would not apply to PERP registered equipment.

LORS = laws, ordinances, regulations, and standards

SEGS = Solar Energy Generating System

4.1.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

D-AQ-1

Prior to the issuance of decommissioning permits or approvals, the Project Owner shall develop a Dust Control Plan (DCP) per the requirements of Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2. The DCP shall comply with MDAQMD Rules 403 and 403.2 to control fugitive dust, including particulate matter less than 10 microns in size (PM₁₀), by addressing objectives, key contacts, roles and responsibilities, dust sources, and control measures.

Verification: The Project Owner shall submit the DCP and any modifications to the compliance project manager (CPM) within five working days of its submittal to the MDAQMD.

D-AQ-2 On-road trucks shall comply with United States Environmental Protection Agency (USEPA) 2010 on-road emission standards or better, unless the contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of the MDAQMD.

Verification: The Project Owner shall submit to the CPM a Monthly Compliance Report (MCR) which demonstrates compliance with condition D-AQ-2.

D-AQ-3 The Project Owner shall ensure that all applicable portable equipment used by the demolition contractor shall be registered through the California Air Resources Board (CARB) Portable Equipment Registration Program (PERP).

Verification: The Project Owner shall submit to the CPM an MCR which demonstrates compliance with condition D-AQ-3.

D-AQ-4 The Project Owner shall ensure that equipment used during decommissioning complies with Rule 401 to ensure visible emissions from applicable equipment would avoid visible emissions darker than Ringelmann #1 for periods greater than 3 minutes in any hour.

Verification: The Project Owner shall submit to the CPM an MCR which demonstrates compliance with condition D-AQ-4.

D-AQ-5 The Project Owner shall ensure that the Air Quality Supervisor (AQS) performs oversight of compliance with the decommissioning conditions and applicable laws, ordinances, regulations, and standards (LORS) during decommissioning and demolition activities.

Verification: At least 60 days prior to the start of decommissioning, the Project Owner shall submit to the CPM, for approval, the name and contact information for the AQS and/or AQS delegates. The Project Owner shall submit to the CPM an MCR which demonstrates compliance with condition D-AQ-5.

4.2 BIOLOGICAL RESOURCES

This section presents an analysis of LORS compliance and potential environmental impacts related to biological resources that may result from SEGS IX decommissioning activities. Decommissioning activities would take place within the existing Project footprint. The Project site perimeter is entirely fenced with exclusionary fencing. Due to the proximity of desert tortoise (*Gopherus agassizii*) habitat, fencing to prevent tortoises of all sizes from entering the survey area was previously installed. The desert tortoise exclusionary fencing that is currently in place would continue to be maintained during decommissioning activities.

No sensitive biological resources or habitats occur on site. A Biological Resources Report was prepared in 2018 as part of the CUP process for the future Lockhart Solar PV facility (see Appendix D). As illustrated in the Biological Resources Report and summarized in the County of San Bernardino Planning Commission Staff Report for the redevelopment of the SEGS VIII and IX facilities as a solar PV facility (see Appendix B), *“The Project site has been mostly disturbed by previous industrial or agricultural activities. A general biological survey was conducted to document all biological resources identified within the survey area and included a floral/fauna inventory, vegetation/land use mapping, and habitat suitability assessments to determine the potential for special-status plant and wildlife species and vegetation communities to occur within the survey area. No special-status plant or wildlife species or vegetation communities were observed within or surrounding the survey area. In addition, based on 9-quadrangle database record searches it was determined that ten special-status plant species and sixteen special-status wildlife species known to occur within the vicinity of the survey area are either not expected or have a low potential to occur within the survey area. Due to the highly disturbed areas of bare ground, open water and developed areas (i.e., solar fields and associated infrastructure, evaporation ponds and open areas) bird nesting opportunities and wildlife movements are limited and restricted. No U.S. Fish and Wildlife Service designated critical habitat has been mapped within the survey area.”*

Although bird nesting opportunities and wildlife movement are limited and restricted, implementation of Project COCs would reduce potential impacts. The Biological Resources Mitigation Implementation Plan (BRMIP) was updated for the decommissioning of SEGS VIII to include pre-construction nesting bird surveys and protocol for measures to be implemented in the event of discovery of an active nest. The updated BRMIP would be implemented for the decommissioning of SEGS IX. In the event that active nests are discovered, a suitable buffer (distance to be determined by the designated biologist) shall be established around such active nests, and no construction within the buffer shall be allowed until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest).

Per the existing COC BIO-8, the normal contractor orientation program for the Project includes worker environmental awareness program (WEAP) training. This training provides information on the possible presence of desert tortoise and other wildlife and the proper response to a sighting, per the Project’s existing COCs.

Although the obligation to allow the Bureau of Land Management to pump up to 75 acre-feet of water per year for the maintenance of the Harper Lake wetlands, as described in the Harper Lake Water Agreement, per biological resources COCs BIO-9 for SEGS VIII and BIO-11 for SEGS IX, terminates with the de-certification of SEGS VIII and SEGS IX, the Project Owner would continue to allow the pumping of up to 75 acre-feet of water a year for the maintenance of the Harper Lake wetlands, for the duration of the operational life of the future Lockhart Solar PV facility pending legal confirmation of the right to do so.

To prevent desert tortoise vehicular mortalities along Harper Lake Road attributable to Project traffic, Luz Solar Partners VIII and Luz Solar Partners IX executed the Agreement for Mitigation of Impacts on Desert Tortoises Along Harper Lake Road by Luz Solar Partners Ltd. VIII and Luz Solar Partners Ltd. IX ("Master Agreement") on July 11, 1995. This Agreement included provisions for payment by Luz Solar Partners Ltd. VIII and Luz Solar Partners Ltd. IX of \$489,300 for mitigation (the

installation and continued maintenance of desert tortoise fencing along Harper Lake Road) and released the Partners from future mitigation for traffic impacts on Harper Lake Road and from incidental takes by vehicular mortality along Harper Lake Road. The executed agreement is included as Appendix E of this Plan. Per execution of this agreement and mitigation impact fee payment, the Project is released from future mitigation, and no further mitigation is required.

Adherence to the applicable biological resources COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to biological resources would ensure that potential impacts to biological resources would be less than significant.

Table 4.2 lists the LORS applicable to biological resources.

Table 4.2: LORS Applicable to Biological Resources

LORS	Description	Comments
Federal		
Migratory Bird Treaty Act (MBTA): 16 United States Code, Sections 703-721	Prohibits the take of protected migratory birds.	Although no wildlife habitat is found on the Project site, structures throughout the site and the few mature trees around the perimeter provide potentially suitable nesting habitat for birds. To minimize potential impacts to birds from decommissioning and demolition, the updated SEGS Biological Resources Mitigation Implementation Plan (BRMIP) would be implemented for decommissioning and demolition of SEGS IX.
Clean Water Act (CWA) of 1977 Title 33, United States Code, Sections 1251-1376, and Code of Federal Regulations, Part 30, Section 330.5(a)(26)	Prohibits the discharge of dredged or fill material into the waters of the United States without a permit.	SEGS submitted an application to obtain a CWA 404 permit issued by the United States Army Corps of Engineers (USACE) and a CWA 401 water quality certification issued by the Lahontan Regional Water Quality Control Board (RWQCB) prior to construction of the Project. Compliance during decommissioning activities would be managed through use of the existing Stormwater Pollution Prevention Plan (SWPPP).
Endangered Species Act (ESA) of 1973 Title 16, United States Code, Section 1531 et seq., and Title 50, Code of Federal Regulations, Part 17.1 et seq.	Designates and provides for the protection of threatened and endangered plant and animal species, and their critical habitat. The administering agency is the United States Fish and Wildlife Service.	According to the original 1990 California Energy Commission (CEC) Decision for Certification for SEGS IX, biological resources in the Project region recognized as rare, threatened, endangered, or of special concern include the Mohave ground squirrel, desert tortoise, Barstow woolly sunflower, Mojave spineflower, desert cymopterus, Mojave monkey flower, Mojave indigo assemblage, and the Harper Lake marsh wetlands. Measure BIO-6 contained in the Condition of Certification (COC) addresses proper reporting of impacts to rare, threatened, or endangered species. No sensitive biological resources or habitats occur on site.

Table 4.2: LORS Applicable to Biological Resources

LORS	Description	Comments
State		
Native Plant Protection Act, California Department of Fish and Wildlife (CDFW) Code, Sections 1900–1913	Prohibits taking of endangered and rare plants from the wild and requires that CDFW be notified at least 10 days in advance of any change in land use that would adversely impact listed plants.	Not applicable: decommissioning and demolition would be limited to previously disturbed and developed areas. No sensitive biological resources or habitats occur on site.
California Endangered Species Act of 1984; California Fish and Game Code, Sections 2050 through 2098; California Code of Regulations, Title 14, Division 1, Subdivision 3, Chapter 3, Sections 670.2 and 670.5	Identifies and protects California’s rare, threatened, and endangered species.	SEGS would update the BRMIP as appropriate for decommissioning and demolition. Implementation of the revised BRMIP would avoid or reduce impacts to levels that are less than significant during decommissioning and demolition. No sensitive biological resources or habitats occur on site.
California Fish and Game Code, Section 3503.5	“It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”	SEGS would comply with this requirement through implementation of the Project BRMIP as may be modified for decommissioning.
Streambed Alteration Agreement, California Fish and Game Code, Section 1600 et seq.	Requires CDFW to review Project impacts to waters of the State (bed, banks, channel, or associated riparian areas), including impacts to wildlife and vegetation from sediments, diversions, and other disturbances.	Not applicable, as decommissioning and demolition activities would be restricted to developed Project site which contains no waters of the state or state jurisdictional streambed features.
Local		
San Bernardino County General Plan (2007) –Conservation Element	This General Plan contains general policies regarding the protection and preservation of habitat and sensitive plant and wildlife species.	Activities associated with decommissioning and demolition could further facilitate the introduction of weedy species as a result of ground disturbance, imported fill, or landscaping with non-native species. Weedy plant species growth could suppress native vegetation and infest agricultural lands. However, the Project site is developed and there is little native vegetation in the immediate vicinity. Decommissioning and demolition activities would be restricted to developed Project site and therefore would not impact habitat.

LORS = laws, ordinances, regulations, and standards
 SEGS = Solar Energy Generating System

4.2.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

BIO-2 The Project Owner shall not begin site preparation until a qualified biologist has been designated to advise on the implementation of these conditions of certification, and to supervise or conduct mitigation, monitoring, and other biological resources compliance efforts.

The designated biologist shall be responsible for providing the project construction engineer with advice regarding biological resource mitigation implications of any surface disturbing action to be carried out for this project. Until an action, which shall conform to the certified project design, is reviewed and approved by the designated biologist, work cannot proceed. Any such approvals shall be documented in writing.

The Project Owner shall ensure that the designated biologist meets the following minimum qualifications:

1. A bachelor's degree in biological science, zoology, botany, ecology, or a closely related field, and
2. Current certification of a nationally recognized biological society, such as the Ecological Society of America or the Wildlife Society or a minimum of three years' experience in field biology.

The biologist must demonstrate to the satisfaction of the staff appropriate education and experience for the biological tasks. The supervising construction or operations engineer will act on the advice of the biologist to ensure conformance with the Biological Resources Mitigation Implementation Plan (BRMIP) and the terms and conditions of CEC certification.

At least 30 days before starting site preparation, the Project Owner shall provide to the CEC CPM for review and approval, the name, qualifications, address, and telephone number of the designated biologist. If there is to be a subsequent change in who the designated biologist will be, the Project Owner shall obtain approval of the new biologist by submitting to the CEC CPM the name, qualifications, address, and telephone number of the proposed replacement. An interview by the CEC CPM may be required.

Verification: At least 30 days prior to site preparation, the Project Owner will submit to the CEC CPM the name, qualifications, address, and telephone number of the individual selected as the designated biologist. If there is to be a change in who the designated biologist will be, the Project Owner will submit the name, qualifications, address, and telephone number of the proposed replacement.

BIO-14 The Project Owner shall, in a timely manner, arrange for access by the CEC CPM or designated representative to inspect or monitor conditions of biological resources, impacts, mitigation measures, and study areas prior to and during ~~preconstruction, construction and operation~~ decommissioning activities on the SEGS Unit IX and X site and adjacent areas. The access shall be provided upon request and at the times necessary to conduct biological field observations.

Verification: The Project Owner shall provide to the CEC CPM a letter of authorization to conduct site visits as specified above.

D-BIO-1 If bird breeding season (typically January through July for raptors and February through August for other avian species) avoidance is not feasible, a qualified biologist shall conduct a pre-construction nesting bird survey for avian species to determine the presence/absence, location, and status of any active nests on or adjacent to the area proposed project site. The extent of the survey buffer area surrounding the nest shall be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled project activities.

In the event that active nests are discovered, a suitable buffer (distance to be determined by the designated biologist) shall be established around such active nests, and no demolition within the buffer allowed, until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). A nesting bird survey and monitoring report shall be prepared and submitted to the CPM at the conclusion of nesting season, and identification of any special-status species (including raptor) nesting behavior shall be reported within three business days.

Verification: A Designated biologist shall perform nesting bird surveys as indicated above; and shall also implement buffers immediately upon discovery of a nest. Written reports and photos (if available) shall be made to the CEC CPM of special status nesting birds on site, according to the above-specified timeline. A nesting bird survey and monitoring report containing photos, survey methodology, site conditions, and description of any avoidance measures (such as buffers) implemented during each survey shall be provided to the CEC CPM at the conclusion of each nesting season while work is being performed.

D-BIO-2 The desert tortoise fence that is in place will continue to be maintained during decommissioning activities.

Verification: The Designated Biologist shall monitor the viability of the desert tortoise fencing during decommissioning activities, and the Project Owner shall ensure that necessary repairs are made promptly. The condition of the fence shall

be reported on in the BRMIP, per BIO-6 Verification requirements. Any major damage, such as blowouts due to rain events shall be reported to the CEC CPM within two business days and accompanied by photos and a written report.

D-BIO-3

The biological resources mitigation implementation plan (BRMIP) will be revised for specific circumstances related to project decommissioning to minimize or avoid impacts to biological resources.

The Project Owner shall submit a detailed BRMIP to the CEC CPM before the initiation of any clearing, earth moving, or other construction activities on SEGS IX. The BRMIP shall include details for designing and implementing the following measures as outlined in the original COCs BIO-3 through BIO-13:

- a. Prior to any surface disturbance on SEGS IX, the designated biologist shall conduct or supervise the designation of off-limit areas where surface disturbance is to be avoided. Such areas shall be defined by temporary taping or flagging in conjunction with posting signs prohibiting entrance of construction crews. Parking areas and temporary construction yards shall be sited on previously disturbed habitat to the maximum extent feasible. A directive to avoid surface disturbance in native habitats shall also be included in the employee environmental awareness program.
- b. Off road travel shall be prohibited in all native habitats considered sensitive biological areas associated with the project during construction and operation. Such areas shall be posted prior to initiation of construction. Parking areas for the pipeline and transmission line construction crews shall be designated. Limitation of off-road travel and reasons for restrictions shall also be discussed in the employee environmental awareness program. Off-road travel restrictions shall apply to native habitats adjacent to the SEGS IX project site and to native habitats on all other Project Owner's property.
- c. Speed limits on the SEGS IX shall be posted. Speed limits shall be established for SEGS IX.
- d. The Project Owner shall develop an employee environmental awareness program to provide construction and operation employees with information to encourage awareness and preservation of the desert ecosystem and the key species and resources found at the Project Owner facilities and in the western Mojave Desert. The Project Owner shall prepare and print an educational brochure or pamphlet to be distributed to each employee at the time of hire. This information shall be distributed to and discussed with all Project Owner employees during employee orientation sessions. This information shall also be provided to all contractors or subcontractors that will be working on the job site. In addition, the material shall be available at a selected prominent location at the facilities. The Project Owner shall have each employee who participates in the environmental awareness program sign an affidavit declaring that the

individual understands and will adhere to the guidelines set forth in the program material.

- e. The Project Owner shall develop a strict trash and litter control program. Trash control is expected to increase a sense of responsibility in the work area and foster environmental awareness among employees. A litter control program shall consist of supplying an adequate number of covered trash and litter receptacles in all appropriate locations (including the water truck, water stations, and site exits) and encouraging employee use through the environmental awareness program, posters, and other means. Trash and litter disposal shall be in covered or buried dumpsters to avoid attracting ravens and thereby increasing any potential for raven predation on young tortoises.

Verification: At least 90 days prior to commencing site preparation activities, the Project Owner shall submit the draft BRMIP to the CEC CPM for review and approval. Site preparation shall not begin until the final BRMIP is approved by the staff.

The approved BRMIP shall be submitted to the CEC CPM prior to site preparation on SEGS IX.

In a monthly compliance report (MCR), the Project Owner shall notify the CEC CPM, in writing, of successfully satisfying each condition in the BRMIP.

If any conditions of the plan are not successfully satisfied, the Project Owner shall submit proposed corrective actions within 30 days to the CEC CPM for comment and approval.

The Project Owner designated biologist shall submit to the CEC CPM monthly statements verifying activities conducted in compliance with the approved BRMIP permit conditions listed here, and any additional portions of the CEC decision pertinent to biological resources. These monthly statements shall be submitted beginning after start of site preparation and shall continue until all compliance activities have been completed.

The Project Owner shall report any adverse impacts on rare, threatened, or endangered species by telephone to the CEC CPM within two working days during the normal work week or by the end of the next working day following a weekend or holiday and shall submit a follow-up written report within 10 days after contact with CEC CPM.

4.3 CULTURAL RESOURCES

This section presents an analysis of LORS compliance and potential environmental impacts related to cultural resources that may result from the decommissioning of the Project. No cultural resources were identified within the Project boundary during construction of the existing SEGS IX Project and

decommissioning activities will occur entirely on site within the previously disturbed Project footprint. If the earth disturbing activities associated with decommissioning and demolition extend into soils beyond what was previously disturbed on-site, a cultural monitor will be available to be on site during the excavation, as outlined in the existing cultural resources COCs. Adherence to applicable cultural resources COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to cultural resources would ensure that potential impacts to cultural resources would be less than significant.

Table 4.3 lists the LORS applicable to cultural resources.

Table 4.3: LORS Applicable to Cultural Resources

LORS	Description	Comments
Federal		
Section 106 of the National Historic Preservation Act, 54 United States Code, Sections 300101–320303; 36 Code of Federal Regulations, Part 800 et seq.	Requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning.	No historic properties are on the Project site.
State		
California Code of Regulations, Title 14, Section 4852	Defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.	Decommissioning and demolition would not adversely affect cultural resources as the site is disturbed.
Public Resources Code, Section 5000	Establishes the California Register of Historical Resources (CRHR), establishes criteria for eligibility to the CRHR, and defines eligible resources.	Decommissioning and demolition would not adversely affect cultural resources. There are no registered historical resources on the site.
Local		
San Bernardino County General Plan (2007) –Conservation Element	The General Plan establishes a cultural resource sensitivity overlay map. Also, the General Plan establishes goals for identify and protect important cultural resources.	The Project’s location is outside the cultural resource sensitivity area indicated on the overlay map. Also, decommissioning and demolition would take place on lands that were previously disturbed.

LORS = laws, ordinances, regulations, and standards

4.3.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

- CUL-9** Prior to the start of SEGS IX decommissioning activities, the Project Owner shall provide the CEC CPM with the following information: the name, telephone number, resume, the specialty area(s) of current certification by the Society of Professional Archaeologists (SOPA), and indication of availability for its designated cultural resources specialist. The resume shall include the qualifications of their designated specialist (e.g., someone with a graduate degree in anthropology, history, or cultural resource management, appropriate cultural resource field experience, and current SOPA certification).

The CEC CPM will review the qualifications of, and must approve in writing, the Project Owner's designated cultural resources specialist prior to the start of SEGS IX decommissioning activities. After CEC CPM approval, the cultural resources specialist shall be available to prepare a monitoring and mitigation plan described below. The designated specialist shall also be available to conduct pre-construction mitigation and provide monitoring and mitigation, as needed, during all decommissioning activities associated with the SEGS IX project.

Verification: Prior to the start of SEGS IX decommissioning, the Project Owner shall submit to the CEC CPM for review and written approval, the name, resume, telephone number, the specialty area(s) of current certification by the Society of Professional Archaeologists (SOPA), and indication of availability for its designated cultural resources specialist.

D-CUL-1 If the earth-disturbing activities associated with decommissioning and demolition extend into soils beyond what was previously disturbed on-site during project construction, a cultural monitor will be available to be on site during the excavation, as outlined in the existing cultural resources Conditions of Certification (COCs).

D-CUL-2 The Project Owner shall update, if necessary, the cultural resources worker environmental awareness program (WEAP) training (as outlined in condition CUL/PAL-18 and CUL/PAL-19) and present the WEAP training to all of its personnel and the personnel of its contractors and subcontractors who may be involved with ground clearance or earth moving, to develop an awareness of and sensitivity to potential project impacts on potentially significant cultural resources. This training shall include development of the ability to recognize potentially significant cultural resources.

D-CUL-3 The designated cultural resources specialist shall update the Project cultural resources monitoring and mitigation plan (as outlined in condition CUL-10) to minimize potential impacts to cultural resources for decommissioning and demolition. The plan shall include the following:

- a. A provision that the designated cultural resources specialist be on call to inspect any potentially significant cultural resources found during ground clearance and excavation in areas of sensitivity identified in the monitoring and mitigation plan.
- b. Specific measures proposed to mitigate impacts to particular types of cultural resources which may be discovered during earth-moving activities.
- c. A provision that if potentially significant cultural resources are encountered during demolition activities, work in the immediate vicinity of the find shall be halted until the designated cultural resources specialist can determine the significance and sensitivity of the find. The Project designated cultural resources specialist shall act in accordance with the procedures set forth in the monitoring

and mitigation plan. The Project Owner, or its designated representative, shall inform the appropriate overseeing agency (California Energy Commission [CEC] or County of San Bernardino [County]) within one working day of the discovery of any potentially significant resources and discuss the specific measure(s) proposed to mitigate potential impacts to the resources.

The designated cultural resources specialist, representatives of the Project Owner, and the appropriate overseeing agency shall meet within seven working days of the notification of the CEC or County, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented.

- d. A provision that if human remains are encountered, work in the immediate vicinity shall stop and the County coroner and the jurisdictional agency (CEC or County) shall be notified. Work in the vicinity of the find shall remain stopped until the coroner has determined if the remains are Native American in origin and any necessary mitigation measures have been implemented. If the remains are determined to be of Native American origin, the Native American Heritage Commission and appropriate Native American representatives shall be notified immediately. Any necessary mitigation measures shall be discussed and agreed upon by the interested parties and approved by the jurisdictional agency.

4.4 GEOLOGY AND PALEONTOLOGY

This section presents an analysis of LORS compliance and potential environmental impacts related to geology and paleontology that may result from the decommissioning of the SEGS IX Project. Decommissioning activities would take place within the existing Project footprint. No paleontological resources were identified within the Project footprint during construction of the existing SEGS IX Project and the decommissioning activities would take place entirely on site within the previously disturbed Project footprint. If the excavation depth for decommissioning and demolition activities extends into soils beyond what was previously disturbed during construction of the existing SEGS IX project, applicable paleontological resources COCs would be implemented. Adherence to the applicable geological and paleontological resources COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to these resources would ensure that potential impacts to geological and paleontological resources would be less than significant.

Table 4.4 lists the LORS applicable to geology and paleontology.

Table 4.4: LORS Applicable to Geology and Paleontology

LORS	Description	Comments
Federal		
None	None	None
State		
California Building Code (CBC), 1998 edition (based on the Uniform Building Code [UBC], 1997 edition)	The CBC is a series of standards that are used in project investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The CBC supplements the UBC's grading and construction ordinances and regulations.	As no excavation is expected to go significantly below 3 feet, basic grading and erosion control of soils would be implemented. Shoring is not anticipated to be needed.
California Public Resources Code, Section 5097.5	This law protects paleontological resources and establishes criminal and civil penalties for violations.	As no paleontological resources were previously identified during project construction and operations, and decommissioning and demolition activities would occur within the existing disturbed site with excavation not expected to go significantly below 3 feet, impacts to paleontological resources are not anticipated. If paleontological resources are encountered, the Project would comply with the standard procedures for appropriate handling, identification and reporting of findings of paleontological resources.
Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (Society of Vertebrate Paleontology, 2010)	Establishes procedures and standards for assessing and mitigating impacts to paleontological resources.	As no paleontological resources were previously identified during project construction and operations, and decommissioning and demolition activities would occur within the existing disturbed site with excavation not expected to go significantly below 3 feet, impacts to paleontological resources are not anticipated. Therefore, new procedures and standards for assessment and mitigation of impacts are not required. If paleontological resources are encountered, the Project would comply with the standard procedures for assessing and mitigating impacts to paleontological resources.

Table 4.4: LORS Applicable to Geology and Paleontology

LORS	Description	Comments
Local		
County of San Bernardino Development Code, Section 82.20.030 (2009 edition)	This section of the Development Code sets forth the requirements of paleontological resource mitigation programs for projects in the County. These requirements include a field survey prior to grading, monitoring during grading, appropriate handling and identification of specimens, and reporting of findings.	As no paleontological resources were previously identified during project construction and operations, and decommissioning and demolition activities would occur within the existing disturbed site with excavation not expected to go significantly below 3 feet, impacts to paleontological resources are not anticipated. Therefore, field surveys and monitoring during decommissioning and demolition activities are not required. If paleontological resources are encountered, the Project would comply with the County requirements for appropriate handling, identification and reporting of findings of paleontological resources.
County of San Bernardino General Plan, Section V – Conservation Element	This section of the General Plan outlines several programs for protecting paleontological resources during development, including requirements for surveys, monitoring, recovery, curation, and reporting of paleontological resources.	As no paleontological resources were previously identified during Project construction and operations, and decommissioning and demolition activities would occur within the existing disturbed site with excavation not expected to go significantly below 3 feet, impacts to paleontological resources are not anticipated. Therefore, field surveys and monitoring during decommissioning and demolition activities are not required. If paleontological resources are encountered, the Project would comply with the County requirements for appropriate recovery, curation and reporting of paleontological resources.

LORS = laws, ordinances, regulations, and standards

4.4.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

PAL-1 Prior to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) on each of the SEGS IX projects, the Project Owner shall provide the California Energy Commission (CEC) Compliance Project Manager (CPM) with the following information: the name, telephone number, resume, and indication of availability for its designated paleontologic resources specialist.

The resume shall include the qualifications of their designated specialist (e.g., someone with a graduate degree in geology or paleontology and paleontological field experience).

The CEC CPM will review the qualifications of, and must approve in writing, the Project Owner's designated paleontologic resources specialist prior to the start of construction on the SEGS IX project. After CEC CPM approval, the paleontologic specialist shall be available to prepare a monitoring and mitigation plan described below. The designated specialist shall also be available to conduct pre-construction mitigation and provide monitoring and mitigation, as needed, during all construction activities associated with the SEGS IX project.

Verification: Prior to the start of construction on each of the SEGS IX project, the Project Owner shall submit to the CEC CPM for review and written approval, the name, resume, telephone number, and indication of availability for its designated paleontologic resources specialist.

PAL-4 The Project Owner will have the designated paleontologic specialist available to monitor construction activities at the SEGS IX site, on an as-needed basis, as defined in the CEC-approved monitoring and mitigation plan for paleontological resources.

Verification: After CEC approval of the designated specialist, the Project Owner shall maintain copies of its contract(s) with the designated paleontologic resources specialist(s) in its compliance files.

D-PAL-1 The Project Owner will have a paleontological specialist available on an as-needed basis, if the excavation depth for decommissioning and demolition activities extends into soils beyond what was previously disturbed during construction of the original project as outlined in the existing Conditions of Certification (COCs).

D-PAL-2 The Project Owner shall update, if necessary, the paleontological resources worker environmental awareness program (WEAP) training (as outlined in COC CUL/PAL-18 and CUL/PAL-19) and present the WEAP training to all of its personnel and the personnel of its contractors and subcontractors who may be involved with ground clearance or earth moving, to develop an awareness of and sensitivity to potential Project impacts on potentially significant paleontological resources. This training shall include development of the ability to recognize potentially significant paleontological resources.

D-PAL-3 The designated paleontologic specialist shall update the Project monitoring and mitigation plan (as outlined in COC CUL/PAL-2) to minimize potential impacts to paleontologic resources for decommissioning and demolition. The plan shall include the following elements:

- a. A provision that if, during monitoring of demolition activities, the designated paleontologic specialist determines the likelihood of encountering fossil resources is slight, monitoring can be halted in that locality.
- b. A provision that if fossil resources are encountered during demolition activities, work in the immediate vicinity of the find shall be halted until the designated paleontologic specialist can determine the significance and sensitivity of the find. The designated paleontologic specialist shall act in accordance with the procedures set forth in the monitoring and mitigation plan which has been approved by the overseeing agency (California Energy Commission [CEC] or County of San Bernardino [County]) prior to the start of construction.
- c. The Project Owner, or its designated representative, shall inform the overseeing agency within one working day of the discovery of any potentially significant resources and discuss the specific measure(s) proposed to mitigate potential impacts to the resources.
- d. The designated paleontologic specialist, representatives of the Project Owner, and the overseeing agency shall meet within seven working days of the notification, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented.
- e. A provision that all vertebrate fossil remains will be collected and any invertebrate fossil remains will be sampled. All fossil materials found shall be mapped, prepared, identified, and removed for analysis and duration in the retrievable storage collection at the San Bernardino County Museum, California.

4.5 HAZARDOUS MATERIALS

This section presents an analysis of LORS compliance and potential environmental impacts related to hazardous materials that may result from the Project decommissioning.

Decommissioning activities may entail the handling, recycling, and disposal of hazardous materials. These materials are detailed in Tables 2.1 and 2.2 in Section 2.3. As discussed in Sections 2.3 and 3.2, the SEGS IX water evaporation ponds would be closed per the Lahontan RWQCB requirements. The ponds closure plan that will be submitted to RWQCB will include and address hazardous materials expected to be handled during pond closure. Any other operational chemicals listed as hazardous would be removed as part of the decommissioning activities. The Project Owner would recycle unused chemicals and gases where feasible. Equipment containing chemicals would be shut down to ensure public health and safety and to protect the environment. Adherence to the applicable hazardous material COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to hazardous materials would ensure that any impacts related to hazardous materials would be less than significant.

Table 4.5 lists the LORS applicable to hazardous materials.

Table 4.5: LORS Applicable to Hazardous Materials

LORS	Description	Comments
The Superfund Amendments and Reauthorization Act of 1986 (42 United States Code, Section 9601 et seq.)	Contains the Emergency Planning and Community Right to Know Act (also known as SARA Title III)	All materials on site during decommissioning are being handled and would be removed according to approved plans during decommissioning including any applicable SARA Title III requirements.
The Clean Air Act (CAA) of 1990 (CAA) (42 United States Code, Section 7401 et seq. as amended)	Established a nationwide emergency planning and response program and imposed reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials.	Decommissioning and demolition activities would comply with these requirements.
The Clean Air Act of 1990, Risk Management Plans (42 United States Code, Section 112(r))	Requires states to implement a comprehensive system informing local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of both SARA Title III and the CAA are reflected in California Health and Safety Code, Section 25531, et seq.	All materials located on site during decommissioning are being handled and would be removed according to approved plans during decommissioning. If hazardous air pollutants trigger Section 112 reporting requirements, the reporting shall be completed.
49 Code of Federal Regulations, Subpart 172.800	The U.S. Department of Transportation (DOT) requires that suppliers of hazardous materials prepare and implement security plans.	Decommissioning and demolition activities would comply with these requirements.
49 Code of Federal Regulations, Part 1572, Subparts A and B	Requires suppliers of hazardous materials to ensure that all their hazardous materials drivers are in compliance with personnel background security checks.	Decommissioning and demolition activities would comply with these requirements.
The Clean Water Act (CWA) (40 Code of Federal Regulations, Part 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written spill prevention, control, and countermeasures (SPCC) plan to be prepared for facilities that store oil that could leak into navigable waters.	Decommissioning and demolition activities would comply with these requirements.
State		
Title 8, California Code of Regulations, Section 5189	Requires facility owners to develop and implement effective safety management plans that ensure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the Risk Management Plan (RMP) process.	Decommissioning and demolition activities would comply with these requirements.

Table 4.5: LORS Applicable to Hazardous Materials

LORS	Description	Comments
California Health and Safety Code Sections 25500–25543; 19 California Code of Regulations, Sections 2720–2734	Directs facility owners, storing or handling acutely hazardous materials in reportable quantities, to develop an RMP and submit it to appropriate local authorities, the United States Environmental Protection Agency (USEPA), and the designated local Administering Agency for review and approval.	All materials on site during decommissioning are being handled and would be removed according to approved plans during decommissioning including the existing site plan, if applicable.
California Health and Safety Code, Section 41700	Requires that “No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”	Decommissioning and demolition activities would comply with these requirements.
Title 19, California Code of Regulations, Division 2, Chapter 4.5, Articles 1–11	Sets forth the list of regulated substances and thresholds, the requirements for owners and operators of stationary sources concerning the prevention of accidental releases, the accidental release prevention programs approved under Section 112 of the federal Clean Air Act (CAA) Amendments of 1990 and mandated under the California Accidental Release Prevention (CalARP) Program, and how the CalARP Program relates to the State’s Unified Program.	Decommissioning and demolition activities would comply with these requirements.
California Uniform Building Code	Requirements regarding the storage and handling of hazardous materials	All materials stored on site during decommissioning are being handled and would be removed according to approved plans during decommissioning.
Local		
The Certified Unified Program Authority (CUPA) with responsibility to review RMPs and Hazardous Materials Business Plans is the San Bernardino County Fire Department’s Hazardous Materials Division	Requires a Consolidated Hazardous Materials Permit. The County has compliance codes that correspond with California Health and Safety Code Sections 25185, 25508 and 25280 that require CUPAs to inspect facilities that handle hazardous materials and/or generate hazardous wastes.	All materials on site during decommissioning are being handled and would be removed according to approved plans during decommissioning. The existing site CUPA permits and plans would be adhered to.

LORS = laws, ordinances, regulations, and standards

4.5.1 Proposed Conditions of Certification

The following construction-related COC is proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

D-HAZ-1 The Project Owner shall update the Hazardous Materials Business Plan for decommissioning, as applicable, to reflect hazardous materials not previously used at the site.

4.6 LAND USE

This section presents an analysis of LORS compliance and potential impacts and benefits related to land use that may result from the Project decommissioning.

The Project property has a General Plan land use designation of RL, Rural Living, which is consistent with the Renewable Energy and Conservation Element (RECE) of the County of San Bernardino General Plan because the Project is an existing commercial solar energy facility. Additionally, decommissioning of an existing solar thermal power facility and redevelopment with a new solar PV facility within the existing solar site, with no expansion of the existing footprint, is also consistent with the RECE of the General Plan (see Appendix B).

Findings in the County's Planning Commission Staff Report state that redevelopment of the site for the Lockhart Solar PV Project is consistent with the goals, policies, and objectives of the County General Plan and the RECE. The Lockhart Solar PV Project specifically implements the following goals, policies, and objectives from the RECE adopted August 8, 2017 (amended February 2019):

Goal LU 1: The County will have a compatible and harmonious arrangement of land uses by providing a type and mix of functionally well-integrated land uses that are fiscally viable and meet general social and economic needs of the residents.

Consistency: The Project site is in the same location as the thermal solar facility on SEGS VIII and IX to be decommissioned and would utilize existing infrastructure to the greatest extent possible. The facility is adjacent (north) to the 1,750-acre Mojave Solar site. The Project is sufficiently separated from existing communities and rural residential areas such that adverse effects are avoided. The Project is not located within a quarter of a mile of any residential developments or single residences. The Project design includes setbacks from roads as well as fencing to shield the facility from public view. Decommissioning of the site would occur in compliance with County Development Code Section 84.29.060, which requires removal of site facilities when operations cease. The requirement for a removal surety bond will be included in the Conditions of Approval to be adopted for the Project.

Goal CO 8: The County will minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals.

Consistency: The Project is located on the site of an existing energy generation site. The Project would include a new solar photovoltaic (PV) facility and associated infrastructure necessary to generate up to a combined 160 MW alternating current (AC) of renewable

electrical energy and/or energy storage capacity on 1,073 acres. The use of clean air technologies on the Project site would ensure good air quality for the County residents, businesses, and visitors by way of safe energy extraction, uses, and systems.

RE Goal 5: Renewable energy facilities will be located in areas that meet County standards, local values, community needs and environmental and cultural resource protection priorities.

Consistency: The Project is located on the site of an existing energy generation site. The proposal is to convert from thermal solar generation to solar photovoltaic (PV) within the same footprint of the existing energy generation site in the unincorporated community of Hinkley. Considering features of the site design and the proximity to other solar generation facilities, the Project is appropriately sited and compatible with County standards, local values, community needs, and environmental and cultural resource protection priorities.

RE Objective 5.2: Utility-oriented Renewable Energy (RE) facilities will be subject to site selection criteria consistent with County priorities expressed in the RECE.

Consistency: The Project is located on the site of an existing energy generation site.

RE Policy 5.2(x): Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-type below, in addition to meeting criteria established in the RECE and Development Code: ... (x). Existing energy generation sites.

Consistency: The Project is located on the site of an existing energy generation site. The proposal is to convert from thermal solar generation to solar PV within the same footprint of the existing energy generation site in the unincorporated community of Hinkley. Considering features of the site design, the RECE, the Development Code, and the proximity to other solar generation facilities, the Project is appropriately sited and compatible with the surrounding area.

SEGS IX decommissioning activities would not result in a change to the land use associated with the Project site and is consistent with existing zoning and applicable land use plans, policies, and regulations and would not affect farmlands. Therefore, SEGS IX decommissioning would not result in impacts to land use.

Table 4.6 lists the LORS applicable to land use.

Table 4.6: LORS Applicable to Land Use

LORS	Description	Comments
Local		
County of San Bernardino General Plan, Amended 2014	The General Plan consists of a statement of development policies and must include a diagram and text setting forth the objectives, principles, standards, and proposals of the document. Per State of California Government Code Section 65300, a General Plan must include seven mandatory elements including Land Use, Circulation (Transportation), Housing, Conservation, Open Space, Noise, and Safety. The Land Use Element of the General Plan provides land use designations, goals, and policies for the development and conservation of land within San Bernardino County.	<p>The goals and policies of the Land Use, Conservation, Circulation and Infrastructure, Noise, Safety, and Economic Development Elements are applicable to the proposed decommissioning and demolition activities. However, these activities would not conflict with these elements.</p> <p>The Economic Development Element goals and policies do specify encouraging industrial/commercial development that would produce jobs. (Goal ED 1). Reuse/ replacement of the Project to solar photovoltaic (PV) is consistent with the plan's goal. Additionally, the future plan for the Project site to be redeveloped for solar PV is consistent with the Renewable Energy and Conservation Element (RECE) of the General Plan because the Project is an existing commercial solar thermal facility.</p>

LORS = laws, ordinances, regulations, and standards

4.6.1 Proposed Conditions of Certification

Decommissioning and demolition of the SEGS IX Project would comply with the County of San Bernardino's COAs, as outlined in the October 2019 Planning Commission Staff Report (Appendix B). No COCs related to land use are required; however, the following construction-related COC is proposed in accordance with the County condition of approval to obtain a demolition permit.

D-LU-1 The Project Owner will obtain a Demolition Permit from the County of San Bernardino prior to the start of demolition activities.

4.7 NOISE

This section presents an analysis of LORS compliance and potential environmental impacts related to noise that may result from Project decommissioning. There are no sensitive noise receptors within 1 mile of the Project site.

The following are the distances from the SEGS VIII and IX Project boundary to the nearest receptors:

- Distance to nearest residence is 1.6 miles
- Distance to nearest business/off-site worksite is 10.2 miles (multiple gas stations and restaurants at Kramer Junction)
- Distance to nearest airport is 14.1 miles (Baron Airstrip)

Some temporary noise increases would occur during demolition and decommissioning activities. Decommissioning activities will be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, in accordance with the County of San Bernardino Development Code standards. Additionally, construction equipment shall be muffled in accordance with manufacturers’ specifications. Given the temporary nature of decommissioning activities, and the distance to the nearest sensitive receptor, noise generated during decommissioning activities would not result in an increase above acceptable noise levels for residential areas. The Project would comply with occupational noise safety requirements and provide hearing protection to workers. Further, the Project would comply with the County of San Bernardino’s Conditions of Approval related to noise, as outlined in the October 2019 Planning Commission Staff Report (Appendix B), and with all applicable LORS for noise. Therefore, SEGS IX decommissioning activities would not cause a significant adverse noise impact and would be considered less than significant.

Table 4.7 lists the LORS applicable to noise.

Table 4.7: LORS Applicable to Noise

LORS	Description	Comments
Federal		
Occupational Safety and Health Act of 1970; 29 United States Code, Section 651 et seq. ; Title 29 Code of Federal Regulations, Section 1910.95	Regulates the worker noise exposure to 90 A-weighted decibels (dBA) over an 8-hour work shift. Areas above 85 dBA need to be posted as high noise level areas and hearing protection would be required.	Decommissioning and demolition activities would comply with these requirements.
State		
Title 8 California Code of Regulations, Section 5095 et seq.	Establishes California Occupational Safety and Health Administration (Cal/OSHA) employee noise exposure limits. These standards are equivalent to the Federal OSHA standards. Worker noise exposure is limited to 90 dBA over an 8-hour work shift. Areas where worker noise exposure exceeds 85 dBA must be posted as a noise hazard zone and a hearing conservation program is required.	Decommissioning and demolition activities would comply with these requirements.
Local		
San Bernardino County General Plan (2007) Noise Element; San Bernardino County Development Code (Amended 2019)	Defines the land noise levels that are normally acceptable in residential areas as between 45 and 55 dBA.	Decommissioning and demolition activities would comply with these requirements.

LORS = laws, ordinances, regulations, and standards

4.7.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

- D-NOISE-1** The Project will comply with occupational noise safety requirements and provide hearing protection to workers during decommissioning and demolition activities.
- D-NOISE-2** All construction equipment used for decommissioning and demolition shall be muffled in accordance with manufacturers’ specifications.
- D-NOISE-3** Decommissioning and demolition activities will be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday, in accordance with the County of San Bernardino Development Code standards.

4.8 PUBLIC HEALTH

This section presents an analysis of LORS compliance and potential environmental impacts and benefits related to public health that may result from Project decommissioning.

Decommissioning activities would result in short-term and localized air quality impacts from fugitive dust and diesel emissions of trucks and other equipment used during decommissioning activities. The Project would adhere to best management practices (BMPs) and mitigation measures to control fugitive dust emissions and maintain diesel equipment emissions as discussed in Section 4.1 to ensure that significant and adverse impacts do not occur to air quality due to SEGS IX decommissioning and demolition activities. Air quality and GHG-related benefits from decommissioning of the Project include less GHGs generated with the shutdown of the gas-fired heaters, and fewer air quality impacts with the shutdown of gas-fired backup heaters, exhaust towers, and cooling towers. Additionally, the Project Owner would ensure the safe handling and disposal of hazardous materials and adherence to worker safety and fire protection procedures and LORS during decommissioning, as described in Section 4.5 and Section 4.14.

Table 4.8 lists the LORS applicable to public health.

Table 4.8: LORS Applicable to Public Health

LORS	Description	Comments
Federal		
Title 29 United States Code Section 651 et seq. (Occupational Safety and Health Act of 1970)	This act mandates safety requirements in the workplace.	The Project Owner would comply with Worker Safety and Fire Protection Conditions of Certification (COCs). These conditions are consistent with Occupational Safety and Health Act (OSHA) requirements.
Title 40, Code of Federal Regulations, part 50 (National Primary and Secondary Ambient Air Quality Standards)	Part 50 establishes the National Ambient Air Quality Standards (NAAQS). NAAQS define levels of air quality that are necessary to protect public health.	The Public Health and Air Quality COCs would require the Project Owner to follow strategies to reduce emissions from decommissioning and demolition activities. With the adherence to these emission control strategies, the decommissioning and demolition activities are not expected to significantly impact the MDAB NAAQS attainment status.

Table 4.8: LORS Applicable to Public Health

LORS	Description	Comments
Title 40, Code of Federal Regulations, Part 51 (Requirements for Preparation Adoption and Submittal of Implementation Plans)	Requires emission reporting and control strategies for the attainment and maintenance of national standards.	The Project Owner would comply with all Public Health and Air Quality LORS including the Mojave Desert Air Quality Management District (MDAQMD) rules and regulations.
Title 40, Code of Federal Regulations, Part 61 (National Emission Standards for Hazardous Air Pollutants)	Part 61 establishes national emission standards for hazardous air pollutants. Subpart M establishes requirements for demolition and renovation activities.	MDAQMD Rule 1000 incorporates Subpart M by reference. Proposed COC D-PH-1 would require the Project Owner to comply with the MDAQMD asbestos program. The MDAQMD asbestos program is consistent with Subpart M requirements.
State		
Health & Safety Code, Sections 40910–40930 (District Plans to Attain State Ambient Air Quality Standards)	State Ambient Air Quality Standards(CAAQS) should be achieved and maintained.	The Public Health and Air Quality COCs would require the Project Owner to follow strategies to reduce emissions from decommissioning and demolition activities. With the adherence to these emission control strategies, the decommissioning and demolition activities are not expected to significantly impact the Mojave Desert Air Basin (MDAB) CAAQS attainment status.
Health and Safety Code, Sections 41700–41701 (General Limitations)	Establishes nuisance and visible emission requirements. Prohibits discharge of such quantities of air contaminants that cause injury, detriment, nuisance, or annoyance.	The Public Health and Air Quality COCs would require measures that would reduce the potential for nuisance or visible emissions from decommissioning and demolition activities.
Title 13, California Code of Regulations, Section 2449 (General Requirements for In-Use Off-Road Diesel Fueled Fleets)	Imposes idling limits of five minutes, requires a plan for emission reductions for medium to large fleets, requires all vehicle with engines greater than 25 horsepower to be reported to the California Air Resources Board (CARB) and labeled, and restricts adding older vehicles into fleets.	The Public Health and Air Quality COCs would require strategies to reduce emissions from decommissioning and demolition activities. With the adherence to these emission control strategies, the decommissioning and demolition activities are not expected to significantly impact the MDAB CAAQS attainment status.
Local		
County of San Bernardino Development Code	Implements the goals and policies of the General Plan by regulating land uses within the unincorporated areas of the County. Includes provisions for the reduction of diesel emissions and fugitive dust control.	The Project Owner would be required to comply with the proposed COCs for diesel emissions and fugitive dust control. The proposed COCs are consistent with the County of San Bernardino Development Code requirements.
Mojave Desert Air Quality Management District Regulation IV – Prohibitions Rule 403 (Fugitive Dust)	Establishes requirements to minimize fugitive dust. Requires every reasonable precaution to minimize fugitive dust emissions from activities and prohibits visible dust beyond the emission source’s property line.	The Public Health and Air Quality COCs would require the Project Owner to follow strategies to minimize fugitive dust consistent with the MDAQMD requirements.

Table 4.8: LORS Applicable to Public Health

LORS	Description	Comments
Mojave Desert Air Quality Management District Regulation IV – Prohibitions Rule 403.2 (Fugitive Dust Control for the Mojave Desert Planning Area)	Establishes requirements for demolition activity to implement specific control measures to ensure the national ambient air quality standards for particulate matter less than 10 microns in size (PM ₁₀) will not be exceeded.	The Public Health and Air Quality COCs would require the Project Owner to follow strategies to minimize fugitive dust consistent with the MDAQMD requirements.
Mojave Desert Air Quality Management District Regulation X– Emission Standards for Additional Specific Air Contaminants Rule 1000 (National Emission Standards for Hazardous Air Pollutants)	Incorporates by reference all the applicable provisions regarding National Emission Standards for Hazardous Air Pollutants in Title 40, Code of Federal Regulations, Part 61.	MDAQMD Rule 1000 incorporates Subpart M by reference. Proposed COCs D-PH-1 would require the Project Owner to comply with the MDAQMD asbestos program. The MDAQMD asbestos program is consistent with Subpart M requirements.

LORS = laws, ordinances, regulations, and standards

4.8.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS related to public health. Additionally, see Air Quality, Section 4.1.1; Hazardous Materials, Section 4.5.1; and Worker Safety and Fire Protection, Section 4.14.1, for COCs that are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS related to public health.

D-PH-1 The Project Owner shall ensure all required asbestos related notification and removal testing is performed prior to demolition. The Project Owner shall comply with all Mojave Desert Air Quality Management District (MDAQMD) Rule 1000 asbestos requirements. The Project Owner shall include a statement of compliance with all asbestos related activities in the monthly compliance report.

Verification: The Project Owner shall submit the monthly compliance report (MCR) to the Compliance Program Manager (CPM) within 30 days of the end of each month.

D-PH-2 The Project Owner shall comply with the County of San Bernardino Development Code control measures for diesel exhaust emissions. The Project Owner shall include a statement of compliance in the monthly compliance report.

Verification: The Project Owner shall submit the MCR to the CPM within 30 days of the end of each month.

4.9 SOCIOECONOMICS

This section presents an analysis of LORS compliance and potential environmental impacts related to socioeconomics that may result from Project decommissioning.

SEGS IX decommissioning would require construction contractors and labor at the Project site. At its peak, the Project would require approximately 60 workers for a 6 to 8 month period. This short time period would not result in impacts to utilities and public services, schools, or housing needs. The Project site is near the unincorporated community of Lockhart in San Bernardino County. San Bernardino County has a population of 2,181,654.² Available skilled labor to support the decommissioning workforce positions should be available within the County. Therefore, the Project would not place an undue burden on the local workforce and impacts to socioeconomics would be considered less than significant.

Table 4.9 lists the LORS applicable to socioeconomics:

Table 4.9: LORS Applicable to Socioeconomics

LORS	Description	Comments
There are no socioeconomic LORS directly applicable to decommissioning and demolition.		

LORS = laws, ordinances, regulations, and standards

4.9.1 Proposed Conditions of Certification

No significant impacts to socioeconomics have been identified. Therefore, no COCs are warranted or proposed.

4.10 SOIL AND WATER RESOURCES

This section presents an analysis of LORS compliance and potential environmental impacts related to soil and water resources that may result from Project decommissioning.

Decommissioning activities at the Project site would have a minimal effect on soil and water resources. Decommissioning would take place within the existing Project footprint, which is primarily improved, highly compacted native road base. No sensitive water or soil resources exist on site.

There would be less water usage and wastewater generated with decommissioning of the SEGS IX Project as the steam turbine generators would be shut down and removed. Existing water wells would continue to be utilized for non-potable water during decommissioning, while potable water would continue to be delivered via contract with Sparkletts or a similar provider. The existing Onsite Water Treatment System would be decommissioned with the cessation of SEGS IX operation.

The SEGS VIII and IX evaporation ponds would be closed as part of SEGS IX decommissioning activities in accordance with Lahontan RWQCB regulations. A SEGS VIII and IX Evaporation Ponds Closure Plan, prepared and submitted to Lahontan RWQCB on May 29, 1992 (Appendix F), would be updated as needed per the RWQCB’s most current standards. The closure plan currently assumes that all solid waste (e.g., salts, sands, HDPE liners, polyvinyl chloride leak detection drains, and Geonet Geotextile) from two of the ponds would be moved to the third pond. The two ponds that

² According to 2020 United States Census Bureau population estimates. Website: <https://www.census.gov/quickfacts/fact/table/sanbernardinocountycalifornia,CA/PST045218> (accessed February 2022).

have been emptied would then be “clean” closed. The third pond would be sealed/capped as a landfill. Long-term monitoring would be conducted for the closed landfill pond per Lahontan RWQCB requirements.

The Project Owner would implement the existing SPCC Plan, SWPPP and National Pollutant Discharge Elimination System (NPDES) for decommissioning and demolition to mitigate potential water resource impacts during demolition activities. The SWPPP includes BMPs to minimize soil impacts due to wind or water erosion. These BMPs include applying water to active excavations and disturbed soils, reducing vehicle speeds on site, and covering/treating soil piles. Implementation of the SWPPP and NPDES would minimize soil and water resource impacts.

Decommissioning and demolition of the SEGS IX Project would comply with the applicable County of San Bernardino Conditions of Approval related to soil and water resources, as outlined in the October 2019 Planning Commission Staff Report (Appendix B), and with all applicable LORS for soil and water resources. Therefore, SEGS IX decommissioning activities would have a less than significant impact on soil and water resources.

Table 4.10 lists the LORS applicable to soil and water resources.

Table 4.10: LORS Applicable to Soil and Water Resources

LORS	Description	Comments
Federal		
Clean Water Act (33 United States Code, Section 1251 et seq.)	Requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water.	Compliance would be managed through use of the existing Stormwater Pollution Prevention Plan (SWPPP) and compliance with the RWQCB-approved Ponds Closure Plan requirements.
State		
Porter-Cologne Water Quality Control Act of 1967, California Water Code, Section 13000 et seq.	Requires the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) to adopt water quality criteria to protect State waters.	Compliance would be managed through use of the existing SWPPP, National Pollutant Discharge Elimination System (NPDES) Permit, and compliance with the RWQCB- approved Ponds Closure Plan requirements.
State Water Resources Control Board General Permit CAS000002.	The SWRCB regulates storm water discharges associated with construction projects affecting areas greater than or equal to 1 acre to protect state waters. Under General Permit CAS000002, the SWRCB has issued a NPDES General Permit for storm water discharges associated with construction activity. Projects can qualify under this permit if specific criteria are met and an acceptable Storm Water Pollution Prevention Plan (SWPPP) is prepared and implemented after notifying the SWRCB with a Notice of Intent.	Compliance would be managed through use of the existing SWPPP, NPDES Permit, and compliance with the RWQCB-approved Ponds Closure Plan requirements.

Table 4.10: LORS Applicable to Soil and Water Resources

LORS	Description	Comments
California Water Code, Sections 13240, 13241, 13242, and 13243, and the Water Quality Control Plan for the Lahontan Region (Basin Plan)	The Basin Plan establishes water quality objectives that protect the beneficial uses of surface water and groundwater in the region. The Basin Plan describes implementation plans and other control measures designed to ensure compliance with statewide plans and policies and provides comprehensive water quality planning. The following chapters are applicable to determining appropriate control measures and cleanup levels to protect beneficial uses and to meet the water quality objectives: Chapter 2, Present and Potential Beneficial Uses; Chapter 3, Water Quality Objectives, and the following sections of Chapter 4, Implementation, entitled "Requirements for Site Investigation and Remediation," "Cleanup Levels," "Risk Assessment," "Stormwater Problems and Control Measures," Erosion and Sedimentation," "Solid and Liquid Waste Disposal to Land," and "Groundwater Protection and Management."	Before decommissioning and closure are finalized, the Project Owner shall prepare a map showing any buried utility lines and piping.
California Water Code, Section 13551	Prohibits the use of "...water from any source of quality suitable for potable domestic use for non-potable uses, including...industrial... uses, if suitable recycled water is available..."	Recycled water is not available for use at the site. Water for dust control would be obtained from the on-site water wells.
The Safe Drinking Water and Toxic Enforcement Act of 1986, Health and Safety Code, Section 25249.5 et seq.	Prohibits the discharge or release of chemicals known to cause cancer or reproductive toxicity into drinking water sources.	Compliance would be managed through the use of the existing SWPPP, NPDES Permit, and compliance with the RWQCB- approved Ponds Closure Plan requirements.
State Water Resources Control Board Resolution No. 68-16 (the "Anti-Degradation Policy")	Declares the State's policy that, among other things, the discharging of wastes would not pollute or result in a nuisance.	Compliance would be managed through the use of the existing SWPPP, NPDES Permit, and compliance with the RWQCB- approved Ponds Closure Plan requirements.
Local		
County of San Bernardino, 2007, San Bernardino County Development Code, 87.02.070	Specifies criteria for Grading and Erosion Control and for design of storm water facilities; assesses a Flood Mitigation Fee to assist in providing revenue for establishing adequate community drainage facilities.	A grading permit is not required for decommissioning and demolition activities. Contractor to obtain a demolition permit. Compliance would be managed through the demolition permit and the use of the existing SWPPP, NPDES Permit, and compliance with the RWQCB approved Ponds Closure Plan requirements.

Table 4.10: LORS Applicable to Soil and Water Resources

LORS	Description	Comments
San Bernardino County Development Code, Section 82.13.080, Soil Erosion and Sediment Control Plans/Permits	Establishes regulations and procedures to control human existing and potential induced accelerated erosion. Elements of this ordinance include project planning, preparation of Soil Erosion and Sediment Control Plans, runoff control, land clearing, and winter operations.	Compliance would be managed through the use of the existing SWPPP and NPDES Permit. Erosion control BMPs identified in the operational SWPPP will be implemented for demolition.
Mojave Water Agency Regulations, Section 97-15	Requires a service agreement for providing a host of water and wastewater services to the Project.	Not applicable since public water and wastewater services are not available for the site. Potable water is obtained from on-site water production wells and wastewater goes to the Project septic system.
Mojave Desert Air Quality Management District Rule 403	Specifies requirements for dust control.	Water for dust control would be obtained from the on-site water wells.

LORS = laws, ordinances, regulations, and standards

4.10.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

D-S&W-1 The Project Owner shall implement the Project’s existing National Pollutant Discharge Elimination System (NPDES) Permit for decommissioning and demolition to mitigate potential water resource impacts during demolition activities.

D-S&W-2 The Project Owner shall implement the existing Stormwater Pollution Prevention Plan (SWPPP) for decommissioning and demolition of the Project. The SWPPP identifies erosion control measures to be implemented and maintained during decommissioning and demolition activities.

D-S&W-3 Any underground utility lines and piping that will be abandoned in place shall be cut, grouted, and capped at or below the ground surface. A map of all buried utility lines and piping that are proposed to be abandoned in place shall be prepared and submitted before decommissioning and closure are finalized.

Verification: Before decommissioning and closure are finalized, the Project Owner shall prepare a map showing any and all buried utility lines and piping and submit it to the compliance project manager (CPM) for approval.

D-S&W-4 Prior to closure of the evaporation ponds, the Project Owner shall update the 1992 Evaporation Ponds Closure Plan, as needed, per Lahontan RWQCB’s current standards and submit to the Lahontan RWQCB for review. A copy of the final version of the revised plan shall be provided to CEC.

4.11 TRAFFIC AND TRANSPORTATION

This section presents an analysis of LORS compliance and potential environmental impacts related to traffic and transportation that may result from Project decommissioning. The temporary nature and limited number of vehicles associated with decommissioning and demolition activities would have little impact on existing traffic and transportation within the Project area.

Decommissioning and demolition work is anticipated to require approximately 15 to 20 environmental specialists and 40 to 50 on-site workers. Truck traffic would generally consist of flatbed and lowboy delivery trucks (5-axle) for mobilization and demobilization, and heavy haul trucks (4-axle) for hauling materials off site.

Table 4.11.1 below, provides the anticipated number of truck hauls for materials that would be hauled off-site and the anticipated number of hauls per day during decommissioning activities.

Table 4.11.1: Truck Haul Trips for Off-Site Hauling during Decommissioning

Materials to be Hauled Off-Site during Decommissioning	Quantity of Material	Number of Truck Haul Trips during Decommissioning	Number of Haul Trips Per Day
Contaminated Concrete	32 tons	2	2
Glass	6,250 tons	313	5
Other non-recyclable waste	4,000 tons	286	5
Metal	7,500 tons	341	4
HTF Material	320,000 gallons	28	5
Number of Haul Trips Per Day			21

HTF = heat transfer fluid

Decommissioning and demolition-related vehicle ingress/egress would be scheduled to minimize traffic obstructions and would not interfere with peak-hour traffic. Also, a flag person shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.

Additionally, as specified in the County of San Bernardino’s COAs item number 56 (see Appendix B), a Construction Management Plan is required prior to construction of the Lockhart Solar PV facility, which would ensure that all public roadways utilized during construction would be maintained. The COA specifies the following:

“The applicant’s engineer shall provide a construction management plan to the Department of Public Works, Transportation Operations Division to determine if a maintenance agreement (during construction) with the County will be required. The construction management plan shall show the number of trucks, type of trucks (size), the total number of Equivalent Single Axle Loads (ESALs), and the truck routes to the site for construction. If it is determined that a maintenance agreement is required, the developer shall enter into a maintenance agreement with the County Department of Public Works to insure all County maintained roads utilized by the construction traffic shall remain in acceptable condition during construction. Prior to issuance of grading permits, the developer/contractor shall contact the

Transportation Operations Division at (909) 387-7995 in order to process the maintenance agreement with the County. Please allow a minimum of 12 weeks for the processing of an agreement and obtain approval from the Board of Supervisors.”

A Construction Management Plan would be prepared and submitted to the County for approval prior to the start of decommissioning activities.

The Project would continue to comply with applicable traffic and transportation COCs and all applicable LORS during decommissioning and demolition activities. A demolition permit would be secured from the County of San Bernardino and the contractor would be required to comply with all county demolition, disposal and recycling requirements and regulations. Further, the Project Owner would ensure that permits and/or licenses are secured from the California Highway Patrol and the California Department of Transportation (Caltrans) for construction-related transport of hazardous materials, and that federal and state regulations for the transport of hazardous materials are observed. Therefore, there would be no significant impacts to traffic and transportation.

Table 4.11.2 lists the LORS applicable to traffic and transportation.

Table 4.11.2: LORS Applicable to Traffic and Transportation

LORS	Description	Comments
Federal		
49 Code of Federal Regulations, Chapter III, Subchapter B, Sections 350–399, Motor Carrier Safety, Registration, and Transportation of Hazardous Materials	Establishes regulations affecting interstate motor carrier operations, routing registrations, insurance of vehicles and operational safety; describes transportation standards for radioactive and hazardous materials.	Decommissioning and demolition activities would comply with these requirements through implementation of proposed Condition of Certification (COC) D-TRAFFIC-2 during decommissioning, and County Condition of Approval (COA) F94 during demolition activities.
State		
California Vehicle Code, Division 15, Size, Weight, and Load, Sections 35000–35796	Provides requirements as to the size and licensing of vehicles on public highways.	Vehicles associated with decommissioning and demolition activities would meet these requirements or obtain the required permits to exceed the requirements.
California Streets and Highway Code	Provides regulation pertaining to the modification of street infrastructure.	Because decommissioning and demolition activities do not propose to remove, replace, or modify any facility within road rights-of-way, these requirements are not applicable.
Local		
San Bernardino County Congestion Management Plan	Industrial and warehouse truck uses must show the estimated number and distribution of truck trips (in Passenger Car Equivalents) for both peak hours and hours being studied.	A Traffic Impact Assessment is required if a project is forecasted to generate 250 two-way peak-hour trips. Current traffic volume projections associated with decommissioning and demolition activities are not anticipated to require the preparation of a Traffic Impact Assessment. However, activities would maintain compliance with the Congestion Management Plan objectives and policies.

Table 4.11.2: LORS Applicable to Traffic and Transportation

LORS	Description	Comments
San Bernardino County General Plan, Threshold Standards Policy	The County’s Threshold Standards Policy requires that Level of Service (LOS) D or better be maintained on intersections under the County’s jurisdiction.	A Construction Management Plan has been completed, and it is not anticipated that level of service at any intersections under the County’s jurisdiction would fall below LOS D as a result of the decommissioning and demolition activity.
County Code, Title 5, Division 1, Highway Permit	Addresses permitting requirements for oversize/overweight vehicles.	All necessary permits for oversize/overweight vehicles would be obtained.

LORS = laws, ordinances, regulations, and standards

4.11.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

TRAFFIC-1 The Project Owner shall comply with the San Bernardino County and Caltrans restrictions on oversize or overweight limit vehicles. The Project Owner shall obtain necessary transportation permits from the County and Caltrans. The Project Owner shall maintain copies of these permits in its compliance file for a period of six months after the start of commercial operations.

Verification: In its MCRs, the Project Owner shall notify the CEC CPM of any transportation permits obtained during the reporting period.

TRAFFIC-2 The Project Owner shall comply with San Bernardino County and Caltrans requirements for encroachment on a public right-of-way. The Project Owner shall obtain necessary encroachment permits from the County and Caltrans. The Project Owner shall maintain copies of these permits in its compliance file for a period of six months after the start of commercial operations.

Verification: In its MCRs, the Project Owner shall notify the CEC CPM of any encroachment permits obtained during the reporting period.

TRAFFIC-3 The Project Owner shall not start any construction on each of the SEGS Unit IX and X projects prior to receiving CEC CPM approval of their Transportation System Management (TSM) plan, which will be based on its TSM program originally submitted for SEGS Unit VIII. The SEGS Unit IX TSM plan will describe specific implementation of the TSM program and shall include:

Verification: In its MCRs, the Project Owner shall notify the CEC CPM of the ongoing results of the TSM program, and of any additional measures needed to more effectively implement the TSM program.

D-TRAFFIC-1 The Project Owner shall provide a Construction Management Plan to the County of San Bernardino prior to the start of decommissioning activities.

D-TRAFFIC-2 The Project Owner shall utilize only licensed haulers, using approved vehicles marked in an appropriate manner, for the transportation of all hazardous, toxic, and flammable materials. All such materials shall be transported in compliance with all applicable requirements of the U.S. Department of Transportation, the California Highway Patrol, and the California Department of Transportation (Caltrans).

4.12 VISUAL RESOURCES

This section presents an analysis of LORS compliance and potential environmental impacts and benefits related to visual resources that may result from Project decommissioning.

The existing mirrors that occupy the majority of the site are approximately 22 feet high, and the tallest existing structure in the area of the power block is 88 feet high. Decommissioning of SEGS IX would remove the power block and cooling tower (and associated plume). The site would be redeveloped with the Lockhart Solar PV Project, which includes installation of PV panels (approximately 12 feet in height) that are substantially shorter than existing SEGS IX facilities and, therefore, would be less visible than existing features within the visual landscape. SEGS IX is adjacent to other existing solar facilities, and the future redevelopment of the SEGS IX site to solar PV is compatible with the overall character of the area.

Decommissioning and demolition activities would be temporary and would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the Project area. Decommissioning and demolition activities would not take place during nighttime hours; however, some nighttime lighting with existing facility lights would be used for the purposes of maintaining site security. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

Further, the nearest residential parcel is more than 1 mile away from the Project site, and the Project is not within a sensitive viewshed. Therefore, decommissioning activities would not have a significant impact to visual resources.

Table 4.12 lists the LORS applicable to visual resources.

Table 4.12: LORS Applicable to Visual Resources

LORS	Description	Comments
San Bernardino County Zoning Ordinance 83.07	Ordinance implements the light pollution policies of the San Bernardino County General Plan.	Decommissioning and demolition activities would not take place during nighttime hours. Some night-time lighting with existing facility lights would be used for the purposes of maintaining site security. Lighting shall be shielded in compliance with the ordinance in order to preclude light pollution or light trespass onto adjacent property and roadways.

LORS = laws, ordinances, regulations, and standards

4.12.1 Proposed Conditions of Certification

The Commission Decision for the Project does not contain Visual Resources COCs that would be applicable during decommissioning. SEGS IX decommissioning would conform with all applicable LORS, and no additional COCs are necessary or proposed.

4.13 WASTE MANAGEMENT

This section presents an analysis of LORS compliance and potential environmental impacts and benefits related to waste management that may result from Project decommissioning.

After cessation of operations, all remaining non-hazardous wastes would be collected and disposed of in appropriate recycling centers, landfills or waste collection facilities according to all applicable LORS. Hazardous wastes would be disposed of according to all applicable LORS. Upon closure of the facility and completion of decommissioning activities, there would be less waste. There would be less wastewater generated with shutdown of the steam turbine generator, less hazardous waste generated with no HTF needed for solar PV technology, and less potential of spills of hazardous materials due to the absence of HTF.

Decommissioning would entail breakdown and removal of structures and facilities. Residual materials from these activities would be transported via heavy haul dump truck to the appropriate landfill identified. Debris would be placed in temporary on-site storage area(s) pending transportation to the recycling/disposal facilities. The debris and removed equipment would be cut or dismantled into pieces that could be safely lifted or carried with the on-site equipment being used. The vast majority of glass and steel would be processed for transportation and delivery to a scrap vendor or may be transported to the appropriate landfill and/or recycling center. Some specific equipment such as gas-fired heaters, cooling towers and power block equipment may be transported as intact components or reduced in size on site.

San Bernardino County owned and operated sanitary landfills, and transfer stations are not permitted to accept asbestos-contaminated wastes; therefore, any debris generated by the demolition of structures are subject to asbestos clearance prior to disposal at any San Bernardino County disposal sites. Applicants are required to have a Certified Asbestos Consultant perform testing of all materials to be disposed. The Solid Waste Management Operations Section would provide the applicant with disposal authorization upon receipt of the report indicating that the debris is not contaminated. The Project Owner would comply with the County requirement to perform asbestos testing of demolition debris prior to disposal.

Hazardous materials containers would be rinsed clean when feasible and collected for off-site disposal. When possible, these materials would be placed directly into tanker trucks or other transport vessels and removed from the site at the point of generation to minimize the need for hazardous material and waste storage at the site.

Adherence to the applicable waste management COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to waste management would ensure that impacts would be less than significant.

Table 4.13 lists the LORS applicable to waste management.

Table 4.13: LORS Applicable to Waste Management

LORS	Description	Comments
Federal		
Title 42, United States Code, Section 6901, et seq. Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al.)	The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al., establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions, and responsibilities, as well as research, training, and grant funding provisions.	All hazardous and non-hazardous wastes generated would be removed according to approved plans and appropriately documented.
Resource Conservation and Recovery Act (42 United States Code, Section 6922)	Establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal.	All hazardous wastes generated would be removed according to approved plans and appropriately documented. Hazardous wastes generated during demolition may potentially include waste fuel, lubricants, oil, and sorbent media.
Title 40, Code of Federal Regulations, Parts 239–282	These sections contain regulations promulgated by the United States Environmental Protection Agency (USEPA) to implement the requirements of the RCRA.	All hazardous wastes generated would be removed according to approved plans and appropriately documented. Hazardous wastes generated during demolition may potentially include waste fuel, lubricants, oil, and sorbent media.
Comprehensive Environmental Response, Compensation and Liability Act: (Superfund) Title 42, USC, Section 9601, et seq.	Establishes mechanisms for the cleanup of accidental spills or releases of pollutants into the environment.	The facility Spill Prevention, Control and Countermeasures (SPCC) Plan outlines spill response and reporting procedures to be followed during decommissioning. Additionally, Waste Management Condition of Certification (COC) 9 discusses accidental spills or releases of heat transfer fluid (HTF); adherence to this COC would assure compliance with this act.
State		
California Health and Safety Code, Section 25100 et seq. (Hazardous Waste Control Act of 1972, as amended)	Creates the framework under which hazardous wastes must be managed in California.	All hazardous wastes generated would be removed according to approved plans and appropriately documented. Hazardous wastes generated during demolition may potentially include waste fuel, lubricants, oil, and sorbent media.

Table 4.13: LORS Applicable to Waste Management

LORS	Description	Comments
Title 22, California Code of Regulations, Division 4.5. Environmental Health Standards for the Management of Hazardous Waste	These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. The Title 22 regulations are established and enforced at the State level by the Department of Toxic Substances Control (DTSC). Some generator and waste treatment standards are also enforced at the local level by Certified Unified Program Agencies (CUPAs).	All hazardous wastes generated would be removed according to approved plans and appropriately documented.
Title 22, California Code of Regulations, Section 66260.20(f), Chapter 10, Article 3, Classification of a Waste as Hazardous or Nonhazardous	If a person wishes to classify and manage as non-hazardous a waste which would otherwise be a non-RCRA hazardous waste because it has mitigating physical or chemical characteristics which render it insignificant as a hazard to human health and safety, livestock and wildlife, that person shall apply to the DTSC for its approval to classify and manage the waste as non-hazardous.	All hazardous and non-hazardous wastes generated would be removed according to approved plans and appropriately documented.
Title 22, California Code of Regulations, Section 66262.10 et seq. (Generator Standards)	Establishes requirements for generators of hazardous waste.	All hazardous wastes generated would be removed according to approved plans and appropriately documented. Hazardous wastes generated during demolition may potentially include waste fuel, lubricants, oil, and sorbent media.
Title 22, California Code of Regulations, Section 67100.1 et seq. (Hazardous Waste Source Reduction and Management Review)	Establishes reporting requirements for generators of certain hazardous and extremely hazardous wastes in excess of specified limits.	The requirements of this section apply to routinely generated wastes from ongoing processes or operations. If extremely hazardous waste is generated in excess of limits specified in this code section during decommissioning, this regulation would be applicable and all proper reporting would occur.
Title 24, California Code of Regulations, Part 11, Section 5.408 (California Green Building Standards Code)	Establishes standards for construction and demolition waste management and recycling or salvage of a minimum of 65% of non-hazardous construction and demolition waste.	SEGS expects to sell or recycle much of the Project's equipment and waste, satisfying the 65% diversion requirements.

Table 4.13: LORS Applicable to Waste Management

LORS	Description	Comments
Local		
San Bernardino County Fire Department, Hazardous Materials Division	Administers the California laws for hazardous wastes in the proposed Project area. This agency has been designated as the local hazardous waste CUPA by the State of California.	All hazardous wastes generated would be removed according to approved plans and appropriately documented. Hazardous wastes generated during demolition may potentially include waste fuel, lubricants, oil, and sorbent media.

LORS = laws, ordinances, regulations, and standards
 SEGS = Solar Energy Generating System

4.13.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

- D-WM-1** Hazardous decommissioning and demolition waste from SEGS IX shall be disposed of by the Project Owner or its contractors at a Class I or Class II disposal facility or to a permitted treatment, storage, and disposal facility (TSDF) authorized to treat specified waste streams.
- D-WM-2** Non-hazardous decommissioning and demolition wastes from SEGS IX shall be disposed of by the Project Owner or its contractors at the Barstow Landfill or at facilities approved by the County of San Bernardino, or other appropriate agencies in counties where alternate disposal facilities may be located. The Project Owner shall obtain, or use contractors who have obtained, all applicable County permits for refuse collection and hauling.
- D-WM-3** The Project Owner, or its contractor, shall update (if necessary) and utilize the solid waste management plan, which addresses the disposition of solid non-hazardous wastes from the SEGS facilities. The plan identifies all approved landfill sites in the region which the Project may use for solid waste disposal and describes the amount of waste to be sent to each facility. The plan also identifies non-hazardous demolition waste materials to be diverted from disposal by salvage, sale, recycling, or other form of disposal diversion.

4.14 WORKER SAFETY AND FIRE PROTECTION

This section presents an analysis of LORS compliance and potential environmental impacts related to worker safety and fire protection that may result from Project decommissioning.

The Project is under the jurisdiction of the San Bernardino County Fire Department (SBCFD). Prior to any decommissioning-related construction occurring on site, the Project Owner shall contact the SBCFD for verification of current fire protection requirements. Decommissioning activities shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes,

ordinances, and standards of the SBCFD. Per applicable COCs, the Fire Protection Element of the Project Safety Plan would be followed during decommissioning. The plan would be updated, if necessary, to conform with current Uniform Fire Code requirements and submitted to the SBCFD.

All workers would undergo proper worker safety training consistent with the CEC license requirements. The Project Owner would ensure that the decommissioning contractor shall comply with federal, State, and local worker health and safety regulations.

Adherence to the applicable Safety COCs for the Project through termination of CEC jurisdiction of the Project and compliance with the LORS applicable to worker safety and fire protection would ensure that impacts would be less than significant.

Table 4.14 lists the LORS applicable to worker safety and fire protection.

Table 4.14: LORS Applicable to Worker Safety and Fire Protection

LORS	Description	Comments
Federal		
Federal Occupational Safety and Health Act of 1970, Title 29 of the United States Code, Sections 651 through 678 and implementing regulations, Title 29 of the Code of Federal Regulations, General Industry Standards, Sections 1910.1–1910.1500	Mandates safety requirements in the workplace.	All applicable worker safety regulations would be followed during decommissioning.
Title 29 Code of Federal Regulations, Sections 1910.1–1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations)	These sections define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector.	All applicable worker safety regulations would be followed during decommissioning.
Department of Labor, Safety and Health Regulations for Construction Promulgated Under Section 333 of the contract Work Hours and Safety Standards Act, 40 United States Code 327 et seq. and 29 Code of Federal Regulations, Section 1926	Requires meeting employee health and safety standards for construction activities.	All applicable worker health and safety regulations would be followed during decommissioning.
State and Local		
California Occupational Safety and Health Act, 1973	Establishes minimum safety and health standards for construction activities and industrial facilities in California.	These sections provide federal approval of California’s plan for enforcement of its own safety and health requirements in lieu of most of the federal requirements found in 29 Code of Federal Regulations Sections 1910.1–1910.1500.

Table 4.14: LORS Applicable to Worker Safety and Fire Protection

LORS	Description	Comments
California Building Code Title 24, California Code of Regulations (24 California Code of Regulations, Section 3, et seq.)	Consists of 11 parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the Project. Local planning/building and safety departments enforce the California Building Code.	All applicable regulations would be followed during decommissioning.
California Fire Code, Part 9 of Title 24 of the California Code of Regulations	The California Fire Code contains general provisions for fire safety.	All applicable requirements would be followed during decommissioning.
Uniform Fire Code (UFC) Standards, a companion publication to the California Fire Code	Contains standards of the American Society for Testing and Materials (ASTM) and the National Fire Protection Act (NFPA). The San Bernardino County Fire Department administers the UFC.	All applicable requirements would be followed during decommissioning.
Industry Codes and Standards		
San Bernardino County General Plan (2007) Safety Element	Goal S3 of the Safety Element of the San Bernardino County General Plan reads “The County will protect its residents and visitors from injury and loss of life and protect property from fires”. The Plan establishes policies and describes programs intended to accomplish this goal.	All applicable safety and fire requirements would be followed during decommissioning activities.
ANSI A10.6-1990	Safety requirements for demolition operations.	All applicable requirements would be followed during decommissioning activities.

LORS = laws, ordinances, regulations, and standards

4.14.1 Proposed Conditions of Certification

The following construction-related COCs are proposed to be implemented during decommissioning and demolition to ensure that activities conform with applicable LORS.

D-WS-1 The Project Owner, or its demolition contractor, shall prepare or update the existing Health and Safety Plan elements (including the fire protection element) to reflect the activities expected during decommissioning and demolition.

Verification: At least thirty (30) days prior to the start of decommissioning, the Project Owner shall submit to the CPM for review and approval a copy of the Project’s Health and Safety Program, the Demolition Emergency Action Plan, and the Demolition Fire Prevention Plan to the County of San Bernardino [Building and Safety Department and County Fire Department (SBCFD), if necessary] for review and comment. The Project Owner shall provide a letter with the County’s comments

on the Demolition Health and Safety Program, the Demolition Emergency Action Plan, and the Demolition Fire Prevention Plan to the CPM.

D-WS-2 The Project Owner shall ensure that all SEGS IX employees, contractors, and visitors that will be on-site during decommissioning and demolition receive safety training.

Verification: In the monthly compliance report (MCR) to the CPM, the Project Owner shall provide copies of the training class sign-in sheets indicating the employees who were provided safety training during the month.

4.15 ALTERNATIVES ANALYSIS

Under CEQA, an “Alternatives Analysis” is not required for demolition of facilities or decommissioning activities, except for the demolition of facilities of historical significance, which is not applicable here.³ Decommissioning and demolition are ministerial. They are not a “project” as that CEQA term of art is defined. Additionally, the CEQA requirement to prepare an Environmental Impact Report, including the preparation of an alternatives analysis, is triggered when a proposed action requires a discretionary approval by a governmental agency and when there is substantial evidence that the action may result in a substantial adverse change in the environment.⁴ Because the CEC’s Certified Regulatory Program is CEQA-equivalent, an alternatives analysis for decommissioning and demolition is not required. However, because the CEC has requested such an analysis in COC DECOMMISSIONING-2, this section provides a discussion of alternatives.

4.15.1 No Project: Continued Operation of the Existing Facility

Continued operation of the existing SEGS IX facility as a solar thermal facility would be equivalent to “no project.” The existing facility is nearing the end of its useful life, and operations and maintenance costs to maintain the facility will continue to grow. In addition, the energy contract, which currently makes the facility operations financially viable, is expiring. The no project alternative would not allow for the decommissioning and removal of facility structures and equipment so that the site could be redeveloped from a concentrated solar thermal facility to a new solar PV facility (Lockhart Solar PV). This alternative would not be the preferred alternative because operating conditions of the County-approved Lockhart Solar PV Project would have fewer environmental impacts (particularly regarding air emissions, water, aesthetics, and hazardous materials) compared to the existing operating conditions. Additionally, the no project alternative would not allow for the beneficial use of site as a cleaner solar PV energy generating project.

4.15.2 Return Site to Pre-Project State

Returning the Project site to the pre-project state would involve the complete decommissioning and demolition of all facility structures and equipment without reuse/redevelopment of the site. This alternative would not be the preferred alternative because it would remove a renewable energy source from the State of California without replacement. The SEGS project assists the State in complying with the Renewables Portfolio Standard under Senate Bill 350, which requires that by

³ See 20 California Code of Regulations 15064.5(b) and 20 California Code of Regulations 15126.4(b).

⁴ See Public Resources Code Section 21080 and 14 California Code of Regulations Sections 1500 and 15382.

December 31, 2030, 50 percent of all electricity sold in the State shall be generated from renewable energy sources. Additionally, operation of the SEGS IX facility provides employment to operations and maintenance personnel. This alternative would decommission the facility without job replacement opportunities.

4.15.3 Decommissioning and Reuse of Existing Facility

Decommissioning of the existing concentrated solar thermal facility for reuse as a solar PV facility is the environmentally preferred alternative. Although decommissioning and demolition of the existing facility would result in some temporary impacts, operating conditions of the County-approved Lockhart Solar PV facility would have fewer environmental impacts compared to the existing concentrated solar thermal project. Redevelopment of the Project site as a solar PV facility would continue to provide San Bernardino County and the State of California with a renewable energy source that is on previously permitted and disturbed land. It would assist the State in complying with the Renewables Portfolio Standard under Senate Bill 350, which requires that by December 31, 2030, 50 percent of all electricity sold in the State shall be generated from renewable energy sources. The following are benefits of reuse of the site as a solar PV facility:

- Develops a previously disturbed power-generating site that uses existing transmission infrastructure to minimize environmental impacts.
- Develops a solar PV facility that has the same or fewer environmental impacts than the facility currently in operation at the property.
 - Same development footprint
 - Fewer visual impacts with lower profile PV panels (the current solar mirror troughs are at least 20 feet tall and the new PV panels would be about 12 feet), no power block, and no cooling tower plume
 - Fewer air quality impacts with the shutdown of gas-fired heaters, exhaust towers and cooling towers
 - Less water use and wastewater generated with shutdown of the steam turbine generator
 - Less hazardous waste generated with no HTF needed for solar PV technology
 - Less potential for spills of hazardous materials due to the lack of heat transfer fluid
 - Less GHGs generated with the shutdown of the existing gas-fired heaters
- Establishes solar PV power-generating facilities and energy storage technology of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Uses proven and established PV and energy storage technology that is efficient, requires low maintenance, and is recyclable.

- Assists California in meeting its GHG emissions reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016.
- Redevelopment of the site as a solar PV facility is consistent with the County of San Bernardino General Plan. The Renewable Energy and Conservation Element (RECE) of the General Plan, with the adoption of Policy 4.10, a newly proposed utility-oriented Renewable Energy (RE) Project is prohibited in Rural Living (RL) Land Use Districts. The Lockhart Solar PV Project remains consistent with the RECE because the Project is an upgrade to an existing commercial solar energy facility. The Project includes the decommissioning and demolition of the existing thermal power facility and the redevelopment of the proposed solar PV facility entirely within the existing solar site, with no expansion of the existing footprint. The Project is consistent with RE Policy 5.2(x), adopted at the same time as Policy 4.10, which includes existing energy generation sites, like the Project site, as a suitable location for utility-oriented renewable energy generation projects.

APPENDIX A

CONDITIONS OF CERTIFICATION



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SEGS IX (89-AFC-01C)
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89-AFC-01C Order 01-0510-09 TN 21007

1-1 Deleted

89-AFC-01C Order 01-0510-09 TN 21007

- 1-2**
- a. The project owner shall apply NO_x emission controls to one (1) of the Clark TLA Internal Combustion (I.C.) engines at the Southern California Gas Company's Newberry Springs natural gas compressor station. Those modifications will take the form of any combination of new cylinder heads with pre-combustion chambers, new intake and outlet manifolds and turbocharger to achieve and maintain a NO_x level of 2 grams per brake horsepower-hour (gm/BHP-hr).
 - b. The project owner shall prepare a plan that includes:
 1. a description of the modification work to be done on the selected I.C. engine, including vendor guarantee documentation, and
 2. a schedule of milestones that the work will be performed. All modifications shall be complete by June 1, 1991.
 - c. The project owner shall establish that the emission reduction credits realized by installation of NO_x emission controls to one of the internal combustion engines at Newberry Springs cannot be applied or utilized by any other stationary source.

Verification: The project owner shall submit to the CPM within 90 days after CEC certification the plan described in Condition **1-2b**.

The project owner shall submit to the CPM documentary evidence that the U.S. Environmental Protection Agency determines that the emission reduction credits cannot be applied to or utilized for any other stationary source.

- 1-3**
- a. Luz shall have source tests performed on the modified I.C. engine within 60 days of completion of all modifications. Source testing will be performed by an ARB approved laboratory and will follow EPA test methods in measuring NO_x, CO, CO₂, and O₂.
 - b. Luz shall have periodic source tests performed on the modified I.C. engine to verify the emission mitigation. Those periodic source tests will occur every two years from the anniversary date of the original source test or on a schedule mutually agreed upon by the SBCAPCD, Luz and the CPM.

Verification: Luz shall furnish to the SBCAPCD Executive Officer and the CPM a written report of the results of all source tests within 60 days of each test.

- 1-4**
- a. Luz shall treat by June 1, 1991, the following roads as shown in Figure A with Magnesium Chloride (MgCl) (or equivalent as approved by the CPM) dust-suppressant to reduce fugitive dust emissions:
 - Santa Fe Rd. - 8.7 miles (25 trips) (217.5 VMT)

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- Hoffman/Lockhart Rd. - 4.0 miles (15 trips) (60 VMT)
 - Helendale Road from highway 58 to Helendale for a length that will account for 108 vehicle miles traveled per day. In determining the length of road to be treated, new traffic generated by the Luz projects, its employees, dependents or visitors shall not be counted.
- b. Luz shall reapply the MgCl dust suppressant along the entire length of both roads annually in amounts needed to obtain a 70% reduction in fine particulates. Luz shall also inspect and maintain the dust suppression on these roads on a regular maintenance schedule (no less than once a month) and reapply the dust suppressant, if necessary, to ensure that this level of control is maintained.

Verification: The CEC Staff and CPM shall have access to Santa Fe, Hoffman and Helendale roads to verify compliance with Conditions **1-4a** and **1-4b**.

For Condition **1-4b**, Luz shall notify the CPM when the annual re-application of the MgCl dust suppressant will occur.

In the Annual Compliance Report, Luz shall provide documentation (such as purchase orders for materials and work orders) that verifies the annual application of the dust suppressant and the regular maintenance schedule.

Sixty (60) days following certification, Luz shall submit its methodology & figures for the traffic count on Helendale Road and submit a report indicating the length of road to be treated.

- 1-5** After particulate matter compliance testing of the SEGS IX ~~and X~~ heaters as required by Condition **1-28**, the CEC CPM may revise the PM emission limit of the SEGS IX ~~and X~~ heaters in Condition **1-24** downward to a figure mutually agreed upon by Luz and CEC Staff.

Verification: Within 60 days of submittal of the compliance source testing results to the CPM, Luz and the CEC Staff shall hold a workshop to agree upon a revised PM emission figure for Condition **1-24**.

- 1-6** a. Based on the original PM permit level contained in Condition **1-24** or a new lower figure described in Condition **1-5**, the fugitive dust suppression needed to fully mitigate the fine particle emission from the HTF heaters shall be obtained by treating additional unpaved road surfaces other than the road surfaces described above in Condition **1-4**. The additional length of road treated with dust suppressant like that specified in Condition **1-4** shall be determined based on three VMT per day for every pound per day permitted PM emissions for the SEGS Units IX ~~& X~~ HTF heaters. The first road for dust treatment under this condition shall be any remaining portion of Helendale Road from Highway 58 to Helendale that is not required to be treated in compliance with Condition **1-4**. Luz, with the concurrence of CEC staff, will determine the identity and length of any additional road necessary for fugitive

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dust treatment. In determining the length of road to be treated, new traffic generated by the Luz project, its employees, dependents and-visitors shall not be counted.

- b. The length of road will be treated within 30 days after Luz and the CEC Staff has determined what length of road to be treated. Luz shall then follow the requirements of Condition 1-4b for the annual and regular maintenance of this section of road.

Verification: Within 30 days after a revised PM level for the heaters is incorporated into the Commission Decision, CEC Staff will notify Luz of the length of unpaved Harper Lake area roads that will need to be treated.

For Condition **1-6b**, refer to Verification for Condition **1-4**.

- 1-7** Luz shall submit a source test protocol for measuring PM and emissions from the cooling tower drift.

Verification: The source test protocol shall be submitted to the SBCAPCD and the CEC CPM for approval thirty (30) days prior to the scheduled tests.

- 1-8** The SEGS IX ~~and X~~ cooling towers drift rate (determined by these compliance tests as defined below) shall not exceed 0.0005 percent based on a maximum design circulation rate of 56,100 gallons per minute.

A test procedure plan for particulate testing must be submitted to the SBCAPCD and the CPM for approval thirty (30) days prior to the scheduled tests.

Within 60 days after achieving the initial startup of the heater assembly at ~~both~~ SEGS IX ~~and X~~, Luz shall conduct a compliance test in accordance with test procedures and protocols approved by the SBCAPCD and CEC CPM.

Luz shall furnish the SBCAPCD and the CEC CPM the written results of such compliance test within 45 days after testing.

Luz shall provide written notice of the compliance test to the SBCAPCD and CEC CPM 10 days prior to the test so that an observer(s) may be present. The compliance test will include, but will not be limited to, a test of selected cells for:

- Drift rate, as percent of water circulation rate,
- Water quality, as TDS in ppmv and chemical analysis,
- Emission rates, in pounds/hour for PM. and PM10.

Luz shall also conduct compliance tests every five years to verify the maintenance of the drift and emission rates.

Verification: Luz shall comply with all requirements of the above condition and provide written results of such compliance source tests to the SBCAPCD and the CEC CPM within 45 days after testing.

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1-9 Between sunset and sunrise, Luz shall not perform groundwork construction activities (grubbing, grading, or compacting of soil) in conjunction with other construction activities (solar field concrete placement, solar field erection, power block construction and other support equipment activities). This condition does not apply to the operation of water wagons to control fugitive dust. Luz shall install a continuous air quality monitor(s) at a site to be selected by the CEC CPM and the San Bernardino County Air Pollution Control District, to record levels of nitrogen dioxide (NO₂).

Verification: In the weekly activity report, Luz shall include the schedule of daily work activities. Luz shall specifically identify all construction activities scheduled between sunset and sunrise.

Luz shall submit weekly monitoring data to the CEC CPM no later than 10 days after the NO₂ monitoring data is collected. Also refer to Verification to Condition **1-20**.

1-10 Beginning on March 1, 1990, and ending on December 31, 1992, Luz shall collect the following information from the operation of the SEGS VIII heaters:

- A reporting of occurrences when the daily NO_x emissions from SEGS VIII is above 300 lb/day.
- An explanation of the circumstances of why the NO_x emissions were above 300 lb/day.

The explanation will include information, where available, on wind speeds where loss of efficiency or solar panel stow was necessary, solar insolation related to cloud cover, equipment malfunction of the solar collection systems such that additional heater use was necessary, forced operation by SCE was necessary, and additional gas consumption based solely on economic (revenue generating) reasons.

This Condition is not to be construed as-a revised NO_x level for SEGS VIII, but rather as a collection of data.

Verification: Luz will provide in to the CPM monthly reports of data requirements specified above.

1-11 Applicable District Rules. Luz is required to meet and comply with all applicable rules and regulations of the San Bernardino County Air Pollution Control District (SBCAPCD). Concurrent with filing a petition for a variance to the SBCAPCD Hearing Board, excluding petitions for variance per SBCAPCD Rule 430(c), Luz shall submit-that petition for CPM review and approval.

Verification: In the Annual Compliance Report, Luz shall provide the CPM a statement attested to by the responsible Luz agent that the SEGS IX ~~and-X~~ project is in compliance with all air quality terms and conditions of certification.

Luz shall also submit to the CPM a summary of all Luz-SBCAPCD correspondence relative to any non-compliance or potential non-compliance if not otherwise provided.

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Luz shall submit to the CPM all petitions for variances as prescribed by Condition **1-11**.

1-12 Other Applicable Regulations. The owner and operator of SEGS IX ~~and X~~ shall assure that the construction and operation of the proposed stationary source SEGS IX ~~and X~~ is in compliance with all applicable provisions of federal (specifically, but not limited to, 40 CFR Section 60.7, 40 CFR Section 60.8, 40 CFR Section 60.13, 40 CFR Section 60.47a, 40 CFR Section 60.48a and 40 CFR Section 60.49a) and state air quality regulations, as well as those of the SBCAPCD.

Verification: In the Annual Compliance Report, Luz shall provide the CPM status reports for the Code of Federal Regulation Requirements discussed above.

1-13 Permit Conditions: The New Source Review and SBCAPCD permits are considered by the SBCAPCD to be specific limitations for this proposed project. Any changes to the operations which change emissions will be subject to a separate and independent SBCAPCD and CPM review. Also, SBCAPCD required emission controls cannot be changed without the SBCAPCD's Executive Officer and CPM approval.

Verification: Sixty (60) days before implementing any major change identified above, Luz shall submit to the SBCAPCD and the CPM the design details of the proposed change and a discussion of the potential change in air emissions from the project. Luz shall receive written approval from the CPM prior to instituting said change.

[89-AFC-01C Order 91-0320-09f](#)

[89-AFC-01C Order 01-0510-09 TN 21007](#)

1-14 Best Available Control Technology (BACT) Requirement. The project owner shall be required to install and maintain heater burners to control NO_x emissions and CO emissions accepted and shown by the MDAQMD current Permits to Operate. This requirement is more restrictive than BACT (80 ppmv) for NO_x as previously determined by the MDAQMD. BACT for this particular application is ~~100 ppm~~ and shall be verified by annual compliance test and maintained by good engineering practice and proper operating technique. Compliance with emission limits (lbs/hr) shall be met when the load level is equal to or greater than 20 percent of design capacity. As BACT for cooling tower particulate emissions control, the project owner shall be required to install drift eliminators designed for 0.0005 percent maximum drift rate.

Written approval from the MDAQMD's Executive Officer and the CPM is necessary prior to installing any change in previously approved BACT or more stringent controls specified herein. Such changes will be, in general, limited to revisions, which reduce emissions and/or improve air quality beyond the levels presented in this review.

Verification: Sixty (60) days before implementing any change to the NO_x emissions control equipment, use of the equipment, or control efficiencies, the project owner shall

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submit to the MDAQMD and the CPM the design details (including "Approved for Construction" drawings), operation procedure changes, or control efficiency changes. The project owner shall not precede with any changes described above until written approval is received from the CPM. The project owner shall submit to the CPM copies, when they are available, of the purchase orders maintenance records for the cooling tower drift eliminators that includes the specification of 0.0005 percent maximum drift.

1-15 Design Changes. Any substantial changes to the design, as permitted, must be submitted to the SBCAPCD and the CPM for approval prior to incorporation into the facility design, construction and/or operation. A substantial change, as defined in this condition, includes any modifications to the design or operation of the air emissions control system (AECS), continuous emissions monitoring system (CEMS), or the air emissions computer control system (CCS).

Verification: Sixty (60) days before implementing any change to the oil heater system, emergency generator, emergency fire pump or cooling tower, Luz shall submit to the SBCAPCD and the CPM the design details of the proposed change (including "Approved for Construction" drawings), and a discussion of the potential change in air emissions.

Luz shall not proceed with any changes described above until receiving written approval from the CPM.

1-16 Luz shall apply water as a dust palliative to the areas of ground in between the rows of solar arrays during the normal mirror washing activities.

Verification: Luz shall make the SEGS IX ~~and X~~ site available for inspection by the SBCAPCD, CARB, and CEC staff.

1-17 Notification of Commencement of Construction and Startup. Luz must notify the SBCAPCD Executive Officer and the CPM in writing of the anticipated date of initial start-up (as defined in 40 CRF 60.2{o}) of each functional subsystem or facility at SEGS IX ~~and X~~ and the actual date of commencement of construction and start-up.

Verification: Luz shall submit copies in the Monthly Construction Reports of correspondence between Luz and the SBCAPCD Executive Officer of the anticipated date of initial start-up not less than thirty (30) days prior to such date.

Luz shall also notify the CPM in the Monthly Construction Reports of the actual dates of commencement of construction and start-up within fifteen (15) days after such dates.

1-18 Facilities Operation. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of the Commission Decision's Conditions of Certification shall, at all times, be maintained in good working order and operated as efficiently as possible consistent with minimum air pollutant emissions, and with the levels specified herein.

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Verification: Luz shall make the SEGS IX ~~and X~~ site available for inspection by the SBCAPCD, CARB, and CEC staff.

1-19 Malfunction/Breakdown Provisions. The SBCAPCD shall be notified of any process anomaly, malfunction of any air pollution control equipment, or malfunction of process equipment which results in a violation of applicable SBCAPCD rules, emission limits or conditions required herein. Notification shall be made promptly, and in accordance with SBCAPCD regulations (generally within one hour of the malfunction or within one hour of the time the malfunction reasonably should have been detected). The estimated time for repair or correction of the malfunction shall be reported as soon as possible thereafter. Typically, the SBCAPCD expects repairs to be completed within 24 hours or within a time determined to be reasonable by the SBCAPCD Executive Officer. In the event equipment repairs cannot be accomplished promptly, the owner/operator must either shut down the equipment, or petition the SBCAPCD Hearing Board with an amendment pending correction of the malfunction of the process or control equipment. Luz shall also notify in writing the CPM of the petition to the SBCAPCD Hearing Board. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense for any violations of the Commission Decision or of any law or regulations which such malfunction may cause.

Verification: Luz shall notify the SBCAPCD, per the requirements of the SBCAPCD rules and regulations, of any malfunction described above.

In the Annual Compliance Report, Luz shall submit a summary of all malfunctions reported to the SBCAPCD and the appropriate actions taken. This information shall include, but not be limited to: a complete description of the malfunction including equipment failure(s) or procedural deviations, the time and day the malfunction occurred, the duration of the malfunction, the pollutant(s) and quantity of emissions as a result of the malfunction, and the mitigation measures employed to correct the malfunction. In the event Luz petitions the SBCAPCD Hearing Board for an amendment, Luz shall submit copies of the application for an amendment to the CEC CPM.

1-20 Right to Entry. The Executive Officer of the SBCAPCD, the Executive Officer of the California Air Resources Board, the Administrator of the Environmental Protection Agency, and the Executive Officer of the California Energy Commission and/or their authorized representatives, upon the presentation of credentials, shall be permitted:

- a. To enter upon the premises where the source is located or any location where records are required to be kept under the terms and conditions of the Commission Decision's Conditions of Certification or Permit to Operate; and

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- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of the Commission Decision's Conditions of Certification, or Permit to Operate; and
- c. To inspect any equipment, operation, or method required in the Commission Decision's Conditions of Certification, or Permit to Operate; and
- d. To test for or otherwise sample emissions from the source.

Verification: Luz shall make the SEGS IX ~~and X~~ site and records available for inspection by the SBCAPCD, CARB, EPA and CEC during both construction and operation of the project.

1-21 Transfer of Ownership. In the event of any changes in control or ownership of facilities to be constructed or modified, the Commission Decision/Permit to Operate shall be binding on all subsequent owners and operators. Luz shall notify the succeeding owners and operators of the existence of the Commission Decision/Permit to Operate and its conditions by letter, with a copy forwarded to the SBCAPCD and the CPM.

Verification: If control or ownership of SEGS IX ~~and or SEGS X~~ is transferred to new owners or operators, Luz shall notify the CPM in writing within 10 days of that change of ownership or operation responsibility. Luz shall forward copies of the notification to succeeding owners and include the appropriate Commission Decision/Permit to Operate correspondence to the SBCAPCD and the CPM.

1-22 Severability. The provisions of the Commission Decision are severable, and, if any provision of the Commission Decision is held invalid, the remainder of the Commission Decision shall not be affected thereby.

Verification: No Verification.

[89-AFC-01C Order 91-0320-09f](#)
[89-AFC-01C Order 01-0510-09 TN 21007](#)

1-23 Emission Limits - Installation and Testing Phase.

- a. During the plant installation, start up and acceptance testing phase, which shall continue through the completion of the MDAQMD's required compliance tests, the project owner shall be required to apply the best commonly accepted heater operating procedures and techniques to comply with emission limits of Tables A and B and statutory limits set forth in the MDAQMD Rules and Regulations..

**TABLE A
Emission Concentrations/Factors (Vendor Supplied)**

ITEM	PARTICULATE	NOX	SOX	CO
HTF Heater	5 lb/10 ⁶ scf natural gas per EPA AP-42 ^a	25 ppm	Negligible	35 pm

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Diesel Generator	.25 gm/hp-hr	8.0 gm/hp-hr	Negligible	1.4 gm/hp-hr
Diesel Fire Pump	.25 gm/hp-hr	8.0 gm/hp-hr	Negligible	1.4 gm/hp-hr
Cooling Tower	.0005 % drift rate	0	0	0

TABLE B
Hourly Emissions Pounds per Hour at Maximum Continuous Rating

ITEM	PARTICULATE	NOX	SOX	CO
HTF Heater	5.2 ^{ab}	30.6	Negligible	30.0
Diesel Generator	1.0	31.7	Negligible	5.6
Diesel Fire Pump	0.1	3.5	Negligible	0.6
Cooling Tower	3.5	0	0	0

- b. HTF heater operations in excess of 16 hours per day at maximum rating may be allowed for acceptance testing and other testing required by Southern California Edison (SCE) as a prerequisite for connection to the SCE power grid. The project owner is required to submit a letter that delineates the required testing and must obtain MDAQMD Executive Officer and CPM approval prior to the proposed tests.
- c. The emission estimates are based on an emission factor of 25 ppm NOx. These emission factors are volumetric measures, which are corrected to 3 percent oxygen on a dry basis. The NOx emission limit, per in pounds per hour, based on these special conditions, will be verified by compliance source tests which shall be conducted in strict accordance with all the requirements of a compliance test as defined by federal and state methods.
- d. If the 25 ppm limit is met during the engineering source tests, the MDAQMD and the CPM shall accept the test results as a demonstration/verification of compliance.
- e. Emissions during the installation, acceptance, and testing phase shall be minimized and all instances of known or suspected emissions in excess of the total for the aggregate project as shown in **Table IIIA**, which are a result of installation/maintenance shall be reported as a breakdown, Rule 430, and in writing to the MDAQMD in a monthly summary letter report. Planned operations such as acceptance tests, demonstration of firm operation or any other testing or acceptance procedure that will cause a known exceedance of Table IIIA emissions as specified above shall be reported to the MDAQMD and the CPM in writing at least 15 days prior to the scheduled start of the test or procedure. The project owner may not commence with the subject test or procedure until written approval is granted by the CPM. Fuel usage will be recorded and reported as required by Condition **1-24**.

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- f. If the initial compliance test indicates that the gas fired HTF heater (using the Alzeta Pyrocore burner) emissions do not comply with the NO_x emission limit of 25 ppm, the project owner shall be required to submit a report, within 60 days of submission of the compliance test report, describing the cause of the higher emission concentration and a plan which identifies appropriate technical changes of measures and the schedule that will be undertaken based on the Alzeta Pyrocore burner technology, to reach the NO_x emission limit. Upon approval by the MDAQMD's Executive Officer and the CPM, the project owner shall implement the approved changes contained in that plan.

Verification: Refer to verification to Conditions **1-28**, **1-29** and **1-30**.

For Condition **1-23b**, the project owner must provide written notification to the CPM and receive written approval from the CPM prior to the proposed test.

For Condition **1-23e**, the project owner must provide written notification to the CPM at least 15 days prior to the test or procedure and receive written approval from the CPM prior to the proposed test or procedure.

For Conditions **1-23f**, the project owner shall submit, if necessary, to the MDAQMD and the CPM, the report described above within 60 days of the submission of the compliance test report.

[89-AFC-01C Order 91-0320-09f](#)

[89-AFC-01C Order 01-0510-09 TN 21007](#)

1-24 Operational Phase. Upon completion of the installation, startup and acceptance testing phases, which includes the MDAQMD's required performance tests, the operation of the heaters, diesel generator and fire pump, and cooling tower shall conform to the emission concentration factors and hourly, daily and annual emissions contained in **Tables I, II and IIIA & IIIB**.

The operation of the cooling tower will be restricted to no more than 4000 hours per calendar year.

Verification: Refer to Verification to Condition **1-29**. The project owner shall provide in each quarterly report daily number of hours of operation of the cooling tower induced draft fans.

TABLE I
EMISSION CONCENTRATIONS/FACTORS (VENDOR SUPPLIED)

ITEM	PARTICULATE	NO _x	SO _x	CO
HTF Heater	5 lb/10 ⁶ scf natural gas per EPA AP-42 ^a	67 ppm	negligible	350 ppm
Diesel Generator	.25 gm/hp-hr	8.0 gm/hp-hr	negligible	1.4 gm/hp-hr
Diesel Fire Pump	.25 gm/hp-hr	8.0 gm/hp-hr	negligible	1.4 gm/hp-hr

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Cooling Tower	.0005 % drift rate	0	0	0
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a This figure subject to revision per the requirements of Condition 1-5.

TABLE II
HOURLY EMISSIONS POUNDS PER HOUR AT MAXIMUM CONTINUOUS RATING

ITEM	PARTICULATE	NO _x	SO _x	CO
HTF Heater	5.2 ^{ab}	81.2	negligible	248
Diesel Generator	1.0	31.7	negligible	5.6
Diesel Fire Pump	0.1	3.5	negligible	0.6
Cooling Tower	2.8	0	0	0

a Particulate from the natural gas fired HTF Heaters are assumed to be 100 percent PM10.

b This figure subject to revision per the requirements of Condition 1-5.

TABLE IIIA
DAILY AND ANNUAL MAXIMUM HEATER EMISSION SUMMARY
FOR SEGS IX

Emission Rate	Particulate	NO _x	CO
Lb/day ^a	83.2	580	550
Ton/year ^b	2.6	27.9	26.5

a Based on maximum of 16 hours per day of operation of the RTF heaters at maximum continuous rating.

b Based on maximum of 1000 hours operation of the HTF heater at maximum continuous rating.

TABLE IIIB
DAILY AND ANNUAL MAXIMUM COOLING TOWER EMISSION SUMMARY

Emission Rate	Particulate
Lb/day ^a	45
Ton/year ^b	5.6

a Based on maximum of 16 hours per day of operation of the cooling tower,

b Based on maximum of 4000 hours of operations of the cooling tower.

1-25 The Commission's Decision Conditions of Certification only allow the use of commercial grade natural gas as a fuel for the HTF heater.

Verification: Refer to Verification to Condition 1-24.

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1-26 Opacity Limit. Prior to the date of startup and thereafter, individual pieces of fuel burning equipment shall not discharge, or cause the discharge into the atmosphere of any emissions which exhibit an opacity of 10 percent or greater for any period or periods aggregating more than six minutes in any one hour, or exhibit an opacity of 20 percent or greater for any period or periods aggregating more than three minutes in any one hour.

Verification: Luz shall provide the SBCAPCD and the CEC staff access to the SEGS IX ~~and X~~ project site to verify/monitor visible emissions.

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1-27 Continuous Emission Monitoring (CEM). The owner/operator must install and operate in-stack CEM equipment for NO_x and O₂ as required by 40 CFR Part 60, Subpart Da and Appendix B. The systems shall meet the applicable EPA monitoring performance specifications of 40 CFR 60.13, Appendix B.

Verification: At least 90 days prior to installation of the Continuous Emission Monitoring system, the project owner shall submit to the MDAQMD an emissions monitoring system plan demonstrating compliance with CFR requirements listed above. The project owner shall submit the annual relative accuracy test audit (RATA) results to the CPMM either with the annual source test results or in the annual report.

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1-28 Compliance Tests. Within sixty (60) days after achieving maximum electrical generation capability, but not more than 180 days after initial startup, the owner or operator of SEGS IX shall conduct a compliance test on each installed unit to determine/verify the emissions with regard to compliance with the MDAQMD rules and Permit to Operate conditions. The project owner shall also perform annual compliance test in accordance with the MDAQMD Compliance Test Procedural Manual.

Standard EPA test methods or CARB Method I-100 shall be used to conduct the compliance test for particulate (PM₁₀), NO_x, CO, CO₂ and O₂. A test procedure plan must be submitted to the MDAQMD for approval thirty (30) days prior to the scheduled tests. Results shall be reported in concentration units (parts per million at standard conditions specified in applicable rules), pounds per hour, pounds per unit of fuel, and pounds per hour at the maximum hourly fuel rate. All volumetric concentrations (e.g., ppm) units shall be on a dry basis corrected to 3 percent oxygen.

Compliance tests on the SEGS IX heaters for particulate will be conducted with the initial compliance testing and every five years thereafter or more often if required by the MDAQMD.

Verification: The owner(s) or operator(s) shall notify the MDAQMD Executive Officer and the CPM 30 days prior to the compliance test to afford the MDAQMD Executive Officer the opportunity to have an observer present. The owner or operator shall make available to

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the MDAQMD Executive Officer and the CPM such records as may be necessary to determine the conditions of the compliance tests.

The project owner shall furnish the MDAQMD Executive Officer and the CPM a written report of the results of each compliance test within 45 days from the completion of the test, but not later than six (6) weeks prior to the expiration date of the MDAQMD Permit to Operate. If the project owner submits a test plan for alternate test procedures, the project owner shall not conduct such compliance tests until written approval is received from the MDAQMD.

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1-29 Monitoring Plan/Reporting Requirements. The project owner is required to have a Monitoring Plan, approved by the MDAQMD prior to startup, for the monitoring and recording of all natural gas consumed at the site, and the hours of operation for SEGS IX. Also this plan shall include quarterly reporting procedures of emission data from the continuous emission monitoring systems (CEMS) to verify compliance. A section of the Monitoring Plan shall address the requirement that the BTU's generated as a result of burning fossil fuel in each unit (heater) shall not exceed 25 percent of the energy supplied to each individual power block on an annual basis. This section shall, at a minimum, show a projection of how this 75 solar/25 fossil fuel ratio will be attained for the year on a month by month basis.

In reporting fuel consumption the actual fuel use shall be compared with the projection and the projection shall be updated based on the actuals. The actual hours of operation and therms used per day for the HTF heater shall be presented and the equivalent hours of operation at maximum continuous rating shall be calculated and presented. System specific natural gas flow or totalizing meters shall be certified, and recertified, in accordance with the servicing utility company's schedules for the same or equivalent meters.

The Monitoring Plan shall describe the daily operating parameters that will be recorded, the method of recording and sample calculations of the use of this data to verify compliance with MDAQMD requirements.

The Monitoring Plan shall include a reporting format and a schedule for reporting and submitting quarterly reports of daily plant operations to the MDAQMD. This plan shall include, in addition to the fuel use data indicated above, the following emissions data: daily total pounds of emissions and the maximum emissions in both ppm, (at 3% O₂, dry) and pounds/hour for the continuously monitored (CEM) pollutant NO_x; quarterly total tons emitted for NO_x based on CEM data and particulate and CO based on results of Compliance Test data and fuel consumption; number of exceedances of the permit condition limits and, for each exceedance, the number of hours of exceedance and the maximum value associated with the exceedance.

The First Quarterly Report shall cover all operations from start-up to the end of the calendar quarter. Subsequent quarterly reports shall be by calendar quarter.

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Verification: Thirty (30) days prior to the startup of the SEGS IX heaters, the project owner shall submit a Monitoring Plan for approval by the MDAQMD and the CPM for the information required above.

The project owner shall submit quarterly reports that include the data required above, to the MDAQMD. Each quarterly report shall be delivered to the MDAQMD no later than 30 days following the end of the reported quarter.

1-30 Operating Logs. Luz is required to maintain the appropriate daily operating logs and charts at the site, and retain them for a period of not less than one year, and to make available such records for inspection by the SBCAPCD, CARB and CEC staff on request. Logs shall provide all information as required by the monitoring plan of Condition **1-29**.

Verification: Luz shall make the daily operating logs available at the site of SEGS IX ~~and X~~ for inspection by the SBCAPCD, CARB, and CEC staff.

1-31 Luz shall continue to monitor ambient air quality at the site beyond the required minimum of one year, until sufficient data has been gathered to verify the modeling inputs to the satisfaction of the SBCAPCD's Executive Officer.

Verification: Luz shall submit in the quarterly compliance reports to the CPM the ambient monitoring data summary reports. Luz may cease submitting the ambient monitoring data only after receiving written approval to do so by the SBCAPCD Executive Officer.

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1-32 The control of fugitive dust during construction and operation shall be in compliance with SBCAPCD Rules 401, 402 and 403 as required. Luz is required to submit a dust control plan for the construction and operational phases. This plan must be approved by the SBCAPCD's Executive Officer prior to the initiation of any construction or operation of SEGS IX ~~and X~~.

Verification: Refer to Condition **1-20**. Luz shall submit the dust control plan described above to the SBCAPCD and CEC CPM and receive approval from the SBCAPCD prior to commencement of construction of SEGS IX ~~and X~~.

1-33 The Diesel Generator Set and Diesel Fire Pump shall use only low sulfur diesel fuels, which contain 0.5 percent or less sulfur by weight.

Verification: Luz shall include in the Annual Compliance Reports submitted to the CPM, records of fuel oil purchased that shall include sulfur content, and quantity and Btu content of the fuel oil.

1-34 Control of Unregulated Pollutants. Hexavalent chromium compounds, used as corrosion inhibitors, shall not be used in the cooling tower water circulating system. The heat transfer fluid (HTF) which is an eutectic mixture of biphenyl (26.5 percent) and diphenyl oxide (73.5 percent) may decompose to yield

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benzene, a listed Toxic Air Contaminant (TAC). Since leaks, spills and venting of the ullage HTF tank can release the HTF into the atmosphere, appropriate precautionary measures and prompt response, as required in the "Safety Plan" developed by Luz and approved by the SBCAPCD and the CPM, shall be strictly adhered to.

In addition, because the identification of toxic or hazardous substances is an ongoing process, new control strategies and regulations are being developed and implemented which may impact existing permitted facilities. Should such substances be identified as emissions from the SEGS IX ~~and X~~ facilities, the SBCAPCD may, and the CPM will require that Luz provide additional analysis, data, or demonstration of compliance with such applicable regulations.

Verification: For verification of cooling tower corrosion inhibitor compounds, refer to **Public Health Condition 6**.

For HTF containment, refer to **Public Health Conditions 1 and 2**. If current non-criteria substances become regulated as toxic or hazardous substances and are used or emitted by Luz, Luz shall submit to the CPM a plan demonstrating how compliance will be achieved and maintained with such regulations.

Luz shall submit this plan concurrent with the first required submission to any governmental agency and within the time specified in any new toxic substance control regulations. This plan is subject to SBCAPCD approval.

1-35 Permit to Operate. Approval, denial, or modification of Permits to Operate for the SEGS IX ~~and X~~ equipment will be made after verification that installed equipment is the same or equivalent equipment to that which was evaluated and approved in the SBCAPCD DOC and the Commission Decision.

In addition, appropriate source testing is required to determine whether the approved installed equipment can be operated in compliance with the Rules and Regulations of the San Bernardino County Air Pollution Control District, and the General and Specific conditions specified in the SBCAPCD DOC.

Verification: Luz shall submit copies of the PTO for SEGS IX ~~and X~~ to the CPM within 15 days after receipt of the PTO from the SBCAPCD.

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1-36 The NOx emission controls of the Alzeta Pyrocore burners for SEGS IX ~~and the Coen burners and flue gas recirculation for SEGS X~~ shall be fully operational upon startup of the heaters and shall be enforced by conditions including, but not limited to, the emission limits of Condition **1-37**.

Verification: Refer to verification to Condition **1-23**.

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1-37 Emission Limits. The NO_x emissions (as NO₂) and CO from the aggregate of all equipment at SEGS VIII and IX shall be limited to 547 pounds per day, for each pollutant, calculated on a rolling annual average. (Day is defined as any 24-hour period beginning at midnight.) The annual emissions of NO_x (as NO₂) shall not exceed 55.8 tons calculated on a rolling annual average. Sources of emissions included and subject to this limitation shall include the following:

1. HTF Heaters for SEGS VIII and IX.
2. Diesel Generator Set for SEGS VIII and IX.
3. Diesel Fire Pumps for SEGS VIII and IX.

NO_x emissions are restricted to the values in **Tables I, II, and III** of this Commission Decision and shall be calculated as follows:

- a. For the HTF heaters, NO_x emissions shall be determined using the CEM data for NO_x and flue gas flow rates for the aggregate of the four heaters sub-units at each SEGS.
- b. For the diesel generator sets, and diesel fire pumps, NO_x emissions shall be determined using EPA Test Method 7, and calculated and recorded daily based on actual hours of operation of that day.

CO and particulate emissions are restricted to the values in **Tables I, II, and III** of this Commission Decision and shall be calculated based on compliance test results, fuel use data, and hours of operation.

Compliance with this emission limit shall be determined by using the CEM and fuel use data, and calculating an arithmetic average of the previous 365 days of emissions as defined in Condition **1-39**.

Verification: The project owner shall submit quarterly reports that include the data required above, to the MDAQMD and the CPM.

1-38 Missing CEM data. For any period during which the heaters at SEGS IX ~~and X~~ have combusted fuel, but for which the CEM system was not operative, NO_x emissions shall be determined using the previous 24 hours of emissions data during which the heaters were operational to calculate an average emissions concentration (in pounds/million BTU). This average rate, and fuel use data for the period of missing data, shall be used to calculate the emissions for that period. The above section does not provide defense for any violations of the 40 CFR 60 requirements.

Verification: Luz shall submit quarterly reports that include the data required above to the SBCAPCD, and copies of these quarterly reports in the Annual Compliance Report to the CPM.

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1-39 Notification and Record Keeping. The project owner shall meet all applicable requirements of 40 CFR 60.7, and the following additional requirements:

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1. The project owner shall notify EPA and the MDAQMD by telephone and submit a written report of all excess emissions to EPA every calendar quarter for the first two years of HTF heater operation.
2. For the purpose of this condition, excess emissions shall be defined as any excess over the 547 pounds per day limit as defined in Condition **1-37**.
3. Excess emissions as defined in Condition **1-37**, and as measured by the CEM systems, shall be considered a violation of this permit for the purposes of MDAQMD and EPA enforcement.
4. The project owner shall maintain a file of the CEM data, all fuel use records, and all records and copies of source tests performed on any emissions unit at the SEGS IX site. All information shall be recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurement, calculations, reports and records. EPA, MDAQMD, and the CEC CPM or their designated representatives shall be granted access to these records upon request.

Verification: Refer to verifications for Conditions **1-19**, **20** and **30**.

1-40 Prevention of Significant Deterioration (PSD) regulations. EPA has exempted the SEGS VIII, ~~and IX~~ projects based on information provided by Luz and the Determination of Compliance issued by the SBCAPCD. Any change in equipment or conditions that increases the project's potential to emit above the applicable PSD threshold (100 tons per year) will require a full review of the source as though construction has not yet commenced on the source.

Should EPA determine, in the future, based on new or revised information, that the SEGS VIII, ~~and IX~~ projects are a major source or major modification, then the owners of the SEGS IX ~~and-X~~ project will have to immediately apply for a federal PSD permit. All requirements of the PSD regulations will have to be satisfied even though construction may be complete. In the event, for example, that vendor guaranteed emissions rates are not achieved, it will still be Luz's responsibility to comply with all PSD regulations or continued operation of SEGS IX ~~and-X~~ prior to receiving a final PSD permit may subject the SEGS IX ~~and-X~~ project to federal enforcement action pursuant to Section 113 of the Clean Air Act.

Verification: In the event that there is alteration of any equipment at SEGS IX ~~and-X~~ with the potential to result in changes in air emission rates, refer to verification to Condition **1-13**. If Luz fails to meet the 100 tons per year PSD limit, Luz shall notify the EPA, SBCAPCD and CEC CPM within 30 days after the rolling annual average period applicable to the 100 ton limit.

1-41 Luz shall not fire or operate the SEGS Units IX ~~or-X~~ HTF heaters until the cause of the SEGS Unit VIII January 10, 1990 accident has been determined and design deficiencies, if any, have been corrected. LUZ must obtain in writing

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concurrence from the San Bernardino County Fire Department and the CEC CPM that design deficiencies, if any, have been corrected and that the burners meet all safety standards. Luz then must request in writing and receive in writing permission from the SBCAPCD prior to any operation or firing of the heaters.

Verification: In the weekly activity reports, Luz shall submit all documentation between Luz and the San Bernardino County Fire Department and between Luz and the SBCAPCD concerning the SEGS Unit VIII fire, design changes (if any), and the operational status of the SEGS Unit IX ~~and X~~ heaters.

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BIOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

- 1 Luz shall enter into an agreement with the California Department of Fish and Game (CDFG) in which Luz will provide for the purchase, enhancement, and management of suitable Mohave ground squirrel habitat to compensate for that eliminated or subject to long-term disturbance as a result of construction of SEGS IX & X and any ancillary facilities. Such compensatory lands are to be at least equivalent to that originally found on the SEGS sites in their ability to support Mohave ground squirrel populations and are to be acquired at a ratio of 5 acres for each acre permanently lost and 2 acres for each acre temporarily disturbed on non-cultivated land. Habitat shall be dedicated for this purpose in perpetuity. Funds to purchase habitat shall include sufficient funds to undertake enhancement measures deemed appropriate to the site by the CDFG (such as fencing, trash removal, reseeding) and to provide for continued management (e.g., patrolling) and maintenance activities (e.g., fence mending) in perpetuity. Such management and maintenance shall be provided for by means of an endowment of principal in an amount sufficient to generate annual income at reasonably achievable interest rates or yields sufficient to provide for these activities.

Luz shall also provide for the purchase, enhancement, and management of off-site habitat for desert tortoises at a ratio of 5 acres for each acre permanently lost, 2 acres for each acre temporarily disturbed on non-cultivated land (see above discussion for the Mohave ground squirrel). This habitat shall be dedicated for this purpose in perpetuity.

Staff estimates there will be 336 acres of permanent habitat loss. Temporary habitat loss for both the Mohave ground squirrel and the desert tortoise shall be monitored throughout project construction and assessed at an appropriate time that will be determined by the CEC Compliance Program Manager (CPM) in consultation with the CDFG. Staff believes it will be feasible to identify habitats for compensation which will satisfy requirements for both the Mohave ground squirrel and the desert tortoise. In cases where habitat is to satisfy the needs of both species, the amount shall be based on the animal with the greatest need as specified by the CDFG and provided for in the agreement between the CDFG and Luz, but subject to Bureau of Land Management (BLM) and U.S. Fish and Wildlife Service (USFWS) concurrence.

The habitat shall be dedicated to the purpose of supporting Mohave ground squirrel, desert tortoise and other native wildlife and plants in perpetuity and the title of ownership of all suitable habitat parcels shall be transferred to the CDFG according to the schedule adopted in the agreement. Luz shall set aside funds for the enhancement, management, and maintenance of the habitat purchased. Management and maintenance funding is to be guaranteed in perpetuity.

In determining the necessary amount of funding, the following costs shall include, but not be limited to:

1. the cost of identification and purchase of appropriate parcels if not purchased by Luz;

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2. the cost of perimeter fencing to exclude sheep and other domestic livestock;
3. the cost of posting the property;
4. the cost of enhancements to the habitat (debris removal, restoration of disturbed sites);
5. the cost of maintaining improvements (e.g., fence repair); and
6. the cost of periodic patrols to exclude trespassers and to monitor the integrity of the fencing and other conditions.

The estimated management and maintenance cost per acre shall be provided through initial funding of an endowment.

Luz shall notify the CEC CPM when proposed compensation parcels are presented to the CDFG for title transfer and identify the location of each parcel.

Luz shall notify the CEC CPM each time a parcel is identified, reviewed by the CDFG, the BLM, the USFWS, and jointly approved for transfer of title to the CDFG.

Verification: Within 30 days after the CEC Decision on the SEGS IX & X project, Luz shall enter into an agreement with the CDFG. Within five (5) days after all parties have signed the agreement, but no later than 35 days after the CEC Decision on the SEGS IX & X project, Luz shall provide the CEC CPM a signed copy of the agreement with the CDFG. Luz will notify the CEC CPM each time a parcel is identified, reviewed by the CDFG, the BLM, the USFWS, and jointly approved for transfer of title to the CDFG.

- 2 Luz shall not begin site preparation until a qualified biologist has been designated to advise on the implementation of these conditions of certification, and to supervise or conduct mitigation, monitoring, and other biology compliance efforts.

The designated biologist shall be responsible for providing the project construction engineer with advice regarding biological resource mitigation implications of any surface disturbing action to be carried out for this project. Until an action, which shall conform to the certified project design, is reviewed and approved by the designated biologist, work cannot proceed. Any such approvals shall be documented in writing.

Luz shall assure that the designated biologist meet the following minimum qualifications:

1. a bachelor's degree in biological science, zoology, botany, ecology, or a closely related field and
2. current certification of a nationally recognized biological society, such as the Ecological Society of America or the Wildlife Society or a minimum of three years experience in field biology.

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The biologist must demonstrate to the satisfaction of the staff appropriate education and experience for the biological tasks. The supervising construction or operation engineer will act on the advice of the biologist to ensure conformance with the Biological Resources Mitigation Implementation Plan (BRMIP) and the terms and conditions of CEC certification.

At least 30 days before starting site preparation, Luz shall provide to the CEC CPM for review and approval, the name, qualifications, address, and telephone number of the designated biologist. If there is to be a subsequent change in who the designated biologist will be, Luz shall obtain approval of the new biologist by submitting to the CEC CPM the name, qualifications, address, and telephone number of the proposed replacement. An interview by the CEC CPM may be required.

Verification: At least 30 days prior to site preparation, Luz will submit to the CEC CPM the name, qualifications, address, and telephone number of the individual selected as the designated biologist. If there is to be a change in who the designated biologist will be, Luz will submit the name, qualifications, address, and telephone number of the proposed replacement.

- 3** Prior to any surface disturbance on SEGS Unit IX ~~& X~~ or on areas where ancillary project facilities exist, the designated biologist shall conduct or supervise the designation of off-limit areas where surface disturbance is to be avoided. Such areas shall be defined by temporary taping or flagging in conjunction with posting signs prohibiting entrance of construction crews.

Surface disturbance of any native habitats shall be strictly controlled so as to minimize impacts. Parking areas and temporary construction yards shall be sited on previously disturbed habitat to the maximum extent feasible.

Any surface disturbance to be carried out for this project that is not reflected in the certified project design and has not previously been reviewed for biological resource implications and approved by the designated biologist in consultation with the CEC CPM, shall not proceed until said biologist determines that the disturbance will cause no significant impacts and, in consultation with the CEC CPM approves the action to be taken.

All such approvals shall be documented in writing by the designated biologist who, in turn, shall notify the CEC CPM through weekly activity reports when such approved actions are scheduled to take place.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 4** Off-road travel by Luz personnel, contractors, and subcontractors, shall be prohibited in all native habitats considered sensitive biological areas associated with the project during construction and operation. Such areas shall be posted

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prior to initiation of construction. Limitation of off-road travel and reasons for restrictions shall also be discussed in the employee environmental awareness program.

Off-road travel restrictions shall apply to native habitats adjacent to the SEGS Unit IX ~~& X~~ project site and to native habitats on all other Luz property. Restrictions shall also be extended to the area of the Harper Lake wetlands.

Notwithstanding the above restrictions governing off-road travel, the designated biologist and/or personnel under his or her supervision, in carrying out appropriate duties, may travel off-road as is necessary to successfully complete assigned tasks.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 5** Desert tortoise salvage and relocation shall be conducted within all areas with appropriate habitat that are to be disturbed for drainage system construction.

Prior to tortoise salvage and relocation, the designated biologist shall have obtained a Memorandum of Understanding from the CDFG along with federal approval through a Section 7 Consultation or other appropriate federal authorization and all actions necessary for implementing this requirement shall be subject to all limitations and guidelines set forth in the aforementioned approvals.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 6** A permanent tortoise-proof fence shall be constructed around the project facility. The design and installation of the fence shall be reviewed and approved by the CEC CPM in consultation with the CDFG, the BLM, and the USFWS.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 7** Speed limits on and near SEGS Unit IX ~~& X~~ shall be posted and limits shall be developed with consideration for potential wildlife mortalities. Speed limits shall vary depending on the type of road and the degree of visibility. Speed limits shall be set in consultation with the CDFG. Speed bumps or other effective speed control devices should be considered for long-term control.

Speed limits shall be established for SEGS Unit IX ~~& X~~ and for all Luz-owned property in the Harper Lake area.

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Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 8** Luz shall develop an employee environmental awareness program to provide construction and operation employees with information to encourage awareness and preservation of the desert ecosystem and the key species and resources found at the Luz facilities and in the western Mojave Desert.

In addition to Luz's proposed employee environmental awareness program, Luz shall have each of its own employees, as well as employees of contractors and subcontractors, who participate in the environmental awareness program sign an affidavit declaring that the individual understands and will adhere to the guidelines set forth in the program material. These records shall be maintained by Luz for each employee as long as the individual employee works on the SEGS IX & X project, and be made available for review by the CEC CPM.

Luz shall continue using the reporting form it developed for observations of sensitive species by employees on the job. This form is the same form developed for the SEGS VIII project. These completed observation forms shall be maintained by Luz for the life of the project and be made available for review by the CEC CPM.

Verification: Luz will maintain and make available copies of affidavits signed by all its employees, its contractor's employees and its subcontractor's employees for as long as the employees work on the SEGS IX & X project. Copies of the reporting forms for observation of sensitive species will also be maintained and made Available for review.

- 9** Luz shall develop a strict trash and litter control program. Trash control is expected to increase a sense of responsibility in the work area and foster environmental awareness among employees. A litter control program shall consist of supplying an adequate number of covered trash and litter receptacles in all appropriate locations (including the water truck, water stations, and site exits) and encouraging employee use through the environmental awareness program, posters, and other means. Trash and litter disposal shall be in covered dumpsters or buried to avoid attracting ravens and thereby increasing the potential for raven predation on young tortoises.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

- 10** Lands that have been temporarily disturbed during project construction activities shall be restored and revegetated at an appropriate time that will be determined by the CEC CPM. Restoration seed mixes and methods shall be keyed to the type of habitat where the disturbance has occurred. The seed mixture designated for planting at any given time of the year shall be purchased and taken delivery of

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no later than 60 days prior to planting time in the year it is scheduled to be planted. Each aspect of project construction involving temporary habitat disturbance shall have habitat restoration work begun as soon as possible after completion of that particular phase of work.

Native desert habitats disturbed by project related actions shall be reclaimed to provide native plant species, including shrubs, that are valuable for wildlife utilizing those habitats.

Temporary disturbances to the abandoned farmlands shall be restored by planting dryland grasses, including the annual species which are presently found in the area. Any disturbances to other habitats shall be restored accordingly. Full details of reclamation planning, monitoring to determine success, and potential remedial action in case of failure, shall be finalized once specific temporary disturbance areas are identified, but activities shall follow good reclamation practice including the following steps:

- any construction debris or other waste materials shall be disposed of in an appropriate manner;
- soil shall be ripped to relieve compaction, then dished and leveled if necessary, to prepare a seedbed;
- a seed mixture consisting of plants adapted to the area and useful to wildlife species present shall be drill planted or broadcast. Fertilization will be used as appropriate; and
- the seed mixture designated for planting at any given time of the year, shall be purchased and taken delivery of no later than 60 days prior to planting time in the year it is scheduled to be planted.

Verification: Prior to initiating actions necessary for implementing this condition of certification, Luz will notify the CEC CPM via a Weekly Activity Report as required through the Compliance General Provisions.

[89-AFC-01C Order 00-0426-10 TN 14662](#)

[89-AFC-01C Order 05-1103-02 TN 36082](#)

11 To minimize potential wildlife impacts associated with the evaporation ponds, Luz shall implement the following design and operational criteria:

- a. construct evaporation ponds as small as possible;
- b. construct evaporation ponds with interior bank slopes at a 2.5:1 ratio;
- c. construct and operate the evaporation ponds so that 3 feet of water depth is attainable while allowing for the required freeboard expected to be incorporated in the Regional Water Quality Control Board's waste discharge permit;
- d. operate the evaporation ponds so that the water surface does not fall below the point where the interior slope meets the bottom of the pond;

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- e. build the perimeter fence with the bottom flush with the ground surface;
- f. maintain the fenced area around the evaporation ponds free of all vegetation;
- g. if selenium concentration in aquatic invertebrates inhabiting the evaporation ponds, as determined by a certified laboratory's analysis of annual samples collected in August by Luz, exceeds 4 parts per million (dry weight) (or any other alternative level required by the CDFG), immediately notify the CEC CPM and the CDFG, and if recommended by the CDFG, begin a program of hazing (frightening) birds off the ponds utilizing methods acceptable to the CDFG;
- h. take actions recommended by the CEC CPM in consultation with the CDFG, if for any reason, conditions at the evaporation ponds are considered to be detrimental to wildlife;
- i. monitor the evaporation ponds for the general level of waterfowl and shorebird use, wildlife mortalities, and perimeter fence integrity by visual inspection on a weekly basis and maintain, and make available upon request by the CEC CPM or the CDFG, orderly and accurate written records of inspection results;
- j. monitor the evaporation ponds on a quarterly basis for two consecutive days each quarter to quantify the number, species, and condition of birds using the ponds and report the findings within two weeks of the end of each quarter to the CDFG; and
- k. The project owner shall, in cooperation with the SEGS VIII project owner, allow the Bureau of Land Management (BLM) to pump up to 75 acre feet of water per year, as described in the Harper Lake Water Agreement (Agreement), which was finalized on April 12, 2005. The water will be used for maintenance of the Harper Lake wetlands. The project owner has provided \$60,000 to the BLM to construct a water well and water conveyance system as specified in the Agreement.

Verification: No later than December 16, 2005, the project owner shall provide photo-documentation of the BLM well along with its latitude and longitude, the well number as assigned by the Watermaster's local designation and state well number designation, and submit this information in writing to the CPM. At the same time it reports its annual water usage to the Mojave River Basin Watermaster, the project owner shall submit to the CPM the annual record of water pumped by BLM.

- 12** Luz shall submit a detailed BRMIP to the CEC CPM for review and approval before initiating any clearing, earth moving, or other construction activities on SEGS IX ~~& X~~. The BRMIP shall include details for designing and implementing Biology Conditions of Certification **3** through **11**.

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Verification: At least 60 days prior to commencing site preparation activities, Luz will submit the draft BRMIP to the CEC CPM for review and approval in consultation with the CDFG. Site preparation will not begin until the final BRMIP is approved.

13 Luz shall implement the monitoring and mitigation measures contained in the approved BRMIP and Commission Decision.

Verification: The approved BRMIP will be submitted to the CEC CPM prior to site preparation on SEGS IX & X.

In a monthly compliance status report, Luz will notify the CEC CPM, in writing, of successfully satisfying each condition in the BRMIP.

If any conditions of the plan are not successfully satisfied, Luz will submit proposed corrective actions within 30 days to the CEC CPM for comment and approval.

The Luz designated biologist will include comprehensive statements in the Annual Compliance Report verifying activities conducted in compliance with the approved BRMIP and portions of the CEC decision pertinent to biological resources.

Luz will report any adverse impacts on rare, threatened, or endangered species by telephone to the CEC CPM within two working days during the normal work week or by the end of the next working day following a weekend or holiday and shall submit a follow-up written report within 10 days after contact with CEC CPM.

14 Luz shall, in a timely manner, arrange for access by the CEC CPM or designated representative to inspect or monitor conditions of biological resources, impacts, mitigation measures, and study areas prior to and during preconstruction, construction and operation activities on the SEGS Unit IX & X site and adjacent areas. The access shall be provided upon request and at the times necessary to conduct biological field observations.

Verification: Luz shall provide to the CEC CPM a letter of authorization to conduct site visits as specified above.

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CIVIL ENGINEERING CONDITIONS OF CERTIFICATION

- 1 Luz shall design, construct, and inspect the SEGS Unit IX ~~and X~~ project in accordance with pertinent portions of the design criteria of this testimony, under the section titled "Project Evaluation" (Summary of Proposal) and with the LORS also identified in this testimony, under the section titled "Applicable Laws, Ordinances, Regulations, and Standards".

Verification: Fourteen (14) days prior to the start of commercial operation, Luz shall submit to the CEC CPM a statement of verification, signed by the responsible civil engineer, stating that all design, construction, and inspection requirements of the applicable LORS and the Commission's Decision have been met for the area of civil engineering.

- 2 Luz shall assign to the project a qualified and responsible civil engineer registered in California who shall:
- be directly responsible for the construction of the proposed civil works and related facilities. These include, but are not limited to, site preparation, grading, excavations, and compaction;
 - be directly responsible for the design and construction of the proposed civil structures (secondary containment facilities, foundations, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems);
 - prepare, stamp, and sign all plans, calculations, and specifications for erosion and sedimentation control structures, foundations, and all the related civil works facilities at the plant site, to comply with the Commission's Decision;
 - monitor construction progress to ensure compliance with the design intent;
 - provide consultation to the responsible construction engineer, during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures; and,
 - be responsible for the conformance of all civil work construction with applicable LORS, Luz proposed criteria, and approved plans and specifications.

If the civil engineer is subsequently reassigned or replaced, Luz shall, within ten (10) days, submit the name, qualifications, and registration number for the new engineer to the CEC CPM, for approval, and to the CBO.¹

The tasks performed by the responsible civil engineer may be divided between two or more engineers, as long as each engineer is responsible for a particular

¹ CBO is the City or County Chief Building Official, his or her representative or the Commission's duly appointed representative

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segment of the project (e.g. proposed earthwork, related civil works, civil structures eta).

Each segment of the project cannot have more than one responsible civil engineer (Business and Professions Code, Chapter 7, Division 3).

Verification: At least fourteen (14) days prior to the start of site preparation, Luz shall submit to the CEC CPM, for approval, and to the CBO the name, qualifications, and registration number of the responsible civil engineer assigned to the project to perform the duties set forth above.

- 3** Luz shall assign to the project a qualified civil engineer registered in California and fully competent and proficient in soil mechanics, who shall:
- review all the soils engineering reports, and engineering geology reports, and prepare a final soils grading report;
 - prepare the soils engineering reports required by chapter 70 of the 1985 edition of the Uniform Building Code (UBC);
 - be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in Chapter 70 of the 1985 edition of the UBC;
 - recommend field changes to the responsible civil engineer and to the construction engineer;
 - review geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to rapid settlement or collapse when saturated under load;
 - prepare reports on foundation investigation to comply with Chapter 29, Subchapter 2905 Sections b,c, and d of the 1985 edition of the UBC.

If the civil engineer is subsequently reassigned or replaced, Luz shall, within ten (10) days, submit the name, qualifications, and registration number for the new engineer to the CEC CPM, for approval, and to the CBO.

This civil engineer shall be authorized to halt earthwork and to require changes, if site-conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations. (Business and Professions Code; Chapter 7, Division 3; UBC 1985 edition, chapters 29 and 70; San Bernardino County Ordinance No. 2815; Title 8, CCR, Section 405 et seq).

Verification: At least fourteen (14) days prior to the start of site preparation, Luz shall submit to the CEC CPM, for approval, and to the CBO the name, qualifications, and registration number of the responsible civil engineer assigned to the project to perform the duties set forth above.

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4 Prior to the start of site grading, Luz shall obtain approval from the CBO, for the following:

- the proposed drainage structures, and the grading plan to conform to the requirements of San Bernardino County Ordinance No. 2815;
- erosion and sedimentation-control plan (combined grading plan); and
- the calculations, and specifications signed and stamped by the responsible civil engineer.

Luz shall provide a statement to the CEC CPM, signed by the responsible civil engineer confirming that the proposed grading-plan, erosion and sedimentation control plan (combined grading plan), drainage structures, calculations, and specifications comply with the applicable LORS and with the civil engineering criteria and requirements set forth in the Commission's Decision and have been approved by the CBO.

Verification: At least fourteen (14) days prior to the start of site grading, Luz shall submit notification, to the CEC CPM attesting that the CBO has approved the Grading Plan, and the Sedimentation Control Plan, and also that the CBO has approved, for construction, the Drainage Structures.

5 Prior to the start of construction of each major structure foundation or civil works facilities, Luz shall obtain approval from the CBO of the following:

- the proposed final design plans, including the soil classifications and design bearing capacity evaluations (ASTM D698, D1556, and D1557); and
- calculations, specifications, soil reports, and quality control procedures, signed by the responsible civil engineer, verifying the accuracy of the bearing capacity and foundation settlement values.

Verification: At least thirty (30) days prior to the start of construction of each major structure foundation, Luz shall submit written notice to the CEC CPM, in the weekly activities report, verifying that the proposed design plans, calculations, and specifications comply with the civil engineering criteria, the Commission's Decision, and that the CBO has approved, for construction, the structure foundations.

6 After the construction of each major structure foundation, Luz shall submit to the CEC CPM a statement that the CBO has approved the final as-built plans. The responsible civil engineer shall submit a signed statement indicating that the work was done according to the final approved plans, and that the structure foundations are adequate for their intended functions. If site geotechnical condition necessitate modifications in foundation design, the responsible civil engineer shall provide a statement to the CEC CPM of the CBO's approval of the foundation modifications.

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Verification: Within thirty (30) days after construction of the structure foundations, Luz shall file with the CEC CPM a copy of the CBO's review, comments, and approvals in the next Monthly Compliance Report.

Luz shall submit a statement to the CEC CPM, signed by the responsible civil engineer, if site geotechnical conditions requiring modifications in foundation redesign.

- 7** Luz shall make payments to the CBO for plan check and review equivalent to the fees listed in Chapter 70, section 7007a and 7007b, and table 70-A and 70-B of the 1985 edition of the UBC. If San Bernardino County has adjusted the UBC fees by Code or Ordinance, Luz shall pay the adjusted fees (UBC 1985, sections 7007a and 7007b, Tables 70-A and 70-B).

Verification: Luz shall make payments to the CBO at the time of submittal of the plans, calculations, and specifications, and the soils report.

Luz shall send a copy of the transmittal letter to the CEC CPM in the next Monthly Compliance Report.

- 8** All plant site grading operations shall be subject to inspection by the CBO and the CEC CPM or designate. If Luz's inspector discovers that work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the CBO, the CEC CPM, and Luz responsible civil engineer. Luz shall prepare a written report, detailing the discrepancies and non-compliance items and send copies to the CBO and the CEC CPM (CCR, Title 8, Chapter 4, Division of Industrial Safety; UBC 1985 edition Chapters 29 and 70).

Verification: Within five (5) days of the discovery of the discrepancies, Luz shall prepare an NCR to be included in the daily reports. These reports will be referenced to the CoC No. **10** below, and will be included in the weekly activities report.

- 9** Luz's responsible civil engineer shall, as appropriate, stop all earthwork and construction in the affected areas when Luz's engineering geologist identifies unforeseen adverse geologic conditions. Luz shall prepare and submit, within five (5) days, modified plans, specifications, and calculations to the CBO based on these new conditions. Luz shall obtain approval from the CBO in order to resume earthwork and construction in the affected areas.

Verification: Luz shall provide a copy of such approval to the CEC CPM, in the weekly activities report.

- 10** Luz shall submit a weekly construction progress report to the CBO, and the CEC CPM containing the test reports, and all Conforming and nonconforming inspection reports.

Verification: Luz shall prepare and submit the construction progress report to the CEC CPM and to the CBO in the weekly activities report.

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- 11** After construction of the finish grading, erosion and sedimentation control facilities, Luz shall file with the CEC CPM the CBO's approval of the final as-graded plans, and as-built plans for the erosion and sedimentation control facilities. The responsible civil engineer shall provide a signed statement to the CEC CPM stating that the installation of the drainage facilities and their protective devices and all erosion control measures were completed in accordance with the final approved combined grading plans and that the facilities are adequate for their intended function.

Verification: Within thirty (30) days after construction of the drainage facilities and their protective devices and all erosion control measures have been completed in accordance with the final approved combined grading plan, Luz shall file with the CEC CPM a copy of the CBO's review, Comments and approvals in the next Monthly Compliance Report.

- 12** Prior to the start of construction of the concrete or earth lined spill containment facilities for the power block and chemical storage areas, Luz shall obtain approval from the CBO, of the plans, calculations, and specifications for the concrete or earth lined spill containment facilities. The design, plans, and calculations shall be signed and stamped by the responsible civil engineer.

Verification: At least thirty (30) days prior to the start of construction of the spill containment facilities, Luz shall submit written notice to the CEC CPM stating that the spill containment facilities meet the applicable civil engineering requirements, the Commission's decision, and have been approved by the CBO for construction.

- 13** After construction of the spill containment facilities, Luz shall submit to the CEC CPM a statement that the CBO has approved the final as-built plans, and a signed statement by the responsible civil engineer that the-work was done in accordance with the final approved plans and that the spill containment facilities are adequate for their intended use.

Verification: Within thirty (30) days after completion of the spill containment facilities, Luz shall file with the CEC CPM a copy of the CBO's review, comments, and approvals in the next Monthly Compliance Report.

- 14** Prior to the start of construction of the transmission line pole towers, foundations, and guy anchors, Luz shall obtain approval from the CBO of the design plans, calculations, and specifications, for the transmission line pole towers, foundations, and guy anchors. The design plans and calculations shall be signed and stamped by the responsible civil engineer.

Verification: At least -thirty (30) days prior to the start of construction of the transmission line pole towers, foundations, and guy anchors, Luz shall submit written notice to the CEC CPM stating that these facilities meet the applicable civil engineering requirements, the Commission's decision, and have been approved by the CBO for construction.

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- 15** After construction of the transmission line pole towers, guy anchors, and foundations, Luz shall file with the CEC CPM the CBO's approval of the final as-built plans and a signed statement by the responsible civil engineer that the work was done in accordance with the final approved plans and that the facilities are adequate for their intended function.

Verification: Within thirty (30) days after construction of the transmission line pole towers, guy anchors, and foundations, Luz shall file with the CEC CPM a copy of the CBO's review, comments, and approvals in the next Monthly Compliance Report.

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CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

Paleontology

- 1 Prior to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall provide the California Energy Commission (CEC) Compliance Project Manager (CPM) with the following information: the name, telephone number, resume, and indication of availability for its designated paleontologic resources specialist.

The resume shall include the qualifications of their designated specialist (e.g., someone with a graduate degree in geology or paleontology and paleontological field experience).

The CEC CPM will review the qualifications of, and must approve in writing, Luz's designated paleontologic resources specialist prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects. After CEC CPM approval, the paleontologic specialist shall be available to prepare a monitoring and mitigation plan described below. The designated specialist shall also be available to conduct pre-construction mitigation and provide monitoring and mitigation, as needed, during all construction activities associated with the Luz SEGS Unit IX ~~and X~~ projects.

Verification: Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall submit to the CEC CPM for review and written approval, the name, resume, telephone number, and indication of availability for its designated paleontologic resources specialist.

- 2 Prior to the start of construction, the designated paleontologic resources specialist shall prepare and implement a monitoring and mitigation plan to minimize potential impacts to paleontologic resources. The plan shall be submitted to the CEC CPM for review and written approval prior to the start of construction on each project.

The plan shall include, but not be limited to, the following elements:

- a. A provision that if, during monitoring of construction activities, the designated paleontologic specialist determines the likelihood of encountering fossil resources is slight, monitoring can be discontinued in that locality;
- b. A discussion of specific measures proposed to mitigate impacts to particular types of paleontologic resources which may be discovered during earth moving activities;
- c. A provision that construction will not begin until the designated paleontologic resources specialist has completed the construction management/resource specialist sign-off procedure, certifying that all necessary mitigation of impacts to known paleontologic resources has

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been completed in those areas which will be directly affected by the construction and operation of each SEGS project;

- d. A provision that the designated paleontological resource specialist shall have the certified authority to halt or redirect construction at any time necessary to protect known or previously unknown paleontological resources and their locational context. The halting or redirection of construction shall remain in effect until the designated paleontological resources specialist has met with Luz construction managers, determined how the resources will be protected when construction resumes, and has completed the construction management/resource specialist sign-off procedures;
- e. A provision that if fossil resources are encountered during construction activities, work in the immediate vicinity of the find shall be halted until the designated paleontologic specialist can determine the significance and sensitivity of the find. The designated paleontologic specialist shall act in accordance with the procedures set forth in the monitoring and mitigation plan; Luz, or its designated representative, shall inform the CEC CPM within one working day of the discovery of any potentially significant resources and discuss the specific measure(s) proposed to mitigate potential impacts to the resources. The designated paleontologic resources specialist, representatives of Luz, and the CEC CPM shall meet within five working days of the notification of the CEC CPM, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented. All necessary and required data recovery and mitigation shall be completed within ten days after discovery of the previously unknown paleontological resources;
- f. A provision that all vertebrate fossil remains will be collected and any invertebrate fossil remains will be sampled. All fossil materials found shall be mapped, prepared, identified, and removed for analysis and duration in the retrievable storage collection at the San Bernardino County Museum in Redlands, California;
- g. A provision that the CEC CPM and staff shall have unrestricted and unannounced access to the Luz SEGS Unit IX ~~and X~~ sites and the SEGS unit VIII-XII project areas, at any time during preconstruction and construction activities, to observe paleontologic resources monitoring and data recovery activities;
- h. A provision that the CEC CPM and staff shall have unrestricted access to and open communication with the designated paleontologic resources specialist(s) any time;
- i. A provision ensuring completion of the necessary analysis of paleontologic resource materials found during surveys, data recovery, and mitigation activities for the SEGS Unit IX ~~and X~~ projects;

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- j. A provision ensuring the preparation of a final paleontologic resources report;
- k. A provision that original and/or original-quality copies of the final paleontological resources report will be filed with the appropriate museums, paleontological information repository(ies), and CEC CPM; and,
- l. A provision for curation of all paleontological resource materials collected during survey, data recovery, and mitigation for the SEGS projects.

Verification: Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall submit a monitoring and mitigation plan for paleontological resources to the CEC CPM for review and written approval.

- 3** In the monthly Compliance Report Luz shall provide the CEC CPM with information copies of any communications initiated or received by Luz, related to paleontologic monitoring or paleontologic mitigation work being conducted at the Luz SEGS Units IX ~~or X~~ sites or in the SEGS Units VIII-XII project area. Such communications may include oral or written contacts with the designated paleontologic specialists, San Bernardino County representatives, staff of the San Bernardino County Museum, Luz contractors or sub-contractors, and/or other parties interested in the monitoring and mitigation work.

Verification: In the Monthly Compliance Report Luz shall provide the CEC CPM with information copies of all communications initiated or received by Luz related to any paleontologic resources monitoring or mitigation work being conducted at the Luz SEGS Unit IX ~~and X~~ sites or the SEGS Units VIII-XII project area.

- 4** Luz will have the designated paleontologic specialist available to monitor construction activities at the SEGS Unit IX ~~and X~~ sites or in the SEGS Units VIII-XII project area, on an as-needed basis, as defined in the CEC-approved monitoring and mitigation Plan for paleontological resources.

Verification: After CEC approval of the designated specialist, Luz shall maintain copies of its contract(s) with the designated paleontologic resources specialist(s) in its compliance files.

- 5** Luz shall ensure the recovery, preparation for analysis, and analysis of all collected paleontologic resource materials encountered during surveys, data recovery, and mitigation activities at the Luz SEGS Unit IX ~~and X~~ sites and in the SEGS Unit VIII-XII project area.

Verification: LUZ shall maintain in its compliance files copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists which will ensure the necessary recovery, preparation for analysis, and analysis of paleontologic resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX ~~and X~~ projects.

SEGS IX (89-AFC-01C)
CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

- 6** LUZ shall ensure preparation of a final paleontological resources report by the designated paleontological resources specialist. Luz shall submit the draft final report to the CEC CPM for review, comment, and approval within 90 days following completion of the data recovery and mitigation work. The final report shall include (but not be limited to) the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered resource materials and data; and research questions answered or raised by the data from the SEGS Unit IX ~~and X~~ projects.

Verification: A copy of the draft final paleontological resources report shall be submitted to the CEC CPM for review and approval within 90 days following completion of the data recovery and mitigation work by the designated paleontological resources specialist for the SEGS Unit IX ~~and X~~ projects.

- 7** Luz shall submit an original or an original-quality copy of the approved final paleontological resources report to the appropriate paleontological information repository(ies) and one copy of the original to the CEC CPM.

The report copy sent to the information repository shall include the following:

- clean and reproducible original copies of all text;
- originals of any topographic maps showing site and resource locations;
- original or clear copies of drawings of paleontological resource materials found during surveys, data recovery, or mitigation; and
- photographs (including a set of negatives, if possible) of paleontological resource materials found and evaluated during the SEGS Unit IX ~~and X~~ projects.

Verification: Luz shall maintain in its compliance files, copies of all documentation related to the filing of the original materials and final paleontological resources report with the appropriate paleontological information repository(ies).

- 8** Luz shall ensure the duration of all significant paleontological resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX ~~and X~~ projects.

Verification: Luz shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate public repository(ies) by which Luz has provided for curation for paleontologic resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX ~~and X~~ projects.

Prehistoric and Historic Resources

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CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

- 9 Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall provide the CEC CPM with the following information: the name, telephone number, resume, the specialty area(s) of current certification by the Society of Professional Archaeologists (SOPA), and indication of availability for its designated cultural resources specialist. The resume shall include the qualifications of their designated specialist (e.g., someone with a graduate degree in anthropology, history, or cultural resource management, appropriate cultural resource field experience, and current SOPA certification).

The CEC CPM will review the qualifications of, and must approve in writing, Luz's designated cultural resources specialist prior to the start of construction on the Luz SEGS Unit IX project. After CEC CPM approval, the cultural resources specialist shall be available to prepare a monitoring and mitigation plan described below. The designated specialist shall also be available to conduct pre-construction mitigation and provide monitoring and mitigation, as needed, during all construction activities associated with the Luz SEGS Unit IX ~~and X~~ projects.

Verification: Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall submit to the CEC CPM for review and written approval, the name, resume, telephone number, the specialty area(s) of current certification by the Society of Professional Archaeologists (SOPA), and indication of availability for its designated cultural resources specialist.

- 10 Prior to the start of construction, the designated cultural resources specialist shall prepare and implement a monitoring and mitigation plan to minimize potential impacts to cultural resources. The plan shall be submitted to the CEC CPM for review and written approval prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects.

The plan shall include, but not be limited to, the following elements:

- a. A provision that the designated cultural resources specialist be on call to inspect any potentially significant cultural resources found during construction in areas of sensitivity identified in the monitoring and mitigation plan;
- b. A discussion of specific measures proposed to mitigate impacts to particular types of cultural resources which may be discovered during construction;
- c. A provision that construction will not begin until the designated cultural resources specialist has completed the construction management/resource specialist sign-off procedure, certifying that all necessary mitigation of impacts to known cultural resources has been completed in those areas which will be directly affected by the construction and operation of the SEGS Unit IX ~~and X~~ projects;
- d. A provision that the designated cultural resource specialist shall have the certified authority to halt or redirect construction at any time necessary to

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CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

protect known or previously unknown cultural resources and their locational context. The halting or redirection of construction shall remain in effect until the designated cultural resources specialist has met with Luz construction managers, determined how the resources will be protected when construction resumes, and has completed the construction management/resource specialist sign-off procedures.

- e. A provision that if potentially significant cultural resources are encountered during construction, work in the immediate vicinity of the find shall be halted until the designated cultural resources specialist can determine the significance and sensitivity of the find. Luz's designated cultural resources specialist shall act in accordance with the procedures set forth in the monitoring and mitigation plan; Luz, or its designated representative, shall inform the CEC CPM within one working day of the discovery of any potentially significant resources and discuss the specific measure(s) proposed to mitigate potential impacts to the resources. The designated cultural resources specialist, representatives of Luz, and the CEC CPM shall meet within five working days of the notification of the CEC CPM, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented. All necessary and required data recovery and mitigation shall be completed before construction resumes in the vicinity of the previously unknown cultural resources;
- f. A provision that the CEC CPM and staff shall have unrestricted and unannounced access to the Luz SEGS Unit IX ~~and X~~ sites and the SEGS Units VIII-XII project areas, at any time during pre-construction and construction activities, to observe cultural resources monitoring and data recovery activities;
- g. A provision that the CEC CPM and staff shall have unrestricted access to and open communication with the designated cultural resources specialist(s) at any time;
- h. A provision that if human remains are encountered, work in the immediate vicinity shall stop and the county coroner and the CEC CPM shall be notified immediately. Work in the vicinity of the find shall remain stopped until the coroner has determined if the remains are Native American in origin and any necessary mitigation measures have been implemented. If the remains are determined to be of Native American origin, the Native American Heritage Commission and appropriate Native American representatives shall be notified immediately. Any necessary mitigation measures shall be discussed and agreed upon by the interested parties and approved by the CEC CPM;
- i. A provision ensuring the necessary analysis of all cultural resource materials found during surveys, data recovery, and mitigation activities for the SEGS Unit IX ~~and X~~ projects. Such analyses could include lithic

SEGS IX (89-AFC-01C)
CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

sourcing, rim hydration testing of obsidian specimens, pollen analysis of milling stones, carbon dating of organic materials, or flotation sampling of materials caught in fine mesh screening of earth samples from resource sites:

- j. A provision ensuring the preparation of a final cultural resources report;
- k. A provision that original and/or original-quality copies of the final cultural resources report will be filed with the appropriate regional Archaeological Information Center(s) and the CEC CPM;
- l. A provision for curation of all cultural resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX project.

Verification: Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and X~~ projects, Luz shall submit a monitoring and mitigation plan for cultural resources to the CEC CPM for review and written approval.

11 In the Monthly Compliance Report Luz shall provide the CEC CPM with information copies of any communications initiated or received by Luz, related to cultural resources monitoring or cultural resources mitigation work being conducted at the Luz SEGS Unit IX ~~or X~~ sites or in the SEGS Units VIII-XII project area. Such communications may include oral or written contacts with the designated cultural resources specialists, San Bernardino County representatives, staff of the San Bernardino County Museum, Luz contractors or sub-contractors, and/or other parties interested in the monitoring and mitigation work.

Verification: In the Monthly Compliance Report Luz shall provide the CEC CPM with information copies of all communications initiated or received by Luz, related to any cultural resources monitoring or mitigation work being conducted at the Luz SEGS Unit IX ~~and X~~ sites or in the SEGS Units VIII-XII project area.

12 Luz will have the designated cultural resources specialist available to monitor construction activities at the SEGS Unit IX ~~and X~~ sites or in the SEGS Units VIII-XII project area, on an as-needed basis as defined in the monitoring and mitigation plan for cultural resources.

Verification: After CEC approval of the designated specialist, Luz shall maintain copies of its contract(s) with the designated cultural resources specialist(s) in its compliance files.

13 Luz shall ensure completion of the necessary analysis of the cultural resource materials found during the surveys, data recovery, and mitigation activities for the SEGS Unit IX ~~and X~~ projects. Such analyses could include lithic sourcing, rim hydration testing of obsidian specimens, pollen analysis of milling stones, carbon dating of organic materials, or flotation sampling of materials caught in fine mesh screening of earth samples from resource sites.

SEGS IX (89-AFC-01C)
CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

Verification: Luz shall maintain in its compliance files copies of signed contracts or agreements with the museum(s), university (ies), or other appropriate research specialists which will ensure completion of the necessary analysis of cultural resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX project.

- 14** Luz shall ensure the preparation of a final cultural resources report by the designated cultural resources specialist. Luz shall submit the draft final report to the CEC CPM for review and approval within 90 days following completion of the data recovery and mitigation work. The final report shall include (but not be limited to) the survey report(s), methodology, and recommendations; site records and maps; determinations of sensitivity and significance; data recovery and other mitigation activities; results and findings of any special analyses conducted on recovered resource materials and data; and research questions answered or raised by the data from the SEGS Unit IX ~~and X~~ projects.

Verification: A copy of the draft final cultural resources report shall be submitted to the CEC CPM for review and approval within 90 days following completion of the data recovery and mitigation work by the designated cultural resources Specialist for the SEGS Unit IX ~~and X~~ projects.

- 15** Luz shall submit an original or original-quality copy of the approved final cultural resources report to the appropriate regional Archaeological Information Center(s) and one copy of the original to the CEC CPM. The report copy sent to the information center shall include the following: clean and reproducible original copies of all text; originals of any topographic maps showing site and resource locations; original or clear copies of drawings of cultural resource materials found during surveys, data recovery, or mitigation; original or clear copies of any architectural drawings or plans illustrating prehistoric or historic structures, design details, or site layouts; and photographs (including a set of negatives, if possible) of cultural resource materials found and evaluated during the SEGS Unit IX ~~and X~~ projects.

Verification: Luz shall maintain in its compliance files, copies of all documentation related to the filing of the original materials and final cultural resources report with the appropriate regional Archaeological Information Center(s).

- 16** Luz shall ensure the curation in a public repository, of all cultural resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX ~~and X~~ projects.

Verification: Luz shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university (ies), or other appropriate public repository(ies) by which Luz has provided for duration of cultural resource materials collected during surveys, data recovery, and mitigation for the SEGS Unit IX ~~and X~~ projects.

SEGS IX (89-AFC-01C)
CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

Paleontologic and Archaeological Resources

17 Luz shall, on a weekly basis, provide the CEC CPM and the designated paleontologic and cultural resources specialists with copies of updated and current work schedules for forthcoming activities related to construction of the Luz SEGS Unit IX ~~and-X~~ projects and other activities taking place in the SEGS Units VIII-XII project area.

Verification: Luz shall, in its Weekly Activity Report provide the CEC CPM and the designated paleontologic and cultural resources specialists with copies of updated and current work schedules for forthcoming activities related to construction of the Luz SEGS Unit IX ~~and-X~~ projects and other activities taking place in the SEGS Units VIII-XII project area.

18 Luz shall prepare a paleontologic and cultural resources awareness training program for presentation to all of its personnel and the personnel of its contractors or subcontractors who may be involved with ground clearance, earth moving and excavation, or project construction. The program is intended to develop an awareness of and sensitivity to project impacts on potentially significant cultural and paleontological resources. This training may include development of the ability to recognize potentially significant cultural and paleontologic resources and may be incorporated into the videotape presentation on the overall environmental protection plan.

Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and-X~~ projects, Luz shall submit to the CEC CPM for review and written approval, a copy of the written and video materials to be used in its training program and shall also make a demonstration presentation of its cultural and paleontologic resources training program to the CEC CPM. Within 30 days of receipt of the materials and viewing the program, the CEC CPM shall respond as to the program's adequacy.

Verification: Prior to the start of construction on ~~each of~~ the Luz SEGS Unit IX ~~and-X~~ projects, Luz shall submit a copy of the written materials to be used in its training program to the CEC CPM and staff.

Prior to the start of construction Luz shall present its cultural and paleontologic resources training program to the CEC CPM and staff and receive approval of the program from the CEC CPM.

19 Prior to the start of construction, Luz shall present its CEC CPM-approved paleontologic and cultural resources awareness training program to all of its personnel and the personnel of its contractors or subcontractors who may be involved with vegetation clearance, ground disturbance, other earth moving and excavation, or project construction. The paleontologic and cultural resources training program may be incorporated into the videotape presentation on the overall environmental protection plan.

SEGS IX (89-AFC-01C)
CULTURAL/PALEONTOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

The paleontologic and cultural resources awareness program shall be presented at the time of hire or prior to the start of construction. All personnel receiving the presentation shall sign an affidavit that they have received and understood the training program and will comply with the requirements. Luz shall keep the affidavits in its compliance files.

Verification: Each month throughout the pre-construction and construction period, Luz shall submit to the CEC CPM a list of persons newly employed at the Luz SEGS Units VIII-XII projects during the previous month and a statement verifying that all the new employees have signed paleontological and cultural resource training affidavits on file and available for periodic audit by the CEC CPM.

20 Luz shall initiate and implement a construction management/resource specialist sign-off procedure by which the project construction manager(s) and field construction crew leaders shall be required to receive the authorized signature of the designated paleontologic and cultural resources specialists certifying that the area in which pre-construction and construction activities are to begin has been cleared for such activity.

Verification: Luz shall maintain copies of all signed-off clearance forms in its compliance files and available for periodic audit by the CEC CPM.

**SEGS IX (89-AFC-01C)
DECOMMISSIONING CONDITIONS OF CERTIFICATION**

89-AFC-01C Order 96-0327-03 TN 2550

As a result of the SEGS Unit IX project, the existing environment of Harper Lake will be changed significantly, including land disturbance and visual aesthetics.

In the future, the project owner will be faced with a decision to decommission the Harper Lake facility, SEGS Unit IX. Decommissioning is to mean and be defined as removing a project from service at the end of its operations. Options for decommissioning could range from deactivation and mothballing, to removal of all equipment and appurtenant facilities and restoring the site to its natural state.

To ensure that decommissioning will be completed in a manner which protects public health and safety, is environmentally acceptable, and is consistent with local and/or regional plans in effect at the time, the following Conditions of Certification are imposed on the project owner. By filing a decommissioning plan for CEC approval, and proceeding with decommissioning as per the accepted plan, environmental impacts, local agency concerns, and public health and safety concerns should be minimized.

89-AFC-01C Order 96-0327-03 TN 2550

1 In its first Annual Report after commencement of commercial operations, the project owner shall submit a security and maintenance plan to the CEC CPM that establishes contingency procedures in the event of any unforeseen interruption of business and shall establish a dedicated security and maintenance fund in the amount of \$51,638. This plan shall provide for removal, disposal or storage of all hazardous and toxic materials and chemicals associated with SEGS Unit IX. This plan shall discuss all currently applicable laws, ordinances, regulations and standards (LORS) associated with the safe removal, storage or disposal of these materials. The plan shall also include a description of procedures for notification of regulatory agencies. The Commission must review and approve both the plan and the means for establishing the security and maintenance fund.

The fund shall be deposited in an interest-bearing Special Deposit Fund Account of the California Energy Commission and is to be used by the Commission only in the event of an unexpected shutdown of the SEGS IX facility. The fund may be used by the Commission if, after 30 days following cessation of operation of the facility, no action has been taken by the project owner, or any other entity assuming responsibility for the SEGS IX facility, to remove all hazardous and toxic materials and chemicals from the site. The fund shall be used by the Commission for the purposes of removal and disposal of all hazardous and toxic materials and for the provision of site security pursuant to the security and maintenance plan. All principal and accrued interest in the fund shall be returned to the owner upon the determination of the CEC CPM that all elements of the security and facility maintenance plan have been completed, or SEGS IX reaches the end of its operating life without an unforeseen interruption of operation.

SEGS IX (89-AFC-01C)
DECOMMISSIONING CONDITIONS OF CERTIFICATION

The project owner shall maintain a \$500,000 pollution remediation insurance policy or equivalent indemnification, which includes coverage for the cost of heat transfer fluid spill clean up.

The project owner shall annually demonstrate the current allowable economic uses of the heat transfer fluid.

Verification: The project owner shall deposit \$51,638 in the account designated by the CEC CPM within 30 days of adoption of this Amendment to the Commission Decision.

The project owner shall submit documentation to the CEC CPM in the annual compliance report, which verifies that a \$500,000 pollution remediation insurance policy or equivalent indemnification is in force for the next year, which includes coverage for the cost of heat transfer fluid (HTF) spill clean-up.

The project owner shall submit a brief statement in the annual compliance report regarding the current allowable uses of the heat transfer fluid, including economic uses. If the Commission determines that the value of the heat transfer fluid does not assure adequate site neutralization, the Commission may evaluate alternative measures to assure that sufficient resources exist for site neutralization.

89-AFC-01C Order 96-0327-03 TN 2550

2 Prior to commencing decommissioning activities for SEGS Unit IX, the project owner shall file a decommissioning plan with the California Energy Commission (CEC) Compliance Project Manager (CPM). The decommissioning plan shall:

- identify and discuss the proposed decommissioning activities and schedule for the power plant site, transmission line corridor, and all appurtenant facilities constructed as a part of, or because of, the project;
- identify all applicable laws, ordinances, regulations, standards, (LORS) and local/regional plans applicable at that time;
- discuss how the specific proposed decommissioning activities will comply with those identified LORS and plans;
- contain an analysis of all decommissioning alternatives considered, including restoration of the site to its preconstruction, natural state; and
- discuss the reasons for selecting the preferred proposal.

Prior to submittal of the decommissioning plan, a pre-filing workshop shall be held with the project owner and CEC staff, and other interested parties, for the purpose of determining the specific contents of the plan. The project owner shall be responsible for requesting the CEC CPM to schedule the pre-filing workshop.

In the event that significant issues are associated with the plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CEC may hold workshops and/or public hearings as part of its approval procedure.

SEGS IX (89-AFC-01C)
DECOMMISSIONING CONDITIONS OF CERTIFICATION

The project owner shall not commence decommissioning activities of the SEGS Unit IX until approval of the decommissioning plan is obtained from the CEC. The project owner shall comply with any requirements incorporated by the CEC as a condition of the decommissioning plan.

Verification: At least (12) months prior to commencing decommissioning activities at the SEGS Unit IX facilities, the project owner shall file the above described decommissioning plan with the CEC CPM.

At least six (6) months prior to filing the decommissioning plan with the CEC CPM, the project owner shall request, in writing, that the CEC staff schedule a pre-filing workshop to determine specific contents and scope of the decommissioning plan.

[89-AFC-01C Order 96-0327-03 TN 2550](#)

3 Deleted

SEGS IX (89-AFC-01C)
ELECTRICAL ENGINEERING CONDITIONS OF CERTIFICATION

- 1 Luz shall not begin any electrical construction until plans have been reviewed and approved by the CBO. These plans, together with design changes and design change notices shall remain on the site at all times. Luz shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS.

Verification: Luz shall submit electrical inspection reports to the CEC CPM in the monthly compliance report.

Prior to the initial turbine roll, Luz shall submit to the CEC CPM a statement signed by the CBO that the electrical equipment has been installed in accordance with approved drawings. The following activities shall be reported in the weekly activities report:

1. Receipt or delay of major electrical equipment.
 2. Testing or energization of major electrical equipment.
 3. The number of electrical drawings approved, submitted for approval and the number still to be submitted.
- 2 Luz shall submit to the CBO three copies of items a and b for review and one copy of item c:
 - a. Final design plans to include:
 - one-line diagrams for the 220 kV, 13.8 kV, 4.16 kV and 480 V systems;
 - system grounding drawings;
 - general arrangement or conduit drawings; and
 - other plans as required by the CBO.
 - b. Final calculations to establish:
 - short-circuit ratings of equipment;
 - ampacity of feeder cables;
 - coordination study calculations for fuses, circuit breakers and protective relay settings;
 - system grounding requirements;
 - lighting energy calculations; and
 - other calculations as required by the CBO.
 - c. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to conditions 1 and 2.

SEGS IX (89-AFC-01C)
ELECTRICAL ENGINEERING CONDITIONS OF CERTIFICATION

Verification: Thirty (30) days before start of electrical equipment installation, LUZ shall submit to the CEC CPM a copy of the transmittal letter to the CBO, verifying that copies of the items listed above were transmitted to the CBO.

- 3 The California registered electrical engineer, responsible for the electrical design of SEGS IX, shall sign and stamp all design drawings, plans, specifications, calculations and applicable quality control documents. The engineer's name, signature, registration number and registration expiration date shall appear on all the above documents. A statement containing the engineer's name, registration number and registration expiration date shall be sent to the CBO and the CEC CPM.

Verification: LUZ shall submit the statement to the CBO and the CEC CPM no later than thirty (30) days after certification.

- 4 Luz shall design, construct and install the electrical equipment in accordance with the applicable LORS identified in the section entitled Compliance with Applicable LORS.

Verification: Prior to the start of commercial operation of SEGS Unit IX, Luz shall submit to the CEC CPM a statement that the design, manufacturing and installation requirements of all applicable LORS have been met.

Luz shall also provide a statement that Industry Standards have been followed.

- 5 Prior to the start-up, operation, or testing of the SEGS Unit IX ~~&-X~~ project, Luz shall design and install a system or facilities to automatically shut down and render the power plant safe in the event of an emergency.

Verification: Within Thirty (30) days after certification Luz shall submit to the CEC CPM and the CBO the final design plans, specifications, calculations and quality control procedures for the installation of the above system or facilities for approval.

Prior to the start-up, operation, or testing of the SEGS Units IX ~~&-X~~ project Luz shall submit a statement to the CEC CPM that the above system or facilities have been installed and are operational.

SEGS IX (89-AFC-01C)
GEOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

- 1 Luz shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the Uniform Building Code (UBC), section 7006(c), 1985 edition. If the engineering geologist(s) is subsequently replaced, Luz shall, within 10 days, submit for approval the name(s) and license number(s) of the newly assigned individual to the CEC CPM.

Verification: No later than 60 days following certification, Luz shall submit to the CEC Compliance Project Manager (CPM) and the CBO for approval the name of the certified engineering geologist(s) assigned to the project. The CEC CPM will notify Luz of approval/disapproval within 20 days of receipt, by the CEC CPM, of the submittal. Notification of approval/disapproval for replacement personnel will be given by the CEC CPM within 10 days of receipt of the notice of personnel change.

- 2 The assigned engineering geologist shall be responsible to carry out the duties required by UBC section 7006(c), 1985 edition, including:
- a. prepare the "Engineering Geology Report" required by UBC section 7006(c):

"Section 7006(c) Plans and Specifications. When required by the building official, each application for a grading permit shall be accompanied by two sets of plans and specifications, and supporting data consisting of a soils engineering report and engineering geology report. The plans and specifications shall be prepared and signed by a civil engineer when required by the building official."

That report shall contain that information described in UBC section 7006(f):

"Section 7006(f) Engineering Geology Report. The engineering geology report required by Subsection (c) shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading."

"Recommendations included in the report and approved by the building official shall be incorporated in the grading plans or specifications."
 - b. monitor geologic conditions during construction and approve actual mitigation measures used to protect the facilities from geologic hazards.
 - c. prepare the final "Geologic Grading Report" after completion of grading as required by UBC section 7015(a)3;

Section 7015(a)3. "A geologic grading report prepared by the engineering geologist, including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. He shall

SEGS IX (89-AFC-01C)
GEOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

render a finding as to the adequacy of the site for the intended use as affected by geologic factors."

Verification:

- a. Within 10 days of submittal of the application(s) for grading permit(s) to the County Chief Building Official (CBO), other designated authority or CEC's duly authorized representative, Luz shall submit a signed statement to the CEC CPM stating that the Engineering Geology Report has been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the Report are incorporated into the plans and specifications;
- b. Within 90 days following completion of final grading, Luz shall submit a copy of the geologic grading report required by UBC section 7015(a)3 to the CEC CPM.

SEGS IX (89-AFC-01C)
LAND USE CONDITIONS OF CERTIFICATION

- 1** Luz shall simultaneously submit a copy to the CEC CPM of any letter initiating a change in San Bernardino County land use plans, permits, or ordinances, and describe the reasons for requesting said action(s). Luz shall maintain a copy of any approved change in its compliance files.

Verification: In its next Monthly or Annual Compliance Report, whichever occurs first, Luz shall reference and verify that a letter containing the above information was sent to the CEC CPM.

- 2** Luz shall notify the CEC CPM of any claim against the Department of Defense (DOD), which exceeds the \$12,000 property damage limit contained within the Avigation Easement.

Verification: In its next Monthly or Annual Compliance Report, whichever occurs first, Luz shall include a copy of the claim filed against the DOD.

SEGS IX (89-AFC-01C)
MECHANICAL ENGINEERING CONDITIONS OF CERTIFICATION

- 1 Luz shall design, construct and operate SEGS Unit IX ~~and X~~ in accordance with the applicable LORs and legally required industry standards identified herein under the section entitled compliance with Applicable LORS.

Prior to the start of any increment of construction, Luz shall obtain CBO approval of all proposed final design plans, specifications, calculations and quality assurance/quality control (QA/QC) procedures. Upon completion of any increment of construction, Luz shall request the CBO's inspection approval of said construction.

The responsible engineer in charge, registered to practice mechanical engineering in the State of California, shall sign the documents and submit a signed statement to the CBO certifying that the mechanical calculations, plans, specifications and documents submitted to the CBO conform to all applicable LORS.

Verification: Thirty (30) days prior to the start of any increment of construction, Luz shall transmit to the CEC CPM in the next Weekly Progress Report a copy of CBO approval of the proposed final design plans, specifications, calculations and quality control procedures for that increment of construction of SEGS Unit IX, including a copy of the signed and stamped engineer's certification.

Luz shall transmit a copy of the CBO's inspection approvals to the CEC CPM in the Monthly Construction Report following completion of any inspection.

- 2 Luz shall design and install all piping, other than domestic and refrigeration, to the appropriate code:
- American National Standards Institute (ANSI) B31.1 (Power Piping Code),
 - ANSI B31.2 (Fuel Gas Piping Code),
 - ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code) or ANSI B31.8 (Gas Transmission and Distribution Piping Code), and
 - National Fire Protection Association (NFPA).

Prior to the start of any increment of construction, Luz shall obtain CBO approval of the proposed final design drawings, specifications, calculations, and applicable quality control procedures for each plant piping system.

The CBO may require Luz, as necessary, to employ special inspectors to report directly to the CBO to monitor shop fabrication or equipment installation.

The responsible engineer, registered to practice mechanical engineering in the State of California, shall submit a signed and stamped statement to the CBO that the proposed final design plans, specifications, and calculations conform with all of the piping requirements set forth in the Commission Decision.

The responsible engineer also shall submit a signed and stamped statement to the CBO that all of the other piping systems, except domestic and refrigeration,

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have been designed, fabricated, and installed in accordance with all applicable ordinances, regulations, laws, and industry standards.

Upon completion of construction of any piping system, Luz shall request the CBO's inspection approval of said construction.

In addition, Luz shall submit to the CEC CPM for information, concurrently with submittal to the CBO for approval, design plans, specifications, calculations, and quality control procedures for the following principal piping systems:

- a. condensate/feedwater system;
- b. steam system;
- c. natural gas supply system;
- d. heat transfer fluid system;
- e. fire water system; and
- f. acid and caustic system.

Verification: Thirty (30) days prior to the start of any increment of construction, Luz shall transmit to the CEC CPM in the next Weekly Progress Report a copy of CBO approval of the proposed final design plans, specifications, calculations and quality control procedures for that increment of construction of piping systems for SEGS Unit IX, including a copy of the signed and stamped engineer's certification of conformance with Decision requirements.

Luz shall submit to the CEC CPM the above listed design plans, specifications, calculations and quality control procedures for information in the Weekly Progress Report following Luz' submittal of these same documents to the CBO for approval.

Luz shall submit to the CEC CPM a copy of the signed and stamped engineer's certification of compliance with applicable LORs and standards in the Weekly Progress Report following submittal of same to the CBO. Luz shall transmit a copy of the CBO's inspection approvals to the CEC CPM in the Monthly Construction Report following completion of any inspection.

- 3** Luz shall ensure that all pressure vessels are designed, fabricated and installed in accordance with American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section I or Section VIII, and CCR, Title 8, Chapter 4, including those prefabricated vessels furnished by vendors.

Prior to the intended start of fabrication, installation or construction, whichever comes first, Luz shall obtain the CBO's approval of all proposed final design plans, specifications, calculations, and quality control procedures for each pressure vessel. In addition, the responsible design engineer, registered to practice mechanical engineering in the State of California, shall stamp and sign all pressure vessel drawings, specifications, and calculations. The responsible design engineer shall submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements

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set forth in the CCR, Title 8 and ASME Boiler and Pressure Vessel Code Section VIII.

For all pressure vessels installed in the plant, Luz shall submit to the CBO and Cal/OSHA, prior to installation, certified code papers and other documents required by LORs and legally required standards. Luz shall request written notification from the CBO that the plan check and installation are in accordance with the code requirements.

In addition, Luz shall request Cal/OSHA to verify the proper implementation of the above codes through on-site inspection.

Upon completion of construction or installation of any pressure vessel, Luz shall request the CBO's inspection approval of said construction or installation.

Verification: Thirty (30) days prior to the intended start of fabrication, construction, or installation of any pressure vessel, whichever comes first, Luz shall transmit to the CEC CPM in the next Weekly Progress Report a copy of the CBO's approval of the calculations, specifications, and quality control procedures (including a copy of the signed and stamped engineer's certification).

Luz shall send copies of CBO and Cal/OSHA comments and approvals to the CEC CPM in the following Monthly Construction Progress Report. Luz shall transmit a copy of the CBO's inspection approvals to the CEC CPM in the Monthly Construction Report following completion of any inspection.

- 4** Luz shall ensure that the gas-fired HTF heater is designed, fabricated and installed in accordance with American Petroleum Institute (API) Standard 560. Prior to the intended start of fabrication, installation or construction, whichever comes first, Luz shall obtain the CBO's approval of all proposed final design plans, specifications, calculations, and quality control procedures. In addition, the responsible design engineer, registered to practice mechanical engineering in the State of California, shall stamp and sign all drawings, specifications, and calculations. The responsible design engineer shall submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform with all of the requirements set forth in API 560.

Luz shall provide a periodic inspection program for CEC CPM review and approval. Upon completion of any increment of construction, Luz shall request the CBO's inspection approval of said construction.

Verification: Thirty (30) days prior to the intended start of fabrication, construction, or installation, whichever comes first, Luz shall transmit to the CEC CPM in the next Weekly Progress Report a copy of the CBO's approval of the calculations, specifications, and quality control procedures (including a copy of the signed and stamped engineer's certification).

Luz shall send copies of CBO comments and approvals to the CEC CPM in the following Monthly Construction Progress Report. Luz shall transmit a periodic inspection

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program to the CEC CPM as soon as it is available for approval. Luz shall transmit a copy of the CBO's inspection approval to the CEC CPM in the Monthly Construction Report following completion of inspection.

- 5** Luz shall design and install all heating, ventilating, air conditioning, and refrigeration systems within buildings and related structures in accordance with the Uniform Mechanical Code and other applicable standards, ordinances and laws.

Prior to the intended start of construction of any such system, Luz shall obtain CBO approval of final design plans, specifications, calculations, and quality control procedures for each system. The final plans, specifications, and calculations shall include approved criteria, assumptions, and methods used to develop the design.

In addition, the responsible mechanical design engineer, registered to practice mechanical engineering in the State of California, shall sign and stamp all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications, and calculations conform with all applicable standards, ordinances, and laws. Upon completion of any increment of construction, Luz shall request the CBO's inspection approval of said construction.

Verification: Thirty (30) days prior to the start of construction of any heating, ventilating, air conditioning, or refrigeration system, Luz shall transmit to the CEC CPM, in the following Weekly Progress Report, a copy of the CBO's approval of the required HVAC and refrigeration calculations, plans, and specifications (including a copy of the signed and stamped statement from the design engineer certifying compliance with the applicable standards, ordinances, and laws).

Luz shall send copies of CBO comments and approvals to the CEC CPM in the next monthly Construction Progress Report. Luz shall transmit a copy of the CBO's inspection approvals to the CEC CPM in the Monthly Construction Report following completion of any inspection.

- 6** Luz shall design, fabricate, and install:
- a. Plumbing in accordance with Title 24, CCR, Division 5, Part 5, and the Uniform Plumbing Code.
 - b. Potable water system in accordance with Title 24, CCR, Division 5, Part 5, Article Pro, and the Uniform Plumbing Code.
 - c. Drainage system including sanitary drain and waste system in accordance with Title 24, CCR, Division 5, Part 5, Articles P4, P5, P6, and P7, and the Uniform Plumbing Code.
 - d. Toilet rooms and number of toilet rooms in accordance with the Uniform Plumbing Code, Appendix C, and Title 24, CCR, Part 2.

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- e. Energy conservation system in the control and maintenance building in accordance with Title 24, CCR, Division 5, Chapter 2-53, Part 2.
- f. Temperature and ventilation systems in accordance with Title 24, CCR, Division 5, Chapter 2-53, Part 2.

Prior to the intended start of each increment of construction, Luz shall obtain the CBO's approval of all final design plans, specifications, calculations, and quality control procedures for each of the above mechanical systems, including water and sewer connection permits issued by the city or county. The final plans, specifications, and calculations shall clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design.

In addition, the responsible mechanical design engineer, registered to practice mechanical engineering in the State of California, shall stamp and sign all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications, and calculations conform with all of the requirements set forth in the Commission Decision. Upon completion of any increment of construction, Luz shall request the CBO's inspection approval of said construction.

Verification: Thirty (30) days prior to the start of construction of any of the above systems, Luz shall submit a copy of the CBO's approval of the final design plans, specifications, and calculations (including a copy of the signed and stamped statement from the design engineer certifying compliance with the applicable standards, ordinances, and laws) to the CEC CPM in the following Weekly Progress Report.

Luz shall transmit a copy of the CBO's inspection approvals to the CEC CPM in the Monthly Construction Report following completion of any inspection.

- 7** Luz shall not fire or operate of the heat transfer fluid (HTF) heaters and their components until approval is granted by the California Energy Commission (CEC) Compliance Project Manager (CPM) and the San Bernardino County Air Pollution Control officer (APCO), and in consultation with the San Bernardino County Fire Department.

Verification: Prior to any firing or operation of the HTF heaters Luz shall submit a letter, to the abovementioned agencies, requesting approval to operate the HTF heaters.

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NOISE CONDITIONS OF CERTIFICATION

- 1 Luz shall develop and submit to the San Bernardino County Department of Environmental Health for approval a noise complaint resolution procedure for handling public complaints during both the construction and operational phases of the project. The procedure shall include, at a minimum, logging of complaints, identification of contact personnel, a schedule for responding to complainants, and investigations to resolve the complaint. The intent of this procedure shall be for Luz to promptly document and determine the nature and cause of the complaint and take immediate and reasonable measures to eliminate its cause.

Verification: Not later than 60 days after certification, Luz shall submit to the San Bernardino County Department of Environmental Health, a procedure for handling public complaints. Luz shall request that the San Bernardino County Noise Regulatory Officer, within 15 days of receipt of the procedure, notify Luz and the CEC CPM regarding its acceptability.

- 2 Luz shall conduct a project traffic and community noise survey within 60 days (or other time period acceptable to the CEC Commission CPM) of the unit reaching an output rating of 80 percent or greater under normal plant operating conditions. The community noise sampling, unless otherwise specified will be monitored at locations acceptable to the CEC CPM and San Bernardino County Department of Health. The noise levels (day and night) shall be measured for a period of at least 24 hours at each location, under the above operating conditions. The hourly Leq and the statistical descriptors, L10, L50, L90, Lmax, and frequency distribution in 1/3 octave bands shall be reported. Based upon complaints or any significant changes in noise emissions due to changes at the Luz facility, additional surveys may be required by San Bernardino County Department of Environmental Health or the CEC CPM during the live of the project. Luz shall notify the CEC CPM of complaints received in the Monthly or Annual Compliance Report(s).

Luz shall prepare and submit to the San Bernardino County Department of Environmental Health for approval a report(s) on the survey(s) which will be used for comparison with pre-project background noise levels and projected plant noise levels. In the event that the measured levels substantially exceed (greater than 3 dB, or equal to or greater than the County Noise Standard) the projected levels, the report shall contain a detailed mitigation plan, which Luz will implement following review and approval by the San Bernardino County Department of Environmental Health.

Verification: Within 60 days (or another time period acceptable to the CEC CPM) of Luz reaching an output rating of 80 percent or greater, Luz shall conduct the above described noise survey. Within 30 days of completing the noise survey, Luz shall submit the noise survey report to the San Bernardino County Department of Environmental Health. The County shall notify Luz and the Commission CPM in writing, within 30 days of receipt of the report about the acceptability of the survey, and if further mitigation-is required.

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NOISE CONDITIONS OF CERTIFICATION

Luz shall notify the CEC CPM of the County's action in the next Monthly Compliance Report and include a statement of actions on any complaints received during that reporting period.

- 3 Luz shall conduct occupational noise surveys to identify the noise hazardous areas in the facility. The surveys shall be conducted after full commercial operation is reached. The surveys shall be conducted by a qualified person in accordance with the provisions of Title 8 of the California Code of Regulations, Sections 5095-50100 (Article 105) and Title 29, Code of Federal Regulations, Part 1910. The survey(s) results shall be used to determine the magnitude of employee noise exposure. Luz shall prepare and submit to the CEC CPM a report on the survey(s) results and proposed mitigation measures, if necessary, that will be employed to comply with California and Federal regulations.

Verification: The above noise surveys shall be conducted within 90 days (or another time period acceptable to the CEC CPM) after commercial operation is reached but no more less than 180 days after the unit has reached at least 50 percent of rated output. Within 60 days of the occupational noise surveys, Luz will submit the above report on the survey to the CEC CPM. Luz shall make this report available to Cal/OSHA upon request.

- 4 Luz shall maintain all internal combustion engine driven equipment used for the project in good working order and shall equip such equipment with appropriate mufflers to minimize noise emissions. Construction activity utilizing such equipment shall be limited to daylight hours to the extent feasible.

Verification: No later than 60 days after certification, Luz shall place in their compliance file a letter which certifies that all internal combustion engine drive equipment has been fitted with and will be operated with mufflers that minimize noise emissions.

Luz shall notify the CEC CPM of the filing of this letter in the next Monthly Compliance Report.

SEGS IX (89-AFC-01C)
PUBLIC HEALTH CONDITIONS OF CERTIFICATION

89-AFC-01C Order 91-0320-09f

- 1 Luz shall provide the CEC CPM with a complete description of operating procedures, start-up procedures, emergency shutdown procedures, and related operator training programs prior to operation of the heaters. The operating procedures should also address errors that could result from operation of different heater designs by the same personnel in the same control room.

Verification: Luz shall provide the CEC CPM with the above descriptions at least 90 days prior to start-up, for review and comment. Luz shall also incorporate any staff recommendations regarding procedures and training in the final procedures and training programs.

89-AFC-01C Order 91-0320-09f

- 2 Luz shall provide a proposed inspection and maintenance plan and schedule based on industrial experience or vendor recommendations for all system components critical to safe operation of the heaters. The plan shall describe procedures that will be followed to track failure rates in order to maintain the availability of critical system components at the facility by replacement or refurbishment before they become unreliable. Luz shall also implement the inspection and maintenance program to minimize failures of critical system components.

Verification: Luz shall submit a preliminary inspection and maintenance plan and schedule for components of critical systems to the CEC CPM at least 90 days prior to start-up. Luz shall also provide yearly status reports on equipment failures and the effectiveness of inspection and maintenance procedures on critical systems.

89-AFC-01C Order 91-0320-09f

- ~~3 Luz shall use redundant design for the following SEGS X critical safety systems, including redundant sensors, PLCs, and actuated devices, and Luz shall incorporate any CEC staff recommendations for firing rate/HTF flow control system modifications based on CEC staff's review:~~

~~Pilot Gas Pressure Purpose: Prevention of low pilot gas pressure possible failed "light off".~~

~~Instruments: Pressure switch low, connected to the PLC.~~

~~Location: Pilot gas header~~

~~Set point: Trip at 2 psig~~

~~Operation: Close gas valves~~

~~Flame Detector Purpose: Detection of burner "flame out".~~

~~Instruments: Two flame detectors per burner for a total of eight per heater, connected to the PLC.~~

~~Location: On the side walls of the fire box.~~

~~Set point: Both flame detectors sense loss of flame.~~

~~Operation: Close the gas valves.~~

~~Smoke Detector Purpose: Detection of smoke in air preheater ductwork.~~

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PUBLIC HEALTH CONDITIONS OF CERTIFICATION

~~Instruments: One smoke detector per heater, connected to the PLC.
Location: In flue gas duct, at the outlet of the air preheater.
Set point: "Smoke".
Operation: Close the gas valves. Stop the air fans and close respective dampers. Closes the main inlet HTF valve.~~

~~Box Temperature Purpose: Prevention of high fire box temperature.
Instruments: Temperature transmitter at each fire boxes top section, two per heater, connected to the PLC.
Location: On fire box top section.
Set point: 1300 F (1)
Operation: Close the gas valves.~~

~~Combustibles in Flue Gas Purpose: Prevention of pilot gas ignition if combustibles are in the flue gas.
Instruments: Combustion analyzers in the flue gas duct at each of the 4 heaters connected to the respective PLC's.
Location: Flue gas duct prior to the ID fan.
Set point: 0 ppm
Operation: Close the gas valves~~

~~Firing Rate Limitation (Gas Valve Limitation) Purpose: Determines the maximum gas pressure for any given HTF flow. This limits the fuel to the burner and prevents a condition where the HTF might overheat.
Instruments: Pressure (on gas header) and flow transmitters (on HTF header), connected to DCS. Fuel gas control valve connected to the DCS.
Location: ON the gas header to the burners and on the HTF inlet header.
Set point: From 0.5 to 10 Psig corresponding with an HTF flow of 10 to 100 percent.
Operation: Based on the HTF flow, the DCS calculates the maximum allowable gas pressure.~~

~~Low Flow Purpose: Detection of low HTF flow.
Instruments: Redundant flow sensors connected to redundant PLCs.
Location: At heater outlet.
Set point: 30% HTF flow.
Operation: Close gas supply valve.~~

~~**Verification:** Luz shall inform the CEC CPM when final P and ID diagrams are available for the proposed heaters. These shall be available for CEC staff review and comment no later than 90 days prior to heater operation.~~

- 4 Sixty days prior to operation of SEGS IX ~~and X~~ Luz shall develop and implement a personal protective equipment program and a respiratory protection plan for the operation of the SEGS IX ~~and X~~ facility, which contains sufficient detail for review by Cal/OSHA and the CEC CPM. Luz shall revise these plans as necessary based on comments made by Cal/OSHA and the CEC CPM and shall submit the

SEGS IX (89-AFC-01C)
PUBLIC HEALTH CONDITIONS OF CERTIFICATION

revised plan for approval by the CEC CPM, Luz shall also purchase and install all required equipment and conduct all required training of personnel.

Verification: Sixty days prior to commencement of operation at SEGS IX ~~and X~~, Luz shall:

1. provide a copy of a detailed personnel protective equipment program and a respiratory protection plan, applicable to the operation of SEGS IX ~~and X~~, to the CEC CPM and Cal/OSHA;
 2. forward a copy of comments made by Cal/OSHA to the CEC CPM; and,
 3. submit modified plans to the CEC CPM which reflect all CEC and Cal/OSHA comments.
- 5** Luz shall, at all times, ensure that protective equipment and procedures described in the personnel protective equipment program and the respiratory protection plan, or recommended in material safety data sheets, be followed when handling materials listed in **Tables 7-1** and **7-2** of the Safety Plan for the Harper Lake facilities. All procedures and equipment necessary to comply with vendor recommendations shall be in place prior to construction of SEGS IX ~~and X~~.

Verification: Luz shall provide to the CEC CPM a list of equipment purchased, and specific procedures that will be used in handling of all the materials listed in **Tables 7-1** and **7-2** of the Safety Plan, prior to construction of SEGS IX ~~and X~~.

Luz shall notify the CEC CPM in the Weekly Activity Report when installed equipment is ready for inspection.

- 6** Luz shall use only the materials listed in **Public Health: Table 2** for treatment of cooling tower water. Luz may use materials other than those listed in **Table 2** if written approval is obtained from the CEC CPM.

Verification: Luz shall obtain written approval from the CEC CPM prior to storage or use of any material not listed in **Public Health: Table 2** for treatment of cooling tower water.

- 7** Luz shall not store, handle, or otherwise use any chemical listed as extremely hazardous by the Environmental Protection Agency without an approved Risk Management and Prevention Program (RMPP), and/or prior approval of the San Bernardino County Department of Environmental Health Services (SBCDEHS) and the CEC CPM.

Verification: Luz shall inform the SBCDEHS and the CEC CPM of its intent to store or use a reportable quantity of an extremely hazardous material at least 6 months prior to on-site storage or use unless prior approval has been obtained from the SBCDEHS and the CEC CPM.

SEGS IX (89-AFC-01C)
PUBLIC HEALTH CONDITIONS OF CERTIFICATION

Luz shall also submit all requests made to the SBCDEHS to store or use such materials to the CEC CPM concurrently.

SEGS IX (89-AFC-01C)
QUALIFYING FACILITY STATUS CONDITIONS OF CERTIFICATION

- 1** The facility shall be operated in accordance with the requirements of Title 18 CFR, section 292.204(b)(2). Total energy input into the SEGS Unit IX project shall be monitored continuously by Luz. Monitored data shall include electrical energy deliveries to the purchasing utility, solar energy input, natural gas energy input, total energy input, monthly and annual plant availability, monthly and annual plant equivalent availability, and the monthly and annual capacity factor for each utility period (peak, mid-peak and off-peak).

Verification: Luz shall include, in the annual compliance report, a report signed by the project operations supervisor under whose supervision the data were obtained and the report prepared, attesting to the veracity of the data and showing each of the above parameters, by month, for SEGS Unit IX.

SEGS IX (89-AFC-01C)
RELIABILITY CONDITIONS OF CERTIFICATION

- 1 Luz shall have in place a comprehensive preventive- and restorative-maintenance program having the following features:
- an inventory management plan for assurance that adequate spare parts are on hand;
 - maintenance tools, factory repair manuals, and repair facilities adequate to perform on-site repair and maintenance of equipment;
 - a training program for mechanics and maintenance personnel in the operation and maintenance of plant systems and major equipment;
 - optimized scheduling of preventive maintenance; and
 - QA/QC control over purchase specification and acceptance of spare parts and equipment.

Verification: Within 180 days after the Commission Decision, Luz shall provide a statement signed by the project manager attesting to compliance with the condition. The statement shall be submitted to the CEC CPM.

- 2 Luz shall maintain monthly data sets of the following information:
- a. logs of equipment failure data and operational data for all major equipment, including SCA's, turbine-generator, gas-fired HTF heaters, condenser and cooling towers, pumps, and major valves and control devices. These logs shall include mean time between failures (MTBF), mean downtime (MDT), monthly and annual availability, and equipment availability and Capacity factors.
 - b. time of plant start-up and shut-down and duration of operation;
 - c. forced outage durations and causes;
 - d. average daily solar insolation;
 - e. net solar energy delivered to the steam generator; and
 - f. net natural gas consumed for steam generation and for HTF evening-hour temperature maintenance; and
 - g. monthly and annual availability, and equipment availability and capacity factors.

Verification: Luz shall include the information (**2b-2g**) listed above in each Annual Compliance Report to the CEC CPM. Upon request, Luz shall make available to the CEC CPM the information in item **2a**.

SEGS IX (89-AFC-01C)

INDUSTRIAL SAFETY AND FIRE PROTECTION CONDITIONS OF CERTIFICATION

- 1** Luz shall submit a SEGS Unit IX ~~and X~~ Safety Plan to the San Bernardino County Environmental Health Services Department and to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) for review and comment regarding compliance of the Plan with County requirements and with the provisions of Title 8, CCR, Section 1509 (Construction Safety Orders, Accident Prevention Program) and Section 3203 (General Industry Safety Orders, Accident Prevention Program) and Title 29, CFR 1910 respectively. Any and all comments by the County and Cal-OSHA shall be incorporated into the Plan. Luz shall implement the Safety Plan consistent with comments and requirements of San Bernardino County and Cal-OSHA.

Verification: At least 10 days prior to beginning any construction, Luz shall submit to the CEC CPM a letter containing San Bernardino County's and Cal-OSHA's comments regarding the compliance of the Safety plan with County requirements and with Title 8, CCR, sections 1509 and 3203 respectively, and a statement verifying that any and all comments or recommendations by the County and Cal-OSHA have been incorporated into the SEGS Unit IX Safety Plan.

The CEC CPM shall be accorded access to the project area, facilities, and all safety records at any reasonable time during construction and operation of the facility to verify implementation of the plan.

- 2** Luz shall obtain a final certificate of occupancy or suitable waiver from the San Bernardino County Forestry and Fire Warden Department. Within thirty (30) days of completion of construction, Luz shall request a final fire inspection.

Verification: At least 10 days prior to first turbine roll, Luz shall submit to the CEC CPM a copy of the final certificate of occupancy issued by the San Bernardino County Forestry and Fire Warden Department.

- 3** Luz shall submit copies of all reports related to the investigation of the January 10, 1990 SEGS Unit VIII fire and explosion. Luz shall incorporate all modifications to the project design and procedures which are required or ordered by the CEC CPM or the San Bernardino County Air Pollution Control Officer (APCO). Luz shall not fire or begin operation of the HTF heaters until this condition has been satisfied, the design and procedural changes implemented and approval is granted by the CEC CPM and the APCO in consultation with the San Bernardino County Fire Department.

Verification: Within thirty (30) days after certification, Luz shall submit to the CEC CPM a report(s) on the cause of the January 10, 1990 SEGS Unit VIII fire & explosion. Before Luz fires or operates the HTF heaters Luz shall incorporate the CEC recommendations and provide the CEC CPM with a statement that all CEC recommendations have been incorporated.

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INDUSTRIAL SAFETY AND FIRE PROTECTION CONDITIONS OF CERTIFICATION

- 4 Luz shall submit a report on its emergency response to the SEGS Unit VIII January 10, 1990 heat transfer fluid (HTF) heater fire to the San Bernardino County Environmental Health Services Department, San Bernardino County Fire Department, California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) and the California Energy Commission (CEC) Compliance Project Manager (CPM) for review and comment. Comments on the report will be incorporated in the SEGS Units IX ~~& X~~ Safety Plan/Emergency Response Plan.

Verification: Thirty (30) days after certification, Luz shall submit to the abovementioned agencies a copy of the emergency response report. Prior to delivery of HTF or natural gas to the facilities, Luz shall submit to the CEC CPM a letter containing the agencies comments regarding the emergency response report and a statement verifying that any and all comments or recommendations by the agencies have been incorporated into the SEGS Unit IX ~~and X~~ Safety Plan.

The CEC CPM shall be accorded access to the project area, facilities, and all safety records at any reasonable time during construction and operation of the facility to verify implementation of the Plan.

89-AFC-01C Order 91-0320-09f

- 5 Luz shall, prior to firing or operation of any of the HTF heaters, design and install fire monitoring and/or protection systems/equipment throughout the power block area, and devise and put into operation appropriate fire prevention/protection procedures. Such systems/equipment shall be capable of detecting, alarming, managing and/or snuffing fires on or near the HTF heaters and other power block equipment and facilities. All such systems/equipment and procedures shall satisfy all applicable LORS and all requirements of the San Bernardino County Fire Warden.

Verification: Sixty (60) days prior to first firing or operation of any of the HTF heaters, Luz shall submit to the San Bernardino County Fire Warden for approval, with a copy of the transmittal letter to the CBO and the CEC CPM, the procedures, final design plans, specifications, calculations and quality control procedures for the above systems or facilities.

In the monthly compliance report, prior to the first firing or operation of any of the HTF heaters, Luz shall submit to the CEC CPM a signed statement that the above systems or facilities have met approval of the San Bernardino County Fire Warden.

Battery Energy Storage System

WORKER SAFETY-11 The project owner shall submit the fire protection plans for the Battery Energy Storage System (BESS) to the San Bernardino County Fire Department (SBCFD) for review and comment, to the delegate chief building official (DCBO) for plan check and inspection, and to the compliance project manager (CPM) for review and approval.

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INDUSTRIAL SAFETY AND FIRE PROTECTION CONDITIONS OF CERTIFICATION

Verification: At least sixty (60) days prior to the start of construction of the BESS project, the project owner shall provide the complete set of BESS fire protection drawings and specifications to the SBCFD for review and comment, to the DCBO for plan check approval and construction inspection, and to the CPM for review and approval.

WORKER SAFETY-12 The project owner shall submit a BESS hazard mitigation analysis per UL 9540A to the SBCFD for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval.

The hazard mitigation analysis shall include consideration of potential thermal runaway fault conditions occurring in a single-battery storage rack, cell module or cell array. The analysis shall include mitigations to prevent flammable gases released during fire, overcharging and other abnormal conditions within the BESS, from creating an explosion hazard that could injure workers or emergency first-responders.

Verification: At least sixty (60) days prior to the start of construction of the BESS project, the project owner shall provide the hazard mitigation analysis to the SBCFD for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval.

WORKER SAFETY-13 The project owner shall provide an approved fire water supply for use by first responders when responding to an emergency related to the BESS.

Verification: At least sixty (60) days prior to the start of construction of the BESS, the project owner shall provide the fire water supply plans to the SBCFD for review and comment, to the DCBO for plan check and inspection, and to the CPM for review and approval.

SEGS IX (89-AFC-01C)
SOCIOECONOMICS CONDITIONS OF CERTIFICATION

~~1 In the event that Luz does not employ union construction and/or operations workers for SEGS Unit X, Luz shall institute a program to maximize the use of the existing labor pool in the local area. Luz shall not recruit out of the local area or outside California until all elements of the local hiring program have been fully implemented. Luz shall submit a detailed plan to implement the program to the California Energy Commission (CEC) Compliance Project Manager (CPM) for review and approval prior to implementing the program.~~

~~**Verification:** Within 15 days after certification of SEGS Unit X, or a date mutually agreeable to Luz and the CEC CPM, Luz shall submit the detailed plan to the CEC CPM.~~

2 Luz shall use its best efforts to have the labor unions obtain complete entry and exit questionnaires for each SEGS Unit IX worker represented by a union. The questionnaires shall be similar to the questionnaires approved by the CEC CPM for use on the SEGS Unit VIII project. Luz shall label each questionnaire such that it can be identified by the CEC CPM. Luz shall provide the CEC CPM with copies of all questionnaires. Every time a Luz employee or union worker is rehired, the information on that person shall be updated.

Luz shall prepare an electronic data base that is compatible with dBASE IV of all the employee surveys similar to the data base maintained for SEGS Unit VIII.

Luz shall provide to the CEC CPM for review and approval a copy of the entry and exit questionnaires that it intends to have its employees and the union workers complete. Luz shall not have its employees or the union workers complete the forms until the forms have been approved by the CEC CPM.

Luz shall provide copies of any newly completed or revised worker surveys and the updated electronic data base to the CEC CPM when it provides each Monthly Compliance Report, but not as part of that report.

Verification: Within 15 days after certification, Luz shall provide to the CEC CPM for review and approval a copy of the entry and exit questionnaires that it intends to have its employees or the union workers complete. Luz shall not have its employees or the union workers complete the forms until Luz has received notification that the forms have been approved by the CEC CPM.

3 In the event that the SEGS construction and/or operations workers are unionized under agreements between Luz and various Labor organizations, including District Council 16 of the Plumbers and Pipefitters Union, Luz shall provide the data regarding schools from the Luz employee and union worker questionnaires to each affected school district. For districts which wish to conduct their own surveys, Luz shall provide the names of the contractors and subcontractors for the SEGS Unit by September 1 of each year that the project is under construction or in operation, until construction of the last SEGS unit in the Harper Lake area is completed. If a school district desires an updated list of contractors and subcontractors after September 1, Luz shall provide it.

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SOCIOECONOMICS CONDITIONS OF CERTIFICATION

Verification: By September 1 of each year that the SEGS Unit is under construction or in operation, Luz shall provide the names of the contractors and subcontractors for the project to each school district, with a copy of the submittal to the CEC CPM. If a school district requests an updated list of contractors and subcontractors, Luz shall provide this list to the district, with a copy of the submittal to the CEC CPM, within 15 days of Luz's receipt of the district's request. Luz shall provide survey information to any affected school district upon request.

- 4 Luz shall make payments to school districts for all non-reimbursable costs due to any student enrolled who has a parent who immigrated to the local area to work on a SEGS project and works on the construction or operation of SEGS Unit IX ~~and X~~.

For school districts that already have signed mitigation agreements with Luz, Luz shall pay the districts according to the terms of the agreement. For any other districts that Luz' employee surveys for SEGS VIII (at peak construction labor force for construction workers and after commercial operation for operations workers) show to have students of such workers enrolled, Luz shall enter into an agreement to compensate the district for any non-reimbursable costs. Luz shall make one-time payments for construction and operations workers. The payments for construction workers shall be for the school year in which the construction work force peaks. The payments for operations workers shall be for the school year in which commercial operation begins.

For construction workers, Luz shall submit calculations of the number of impact students per district to the CEC CPM for review and approval within 30 days of the peak of the construction work force. For agreements in which mitigation payments are calculated on a per student basis, the amount of compensation shall be determined by multiplying the number of impact students by the non-reimbursable costs per student for the specific district. The distribution of impact students between school districts shall be determined from Luz' surveys of the workers for SEGS Unit VIII. The number of impact students per district shall be the same as for SEGS Unit VIII unless the peak construction force for SEGS IX ~~and X~~ is higher than for SEGS VIII. In that case, Luz' mitigation payments to the school districts shall be proportionally higher. The construction workers to be used as a basis of calculations shall consist of all construction workers who immigrated to the local area to work on any SEGS project (Units I-VIII) and are working on SEGS Unit VIII. Within 30 days after Luz receives notification from the CEC CPM that the calculations have been approved, Luz shall submit to the CEC CPM for review and verification photocopies of the checks that Luz has sent to any affected districts and copies of the cover letters for the checks. Luz shall also provide copies of any signed agreements that Luz has reached with each affected school district with which Luz has not previously signed a mitigation agreement.

For mitigation payments for children of operations workers for SEGS Unit IX ~~or X~~, Luz shall submit calculations of the number of impact students per district to the

SEGS IX (89-AFC-01C) SOCIOECONOMICS CONDITIONS OF CERTIFICATION

CEC CPM for review and approval within 30 days after the start of commercial operation of SEGS Unit VIII. Within 30 days after Luz receives notification from the CEC CPM that the calculations have been approved, Luz shall submit to the CEC CPM for review and verification photocopies of the checks that Luz has sent to any affected districts and copies of the cover letters for the checks. Luz shall also provide copies of any signed agreements that Luz has reached with each affected school district with which Luz has not previously signed a mitigation agreement. The operations workers for SEGS Unit VIII shall be assumed to be representative of the operations workers for SEGS Unit IX ~~or X~~. The number and district enrollment of immigrating children of operations workers for SEGS Unit IX ~~or X~~ shall be assumed to be the same as for SEGS Unit VIII.

Verification: Within thirty days after the peak of the construction work force for SEGS Unit VIII, Luz shall provide to the CEC CPM for review and verification the required calculations. Within 30 days after Luz receives notification from the CEC CPM that the calculations have been approved, Luz shall submit to the CEC CPM for review and approval the required photocopies of checks, copies of the cover letters for the checks, and copies of any new agreements with school districts.

For operations workers, Luz shall submit the required calculations to the CEC CPM for review and approval within 30 days after the start of commercial operation of SEGS Unit VIII. Within 30 days after Luz receives notification from the CEC CPM that the calculations have been approved, Luz shall submit to the CEC CPM for review and verification the required photocopies of checks and copies of the cover letters for the checks.

In each Monthly Compliance Report to the CEC CPM, Luz shall describe the status of mitigation payments to each affected district until construction of the last SEGS unit in the study area is completed.

- 5** Luz shall develop and implement a program for SEGS Unit IX ~~and X~~ to encourage construction employees and their families to reside in communities which can readily accommodate them and their families. The program shall include providing real estate listings and car pooling information regarding these communities, and transportation incentives for non-local workers who reside in such communities. Luz shall submit a detailed plan to implement the program to the CEC CPM for review and approval. Luz shall not implement the program until Luz receives approval of the plan from the CEC CPM. In the event that Luz continues to employ a non-union labor force and therefore does not conduct employee surveys as specified in Condition 2 above, Luz shall provide to the CEC CPM for review and approval information as to the residential location of all construction workers for SEGS Unit IX ~~and X~~. Commission staff will use this information in evaluating the effectiveness of the program required by this condition.

Verification: Within 15 days after CEC certification, Luz shall submit the detailed plan to the CEC CPM for review and approval.

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SOCIOECONOMICS CONDITIONS OF CERTIFICATION

Luz shall provide updates of the information regarding employees' residential location in the monthly compliance reports.

- 6** Luz shall offer the health insurance benefit program developed in compliance with Socioeconomic Condition 4 of the Commission Decision on SEGS Unit VIII to Luz' employees and SEGS Units IX ~~& X~~ workers who are not members of a labor organization.

Verification: Luz shall provide to the CEC CPM in each Monthly Compliance Report a status report listing changes in employees' enrollment in the health insurance plan.

- 7** Luz shall use its best efforts to ensure that each Luz and union worker employee on SEGS Unit IX ~~and X~~ who has not previously received drug awareness training as part of the implementation of the law enforcement program for SEGS Unit VIII which Luz developed in compliance with Condition 5 of the Commission Decision on SEGS Unit VIII attends drug awareness training by the Barstow Police Department unless the CEC CPM determines that the union workers have received equivalent training through their union.

Verification: Within 15 days following the Commission Decision, Luz shall provide to the CEC CPM for review and approval information regarding the drug awareness training provided by the unions to their workers and a schedule for any training required.

In each Monthly Compliance Report, Luz shall specify the number of Luz employees and union workers who have been trained and the number who remain to be trained.

- 8** Prior to the start-up, operation, or testing of the SEGS Unit IX, Luz shall enter into an agreement with San Bernardino County Forestry and Fire Warden Department for fire protection services related to the operation of SEGS Units IX ~~& X~~.

Verification: Within 30 days of certification, Luz shall submit to the CEC CPM a statement that they are participating in discussions with the abovementioned fire department.

Prior to the start-up, operation, or testing of SEGS Unit IX, Luz shall submit to the CEC CPM a signed agreement between Luz and the abovementioned fire department for fire protection services. If Luz and the fire department cannot reach an agreement, the dispute will be referred to the CEC CPM for resolution.

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SOILS CONDITIONS OF CERTIFICATION

- 1** During construction, Luz shall water down or apply dust palliatives to all disturbed areas and roadways to minimize erosion and suppress fugitive dust. All grubbing and grading activities shall halt when wind speeds reach or exceed 25 miles per hour for a period of 15 minutes or more. Luz shall have and operate a recording anemometer on site during the construction period. The daily record (tape) from the anemometer and the daily construction log that records any work stoppage shall be maintained on site during the entire construction period.

Verification: Luz shall include a record of water and/or chemical dust suppressants applied to on-site soils and the areas of the site to which these materials were applied in their Monthly Compliance Reports. Daily anemometer and construction log records shall be available to the CEC Staff or their delegates for inspection at any time. Any work stoppages due to excessive wind speeds shall be reported in the Monthly Compliance Report.

- 2** Once construction of flood control dikes, berms, and roadways is completed, exposed surfaces of these portions of the project shall be stabilized by applying a soil sealant or cement. Luz shall identify the areas that will be stabilized, and the type of stabilizing agents that will be used for each area in the erosion and sedimentation control plan required by **Civil Engineering Condition of Certification 4**.

Verification: As set forth in **Civil Engineering Condition of Certification 4**, Luz shall submit, prior to the start of grading on the project, to the County Building Official (CBO) or their representative, a proposed erosion and sediment control plan for approval. This plan shall include the information required above.

- 3** Luz shall notify the CEC CPM, two weeks in advance, of the start of the following activities: submittal of the proposed erosion and sediment control plan; general site grading and grubbing; construction of all dikes, berms, and roadways; and application of stabilization agents to all dikes, berms, roadways, and other disturbed areas.

Verification: Luz shall notify the CEC CPM in the Weekly Action report of the start of these activities.

SEGS IX (89-AFC-01C)
STRUCTURAL ENGINEERING CONDITIONS OF CERTIFICATION

- 1 Luz shall design, construct, and inspect SEGS Unit IX ~~and X~~ in accordance with applicable LORS identified herein, under the section entitled "Applicable Laws, Ordinances, Regulation and Standards," with the proposed modifications of this testimony, and with the pertinent portions of the section of this testimony entitled "Summary of Luz's-Proposal".

Verification: Luz's project manager shall submit to the CEC CPM a statement that all design, construction, and inspection requirements of the applicable LORS and the Commission Decision have been met for the area of structure design. The statement shall be submitted thirty (30) days prior to the date of commercial operation.

- 2 Luz shall assign to the project a responsible design engineer who is either a registered structural engineer with the authority to use the title "Structural Engineer" in California or a registered California Civil Engineer who is fully competent and proficient in the design of power plant structures and equipment supports.

The design engineer shall:

1. Be directly responsible for the design of proposed structures and equipment supports.
2. Provide consultation to the responsible construction engineer during design and construction of the project.
3. Monitor construction progress to ensure compliance with the design intent.
4. Evaluate and recommend necessary changes in design.
5. Prepare and sign all necessary building plans, specifications and calculations (Business and Professions Code; Chapter 7, Division 3).

If the responsible design engineer is subsequently replaced, Luz shall within ten (10) days submit the name(s) and qualifications of the newly assigned individual(s) to the CBO and CEC CPM.

Verification: At least 60 days (or-a lesser number of days if mutually agreeable to the CBO and CEC CPM) prior to submittal of building plans, Luz shall identify to the CBO and the CEC CPM the name and set forth the qualifications of, the responsible design engineer who has been assigned to the project and will perform the duties set forth above.

- 3 Prior to start of final design, Luz shall submit to CEC CPM for approval one set of each of the following items for rotating equipment:
- A list of the supports and foundations.
 - Provide the analytical model (with a sketch) to be used for dynamic analysis including the method and formula to determine soil springs and damping.

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STRUCTURAL ENGINEERING CONDITIONS OF CERTIFICATION

- Show plots of deflection vs. frequency, velocity vs. frequency and acceleration vs. frequency, the acceptance criteria for vibration induced acceleration, velocity, and displacement.

Verification: Thirty (30) days prior to start of final design of the structure, Luz shall submit the above data to the CEC CPM

- 4** Prior to the start of any construction of project structures, foundations and equipment supports and anchorages, field fabricated tanks, cooling tower, turbine/generator, HTF heater, ASME pressure vessel, switchyard equipment, and power piping, Luz shall obtain approval from the CBO for the final design plans, specifications, calculations, soils report, and quality control procedures. Luz shall submit a copy of the complete transmittal package for the designated critical elevated structures (i.e., turbine generator support and foundation, HTF expansion tank foundation, deaerating heater support structure, and structures taller than 20 feet) to the CEC CPM.

Luz shall ensure that all field fabricated tanks are designed, fabricated, and installed in accordance with API 650 or AWWA D-100 and Title 8 CCR, Chapter 4.

If there are conflicting requirements, the most conservative shall govern (i.e., highest loads, lowest allowable stresses). Plans, calculations, and specifications for foundations that support structures should be filed concurrently with the structure plans, calculations, and specifications. The final plans, calculations, and specifications shall clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design and be signed and stamped by the responsible design engineer. In addition, the responsible design engineer shall submit a signed statement to the CBO and to the CEC CPM that the final design plans, specifications and calculations conform with all of the requirements set forth in the Commission's Decision.

Verification: Luz shall submit one (1) copy of the plans, specifications, calculations, and other required documents to the CEC CPM for the designated critical elevated structures at least 90 days prior to the intended start of fabrication and installation of each structure, equipment support, or foundation.

Luz shall submit written notice to the CEC CPM in the next weekly activities report that the plans, specifications, and calculations have been approved by the CBO.

- 5** Luz shall make payments to the CBO equivalent to the fees listed in the Uniform Building Code (UBC) Chapter 3, Section 304 and Table No. 3-A, for the plan review and "in lieu" permit. If San Bernardino County has adjusted the UBC fees by county ordinance or code, Luz shall pay the adjusted fee.

Verification: LUZ shall notify the CEC CPM in the next weekly activities report that the "in lieu" permit has been received.

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STRUCTURAL ENGINEERING CONDITIONS OF CERTIFICATION

- 6** Luz shall submit a weekly report to the CBO and CEC CPM containing all material test and inspection reports which show nonconformance.

Verification: The weekly reports shall be submitted within five (5) days after the end of each week.

- 7** Inspections shall be performed in accordance with Chapters 3 and 70 of the UBC. LUZ shall assign as a resident engineer, a civil engineer registered in the State of California, who shall be present on site as required to monitor construction activities, who shall have authority to halt construction and to require changes or remedial work if the work does not conform to the applicable requirements and who shall be responsible for the special and continuous inspections required by UBC Section 306.

All welding (including structural piping, tanks, and pressure vessels) shall be inspected by a certified weld inspector (AWS and/or ASME as applicable). If any of the above person is subsequently replaced, Luz shall within ten (10) days, submit the name(s) and qualifications of the newly assigned individual(s) to the CBO and CEC CPM.

Verification: Names and qualifications of the resident registered civil engineer, the certified weld inspector, and the other special inspectors shall be submitted to the CBO and to the CEC CPM at least 60 days (or a lesser number of days mutually agreeable to the CEC CPM and CBO) prior to the start of any activity requiring special inspection in accordance with UBC Section 306 (UBC, Chapters 3 and 70). Luz shall notify the CEC CPM of all CBO approvals or disapprovals of the resident registered civil engineer, weld inspectors, or special inspectors.

- 8** All structural work shall be subject to inspection by the CBO and CEC CPM. Luz shall accord access to the jobsite, at any reasonable times, to the CBO or his designated representatives and to the CEC CPM or his designated representatives for the purpose of performing the inspection functions described in these Conditions of Certification.

Verification: Luz shall notify the CBO and CEC CPM in writing at least 15 days prior to when any work is ready for inspection.

- 9** Luz shall file with the CBO and CEC CPM design changes to the final plans as required by UBC, Section 303, submitting the revised drawings, specifications, calculations, and a complete description of and supporting rationale for the proposed change to the CBO, and shall notify the CBO of the intended filing (UBC, Chapter 3).

Verification: Luz shall notify the CBO at least 15 days prior to the intended filing of design changes and shall submit revised drawings and the other above mentioned documents to the CBO, with one (1) set of all these to the CEC CPM. Luz shall notify the CEC CPM in the next weekly activities report that the CBO has approved the revised plans.

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STRUCTURAL ENGINEERING CONDITIONS OF CERTIFICATION

- 10** Upon completion of any structure, Luz's responsible design engineer shall submit to the CBO and to the CEC CPM: (a) a written notice that the structure is ready for final inspection, and (b) a signed statement that the structure conforms to the final approved building plans. The marked up "as-built" drawing for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings.

Verification: Luz shall request inspection of the completed structure, and shall notify the CEC CPM of the CBO's approval in the next weekly activities report.

- 11** Luz shall submit weekly to the CBO the following data:

- Concrete cylinder strength test reports, (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, mix design designation and parameters).
- Concrete pour sign-off sheets.
- Bolt torque inspection reports (including location of test, date, bolt size, recorded torques).
- Field weld inspection reports, (including type of weld, location of weld, inspection of NDT procedure and results, welder qualifications, certifications, qualified procedure description or number [ref.: AWS and ASME]).
- Reports covering other structure activities requiring special inspections in accordance with UBC, Section 306.

Verification: If the CBO disapproves any of the above reports, Luz shall advise the CEC CPM of the disapproval in the next weekly activities report.

- 12** At least 60 days (or a lesser number of days mutually agreeable to the CBO and CEC CPM) prior to the intended start date of the first increment of construction, Luz shall furnish to the CBO and the CEC CPM a schedule of structural plan submittals, a Master Drawing List, and a Master Specifications List. The schedules shall contain a description and list of proposed submittal packages of structural plans, calculations, and specifications for critical electrical and mechanical equipment and the estimated date of submittal. Luz shall furnish monthly updates to the CBO and the CEC CPM.

Verification: Luz shall submit the schedule, Master Drawing List, and Master Specifications List to the CBO and to the CEC CPM and provide monthly updates in the next weekly activities report.

SEGS IX (89-AFC-01C)

TRANSMISSION LINE SAFETY AND NUISANCE CONDITIONS OF CERTIFICATION

- 1 Luz shall obtain a statement from the responsible electrical engineer, registered in the state of California, indicating that the SEGS Unit IX ~~and X~~ transmission line will be constructed in accordance with CPUC GO-95 and with Title 8 CCR.

Verification: Luz shall submit the required statement covering the transmission line to CEC CPM at least 60 days before the start of construction of the SEGS Unit IX ~~and X~~ transmission line.

- 2 Luz shall ensure that all ungrounded metallic fences, gates, roofs, or building sidings or other large permanent metallic objects within the right-of-way, regardless of ownership or location, are grounded in conformance with procedures defined in the National Electrical Safety Code. In the event that an owner will not permit the grounding of a metallic object, Luz shall so notify the CEC CPM. Notification shall include, when possible, the owner's written objection. Upon receipt of such notice of objection, the CEC CPM will waive the requirement for grounding of that object.

Verification: At least 30 days prior to scheduled energization of the SEGS Unit IX ~~and X~~ transmission line, Luz shall file a statement with the CEC CPM verifying compliance with these grounding procedures. The filing shall include, where applicable, an owner's objection to the required grounding.

- 3 Luz shall prepare a letter to all property owners, within or adjacent to the right-of-way which shall contain the following:
 - the nature and operation of the transmission line.
 - Luz's responsibility for and intent to ground all ungrounded metallic fences, gates, roofs, building sidings or other large permanent metallic objects within the right-of-way, regardless of ownership or location.
 - the property owner's responsibility to notify Luz in the event that the property owner adds or installs a metallic object which requires grounding as described above.
 - a statement that the refueling of vehicles or equipment under the transmission line is not recommended.

Luz shall submit the proposed letter to the CEC CPM for approval prior to mailing to the property owners and shall maintain a record of correspondence (notification and responses) related to this requirement in a compliance file.

Verification: Luz shall notify the CEC CPM in the first Monthly Compliance Report when the notification letters were mailed and that copies are on file.

- 4 Luz shall investigate all complaints from property owners or the public regarding problems due to induced voltages on vehicles, portable objects, metallic roofs, metallic building sidings, gutters, fences, irrigation equipment or other objects

SEGS IX (89-AFC-01C)
TRANSMISSION LINE SAFETY AND NUISANCE CONDITIONS OF CERTIFICATION

within the right-of-way. Luz shall, at its own expense, take all measures to correct these problems.

Luz shall also respond, within 10 days, to an owner's notice of additional objects being placed within the right-of-way and requiring grounding. The response shall establish the date of completion for the required grounding which shall be completed within 30 days of receipt of the owner's notice requesting grounding.

Verification: Luz shall maintain a record of activities (grounding, notifications and responses) related to this requirement in a compliance file. A summary of these records shall be included in the Annual Compliance Reports.

Upon request, these records shall be made available to the CEC CPM or an authorized representative.

- 5 Luz shall make every reasonable effort to locate and correct, on a case-by-case basis, all causes of radio and television interference attributed to the transmission line facilities. In addition to any necessary transmission line repairs, corrective action shall include, but shall not be limited to, adjusting or modifying receivers, adjusting, repairing, replacing or adding antennas, antenna signal amplifiers, filters or lead-in cables. Luz shall maintain records of complaints and corrective actions and shall, upon request make these records available to the CEC CPM or an authorized representative. All complaints shall be recorded including explicit notations of the corrective actions performed. Complaints which did not result in corrective action or resolution shall be described and justified. The record shall be signed by the owner's authorized representative and also by the complainant to indicate concurrence with the corrective action or with the justification of no corrective action.

Verification: All records required above shall be summarized in the Annual Compliance Reports.

- 6 Luz shall keep each transmission line pole site free of waste material and rubbish as required by PRC 4292 and Title 14 CCR section 1250.

Verification: Luz shall provide information about the inspection, cleanup and fire protection activities around the transmission poles in the Annual Compliance Reports.

Battery Energy Storage System

TLSN-11 The project owner shall construct the BESS 230-kV transmission line according to the requirements of California Public Utility Commission's General Order (GO) 95, GO-131-D, and Title 8 of the California Code of Regulations.

Verification: At least 30 days prior to the start of construction of the BESS transmission line or related structures and facilities, the project owner shall submit to the compliance project manager (CPM) a letter signed by a California registered

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TRANSMISSION LINE SAFETY AND NUISANCE CONDITIONS OF CERTIFICATION

electrical engineer affirming that the lines will be constructed according to the requirements stated in the condition.

TLSN-12 The project owner shall maintain the BESS 230-kV transmission line and pole sites to comply with fire prevention requirements and ongoing inspection and maintenance as required in GO-95, GO-165, and Title 14 of the California Code of Regulations Sections 1250-1258.

Verification: The project owner shall provide a summary of inspections, maintenance, cleanup, and other fire prevention activities to demonstrate compliance in the Annual Compliance Report.

TLSN-13 The project owner shall ensure that all permanent metallic objects within the proposed route are grounded according to industry standards.

Verification: At least 30 days before the BESS 230-kV transmission line is energized, the project owner shall submit confirmation of compliance to the CPM.

TLSN-14 The project owner shall make every reasonable effort to locate and correct, on a case-by-case basis, all causes of radio frequency interference attributed to the transmission line facilities.

The project owner shall maintain records of any complaint and any corrective actions.

Verification: The project owner shall submit the required records to the CPM in the annual report.

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TRAFFIC AND TRANSPORTATION CONDITIONS OF CERTIFICATION

- 1 Luz shall comply with the San Bernardino County and Caltrans restrictions on oversize or overweight limit vehicles. Luz shall obtain necessary transportation permits from the County and Caltrans. Luz shall maintain copies of these permits in its compliance file for a period of six months after the start of commercial operations.

Verification: In its Monthly Compliance Reports, Luz shall notify the CEC CPM of any transportation permits obtained during the reporting period.

- 2 Luz shall comply with San Bernardino County and Caltrans requirements for encroachment on a public right-of-way. Luz shall obtain necessary encroachment permits from the County and Caltrans. Luz shall maintain copies of these permits in its compliance file for a period of six months after the start of commercial operations.

Verification: In its Monthly Compliance Reports, Luz shall notify the CEC CPM of any encroachment permits obtained during the reporting period.

- 3 Luz shall not start any construction on ~~each of~~ the SEGS Unit IX ~~and X~~ projects prior to receiving CEC CPM approval of their Transportation System Management (TSM) plan, which will be based on its TSM program originally submitted for SEGS Unit VIII. The SEGS Unit IX TSM plan will describe specific implementation of the TSM program and shall include:
 - a. Baseline, and quarterly, measurement of traffic on SR 58 to establish whether it is necessary to stagger shifts. The first measurements shall be taken prior to the start of construction of SEGS Unit IX. At least one of the quarterly measurements shall be taken early during the period of peak employment when construction-related traffic will be at its maximum. Quarterly measurements shall continue during construction. Luz shall, if necessary, schedule shift changes for operations and construction employees at SEGS Units III-VII and operations employees at SEGS Unit VIII and IX so as not to coincide with arrivals and departures for construction employees at SEGS Unit IX and shall schedule all types of arrivals and departures so as not to coincide with morning and evening peak traffic hours on SR 58, based on the measuring.
 - b. The TSM plan shall consist of individual elements which contain discussions of the specific measures proposed to be used to effectively carry out that element, and a description of those measures which will be used to evaluate the effectiveness of the element. Elements shall include, but not be limited to, carpooling, vanpooling, and staggering of work hours.
 - c. The goal of the TSM plan will be to reduce the total number of vehicles traveling the same section of SR 58 at a given time, and as a part of the plan, Luz will establish a goal for the amount of traffic reduction it will achieve.

SEGS IX (89-AFC-01C)
TRAFFIC AND TRANSPORTATION CONDITIONS OF CERTIFICATION

- d. Luz shall maintain copies of the TSM plan on site in its compliance files for a period of six months after the start of commercial operations.

Verification: Luz shall submit a copy of its SEGS Unit IX TSM plan to the CEC CPM a minimum of 30 days prior to the start of construction. Within 15 days of receipt, the CEC CPM shall respond to Luz regarding the adequacy of the TSM plan.

In its Monthly Compliance Reports, Luz shall notify the CEC CPM of:

- a. the ongoing effectiveness of the TSM program and plan, including whether its goal for traffic reduction has been achieved;
- b. of any additional measures needed to more effectively implement the TSM plan; and
- c. of changes to the shift schedule(s) which are necessary or have been implemented.

Luz shall notify the CEC CPM of the scheduled date(s) for quarterly traffic measurements in its Weekly Activities Report.

- 4** Luz shall notify Caltrans in writing, 60 days prior to beginning construction of ~~each of~~ the SEGS Unit IX ~~and X~~ projects, of the expected traffic volumes on-SR 58. During the period in which SR 58 reconstruction is underway, Luz shall coordinate its construction traffic, particularly heavy truck traffic, with the Caltrans Resident Engineer in order to minimize conflicts with SR 58 reconstruction activities.

Verification: Luz shall submit a copy of the written notification to Caltrans to the CEC CPM.

In its Monthly Compliance Reports, Luz shall notify the CEC CPM of the results of its meetings with Caltrans, including any contacts with the Caltrans Resident Engineer.

- 5** No later than 60 days after the Commission Decision on SEGS Unit IX, Luz shall sign an agreement with the San Bernardino County Transportation and Flood Control Department, Traffic Division, for the reconstruction of Harper Lake Road, and the mitigation of project related traffic and transportation impacts (including necessary maintenance) on Santa Fe Avenue and all other San Bernardino County roads in the SEGS Harper Lake projects vicinity. Luz shall maintain a copy of the agreement in its compliance file.

Verification: No later than 60 days after the Commission Decision on SEGS Unit IX, or in its first Monthly Compliance Report, whichever comes first, Luz shall notify the CEC CPM of the status of the agreement with San Bernardino County, and in its subsequent Monthly Compliance Reports shall notify the CEC CPM of the progress toward signing of the agreement.

- 6** Luz shall monitor the occurrence of accidents on Harper Lake, Hoffman, and Lockhart Roads, and Santa Fe Avenue serving the SEGS Unit IX ~~and X~~ projects.

SEGS IX (89-AFC-01C)
TRAFFIC AND TRANSPORTATION CONDITIONS OF CERTIFICATION

If the results of the monitoring indicate that further mitigation measures on these roads may be necessary, Luz shall consult with San Bernardino County and the CEC CPM to determine the extent of any additional measures that may be required. Luz shall maintain the results of the monitoring in its compliance files.

Verification: In its Monthly or Annual Compliance Report, Luz shall report the results of its monitoring to the CEC CPM and shall separately report to the San Bernardino County Flood Control and Transportation Department, Traffic Division. Luz shall report to the CEC CPM in Monthly or Annual Compliance Reports the current status of any consultations or agreed upon mitigation measures.

7 Prior to the start of construction on the SEGS Unit IX project, Luz shall adopt, and implement, for the SEGS Unit IX ~~and X~~ projects, the comprehensive plan developed for the transport of hazardous materials to and from the SEGS VIII project. The plan shall be updated as appropriate.

Verification: In its first Monthly Compliance Report Luz shall certify such adoption and implementation to the CEC CPM.

Luz shall submit updates to the plan in subsequent Compliance reports.

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

~~1~~ Prior to commencing any construction on or for SEGS Unit X, Luz shall submit to the California Energy Commission Compliance Project Manager (CEC CPM) the CPUC's decision on the Kramer/Victor CPCN and the following contractual documents and/or revisions approved by the CPUC:

- ~~a.~~ Agreement to Expedite Interconnection between Southern California Edison Company and Luz International Limited, November 22, 1989.
- ~~b.~~ First Amendment to Interconnection and Integration Facilities Agreement between Southern California Edison Company and Luz International Limited, November 22, 1989.
- ~~c.~~ Second Amendment to Interconnection and Integration Facilities Agreement between Southern California Edison Company and Luz International Limited, November 22, 1989.

~~Luz shall also provide, unless included in the CPCN decision, a detailed description of the facilities authorized by the CPUC and a transmission construction and testing schedule which demonstrates that the Kramer/Victor facilities will be functional for SEGS Unit X start-up and commercial operation.~~

~~Luz shall not initiate any construction activities on or for SEGS Unit X until CEC CPM approval to proceed has been received.~~

~~Minor construction activities which will not cause environmental impacts or economic impacts to ratepayers may be authorized by the CEC CPM if requested by Luz.~~

~~**Verification:** At least 30 days prior to commencing any construction on or for SEGS Unit X Luz shall provide to the CEC CPM four copies of the CPUC's decision on the Kramer/Victor CPCN and the contractual documents and/or their revisions listed above.~~

~~Within 24 working hours of initiating construction on or for SEGS Unit X, Luz shall advise the CEC CPM by telephone or telex. Written confirmation shall be received by the CEC CPM within 7 working days of the start of construction.~~

2 Luz shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to requirements a through d listed below. The substitution of "or equal" equipment and equivalent switching station configurations is acceptable. Failure to establish "or equal" status shall be a violation of certification.

- a. Two approximate 1.25 mile 220 kV single circuit steel pole transmission outlets shall be installed between the Luz SEGS IX ~~and X~~ plants and the Luz common switching station. One 795 KCMIL ACSR (DRAKE) conductor per phase shall be installed on each of the outlet pole sets. The outlet routes shall not substantially deviate from the corridor shown in Figure 2.
- b. The transmission facilities shall meet or exceed the requirements of GO-95 Rules 37 and 38.

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

- c. The transmission facilities shall be designed, operated and maintained in accordance with SCE tariff rule 21.
- d. No other generating unit or transmission circuit may be connected to the SEGS Unit IX ~~and~~ switchyards or outlets without prior authorization of Commission staff.

Verification: No later than 60 days prior to construction of the transmission outlet facilities, Luz shall submit for approval to the CEC CPM electrical one-line diagrams signed and sealed by a registered electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by Requirements **1a**, **1b**, **1c**, and **1d** above. The substitution of "or equal." equipment and substation configurations shall be identified and justified by Luz.

- 3 Luz shall submit a request for a change from Requirement 2 above, and items a through i below to the CEC CPM for approval. The request shall contain information appropriate to describe and justify any proposed changes. Approval must be obtained from Commission staff before the change is implemented. This request shall include any proposed changes to the following:
- a. Route Specified: The route may not significantly deviate from the proposed route approved by the Commission.
 - b. Connection Point: Luz SEGS common switching station.
 - c. Conductor Size: 795 KCMIL ACSR.
 - d. Number of Conductors: One per phase.
 - e. Number of Circuits: One.
 - f. Voltage Level: Nominal 220 kV phase-to-phase.
 - g. Structure Types: Single-circuit steel poles.
 - h. Termination of outlet at Luz common switching station: Single circuit radial feed termination.
 - i. Any other change that may significantly affect the capacity, reliability, economics, or energy losses of the transmission system.

Verification: Luz shall inform the CEC CPM of any impending changes which may not conform to Requirement 2 and request approval of Commission staff to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. No changes shall be made without written approval of the CEC CPM.

After receipt of a complete submittal, within 45 days Staff will review and advise Luz of Commission staff's approval or disapproval. The 45-day period shall not start until Staff has determined that adequate information to review the change was provided. Staff shall approve or disapprove LUZ's request and provide notification to LUZ of the decision.

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

- 4 Luz shall be responsible for the inspection of the proposed transmission facilities during and after construction to ensure conformance with Requirements 1 and 2 above, and any subsequent CEC CPM approved changes thereto, and for conformance with CPUC GO-95 and SCE tariff rule 21. In case of nonconformance, Luz shall inform the CEC CPM in writing within 10 days of discovering such nonconformance and describe the corrective actions to be taken.

Verification: Within 60 days following first successful energization of SEGS Unit IX ~~and~~ X, Luz shall transmit to the CEC CPM an engineering description(s) and one-line drawings of the "as-built" facilities referred to in Requirements 1 and 2 above, signed and sealed by a registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 and SCE tariff rule 21 shall be concurrently provided.

Battery Energy Storage System

TSE-11 The project owner shall furnish to the CPM and to the DCBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: Prior to the start of construction of transmission facilities, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the DCBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see list of major equipment in Table 1: Major Equipment List below). Additions and deletions shall be made to the table only with CPM and DCBO approval. The project owner shall provide schedule updates in the monthly compliance report.

Table 1: Major Equipment List

Breakers
Step-up transformer
Switchyard
Busses
Surge arrestors
Disconnects
Take-off facilities
Electrical control building
Switchyard control building

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

Transmission pole/tower
Grounding system

TSE-12 For the power plant switchyard, outlet line and termination, the project owner shall not begin any construction until plans for that increment of construction have been approved by the DCBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the DCBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the monthly compliance report:

- a) receipt or delay of major electrical equipment;
- b) testing or energization of major electrical equipment; and
- c) the number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: Prior to the start of each increment of construction, the project owner shall submit to the DCBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line, and termination, including a copy of the signed and stamped statement from the responsible electrical engineer verifying compliance with all applicable LORS, and send the CPM a copy of the transmittal letter in the next monthly compliance report.

TSE-13 The project owner shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to all applicable LORS, and the requirements listed below. The project owner shall submit the number of copies required by the DCBO of the design drawings and calculations. Once approved, the project owner shall inform the CPM and DCBO of any anticipated changes to the design, and shall submit a detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change to the CPM and DCBO for review and approval.

- a) The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95, CPUC General Order 128, or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*; California ISO standards; National Electric Code (NEC); and related industry standards.

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

- b) Breakers and busses in the power plant switch yard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.
- c) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.
- d) The project conductors shall be sized to accommodate the full output of the project.
- e) Termination facilities shall comply with applicable SCE interconnection standards.
- f) The project owner shall provide to the CPM:
 - i. Special Protection System (SPS) sequencing and timing if applicable,
 - ii. A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation for which the project is responsible, are acceptable,
 - iii. A copy of the final approved Material Modification Assessment signed by the California ISO and the project owner and a copy of the approved Generator Interconnection Agreement modified to incorporate the Bulk Electric Storage System.

Verification: Prior to the start of construction or modification of transmission facilities, the project owner shall submit to the DCBO for approval:

- a) Design drawings, specifications, and calculations conforming with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the *High Voltage Electric Safety Orders*; CA ISO standards; National Electric Code (NEC); and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment;
- b) For each element of the transmission facilities identified above, the submittal package to the DCBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"¹ and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the High Voltage Electric Safety Orders; California ISO standards; National Electric Code (NEC); and related industry standards;

¹ Worst-case conditions for the foundations would include for instance, a dead-end or angle pole.

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

- c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in charge, a route map, and an engineering description of the equipment and configurations covered by requirements TSE-13 a) through f);
- d) Special Protection System (SPS) sequencing and timing, if applicable, shall be provided concurrently to the CPM.
- e) A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation for which the project is responsible, are acceptable,
- f) A copy of the approved Material Modification Assessment signed by the California ISO and the project owner and a copy of the approved Generator Interconnection Agreement modified to incorporate the Bulk Electric Storage System.

Prior to the start of construction or modification of transmission facilities, the project owner shall inform the DCBO and the CPM of any anticipated changes to the design that are different from the design previously submitted and approved and shall submit a detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change to the CPM and DCBO for review and approval.

TSE-14 The project owner shall provide the following Notice to the California ISO prior to synchronizing the facility with the California Transmission system:

1. At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization; and
2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. The project owner shall contact the California ISO Outage Coordination Department Monday through Friday, between the hours of 0700 and 1530 at (916)351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

TSE-15 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and DCBO approved changes thereto, to ensure conformance with CPUC

SEGS IX (89-AFC-01C)
TRANSMISSION SYSTEM ENGINEERING CONDITIONS OF CERTIFICATION

GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and DCBO in writing within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and DCBO:

- a) “As built” engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, and applicable interconnection standards, NEC, related industry standards.
- b) An “as built” engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. “As built” drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the “Compliance Monitoring Plan”.
- c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

SEGS IX (89-AFC-01C)
VISUAL RESOURCES CONDITIONS OF CERTIFICATION

1. Luz shall color project structures visible to the public to minimize the contrast with the surrounding natural environment and harmonize with the color scheme used at the adjacent SEGS Unit VIII project. Luz shall develop and submit a color plan to the CEC CPM for review and approval. The color plan shall specify and provide samples of the colors proposed for use on project structures, including structures colored during manufacture (such as cooling towers).

For any structures such as cooling towers which are colored during manufacture, Luz shall not specify the color of such structures to the vendors until Luz receives notification of approval of the color plan by the CEC CPM. Luz shall not paint the final coat on any structures until Luz receives notification of approval of the color plan from the CEC CPM. Luz shall notify the CEC CPM when all precolored structures have been erected and all structures to be painted in the field have been painted and the structures are ready for inspection. Luz shall not begin operating SEGS Unit IX until Luz has received notice from the CEC CPM that the condition has been satisfied.

Verification: Within sixty days after the Commission Decision, Luz shall submit the color plan for SEGS Unit IX to the CEC CPM for approval. At least ninety days prior to the scheduled start of operation of each unit, Luz shall notify the CEC CPM that structures colored during manufacture and all structures to be painted in the field are ready for inspection.

2. Luz shall design and install all lighting at SEGS Unit IX ~~and~~ such that it is directed toward project facilities and is shielded to minimize visibility from local residences and to minimize illumination of the surrounding terrain and the nighttime sky. Luz shall not begin operating SEGS Unit IX ~~and~~ until Luz has received notice from the CEC CPM that the condition has been satisfied.

Verification: Luz shall notify the CEC CPM at least ninety days prior to the scheduled start of operation of each SEGS unit that the lighting is installed and is ready for inspection.

3. Luz shall screen the SEGS Unit IX site, the SEGS Unit VIII site, and the common area between SEGS Unit IX and SEGS Unit

SEGS IX (89-AFC-01C)
VISUAL RESOURCES CONDITIONS OF CERTIFICATION

VII from public view, particularly from the residences south of SEGS Unit IX along Harper Lake Road. Luz shall develop such a screening plan in consultation with the affected residents and submit the plan to the CEC CPM for review and approval. Luz shall not install the screening until Luz has received approval of the screening plan from the CEC CPM. Luz shall notify the CEC CPM when the approved screening has been installed and is ready for inspection. Luz shall not begin operating SEGS Unit IX until Luz has received notification from the CEC CPM that the condition has been satisfied.

Verification: Within sixty days after the Commission Decision on SEGS Unit IX, Luz shall submit the screening plan for SEGS Unit IX to the CEC CPM for approval. At least ninety days prior to the scheduled start of operation of SEGS Unit IX Luz shall notify the CEC CPM that the screening is has been installed and is ready for inspection.

SEGS IX (89-AFC-01C)
WASTE MANAGEMENT CONDITIONS OF CERTIFICATION

- 1 Non-hazardous construction wastes from SEGS Unit IX ~~and X~~ shall be disposed of by Luz or its contractors at Barstow area landfills or at facilities approved by the Lahontan Regional Water Quality Control Board (LRWQCB), the San Bernardino County Department of Environmental Health Services (DEHS), or other appropriate agencies in counties where alternate disposal facilities may be located.

Hazardous wastes generated during construction and operation shall be disposed of at the Kettleman Hills facility or a California Department of Health Services (CDHS) approved facility, if not treated on-site following CDHS approval of the treatment process.

Verification: Luz shall obtain and keep on file at the project site for 3 years copies of the following documents which shall be available for CEC Staff review:

1. contracts and agreements Luz or its contractors have entered into with waste hauling companies and treatment, storage, recycling or disposal facility operators for the collection, treatment, recycling storage, or disposal of non-hazardous and hazardous liquid or solid wastes;
2. any applicable permits to operate received by companies listed in part (1) above;
3. all receipts obtained by Luz or its contractors from the above companies for wastes delivered for treatment, storage, disposal, or recycling including hazardous waste manifests.

Luz shall inform the CEC CPM via monthly or annual compliance reports when any of the above information is obtained and provide a listing of such information for 1 and 2 above.

- 2 Luz shall prepare a waste management plan for all wastes produced during construction and operation of SEGS Unit IX ~~and X~~. The management plan shall contain at least the following:

A description of all waste streams, including:

- Projections of frequency and amounts generated, their classifications on (hazardous, special, designated, extremely hazardous) with supporting documentation.
- Measures for handling each waste including treatment methods, waste testing programs to ensure correct classification, transport plans, disposal requirements and sites, and recycling potential.
- A business plan for emergency response (if applicable) pursuant to the requirements of Health and Safety Code Section 25503.5.
- A closure and post closure plan for on-site facilities.
- A plan for the disposition of solid non-hazardous wastes from all Luz SEGS facilities at Harper Lake. The plan shall identify all approved landfill

SEGS IX (89-AFC-01C)
WASTE MANAGEMENT CONDITIONS OF CERTIFICATION

sites in the region which Luz may use for solid waste disposal and describe the amount of waste to be sent annually to each facility. The plan shall ensure that neither the capacity nor remaining life of any facility is unduly impacted by the cumulative generation of solid waste from Luz facilities. If either Luz or the CEC CPM find that any landfill site may be significantly impacted by the disposal of waste from Luz facilities, Luz shall investigate alternatives to such disposal including, but not limited to, recycling and on-site disposal.

Verification: Within 6 months of project certification, Luz shall submit for approval a solid waste management plan to the CEC CPM.

- 3** Luz shall prepare an annual report summarizing for all wastes generated:
1. the origin, classification, and quantity of each waste type
 2. the management method used for each waste (whether treated, recycled landfilled, etc.)

Verification: Luz shall submit the waste summary report to the CEC CPM in the Annual Compliance Report.

- 4** Luz shall obtain a Hazardous Waste Generator Permit from the CDHS for the management of hazardous wastes from SEGS Unit IX ~~or X~~, prior to the receipt on site of heat transfer fluid.

Verification: Luz shall keep on file at the project site its copy of the Hazardous Waste Generator Permit and notify the CEC CPM via the monthly compliance report of its receipt.

- 5** Luz shall not store hazardous waste on site for more than 90 days unless it obtains either an extension from CDHS to the 90-day period or a permit as a storage facility. If Luz applies for a hazardous waste permit on variance from CDHS, Luz shall simultaneously send a copy of the application to the CEC CPM.

Verification: As applicable, Luz shall provide the CEC CPM with a copy of its application to CDHS in the monthly or Annual Compliance Report.

- 6** Luz shall notify the CEC of any waste management-related enforcement action or proposed action taken against Luz, and any action against the waste hauler or disposal facilities used by Luz or its contractors (that Luz has knowledge of) during the construction and operation of the proposed project.

Verification: Luz shall notify the CEC CPM by letter within 10 days of learning of any such impending enforcement action.

- 7** Luz shall maintain records of all shipments of HTF to SEGS Unit IX ~~and X~~. All HTF must be accounted for in an HTF accounting report submitted annually to the CEC CPM.

SEGS IX (89-AFC-01C)
WASTE MANAGEMENT CONDITIONS OF CERTIFICATION

Verification: Luz shall submit an HTF accounting report to the CEC CPM in the Annual Compliance Report.

- 8** Luz shall notify the CEC CPM within 48 hours of any HTF spill estimated by it to be 20 gallons or more, and shall immediately undertake cleanup measures to the level reported in **Condition No. 9**.

Verification: Within 48 hours of a 20-gallon or greater spill, Luz shall notify the CEC CPM of the spill, and shall submit a letter to the CEC CPM within 10 days describing the spill.

- 9** Luz shall clean up any HTF spills at SEGS Unit IX ~~and X~~ to a level that is less than 3,000 mg/kg of HTF in the soil (or any lower level if required by the CEC CPM) as verified by a CDHS certified laboratory or readings taken by photo ionization detectors.

Verification: Within 30 days of an HTF spill, Luz shall submit to the CEC CPM a report describing the HTF spill location, the cause of the spill, estimated volume of HTF spilled, agencies contacted, the estimated volume of hazardous material removed, its disposition, the level of clean up achieved and actions taken to prevent similar future spills.

SEGS IX (89-AFC-01C)
WATER RESOURCES CONDITIONS OF CERTIFICATION

WATER SUPPLY

- 1** For each well that Luz drills, develops or uses for extracting water from the Harper Valley Basin, Luz shall place in the project files the following:
- driller's well log, if available.
 - drawdown-discharge curve and recovery test.
 - a map depicting the location of the well.

Verification: Luz shall notify the CEC CPM, via the weekly Compliance Activity Report, of the initiation of well drilling and via the Monthly Compliance Report of the completion of well drilling.

Within 60 days after completion or initiation of use of a well intended to supply SEGS Unit IX ~~or X~~, Luz shall maintain at the site the required information and notify the CPM that the records are available for inspection.

- 2** For each Luz well extracting groundwater from the Harper Valley Basin for operation of SEGS Unit IX ~~or X~~, Luz shall provide in each annual Compliance Report the following:
- pre-and-post pumping standing water levels,
 - pumping rates in gallons per minute, and
 - total annual extractions in acre-feet.

Verification: Luz shall forward via the Annual Compliance Report a copy of the records specified above to the CEC CPM.

- 3** Luz shall install in-line flow meters on all water wells supplying SEGS Unit IX. Prior to commencement of commercial operation, Luz shall make available at the site for CEC inspection, as-built drawings depicting installation of in-line meters for SEGS Unit IX supply well. The drawings shall be approved by a civil engineer registered in the state of California. CEC personnel shall be provided access to the facility during normal business hours to inspect the as-built drawings and actual installations.

Verification: Luz shall notify CEC CPM, via the Monthly Compliance Report after each meter installation.

- 4** Luz shall limit extractions from the Harper Valley groundwater basin to 950 AFY for the operation of ~~each of~~ SEGS Unit IX ~~and X~~.

Verification: In each Annual Compliance Report Luz shall provide groundwater pumping records for each project which shall indicate compliance with these limits.

SEGS IX (89-AFC-01C)
WATER RESOURCES CONDITIONS OF CERTIFICATION

- 5 Luz shall not operate its facilities in a manner that will prevent Intervenor James LaMont from obtaining adequate groundwater supplies for his property from the Harper Lake aquifer.

Verification: Mr. LaMont may direct Luz to drill one test well on his property for the purpose of monitoring compliance with this condition. Mr. LaMont will be responsible for maintenance and operation of this well.

The Commission will retain jurisdiction to impose appropriate mitigation measures if Mr. LaMont can establish that Luz has, in fact, violated this condition.

WATER QUALITY

- 6 Luz shall apply for and obtain waste discharge requirements for the condensate/feedwater system waste from the LRWQCB. Luz shall maintain the waste discharge requirements for the life of the plant in its project compliance file.

Verification: In the next Monthly Compliance Report following receipt of the waste discharge requirements from the LRWQCB, Luz shall provide written notification to the CEC CPM that waste discharge requirements have been issued and that they are available for inspection.

- 7 Luz shall apply for and obtain waste discharge requirements from the LRWQCB for cooling tower blowdown wastes discharged from the SEGS Unit IX ~~and X~~. Luz shall maintain the waste discharges requirements in the project compliance file.

Verification: Prior to beginning commercial operation of SEGS Unit IX ~~or X~~, ~~respectively~~, Luz shall provide written notification to the CEC CPM in the Monthly Compliance Report that said discharge requirements have been issued and that they are available for inspection.

- 8 For liquid wastes discharged from SEGS Unit IX ~~and X~~, Luz shall notify the CEC CPM of any change in the waste discharge requirements issued by the LRWQCB.

Verification: In its annual compliance report to the CEC CPM, Luz shall indicate the status of the current waste discharge requirements and attach the quarterly reports required by the LRWQCB for SEGS Unit IX ~~and X~~.

FLOOD HAZARD

- 9 To protect private property from inundation, erosion, or sheet flow in Section 12 (T11 N/R 5 W SBBM) from diverted flood water, Luz shall design, construct and maintain a dike along the north section line of Section 13 capable of withstanding and diverting combined flows from tributary areas B, C, and D shown in Figure 3, generated from a storm having a 1 in 100-year recurrence interval. These drawings and calculations shall be approved by a civil engineer registered in the state of California and kept in the Project Compliance File.

SEGS IX (89-AFC-01C)
WATER RESOURCES CONDITIONS OF CERTIFICATION

Verification: Prior to commencement of commercial operation at the SEGS Unit IX facility, Luz shall prepare and have available at the site to CEC personnel, complete as-constructed drawings and water surface profile calculations of the diversion areas and structures.

- 10 Prior to start of any construction Luz shall purchase in fee or obtain a right-of-way or flow easement over any and all land not owned by Luz north of the north section line of section 18, T11N, R4W, SBBM which are subject to the overflow, erosion, or meander of surface flows generated by a 1 in 100-year storm.

Prior to the start of any construction, Luz shall record with the San Bernardino County Recorder documents showing title to or flow easements over all properties north of Section 18 subject to the overflow or meander of surface flows generated by a 1 in 100-year recurrence interval storm. As an alternative, Luz may demonstrate that all the above-mentioned land will be protected from flooding.

Verification: Luz shall maintain these records at the site and make them available to CEC personnel during normal business hours.

WATER SUPPLY

~~11 To protect SEGS Unit X site from flood flows along its western and northern boundaries Luz shall design, construct and maintain the following facilities:~~

- ~~• A dike capable of withstanding and diverting combined flows from tributary areas B, C, and D, shown in the attached Figure 1, generated by a storm with a 1 in 100-year recurrence interval.~~

APPENDIX B

COUNTY OF SAN BERNARDINO PLANNING COMMISSION STAFF REPORT



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LAND USE SERVICES DEPARTMENT PLANNING COMMISSION STAFF REPORT

HEARING DATE: October 3, 2019	AGENDA ITEM #4
Project Description	Vicinity Map
<p>APN: 0490-101-55 (Multiple Parcel Associations) Applicant: SIMON DAY/LOCKHART SOLAR PV, LLC Community/Supervisorial District: HINKLEY 1ST SUPERVISORIAL DISTRICT Location: 43880 HARPER LAKE ROAD HINKLEY, CA 92347 Project No: P201900125 Staff: ANTHONY DELUCA/SENIOR PLANNER Rep: NOELLE STEELE/MICHAEL BAKER INTERNATIONAL Proposal: A CONDITIONAL USE PERMIT TO DECOMMISSION AN EXISTING 160 MW SEGS VIII AND IX CONCENTRATED THERMAL SOLAR FACILITY AND REDEVELOP AS A PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE WITH NO EXPANSION OF THE 1,073 ACRE SITE OR CAPACITY</p>	

Hearing Notices Sent On: September 20, 2019

Report Prepared By: Anthony DeLuca

SITE INFORMATION

Parcel Size: 1,073 Acres
Terrain: Gently sloping
Vegetation: Developed site

SURROUNDING LAND DESCRIPTION:

AREA	EXISTING LAND USE	LAND USE ZONING DISTRICT
Site	Developed Thermal Solar Facility	Rural Living (RL)
North	Vacant	Rural Living (RL)
South	Vacant/Water Well Site	Rural Living (RL)
East	Vacant	Rural Living (RL)
West	Vacant	Rural Living (RL)

	<u>AGENCY</u>	<u>COMMENT</u>
City Sphere of Influence:	N/A	N/A
Water Service:	N/A	Existing On site well
Sewer Service:	N/A	Existing Septic System

STAFF RECOMMENDATION:

That the Planning Commission **ADOPT** the Notice of Exemption, **ADOPT** the Findings, **APPROVE** the Conditional Use Permit based on the recommended findings and subject to the Conditions of Approval, and **DIRECT** Staff to File a Notice of Exemption¹.

¹ In accordance with Section 86.08.010 of the San Bernardino County Development Code, this action may be appealed to the Board of Supervisors.

**VICINITY MAP AND
OFFICIAL LAND USE DISTRICT MAP**

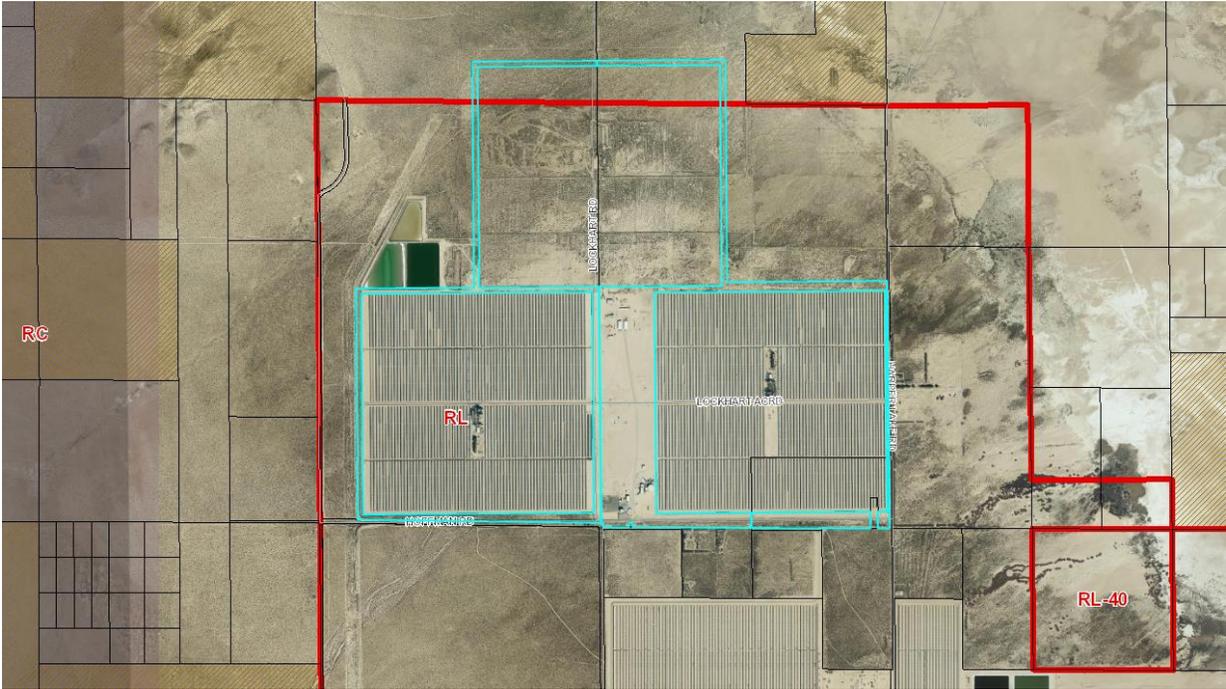


Figure 1 Land Use Designations



Figure 2 Area of Proposed Reconstruction



OFFICIAL USE ONLY

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN BERNARDINO AND DESCRIBED AS FOLLOWS:

PARCEL A:
 PARCEL NO. 1 OF PARCEL MAP NO. 12194, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 EXCEPTING ALL OIL AND GAS AND TO IT OR PERSONS AUTHORIZED BY IT THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME, UPON COMPLIANCE WITH THE CONDITIONS AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA TO JAY HUBERT MARSHALL, RECORDED MAY 11, 1927, IN BOOK 231, PAGE(S) 86 OF OFFICIAL RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA.
 EXCEPT ONE-HALF IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950 IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-101-56

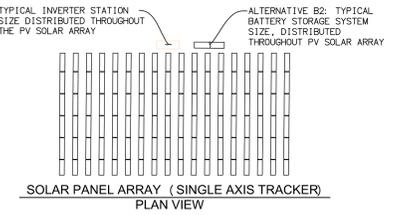
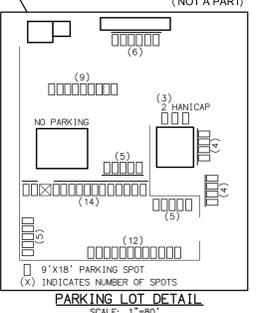
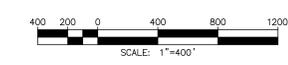
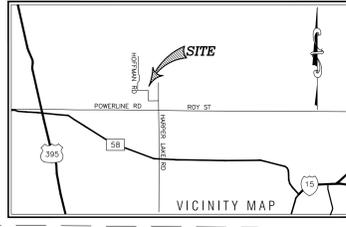
PARCEL B:
 PARCEL NO. 2 OF PARCEL MAP NO. 12194, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 EXCEPT ONE-HALF INTEREST IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950, IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-223-32

PARCEL C-1:
 PARCEL NO. 7 OF PARCEL MAP NO. 12194, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 ALSO EXCEPT ONE-HALF IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950 IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-101-55

PARCEL C-2:
 THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 NORTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.
 EXCEPTING THEREFROM THE EASTERLY 2 ACRES.

PARCEL C-3:
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PARCEL C-4:
 THE SOUTHWEST THREE-QUARTERS OF THE WESTERLY ONE-FIFTH OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 NORTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.
 APN: 0490-111-14



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LOCKHART SOLAR PV PLOT PLAN - FORMERLY SEGS VII & IX CSP POWER PLANTS
 COUNTY OF SAN BERNARDINO

SHEET 1 of 1
 DATE: 8/01/2019

SITE PHOTOS



Figure 3 View from Project Site toward the North

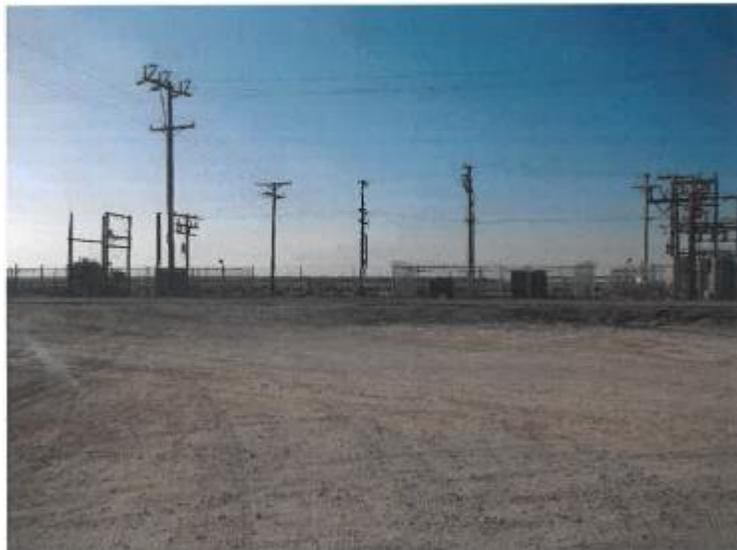


Figure 4 View from Project Site toward the South



Figure 5 View of Project Site toward the East



Figure 6 View of Project Site toward the West

PROJECT DESCRIPTION AND BACKGROUND:

The applicant is requesting approval of a Conditional Use Permit (CUP) involving the decommissioning and demolition of a previously permitted 160-megawatt (MW) SEGS VIII and IX concentrated solar thermal power facility on 1,073 acres and the redevelopment, at the same location, of a new photovoltaic (PV) solar facility including a 160 MW Battery Energy Storage System (BESS), and associated infrastructure necessary to generate up to a combined 160 megawatts (MW) AC of renewable electrical energy and/or energy storage capacity (Project). This is the same amount of electricity generated by the current facility being replaced.

Power generated by the proposed Project would be transferred to the Kramer Junction substation utilizing the existing 13.8-mile 220 kV gen-tie line. The new solar PV facilities would consist of solar arrays mounted on either fixed or single-axis tracking structures mounted to vertical posts. The solar facilities would operate year-round during the daylight hours.

Depending on the type of technology (modules) used, the panels would measure between four and seven feet in length, and the total height of the panel system measured from ground surface would be approximately seven to 12 feet. The length of each row of panels would be approximately 300 feet and would be oriented in the east-west direction in the case of a fixed-mount array being used, and oriented in the north-south direction in the case of single-axis trackers being used.

Access roads would be located throughout the Project area. Spacing between each solar panel row would be approximately eight to 22 feet. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day. The motors would be installed after the horizontal cross-members are in place. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.

The County Planning Division sent out the Notice of Hearing on September 20, 2019, advertising the Planning Commission Hearing to be held on October 3, 2019.

PROJECT ANALYSIS:

Renewable Energy Regulation: Over the last decade or more, the state has mandated that public utilities acquire more renewable energy, including solar-generated electricity. The resulting influx of applications to the County for commercial solar energy generation projects, coupled with concerns about the adequacy of the County's land use regulation of such projects, prompted the Board of Supervisors (Board) to enact a temporary moratorium on June 12, 2013 (Item 12). On December 17, 2013 (Item No. 103), the Board adopted an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, of the Development Code and terminating the moratorium. These amendments established 31 specific findings that must be made for approval of a commercial solar energy generation project.

On August 8, 2017 (Item 51), the Board adopted the Renewable Energy and Conservation Element of the General Plan (RECE), defining County goals and policies related to renewable energy and energy conservation, including policies governing siting and development of renewable energy generation projects. As proposed by staff, RECE contained Policy 4.10, which prohibited utility-oriented renewable energy (RE) project (10 MW and greater) in areas zoned Rural Living (RL) or areas within defined community plans. The Board adoption of the RECE excluded Policy 4.10, but staff was directed to return the siting issue to the Planning Commission for further study.

The Planning Commission conducted a public hearing on May 24, 2018, recommending that the Board (1) amend the RECE by adopting Policy 4.10¹, (2) amend Policy 5.2 to add existing energy generation

¹ With the suggestion that the Board, under its purview, consider moderating the policy so as to avoid a blanket prohibition of utility-oriented renewable energy generation projects in Rural Living zoning districts.

sites to those identified as suitable for utility-oriented renewable energy generation projects, and (3) add Policy 5.9 (collaborating with utilities, the California Energy Commission, and the Bureau of Land Management to plan for renewable energy generation facilities to be located on public lands, apart from existing unincorporated communities). Thereafter, on February 28, 2019 (Item 1), the Board considered and adopted the Planning Commission recommendation.

With the adoption of Policy 4.10, a newly proposed utility-oriented RE project is prohibited in RL Land Use Districts. The Project site in this case is located within a RL Land Use District but remains consistent with the RECE because the Project is an upgrade to an existing commercial solar energy facility. The Project includes the decommissioning and demolition of the existing thermal power facility and the redevelopment of the proposed PV solar facility within the existing solar site and with no expansion of the existing footprint. The Project is consistent with RE Policy 5.2(x), adopted at the same time as Policy 4.10, which includes existing energy generation sites, like the Project site, as a suitable location for utility-oriented RE generation projects.

In order to ensure future consistency with the County's RECE goals and policies, a proposed zoning change from RL to Resource Conservation (RC) is being recommended with the land use changes in the upcoming Countywide Plan update. This action will be part of a larger effort aimed at existing RE project sites, which would allow existing solar facilities to remain in compliance with County Development Code Standards.

In order to approve a commercial solar facility, in addition to making the findings required under Section 85.06.040(a) of the County Development Code relative to a CUP, the Project must meet the Required Findings for Approval of a Commercial Solar Energy Facility Section 84.29.035. Considering the recently adopted RECE, and proposed revisions to the Countywide Plan update, the Planning Commission will be able to make these additional findings. Exhibit A "Findings" discusses in detail the Project's consistency with Development Code Section 84.29.065 pertaining to the development of commercial solar facilities.

Fencing: Existing security fencing and electronic gates will be used for the Project. Desert tortoise fencing is already in place and will continue to be maintained for the life of the Project (see **Figure 7** below).



Figure 7 Existing Tortoise Fencing

Interconnection to the Grid: The Project would also require telecommunication facilities to meet the communication requirements for interconnecting with the Kramer Junction Substation and to support remote Project operations monitoring. To provide for communication, a fiber-optic cable would be placed on the gen-tie line poles and a microwave system or an underground fiber optic cable installed within the existing transmission line roadway would be used to provide redundant communications required by Southern California Edison (SCE). The Project would use local exchange carrier services with Frontier, already in use, for telecommunication to support remote monitoring requirements.

The Project will also utilize a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is critical to the California Independent System Operator (CAISO) and SCE utility interconnection, and for the proper operation and maintenance, which uses proprietary software; a fiber-optic transmission system; a telephone, radio, and/or microwave communication network; and other means of communication such as radio links and phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag out for the facility, thus minimizing the manpower and site diagnostic information generated from the panels. The SCADA system would also control the substations, allowing for fully centralized Project operation to meet all CAISO and utility interconnection requirements.

Operations and Maintenance: Typical operations and maintenance activities that would occur on the Project site during operation include, but are not limited to, liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters; site security and management; additional communication protocol; repair and maintenance of solar facilities, substations, electrical transmission lines, and other Project facilities; and periodic panel washing.

Solid and Non-Hazardous Waste: The Project would produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

Hazardous Waste: Limited amounts of hazardous materials would be stored or used on the site during operations, including diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers, and lead-acid-based and/or lithium-ion batteries for emergency backup. Appropriate spill containment and cleanup kits would be maintained during operation of the Project.

Parking: Chapter 83.11, section 83.11.040 table 83-15 requires eleven (11) spaces including one (1) ADA accessible space for a commercial building with the Project's proposed square footage. A total of fifty-seven (57) parking spaces are proposed including three (3) ADA van accessible space.

Setbacks: Setback requirements as described in Chapter 82.05, section 82.05.060 table 82-13B for the RL Land Use District Desert Region are as follows: Front (25'), Side-Street Side (25'), Side-Interior (20'), Rear (20'). The proposed Project meets all required setbacks for the proposed land use and the existing zoning.

Hours of Operation: The facility is intended to operate year round and would generate electricity during the daylight hours. The facility would be designed to produce up to a combined 160MW of solar power and/or energy storage capacity at the point of interconnection to the transmission grid.

Water Service: Existing water wells will be utilized for non-potable water, while potable water will be delivered via contract with Sparkletts or a similar provider.

Sewer System: An existing Onsite Water Treatment System (OWTS) will continue to be utilized.

ENVIRONMENTAL REVIEW:

Planning Staff has determined that the Project proposal is exempt from the California Environmental Quality Act (CEQA) as a Class 2 Categorical Exemption under Section 15302(c) of the CEQA Guidelines related to replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The new structures will be located on the same site and within the same footprint and will have the same solar utility purpose and capacity as the structures being replaced. In addition, the proposed facility reduces water usage and visual impacts through reduced panel heights, and reduces GHG emissions by shutting down the existing gas fired heaters.

In compliance with CEQA, the proposed Project is exempt pursuant to CEQA Guideline Section 15302(c); "Replacement or Reconstruction" (c) *replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity*. Therefore, the filing of a Notice of Exemption is recommended. The exemption adopted for this Project reflects the County's independent judgment in making this determination.

RECOMENDATION: That the Planning Commission:

1. **ADOPT** the Notice of Exemption;
2. **ADOPT** the Findings as contained in the staff report;
3. **APPROVE** the Conditional Use Permit involving the decommissioning of the previously permitted 160-megawatt (MW) SEGS VIII and IX concentrated solar thermal power projects and the redevelopment, at the same location, of a new photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to a combined 160 megawatts (MW) AC of renewable electrical energy and/or energy storage capacity subject to the Conditions of Approval; and
4. **DIRECT** staff to file the Notice of Exemption

ATTACHMENTS:

- EXHIBIT A:** Findings
EXHIBIT B: Conditions of Approval
EXHIBIT C: Site Plan
EXHIBIT D: Letter of Intent

EXHIBIT A

Findings

FINDINGS: CONDITIONAL USE PERMIT

A Conditional Use Permit (CUP) involving the decommissioning of a previously permitted 160-megawatt (MW) SEGS VIII and IX concentrated solar thermal power facility and the redevelopment, at the same location, of a new photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to a combined 160 megawatts (MW) AC of renewable electrical energy and/or energy storage capacity on 1,073 acres in the Rural Living (RL) land use district: Hinkley (Project).

The following are the required findings, per the San Bernardino County Development Code (Development Code) Section 85.06.040, and supporting facts for the Project:

1. The site for the proposed use is adequate in terms of shape and size to accommodate the proposed use and all landscaping, loading areas, open spaces, parking areas, setbacks, walls and fences, yards, and other required features pertaining to the application.

The proposed Project would include the development of solar facilities and associated infrastructure with the capacity to generate up to 160 MW of renewable electric energy and/or energy storage capacity utilizing the same footprint as the existing thermal solar facility to be decommissioned. Power generated by the proposed Project would be transferred to the Kramer Junction substation utilizing the existing 13.8-mile 220 KV gen-tie line. The solar facilities would use PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facilities would operate year-round and would generate electricity during the daylight hours. All setbacks meet the requirements of the Development Code for the proposed land use and the existing zoning. Existing security fencing and electronic gate will be used for the Project. Desert tortoise fencing is already in place and will continue to be maintained for the life of the project. Chapter 83.11, section 83.11.040 table 83-15 requires eleven (11) spaces including one (1) ADA accessible space for a commercial building with this proposed square footage. A total of fifty-seven (57) parking spaces are proposed, including three (3) ADA van accessible space, for the Project.

2. The site for the proposed use has adequate legal and physical access which means that the site design incorporates appropriate street and highway characteristics to serve the proposed use.

The Project site is 1,073 acres including three (3) parcels located at 43880 Harper Lake Road in an unincorporated area of San Bernardino County in the community of Hinkley. The site for the proposed use has adequate access. Access roads would be located throughout the Project area. Spacing between each solar panel row would be approximately eight to 22 feet. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day.

3. The proposed use will not have a substantial adverse effect on abutting properties or the allowed use of the abutting properties, which means that the use will not generate excessive noise, traffic, vibration, lighting, glare, or other disturbance.

The Project is conditioned to comply with the Development Code with respect to noise, vibration, lighting and glare. The Project will comply with Chapter 83.01 General Performance Standards for glare and lighting, noise, vibration, and other disturbances pursuant to the Development Code. The Project is also a replacement or reconstruction of an existing utility system and/or facility involving negligible or no expansion of capacity. The new structures associated with the Project will be located on the same site and within the same footprint and will have the same solar utility purpose and capacity as the structures being replaced. The proposed facility reduces water usage and visual impacts through reduced panel heights, and reduces GHG emissions by shutting down the existing gas fired heaters.

4. The proposed use and manner of development are consistent with the goals, maps, policies, and standards of the County General Plan, Renewable Energy and Conservation Element (RECE) and any applicable Community or Specific Plan.

The proposed Project, together with the provisions for its design and improvement, is consistent with the County General Plan and RECE. The Project specifically implements the following goals, policies and objectives from the RECE adopted August 8, 2017 (amended February 2019):

Goal LU 1: The County will have a compatible and harmonious arrangement of land uses by providing a type and mix of functionally well-integrated land uses that are fiscally viable and meet general social and economic needs of the residents.

Consistency: The Project site is in the same location as the thermal solar facility on SEGS VIII and IX to be decommissioned and will utilize existing infrastructure to the greatest extent possible. The facility is adjacent (north) to 1,750 acre Mojave Solar site. The Project is sufficiently separated from existing communities and rural residential areas such that adverse effects are avoided. The Project is not located within a quarter of a mile of any residential developments or single residences. The project design includes setbacks from roads as well as fencing to shield the facility from public view. Decommissioning of the site will occur in compliance with Development Code Section 84.29.060, which requires removal of site facilities when operations cease. The requirement for a removal surety bond will be included in the Conditions of Approval to be adopted for the project.

Goal CO 8: The County will minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals.

Consistency: The Project is located on the site of an existing energy generation site. The Project will include a new photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to a combined 160 megawatts (MW) AC of renewable electrical energy and/or energy storage capacity on 1,073 acres. The use of clean air technologies on the Project site will ensure good air quality for the County residents, businesses, and visitors by way of safe energy extraction, uses and systems.

RE Goal 5: Renewable energy facilities will be located in areas that meet County standards, local values, community needs and environmental and cultural resource protection priorities.

Consistency: The Project is located on the site of an existing energy generation site. The proposal is to convert from Thermal Solar generation to Photovoltaic (PV) Solar within the same footprint of the existing energy generation site in the unincorporated community of Hinkley. Considering features of the site design and the proximity to other solar generation facilities, the Project is appropriately sited and compatible with County standards, local values, community needs and environmental and cultural resource protection priorities.

RE Objective 5.2: Utility-oriented Renewable Energy (RE) facilities will be subject to site selection criteria consistent with County priorities expressed in the RECE.

Consistency: The Project is located on the site of an existing energy generation site.

RE Policy 5.2(x): Utility-oriented RE generation projects on private land in the unincorporated County will be limited to the site-type below, in addition to meeting criteria established in the RECE and Development Code: ... (x). Existing energy generation sites.

Consistency: The Project is located on the site of an existing energy generation site. The proposal is to convert from Thermal Solar generation to PV Solar within the same footprint of the existing energy generation site in the unincorporated community of Hinkley. Considering features of the site design, the RECE, the Development Code, and the proximity to other solar generation facilities, the Project is appropriately sited and compatible with the surrounding area.

- 5. There is supporting infrastructure, existing or available, consistent with the intensity of the development, to accommodate the proposed project without significantly lowering service levels.**

During construction, the primary community infrastructure utilized by the Project will be the road system. Existing roadways that serve the Project site include Harper Lake Road, and Hoffman Road. A Construction Management Plan is required prior to any grading activities which will ensure that all public roadways utilized during construction will be maintained. Sewer service will utilize the existing approved septic system.

- 6. The lawful conditions stated in the approval are deemed reasonable and necessary to protect the overall public health, safety and general welfare.**

The Project conditions of approval include measures that require the developer to comply with the performance measures outlined in the Development Code. The Project has been evaluated by County departments and as part of the environmental review process to respond to specific development needs and reduce potential environmental impacts.

- 7. The design of the site has considered the potential for the use of solar energy systems and passive or natural heating and cooling opportunities.**

The sole purpose of the proposed Project is to decommission an existing thermal solar facility, and construct and operate a photovoltaic solar generating facility that will contribute significant quantities of renewable energy for use by the larger public.

FINDINGS: CALIFORNIA ENVIRONMENTAL QUALITY ACT

Planning Staff determined that the Project proposal is exempt from the California Environmental Quality Act (CEQA) as a Class 2 Categorical Exemption under CEQA Guidelines Section 15302(c): Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The new structures will be located on the same site and within the same footprint and will have the same solar utility purpose and capacity as the structures being replaced. In addition, the proposed facility reduces water usage and visual impacts through reduced panel heights, and reduces GHG emissions by shutting down the existing gas fired heaters.

Therefore, the filing of a Notice of Exemption is recommended. The exemption adopted for this Project reflects the County's independent judgment in making this determination.

FINDINGS: COMMERCIAL SOLAR FACILITY

The following are the required findings, per the San Bernardino County Development Code (Development Code) Section 84.29.035, and supporting facts for approval of the Project as a Commercial Solar Facility. In making this findings, the review authority has considered (1) the characteristics of the Project's commercial solar energy facility development site and its physical and environmental setting, as well as the physical layout and design of the Project in relation to nearby communities, neighborhoods, and rural residential uses; and (2) the location of other commercial solar energy generation facilities that have been constructed, approved, or applied for in the vicinity, whether within a city or unincorporated territory, or on State or Federal land. The findings of fact for Development Code Section 84.29.035, subdivision (c), are as follows:

Finding (c)(1): The proposed commercial solar energy facility is either (A) sufficiently separated from existing communities and existing/developing rural residential areas so as to avoid adverse effects, or (B) of a sufficiently small size, provided with adequate setbacks, designed to be lower profile than otherwise permitted, and sufficiently screened from public view so as to not adversely affect the desirability and future development of communities, neighborhoods, and rural residential use.

Consistency. The Project site is in the same location as the thermal solar facility on SEGS VIII and IX to be decommissioned and will utilize existing infrastructure to the greatest extent possible. The facility is adjacent (north) to 1,750 acre Mojave Solar site. The Project is sufficiently separated from existing communities and rural residential areas such that adverse effects are avoided. The Project design includes setbacks from roads as well as fencing to shield the facility from public view.

Finding (c)(2): Proposed fencing, walls, landscaping, and other perimeter features of the proposed commercial solar energy generation facility will minimize the visual impact of the Project so as to blend with and be subordinate to the environment and character of the area where the facility is to be located.

Consistency. Existing security fencing and electronic gate will be used for the Project. Desert tortoise fencing is already in place and will continue to be maintained for the life of the Project. Permanent motion sensitive directional security lights will be installed to provide illumination around the substation areas and points of ingress/egress. All lighting will be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. There will be less visual impacts with lower profile PV panels (current solar mirror troughs are at least 20 feet tall and new PV will be about 12 feet in height), there will be no power block and no cooling tower plume.

Finding (c)(3): The siting and design of the proposed commercial solar energy generation facility will be either: (A) unobtrusive and not detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways or (B) located in such proximity to already disturbed lands, such as electrical substations, surface mining operations, landfills, wastewater treatment facilities, etc., that it will not further detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways.

Consistency. The site is located on a previous solar development, with existing electric transmission lines and transportation uses. The Project is adjacent to an existing solar site, with additional solar facilities within the general area. The facility will be compatible with the overall character of the area.

Finding (c)(4): The siting and design of project site access and maintenance roads have been incorporated in the visual analysis for the project and shall minimize visibility from public view points while providing needed access to the development site.

Consistency. *A minimum 26-foot-wide perimeter access route would be constructed along the Project site's fence line. All interior access routes would be a minimum of 20 feet in width. There will be no additional visual impact to the surrounding area due to the Project being developed on an existing solar site.*

Finding (c)(5): The proposed commercial solar energy generation facility will not adversely affect the feasibility of financing infrastructure development in areas planned for infrastructure development or will be located within an area not planned for future infrastructure development (e.g., areas outside of water agency jurisdiction).

Consistency. *No element of the proposed project is expected to impact the feasibility of financing infrastructure development for the local area. The site will continue to be served by onsite wells for non-potable water and delivered water for drinking. No additional infrastructure for sewer is proposed.*

Finding (c)(6): The proposed commercial solar energy generation facility will not adversely affect to a significant degree the availability of groundwater supplies for existing communities and existing and developing rural residential areas.

Consistency. *The Project will be using water from existing on-site wells. The Project's demand for water is not expected to exceed the water allotted to the landowners who are part of the project. There would be less water usage and wastewater generated with the shut-down of steam turbine generators and would not adversely affect availability of groundwater supplies to a significant degree.*

Finding (c)(7): The proposed commercial energy generation facility will minimize site grading, excavating, and filling activities by being located on land where the existing grade does not exceed an average of five (5) percent across the developed portion of the project site, and by utilizing construction methods that minimize ground disturbance.

Consistency. *Minimal site grading is proposed for the majority of the site with finished topographical grades being similar to existing conditions, and less than five percent on average.*

Finding (c)(8): The proposed commercial solar energy generation facility will be located in proximity to existing electrical infrastructure, such as transmission lines, utility corridors, and roads, so that: (A) minimal ground disturbance and above ground infrastructure will be required to connect to the existing transmission grid, considering the location of the project site and the location and capacity of the transmission grid, (B) new electrical generation tie lines will be co-located on existing power poles whenever possible, and (C) existing rights-of-way and designated utility corridors will be utilized to the extent practicable.

Consistency. *The Project is designed to include use of existing transmission and access infrastructure in the area developed for the existing solar site, including transmission lines, utility corridors and roads. The Project will connect and deliver its output to the existing Kramer Junction Substation.*

Finding (c)(9): The proposed commercial solar energy generation facility will be sited so as to avoid or minimize impacts to the habitat of special status species, including threatened, endangered, or rare species, Critical Habitat Areas as designated by the U.S. Fish and Wildlife Service, important habitat/wildlife linkages or areas of connectivity designated by County, state or federal agencies, and areas of Habitat Conservation Plans or Natural Community Conservation Plans that discourage or preclude development.

Consistency. *The Project site has been mostly disturbed by previous industrial or agricultural activities. A general biological survey was conducted to document all biological resources identified within the survey area and included a floral/fauna inventory, vegetation/land use mapping, and habitat suitability assessments to determine the*

potential for special-status plant and wildlife species and vegetation communities to occur within the survey area. No special-status plant or wildlife species or vegetation communities were observed within or surrounding the survey area. In addition, based on 9-quadrangle database record searches it was determined that ten special-status plant species and sixteen special-status wildlife species known to occur within the vicinity of the survey area are either not expected or have a low potential to occur within the survey area. Due to the highly disturbed areas of bare ground, open water and developed areas (i.e. solar fields and associated infrastructure, evaporation ponds and open areas) bird nesting opportunities and wildlife movements are limited and restricted. No U.S. Fish and Wildlife Service designated critical habitat has been mapped within the survey area.

Finding (c)(10): Adequate provision has been made to maintain and promote native vegetation and avoid the proliferation of invasive weeds during and following construction.

***Consistency.** The Project includes measures to minimize the growth of invasive weeds during and following construction.*

Finding (c)(11): The proposed commercial solar energy generation facility will be located so as to avoid or mitigate impacts to significant cultural and historic resources, as well as sacred landscapes.

***Consistency.** As a previously developed utility scale solar site the Project falls under CEQA exemption 15302 (c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. Any cultural resources discovered during decommissioning and construction activities are addressed in the final conditions of approval for the Project which includes cultural, historic, and Native American sacred discoveries.*

Finding (c)(12): The proposed commercial solar energy generation facility will be designed in a manner that does not impede flood flows, avoids substantial modification of natural water courses, and will not result in erosion or substantially affect area water quality.

***Consistency.** The Project is designed to maintain the natural drainage pattern. None of the on-site facilities, including fences and panel posts, should prevent stormwater flow. Grading and Erosion control plans shall be submitted for review and approval obtained, prior to construction.*

Finding (c)(13): The proposed commercial solar energy generation facility will not be located within a floodway designated by the Federal Emergency Management Agency (FEMA), has been evaluated for flood hazard impacts pursuant to Chapter 82.14 of the Development Code, and will not result in increased flood hazards to upstream or downstream properties.

***Consistency.** The Project is located within Flood Zone D according to FEMA Panel Number 06071C3250H dated 8/28/2008. Flood Hazards are undetermined in this area but possible. The requirements may change based on the recommendations of a drainage study accepted by the Land Development Division and the most current Flood Map prior to issuance of a grading permit.*

Finding (c)(14): All on-site solar panels, switches, inverters, transformers, and substations shall be located at least one foot above the base flood elevation as shown on the Flood Insurance Rate Maps.

***Consistency.** Based on the National Flood Hazard Map, the entire Project site is within Zone D, which indicates flooding hazards for the site have not been determined. Mitigation measures that will be implemented by the Developer will minimize impacts.*

Finding (c)(15): For development sites proposed on or adjacent to undeveloped alluvial fans, the commercial solar energy generation facility has been designed to avoid potential

channel migration zones as demonstrated by a geomorphic assessment of the risk of existing channels migrating into the proposed development footprint, resulting in erosion impacts.

***Consistency.** The Project site is located approximately 0.5 miles west of Harper Dry Lake and sited to avoid potential channel migration zones and associated erosion impacts.*

Finding (c)(16): For proposed facilities located on prime agricultural soils or land designated by the California Farmland Mapping and Monitoring Program as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, where use of the land for agricultural purposes is feasible, the proposed commercial solar energy generation facility will not substantially affect the agricultural viability of surrounding lands.

***Consistency.** The proposed Project will be located on an existing solar site using the same footprint. There will be no expansion of the existing footprint. The existing developed site does not contain agricultural land and would not have an adverse effect on the agricultural viability of surrounding lands.*

Finding (c)(17): If the proposed site is subject to a Williamson Act contract, the proposed commercial solar energy generation facility is consistent with the principals of compatibility set forth in California Government Code Section 51238.1.

***Consistency.** The Project site is not subject to Williamson Act contracts.*

Finding (c)(18): The proposed commercial solar energy generation facility will not preclude access to significant mineral resources.

***Consistency.** The Project site is not located in an area of known, significant mineral resources. Additionally, solar energy generation is considered an interim land use (with a limited-term contract with a utility) and is expected to be removed after its contractual lifetime.*

Finding (c)(19): The proposed commercial solar energy generation facility will avoid modification of scenic natural formations.

***Consistency.** The Project would avoid any further modification of scenic natural formations, as no designated scenic natural formations as identified by the County are located at the Project site.*

Finding (c)(20): The proposed commercial solar energy generation facility will be designed, constructed, and operated so as to minimize dust generation, including provision of sufficient watering of excavated or graded soil during construction to prevent excessive dust. Watering will occur at a minimum of three (3) times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative, or other approved dust control measure.

***Consistency.** The Project will apply dust control measures in compliance with permit conditions and Mojave Desert Air Quality Management District (MDAQMD) guidance. A Dust Control Plan is required to establish the specific measures to be implemented to control dust.*

Finding (c)(21): All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (averaged over one hour), or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property, and in conformance with Air Quality Management District (AQMD) regulations.

***Consistency.** The Project will apply dust control measures in compliance with permit conditions and MDAQMD regulations.*

Finding (c)(22): For sites where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, an adequate wind barrier will be provided to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility.

Consistency. The Project is not located within a quarter of a mile of any residential developments or single residences.

Finding (c)(23): Any unpaved roads and access ways will be treated and maintained with a dust palliative or graveled or treated by another approved dust control method to prevent excessive dust, and paving requirements will be applied pursuant to Chapter 83.09 of the Development Code.

Consistency. The applicant will prepare a Dust Control Plan for review and approval by the County and Mojave Desert Air Quality Management District. Included in the plan will be treatments and measures designed to the specific conditions of the project site so as to provide effective dust control.

Finding (c)(24): On-site vehicle speed will be limited to 15 miles per hour.

Consistency. The applicant will post and enforce speed limit of 15 miles per hour for on-site vehicles.

Finding (c)(25): For proposed commercial solar energy generation facilities within two (2) miles of the Joshua Tree National Park boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature along the main access roads to the park (Park Boulevard and Utah Trail), nor will it substantially impair views from hiking/nature trails, campgrounds, and backcountry camping areas within the National Park.

Consistency. The Project site is not located within two miles of Joshua Tree National Park. Joshua Tree National Park is located approximately 90 miles to the southeast.

Finding (c)(26): For proposed facilities within two (2) miles of the Mojave National Preserve boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Preserve.

Consistency. The Project site is not located within two miles of the Mojave National Preserve. The Mojave National Preserve is located approximately 70 miles to the east.

Finding (c)(27): For proposed facilities within two (2) miles of Death Valley National Park boundaries, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, hiking and backcountry camping areas within the National Park.

Consistent. The Project site is not located within two miles of Death Valley National Park. Death Valley National Park is located approximately 50 miles to the north.

Finding (c)(28): For proposed facilities within two (2) miles of the boundaries of a County, state or federal agency designated wilderness area, the location, design, and operation of the proposed commercial solar energy facility will not be a predominant visual feature of, nor substantially impair views from, the designated wilderness area.

Consistency. The Project is not located within 2 miles of County, state or federal agency designated wilderness area.

Finding (c)(29): For proposed facilities within two (2) miles of the boundaries of any active military base, the location, design, and operation of the proposed commercial solar energy facility will not substantially impair the mission of the facility.

Consistency. *The nearest active military base is the Marine Corps Logistic Base in Barstow, located approximately 25 miles to the southeast. Construction and/or operation of the Project would not preclude military operations from occurring within the Project area.*

Finding (c)(30): When located within a city's sphere of influence, in addition to other County requirements, the proposed commercial solar energy facility will also be consistent with relevant city zoning requirements that would be applied to similar facilities within the city.

Consistency. *The Project site is not located within the Sphere of Influence of a city. The City of Barstow is located approximately 20 miles southeast of the Project site.*

Finding (c)(31): On terms and in an amount acceptable to the Director, adequate surety is provided for reclamation of commercial solar energy generation facility sites should energy production cease for a continuous period of 180 days and/or if the site is abandoned.

Consistency. *Decommissioning of the site will occur in compliance with Development Code Section 84.29.060, which requires removal of site facilities when operations cease. The requirement for a removal surety bond will be included in the Conditions of Approval to be adopted for the project.*

EXHIBIT B

Conditions of Approval

CONDITIONS OF APPROVAL

Lockhart Solar PV, LLC
Conditional Use Permit

GENERAL REQUIREMENTS Ongoing and Operational Conditions

LAND USE SERVICES DEPARTMENT– Planning Division (909) 387-8311

1. **Project Approval Description.** A Conditional Use Permit to decommission an existing 160 megawatt (MW) concentrated solar thermal facility and redevelop the site with a new 160 MW photovoltaic (PV) solar facility, with a 160 MW PV/Battery Energy Storage System (BESS), including associated infrastructure with no future expansion of capacity. Located at 43880 Harper Lake Road, in the Community of Hinkley; (APNs: 0490-101-55, 0490-101-56, 0490-111-14, and 0490-223-32), Project No. P201900125.

This Project is approved to be constructed and operated in compliance with the San Bernardino County Code (SBCC) and the Service Commercial (CS) land use designation, the California Building Codes (CBC), the California Fire Code (CFC), the Conditions of Approval, contained herein, and the approved site plan dated September 19, 2019.

2. **Project Location.** The Project site is a total of approximately 1,073-acres located at 43880 Harper Lake Road in an unincorporated area of San Bernardino County in the community of Hinkley.
3. **Revisions.** Any proposed change to the approved use/activity on the site or any increase in the developed area of the site or any expansion or modification to the approved facilities, including changes to the height, location, bulk or size of structure or equipment shall require an additional land use review and application subject to approval by the County. The developer shall prepare, submit with fees and obtain approval of the application prior to implementing any such revision or modification. (SBCC §86.06.070)
4. **Indemnification.** In compliance with SBCC §81.01.070, the developer shall agree, to defend, indemnify, and hold harmless the County or its “indemnitees” (herein collectively the County’s elected officials, appointed officials (including Planning Commissioners), Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning a map or permit or any other action relating to or arising out of County approval, including the acts, errors or omissions of any person and for any costs or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the developer may agree to relinquish such approval.

Any condition of approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the developer of any claim, action, or proceeding and that the County cooperates fully in the defense. The developer shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney fees, which the County or its indemnitees may be required by a court to pay as a result of such action.

The County may, at its sole discretion, participate at its own expense in the defense of any such action, but such participation shall not relieve the developer of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The developer’s indemnification obligation applies to the indemnitees’ “passive” negligence but does not apply to the indemnitees’ “sole” or “active” negligence or “willful misconduct” within the meaning of Civil Code Section 2782.

5. **Expiration.** This project permit approval shall expire and become void if it is not “exercised” within three (3) years of the effective date of this approval, unless an extension of time is approved. The permit is deemed “exercised” when either:

- a. The permittee has commenced actual construction or alteration under a validly issued building permit, or
- b. The permittee has substantially commenced the approved land use or activity on the project site, for those portions of the project not requiring a building permit. (SBCC §86.06.060)
- c. Occupancy of approved land use occupancy of completed structures and operation of the approved and exercised land use remains valid continuously for the life of the project and the approval runs with the land, unless one of the following occurs:
 - Construction permits for all or part of the project are not issued or the construction permits expire before the structure is completed and the final inspection is approved.
 - The land use is determined by the County to be abandoned or non-conforming.
 - The land use is determined by the County to be not operating in compliance with these conditions of approval, the County Code, or other applicable laws, ordinances or regulations. In these cases, the land use may be subject to a revocation hearing and possible termination.

PLEASE NOTE: This will be the ONLY notice given of this approval's expiration date. The developer is responsible to initiate any Extension of Time application.

6. Continuous Effect/Revocation. All of the conditions of this project approval are continuously in effect throughout the operative life of the project for all approved structures and approved land uses/activities. Failure of the property owner or developer to comply with any or all of the conditions at any time may result in a public hearing and possible revocation of the approved land use, provided adequate notice, time and opportunity is provided to the property owner, developer or other interested party to correct the non-complying situation.
7. Extension of Time. Extensions of time to the expiration date (listed above or as otherwise extended) may be granted in increments each not to exceed an additional three years beyond the current expiration date. An application to request consideration of an extension of time may be filed with the appropriate fees no less than thirty days before the expiration date. Extensions of time may be granted based on a review of the application, which includes a justification of the delay in construction and a plan of action for completion. The granting of such an extension request is a discretionary action that may be subject to additional or revised conditions of approval or site plan modifications. (SBCC §86.06.060)
8. Project Account. The Project account number is P201900125. This is an actual cost project with a deposit account to which hourly charges are assessed by various county agency staff (e.g. Land Use Services, Public Works, and County Counsel). Upon notice, the "developer" shall deposit additional funds to maintain or return the account to a positive balance. The "developer" is responsible for all expense charged to this account. Processing of the project shall cease, if it is determined that the account has a negative balance and that an additional deposit has not been made in a timely manner. A minimum balance of \$1,000.00 must be in the project account at the time the Condition Compliance Review is initiated. Sufficient funds must remain in the account to cover the charges during each compliance review. All fees required for processing shall be paid in full prior to final inspection, occupancy and operation of the approved use.
9. Condition Compliance: In order to obtain construction permits for grading, building, final inspection and/or tenant occupancy for each approved building, the developer shall process a Condition Compliance Release Form (CCRF) for each respective building and/or phase of the development through the Planning Division in accordance with the directions stated in the Approval letter. The Planning Division shall release their holds on each phase of development by providing to County Building and Safety the following:
 - Grading Permits: a copy of the signed CCRF for grading/land disturbance and two "red" stamped and signed approved copies of the grading plans.
 - Building Permits: a copy of the signed CCRF for building permits and three "red" stamped and signed approved copies of the final approved site plan.
 - Final Occupancy: a copy of the signed CCRF for final inspection of each respective building or use of the land, after an on-site compliance inspection by the Planning Division.

10. Development Impact Fees. Additional fees may be required prior to issuance of development permits. Fees shall be paid as specified in adopted fee ordinances.
11. Additional Permits. The developer shall ascertain compliance with all laws, ordinances, regulations and any other requirements of Federal, State, County and Local agencies that may apply for the development and operation of the approved land use. These may include but not limited to:
- FEDERAL: N/A;
 - STATE: Lahontan RWQCB, Mojave Desert AQMD
 - COUNTY: Land Use Services – Building and Safety/Code Enforcement/Land Development, Fire/HazMat; Public Health – Environmental Health Services, Public Works –Traffic/ County Surveyor, and
 - LOCAL: N/A
12. Continuous Maintenance. The Project property owner shall continually maintain the property so that it is visually attractive and not dangerous to the health, safety and general welfare of both on-site users (e.g. employees) and surrounding properties. The property owner shall ensure that all facets of the development are regularly inspected, maintained and that any defects are timely repaired. Among the elements to be maintained, include but are not limited to:
- Annual maintenance and repair: The developer shall conduct inspections for any structures, fencing/walls, driveways, and signs to assure proper structural, electrical, and mechanical safety.
 - Graffiti and debris: The developer shall remove graffiti and debris immediately through weekly maintenance.
 - Landscaping: The developer shall maintain landscaping in a continual healthy thriving manner at proper height for required screening. Drought-resistant, fire retardant vegetation shall be used where practicable. Where landscaped areas are irrigated it shall be done in a manner designed to conserve water, minimizing aerial spraying.
 - Dust control: The developer shall maintain dust control measures on any undeveloped areas where landscaping has not been provided.
 - Erosion control: The developer shall maintain erosion control measures to reduce water runoff, siltation, and promote slope stability.
 - External Storage: The developer shall maintain external storage, loading, recycling and trash storage areas in a neat and orderly manner, and fully screened from public view. Outside storage shall not exceed the height of the screening walls.
 - Metal Storage Containers: The developer shall NOT place metal storage containers in loading areas or other areas unless specifically approved by this or subsequent land use approvals.
 - Screening: The developer shall maintain screening that is visually attractive. All trash areas, loading areas, mechanical equipment (including roof top) shall be screened from public view.
 - Signage: The developer shall maintain all on-site signs, including posted area signs (e.g. “No Trespassing”) in a clean readable condition at all times. The developer shall remove all graffiti and repair vandalism on a regular basis. Signs on the site shall be of the size and general location as shown on the approved site plan or subsequently a County-approved sign plan.
 - Lighting: The developer shall maintain any lighting so that they operate properly for safety purposes and do not project onto adjoining properties or roadways. Lighting shall adhere to applicable glare and night light rules.
 - Parking and on-site circulation: The developer shall maintain all parking and on-site circulation requirements, including surfaces, all markings and traffic/directional signs in an un-faded condition as identified on the approved site plan. Any modification to parking and access layout requires the Planning Division review and approval. The markings and signs shall be clearly defined, un-faded and legible;

these include parking spaces, disabled space and access path of travel, directional designations and signs, stop signs, pedestrian crossing, speed humps and “No Parking”, “Carpool”, and “Fire Lane” designations.

- I. Fire Lanes: The developer shall clearly define and maintain in good condition at all times all markings required by the Fire Department, including “No Parking” designations and “Fire Lane” designations.
13. Performance Standards. The approved land uses shall operate in compliance with the general performance standards listed in the County Development Code Chapter 83.01, regarding air quality, electrical disturbance, fire hazards (storage of flammable or other hazardous materials), heat, noise, vibration, and the disposal of liquid waste.
14. Lighting. Lighting shall comply with Table 83-7 “Shielding Requirements for Outdoor Lighting in the Mountain Region and Desert Region” of the County’s Development Code (i.e. “Dark Sky” requirements). All lighting shall be limited to that necessary for maintenance activities and security purposes. This is to allow minimum obstruction of night sky remote area views. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign, by light inside the sign, by direct stationary neon lighting or in the case of an approved electronic message center sign, an alternating message no more than once every five seconds.
15. Clear Sight Triangle. Adequate visibility for vehicular and pedestrian traffic shall be provided at clear sight triangles at all 90 degree angle intersections of public rights-of-way and private driveways. All signs, structures and landscaping located within any clear sight triangle shall comply with the height and location requirements specified by County Development Code (SBCC§ 83.02.030) or as otherwise required by County Traffic.
16. Cultural Resources. During grading or excavation operations, should any potential paleontological or archaeological artifacts be unearthed or otherwise discovered, the San Bernardino County Museum shall be notified and the uncovered items shall be preserved and curated, as required. For information, contact the County Museum, Community and Cultural Section, telephone (909) 798-8570.
17. Underground Utilities. No new above-ground power or communication lines shall be extended to the site. All required utilities shall be placed underground in a manner that complies with the California Public Utilities Commission General Order 128, and avoids disturbing any existing/natural vegetation or the site appearance.
18. Construction Hours. Construction will be limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday in accordance with the County of San Bernardino Development Code standards. No construction activities are permitted outside of these hours or on Sundays and Federal holidays.
19. Construction Noise. The following measures shall be adhered to during the construction phase of the project:
 - a. All construction equipment shall be muffled in accordance with manufacturer’s specifications.
 - b. All construction staging shall be performed as far as possible from occupied dwellings. The location of staging areas shall be subject to review and approval by the County prior to the issuance of grading and/or building permits.
 - c. All stationary construction equipment shall be placed in a manner so that emitted noise is directed away from sensitive receptors (e.g. residences and schools) nearest the project site.
20. GHG – Operational Standards. The developer shall implement the following as greenhouse gas (GHG) mitigation during the operation of the approved project:
 - a. Waste Stream Reduction. The “developer” shall provide to all tenants and project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.
 - b. Vehicle Trip Reduction. The “developer” shall provide to all tenants and project employees County-approved informational materials about the need to reduce vehicle trips and the program elements this

project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, designating preferred parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles with benches in waiting areas, and/or providing a web site or message board for coordinating rides.

- c. Provide Educational Materials. The developer shall provide to all tenants and staff education materials and other publicity about reducing waste and available recycling services. The education and publicity materials/program shall be submitted to County Planning for review and approval.
- d. Landscape Equipment. The developer shall require in the landscape maintenance contract and/or in onsite procedures that a minimum of 20% of the landscape maintenance equipment shall be electric-powered.

LAND USE SERVICES DEPARTMENT– Code Enforcement Division (909) 387-8311

21. Enforcement. If any County enforcement activities are required to enforce compliance with the conditions of approval, the property owner and “developer” shall be charged for such enforcement activities in accordance with the County Code Schedule of Fees. Failure to comply with these conditions of approval or the approved site plan design required for this project approval shall be enforceable against the property owner and “developer” (by both criminal and civil procedures) as provided by the San Bernardino County Code, Title 8 – Development Code; Division 6 – Administration, Chapter 86.09 – Enforcement.
22. Weed Abatement. The applicant shall comply with San Bernardino County weed abatement regulations and periodically clear the site of all non-complying vegetation. This includes removal of all Russian thistle (tumbleweeds).

LAND USE SERVICES DEPARTMENT – Land Development Division – Drainage Section (909) 387-8311

23. Tributary Drainage. Adequate provisions should be made to intercept and conduct the tributary off site - on site drainage flows around and through the site in a manner, which will not adversely affect adjacent or downstream properties at the time the site is developed.
24. Natural Drainage. The natural drainage courses traversing the site shall not be occupied or obstructed.
25. Additional Drainage Requirements. In addition to drainage requirements stated herein, other "on-site" and/or "off-site" improvements may be required which cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office.
26. Erosion Control Installation. Erosion control devices must be installed and maintained at all perimeter openings and slopes throughout the construction of the project. No sediment is to leave the job site.

PUBLIC HEALTH - Environmental Health Services (800) 442-2283

27. Refuse Storage/Removal. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least **1** time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least **2** times per week, or as often if necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility in conformance with San Bernardino County Code Chapter 8, Section 33.0830 et. seq. For information, please call DEHS/LEA at: (800) 442-2283.
28. Septic System Maintenance. The septic system shall be properly maintained, not create a public nuisance, and be serviced by a DEHS permitted sewage pumper.
29. Noise. Noise level(s) shall be maintained at or below County Standards, Development Code §83.01.080

COUNTY FIRE DEPARTMENT–Community Safety Division (909)386-8465

30. Constriction Permits. Construction permits, including Fire Condition Letters, shall automatically expire and become invalid unless the work authorized by such permit is commenced within 180 days after its issuance,

or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Suspension or abandonment shall mean that no inspection by the Department has occurred with 180 days of any previous inspection. After a construction permit or Fire Condition Letter, becomes invalid and before such previously approved work recommences, a new permit shall be first obtained and the fee to recommence work shall be one-half the fee for the new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. A request to extend the Fire Condition Letter or Permit may be made in writing PRIOR TO the expiration date justifying the reason that the Fire Condition Letter should be extended.

31. Jurisdiction. The above referenced project is under the jurisdiction of the San Bernardino County Fire Department herein ("Fire Department"). Prior to any construction occurring on any parcel, the developer shall contact the Fire Department for verification of current fire protection requirements. All new construction shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes, ordinances and standards of the Fire Department.
32. Additional Requirements. In addition to the Fire requirements stated herein, other onsite and offsite improvements may be required which cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office. [F01AJ]

DEPARTMENT OF PUBLIC WORKS – Solid Waste Management – (909) 386-8701

33. Recycling Storage Capacity. The developer shall provide adequate space and storage bins for both refuse and recycling materials. This requirement is to assist the County in compliance with the recycling requirements of Assembly Bill (AB) 2176.
34. Franchise Hauler Service Area. This project falls within a County Franchise Area. If subscribing for the collection and removal of construction and demolition waste from the project site, all developers, contractors, and subcontractors shall be required to receive services through the grantee holding a franchise agreement in the corresponding County Franchise Area (Burrtec).
35. Mandatory Commercial Recycling. Beginning July 1, 2012 all businesses defined to include a commercial or public entity that generates 4 or more cubic yards of commercial waste a week or is a multi-family residential dwelling of 5 units or more to arrange for recycling services. The County is required to monitor commercial recycling and will require businesses to provide recycling information. This requirement is to assist the County in compliance with AB 341.
36. Mandatory Commercial Organics Recycling. As of January 2017, the State of California through AB 1826 (Enacted October 2014), requires businesses that generate four (4) cubic yards of organics per week to recycle. A business generating organic waste shall arrange for the recycling services in a manner that is consistent with state and local laws and requirements, including a local ordinance or local jurisdiction's franchise agreement, applicable to the collection, handling, or recycling of solid and organic waste or arrange for separate organic waste collection and recycling services, until the local ordinance or local jurisdiction's franchise agreement includes organic waste recycling services. A business that is a property owner may require a lessee or tenant of that property to source separate their organic waste to aid in compliance. **Additionally, all businesses that contract for gardening or landscaping services must stipulate that the contractor recycle the resulting gardening or landscaping waste.** Residential multifamily dwellings of five (5) or more units are required to recycle organics though not required to arrange for recycling services specifically for food waste. Applicant will be required to report to the County on efforts to recycle organics materials once operational.
37. Demolition Debris – San Bernardino County owned and operated sanitary landfills and transfer stations are not permitted to accept asbestos contaminated wastes, therefore any debris generated by the demolition of structures are subject to asbestos clearance prior to disposal at any San Bernardino County disposal sites. Applicants are required to have a Certified Asbestos Consultant perform testing of all materials to be disposed. Upon receipt of the Consultant's report, indicating that the debris is not contaminated, Solid Waste

Management Operations Section will provide applicant with disposal authorization. For more information on Certified Asbestos Consultants please visit <http://www.dir.ca.gov/databases/doshacru/acruList.asp>, or for information on County requirements please contact Solid Waste Operations at 909-386-8701 or solid.wastemail@dpw.sbcounty.gov.

**PRIOR TO ISSUANCE OF GRADING PERMITS
OR LAND DISTURBING ACTIVITIES**

The Following Shall Be Completed

LAND USE SERVICES DEPARTMENT– Planning Division (909) 387-8311

38. GHG – Construction Standards. The developer shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:
- a. Implement the approved Coating Restriction Plans.
 - b. Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.
 - c. Grading contractor shall provide and implement the following when possible:
 1. Training operators to use equipment more efficiently.
 2. Identifying the proper size of equipment for a task can also provide fuel savings and associated reductions in GHG emissions.
 3. Replacing older, less efficient equipment with newer models.
 4. Use GPS for grading to maximize efficiency.
 - d. Grading plans shall include the following statements:
 - “All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration.”
 - “All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes.”
 - e. Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions. Queuing of trucks on and off site shall be firmly discouraged and not scheduled. A flag person shall be retained to maintain efficient traffic flow and safety adjacent to existing roadways.
 - f. Recycle and reuse construction and demolition waste (e.g. soil, vegetation, concrete, lumber, metal, and cardboard) per County Solid Waste procedures.
 - g. The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew and educate all construction workers about the required waste reduction and the availability of recycling services.
39. Air Quality. Although the Project does not exceed Mojave Air Quality Management District thresholds, the Project proponent is required to comply with all applicable rules and regulations as the Mojave Air Basin is in non-attainment status for ozone and suspended particulates [PM₁₀ and PM_{2.5} (State)]. To limit dust production, the Project proponent must comply with Rules 402 nuisance and 403 fugitive dust, which require the implementation of Best Available Control Measures for each fugitive dust source. This would include, but not be limited to, the following Best Available Control Measures. Compliance with Rules 402 and 403 are mandatory requirements and thus not considered mitigation measures:

- a. The Project proponent shall ensure that any portion of the site to be graded shall be pre-watered prior to the onset of grading activities.
 1. The Project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading. Portions of the site that are actively being graded shall be watered to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.
 2. The Project proponent shall ensure that all disturbed areas are treated to prevent erosion.
 3. The Project proponent shall ensure that all grading activities are suspended when winds exceed 25 miles per hour.
 - b. Exhaust emissions from vehicles and equipment and fugitive dust generated by equipment traveling over exposed surfaces, will increase NO_x and PM₁₀ levels in the area. Although the Project will not exceed Mojave Air Quality Management District thresholds during operations, the Project proponent will be required to implement the following requirements:
 1. All equipment used for grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.
 2. The operator shall maintain and effectively utilize and schedule on-site equipment and on-site and off-site haul trucks in order to minimize exhaust emissions from truck idling.
40. Diesel Regulations. The operator shall comply with all existing and future California Air Resources Board and Mojave Air Quality Management District regulations related to diesel-fueled trucks, which among others may include: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment. Mojave Air Quality Management District rules for diesel emissions from equipment and trucks are embedded in the compliance for all diesel fueled engines, trucks, and equipment with the statewide California Air Resources Board Diesel Reduction Plan. These measures will be implemented by the California Air Resources Board in phases with new rules imposed on existing and new diesel-fueled engines.

LAND USE SERVICES DEPARTMENT – Building and Safety Division (909) 387-8311

41. Retaining Wall Plans: Submit plans and obtain separate building permits for any required walls or retaining walls Erosion & Sediment Control Plan. An erosion and sediment control plan and permit shall be submitted to and approved by the Building Official prior to any land disturbance.
42. Geotechnical (Soil) Report: When earthwork quantities exceed 5,000 cubic yards, a geotechnical (soil) report shall be submitted to the Building and Safety Division for review and approval prior to issuance of grading permits.
43. Geology Report: If cut slopes steeper than 2:1 (horizontal to vertical) or grading involving 5,000 cubic yards or more are proposed a geology report shall be submitted to the Building and Safety Division for review and approval by the County Geologist.
44. Demolition Permit: Obtain a demolition permit for any building/s or structures to be demolished. Underground structures must be broken in, back-filled and inspected before covering.

LAND USE SERVICES DEPARTMENT – Land Development Division – Drainage Section (909) 387-8311

45. Drainage Improvements. A Registered Civil Engineer (RCE) shall investigate and design adequate drainage improvements to intercept and conduct the off-site and on-site drainage flows around and through the site in a safety manner, which will not adversely affect adjacent or downstream properties.
46. FEMA Flood Zone. The project is located within Flood Zone D according to FEMA Panel Number 06071C3250H dated 8/28/2008. Flood Hazards are undetermined in this area but possible. The requirements may change based on the recommendations of a drainage study accepted by the Land Development Division and the most current Flood Map prior to issuance of grading permit.

47. Topo Map. A topographic map shall be provided to facilitate the design and review of necessary drainage facilities.
48. Grading Plans. Grading and Erosion control plans shall be submitted for review and approval obtained, prior to construction. All Drainage and WQMP improvements shall be shown on the Grading plans according to the approved Drainage study and WQMP reports. Fees for grading plans will be collected upon submittal to the Land Development Division and are determined based on the amounts of cubic yards of cut and fill. Fee amounts are subject to change in accordance with the latest approved fee schedule.
49. NPDES Permit. An NPDES permit - Notice of Intent (NOI) - is required on all grading of one (1) acre or more prior to issuance of a grading/construction permit. Contact your Regional Water Quality Control Board for specifics. www.swrcb.ca.gov
50. Regional Board Permit. Construction projects involving one or more acres must be accompanied by Regional Board permit WDID #. Construction activity includes clearing, grading, or excavation that results in the disturbance of at least one (1) acre of land total.
51. On-site Flows. On-site flows need to be directed to the nearest County road or drainage facilities unless a drainage acceptance letter is secured from the adjacent property owners and provided to Land Development.

PUBLIC HEALTH - Environmental Health Services (800) 442-2283

52. The project area has a high probability of containing vectors. DEHS Vector Control Section will determine the need for vector survey and any required control programs. A vector clearance letter shall be submitted to DEHS/Land Use. For information, contact Vector Control at (800) 442-2283.

DEPARTMENT OF PUBLIC WORKS – Surveyor – (909) 387-8149

53. Survey Monumentation. If any activity on this project will disturb **any** land survey monumentation, including but not limited to vertical control points (benchmarks), said monumentation shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying **prior** to commencement of any activity with the potential to disturb said monumentation, and a corner record or record of survey of the references shall be filed with the County Survey or Section 8771(b) Business and Professions Code.
54. Record of Survey. Pursuant to Sections 8762 (b) and/or 8773 of the Business and Professions Code, a Record of Survey or Corner Record shall be filed under any of the following circumstances:
- Monuments set to mark property lines or corners.
 - Performance of a field survey to establish property boundary lines, writing legal descriptions, or for boundary establishment/mapping of the subject parcel.
 - Any other applicable circumstances pursuant to the Business and Professions Code that would necessitate filing of a record of survey.

COUNTY FIRE DEPARTMENT – Community Safety Division (909) 386-8465

55. Water System. Prior to any land disturbance, the water systems shall be designed to meet the required fire flow for this development and shall be approved by the Fire Department. The required fire flow shall be determined by using Appendix IIIA of the Uniform Fire Code. [FOS]

DEPARTMENT OF PUBLIC WORKS –Traffic Division – (909) 387-8186

56. Construction Management Plan. The applicant's engineer shall provide a construction management plan to the Department of Public Works, Transportation Operations Division to determine if a maintenance agreement (during construction) with the County will be required. The construction management plan shall show the number of trucks, type of trucks (size), the total number of Equivalent Single Axle Loads (ESALs), and the truck routes to the site for construction. If it is determined that a maintenance agreement is required, the developer shall enter into a maintenance agreement with the County Department of Public Works to

insure all County maintained roads utilized by the construction traffic shall remain in acceptable condition during construction. Prior to issuance of grading permits, the developer/contractor shall contact the Transportation Operations Division at (909) 387-7995 in order to process the maintenance agreement with the County. Please allow a minimum of 12 weeks for the processing of an agreement and obtain approval from the Board of Supervisors. For additional information regarding the maintenance agreement, please contact the Transportation Operations Division at (909) 387-7995. For additional information about the construction management plan, please contact the Department of Public Works - Traffic Division at (909) 387-8186.

PRIOR TO ISSUANCE OF BUILDING PERMITS

The Following Shall Be Completed:

LAND USE SERVICES DEPARTMENT – Planning (909) 387-8311

57. Architecture. Architectural elevations are considered conceptual. Final details with colors and material samples shall be submitted to the Planning Division for approval prior to building plan check submittal.
58. Lighting Plans. The developer shall submit for review and approval to County Planning a photometric study demonstrating that the project light does not spill onto the adjacent properties, or public streets. Lighting fixtures shall be oriented and focused to the onsite location intended for illumination (e.g. walkways). Lighting shall be shielded away from adjacent sensitive uses, including the adjacent residential development, to minimize light spillover. The glare from any luminous source, including on-site lighting, shall not exceed 0.5 foot-candle at the property line. This shall be done to the satisfaction of County Planning, in coordination with County Building and Safety.
59. GHG – Design Standards. The developer shall submit for review and obtain approval from County Planning evidence that the following measures have been incorporated into the design of the project. These are intended to reduce potential project greenhouse gas (GHGs) emissions. Proper installation of the approved design features and equipment shall be confirmed by County Building and Safety prior to final inspection of each structure.
 - a. Meet Title 24 Energy Efficiency requirements. The Developer shall document that the design of the proposed structures meets the current Title 24 energy-efficiency requirements. County Planning shall coordinate this review with the County Building and Safety. Any combination of the following design features may be used to fulfill this requirement, provided that the total increase in efficiency meets or exceeds the cumulative goal (100%+ of Title 24) for the entire project (Title 24, Part 6 of the California Code of Regulations; Energy Efficiency Standards for Residential and Non Residential Buildings, as amended:
 - Incorporate dual paned or other energy efficient windows,
 - Incorporate energy efficient space heating and cooling equipment,
 - Incorporate energy efficient light fixtures, photocells, and motion detectors,
 - Incorporate energy efficient appliances,
 - Incorporate energy efficient domestic hot water systems,
 - Incorporate solar panels into the electrical system,
 - Incorporate cool roofs/light colored roofing,
 - Incorporate other measures that will increase energy efficiency.
 - Increase insulation to reduce heat transfer and thermal bridging.
 - Limit air leakage throughout the structure and within the heating and cooling distribution system to minimize energy consumption.
 - b. Plumbing. All plumbing shall incorporate the following:

- All showerheads, lavatory faucets, and sink faucets shall comply with the California Energy Conservation flow rate standards.
 - Low flush toilets shall be installed where applicable as specified in California State Health and Safety Code Section 17921.3.
 - All hot water piping and storage tanks shall be insulated. Energy efficient boilers shall be used.
- c. Lighting. Lighting design for building interiors shall support the use of:
- Compact fluorescent light bulbs or equivalently efficient lighting.
 - Natural day lighting through site orientation and the use of reflected light.
 - Skylight/roof window systems.
 - Light colored building materials and finishes shall be used to reflect natural and artificial light with greater efficiency and less glare.
 - A multi-zone programmable dimming system shall be used to control lighting to maximize the energy efficiency of lighting requirements at various times of the day.
 - Provide a minimum of 2.5 percent of the project's electricity needs by on-site solar panels.
- d. Building Design. Building design and construction shall incorporate the following elements:
- Orient building locations to best utilize natural cooling/heating with respect to the sun and prevailing winds/natural convection to take advantage of shade, day lighting and natural cooling opportunities.
 - Utilize natural, low maintenance building materials that do not require finishes and regular maintenance.
 - Roofing materials shall have a solar reflectance index of 78 or greater.
 - All supply duct work shall be sealed and leak-tested. Oval or round ducts shall be used for at least 75 percent of the supply duct work, excluding risers.
 - Energy Star or equivalent appliances shall be installed.
 - A building automation system including outdoor temperature/humidity sensors will control public area heating, vent, and air conditioning units
- e. Landscaping. The developer shall submit for review and obtain approval from County Planning of landscape and irrigation plans that are designed to include drought tolerant and smog tolerant trees, shrubs, and groundcover to ensure the long-term viability and to conserve water and energy. The landscape plans shall include shade trees around main buildings, particularly along southern and western elevations, where practical.
- f. Irrigation. The developer shall submit irrigation plans that are designed, so that all common area irrigation areas shall be capable of being operated by a computerized irrigation system, which includes either an on-site weather station, ET gauge or ET-based controller capable of reading current weather data and making automatic adjustments to independent run times for each irrigation valve based on changes in temperature, solar radiation, relative humidity, rain and wind. In addition, the computerized irrigation system shall be equipped with flow sensing capabilities, thus automatically shutting down the irrigation system in the event of a mainline break or broken head. These features will assist in conserving water, eliminating the potential of slope failure due to mainline breaks and eliminating over-watering and flooding due to pipe and/or head breaks.
- g. Recycling. Exterior storage areas for recyclables and green waste shall be provided. Where recycling pickup is available, adequate recycling containers shall be located in public areas. Construction and operation waste shall be collected for reuse and recycling.
- h. Transportation Demand Management (TDM) Program. The project shall include adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. Preferred carpool/vanpool spaces shall be provided and, if available, mass transit facilities shall be provided (e.g. bus stop bench/shelter). The developer shall demonstrate that the TDM program has been instituted for

the project or that the buildings will join an existing program located within a quarter mile radius from the project site that provides a cumulative 20% reduction in unmitigated employee commute trips. The TDM Program shall publish ride-sharing information for ride-sharing vehicles and provide a website or message board for coordinating rides. The Program shall ensure that appropriate bus route information is placed in each building.

60. Signs. All proposed on-site signs shall be shown on a separate plan, including location, scaled and dimensioned elevations of all signs with lettering type, size, and copy. Scaled and dimensioned elevations of buildings that propose signage shall also be shown. The applicant shall submit sign plans to County Planning for all existing and proposed signs on this site. The applicant shall submit for approval any additions or modifications to the previously approved signs. All signs shall comply with SBCC Chapter 83.13, Sign Regulations, SBCC §83.07.040, Glare and Outdoor Lighting Mountain and Desert Regions, and SBCC Chapter 82.19, Open Space Overlay as it relates to Scenic Highways (§82.19.040), in addition to the following minimum standards:
- All signs shall be lit only by steady, stationary shielded light; exposed neon is acceptable.
 - All sign lighting shall not exceed 0.5 foot-candle.
 - No sign or stationary light source shall interfere with a driver's or pedestrian's view of public right-of-way or in any other manner impair public safety.
 - Monument signs shall not exceed four feet above ground elevation and shall be limited to one sign per street frontage.
61. Special Use Permit. The developer shall submit for review and gain approval for a Special Use Permit (SUP) from County Code Enforcement. Thereafter, the SUP shall be renewed annually subject to annual inspections. The annual SUP inspections shall review & confirm continuing compliance with the listed conditions of approval, including all mitigation measures. This comprehensive compliance review shall include evaluation of the maintenance of all storage areas, landscaping, screening and buffering. Failure to comply shall cause enforcement actions against the developer. Such actions may cause a hearing or an action that could result in revocation of this approval and imposition of additional sanctions and/or penalties in accordance with established land use enforcement procedures. Any additional inspections that are deemed necessary by the Code Enforcement Supervisor shall constitute a special inspection and shall be charged at a rate in accordance with the County Fee Schedule, including travel time, not to exceed three (3) hours per inspection. As part of this, the developer shall pay an annual public safety services impact fee in accordance with Code §84.29.040(d).
62. Decommissioning Requirements. In accordance with SBCC 84.29.070, Decommissioning Requirements, the Developer shall submit a Closure Plan to the Planning Division for review and approval. The Decommissioning Plan shall satisfy the following requirements:
- Closure Plan. Following the operational life of the project, the project owner shall perform site closure activities to meet federal, state, and local requirements for the rehabilitation and re-vegetation of the project Site after decommissioning. The applicant shall prepare a Closure, Re-vegetation, and Rehabilitation Plan and submit to the Planning Division for review and approval prior to building permit issuance. Under this plan, all aboveground structures and facilities shall be removed to a depth of three feet below grade, and removed off-site for recycling or disposal. Concrete, piping, and other materials existing below three feet in depth may be left in place. Areas that had been graded shall be restored to original contours unless it can be shown that there is a community benefit for the grading to remain as altered. Succulent plant species native to the area shall be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning. Shrubs and other plant species shall be re-vegetated by the collection of seeds and re-seeding following decommissioning.
 - Closure Compliance. Following the operational life of the project, the developer shall perform site closure activities in accordance with the approved closure plan to meet federal, state, and local requirements for the rehabilitation and re-vegetation of the project site after decommissioning. Project decommissioning shall be performed in accordance with all other plans, permits, and mitigation measures that would

assure the project conforms to applicable requirements and would avoid significant adverse impacts. These plans shall include the following as applicable:

- Water Quality Management Plan
- Erosion and Sediment Control Plan
- Drainage Report
- Notice of Intent and Stormwater Pollution Prevention Plan
- Air Quality Permits
- Biological Resources Report
- Incidental Take Permit, Section 2081 of the Fish and Game Code
- Cultural Records Report
- The County may require a Phase 1 Environmental Site Assessment be performed at the end of decommissioning to verify site conditions.

LAND USE SERVICES DEPARTMENT – Building and Safety (909) 387-8311

63. Construction Plans. Any building, sign, or structure to be added to, altered (including change of occupancy/use), constructed, or located on site, will require professionally prepared plans based on the most current adopted County and California Building Codes, submitted for review and approval by the Building and Safety Division.
64. Temporary Use Permit: A Temporary Use Permit (T.U.P.) for an office trailer (if necessary) will be required or it must be placed on a permanent foundation per State H.C.D. guidelines. A T.U.P. is only valid for a maximum of five (5) years.
65. Permits: Obtain permits for all structures located on site and all work done without a permit.

LAND USE SERVICES DEPARTMENT – Land Development Division – Road Section (909) 387-8311

66. Transitional Improvements. Right-of-way and improvements (including off-site) to transition traffic and drainage flows from proposed to existing, shall be required as necessary.

COUNTY FIRE DEPARTMENT – Community Safety Division (909) 386-8465

67. Access. The development shall have a minimum one (1) point of vehicular access. These are for fire/emergency equipment access and for evacuation routes. Standard 902.2.1

Single Story Road Access Width:

All buildings shall have access provided by approved roads, alleys and private drives with a minimum twenty six (26) foot unobstructed width and vertically to fourteen (14) feet six (6) inches in height. Other recognized standards may be more restrictive by requiring wider access provisions.

Multi-Story Road Access Width:

Buildings three (3) stories in height or more shall have a minimum access of thirty (30) feet unobstructed width and vertically to fourteen (14) feet six (6) inches in height. (F41]

68. Interior perimeter roads shall be 26 foot wide
69. Interior roads between arrays shall be 20 feet wide and located no further than 600 feet apart. Dead end roads shall not exceed 150 feet without an approved fire department turn around.
70. All road ways leading to structures shall be paved or an all-weather surface approved by the fire department.
71. Roadways between arrays and perimeter road around rays are permitted to be compacted native material.
72. Primary Access Paved. Prior to building permits being issued to any new structure, the primary access road shall be paved or an all-weather surface shall be installed as specified in the General Requirements conditions (Fire #F-9), including width, vertical clearance and turnouts, if required. [F89]
73. Turnaround. An approved turnaround shall be provided at the end of each roadway one hundred and fifty (150) feet or more in length. Cul-de-sac length shall not exceed six hundred (600) feet; all roadways shall

not exceed a 12 % grade and have a minimum of forty five (45) foot radius for all turns. In the FS1, FS2 or FS-3 Fire Safety Overlay District areas, there are additional requirements. Standard 902.2.1 [F43]

74. Solar I Photovoltaic System Plans. No less than three (3) complete sets of Solar/ Photovoltaic Plans shall be submitted to the Fire Department for review and approval. Plans must be submitted and approved prior to Conditional Compliance Release of Building. [F39]
75. Building Plans. No less than three (3) complete sets of Building Plans shall be submitted to the Fire Department for review and approval. [F42]
76. Haz-Mat Approval. The applicant shall contact the San Bernardino County Fire Department/Hazardous Materials Division (909) 386-8400 for review and approval of building plans, where the planned use of such buildings will or may use hazardous materials or generate hazardous waste materials. [F94]
77. Combustible Protection. Prior to combustibles, being placed on the project site an approved paved road with curb and gutter and fire hydrants with an acceptable fire flow shall be installed. The topcoat of asphalt does not have to be installed until final inspection and occupancy. [F44]
78. Access - 150+ feet. Roadways exceeding one hundred fifty (150) feet in length shall be approved by the Fire Department. These shall be extended to within one hundred fifty (150) feet of and shall give reasonable access to all portions of the exterior walls of the first story of any building. Standard 902.2.1 [F45]
79. Access - 30% slope. Where the natural grade between the access road and building is in excess of thirty percent (30%), an access road shall be provided within one hundred and fifty (150) feet of all buildings. Where such access cannot be provided, a fire protection system shall be installed. Plans shall be submitted to and approved by the Fire Department. Standard 902.2.1 [F46]
80. Combustible Vegetation. Combustible vegetation shall be removed as follows:
 - Where the average slope of the site is less than 15% - Combustible vegetation shall be removed a minimum distance of thirty (30) feet from all structures or to the property line, whichever is less.
 - Where the average slope of the site is 15% or greater - Combustible vegetation shall be removed a minimum one hundred (100) feet from all structures or to the property line, whichever is less. County Ordinance# 3586 [F52]
81. Fire Fee. The required fire fees shall be paid to the San Bernardino County Fire Department/Community Safety Division (909) 386-8400.

PUBLIC HEALTH – Environmental Health Services (800) 442-2283

82. Water Purveyor. Water purveyor shall be EHS approved.
83. A water system permit may/shall be required and concurrently approved by the State Water Resources Control Board – Division of Drinking Water. Applicant shall submit preliminary technical report to EHS and the State Water Resources Control Board. Application must be approved prior to initiating construction of any water-related development. Source of water shall meet water quality and quantity standards. Test results, which show source meets water quality and quantity standards shall be submitted to the Division of Environmental Health Services (EHS). For information, contact the Water Section at 1-800-442-2283 and SWRCB-DDW at 916-449-5577.

Technical report should include the following:

- a) The name of each public water system for which any service area boundary is within three miles, as measured through existing public rights-of-way, of any boundary of the applicant's proposed public water system's service area.
- b) A discussion of the feasibility of each of the adjacent public water systems identified pursuant to paragraph (1) annexing, connecting, or otherwise supplying domestic water to the applicant's proposed new public water system's service area. The applicant shall consult with each adjacent public water system in preparing the report and shall include in the report any information provided by each adjacent

public water system regarding the feasibility of annexing, connecting, or otherwise supplying domestic water to that service area.

- c) A discussion of all actions taken by the applicant to secure a supply of domestic water from an existing public water system for the proposed new public water system's service area.
 - d) All sources of domestic water supply for the proposed new public water system.
 - e) The estimated cost to construct, operate, and maintain the proposed new public water system, including long-term operation and maintenance costs and a potential rate structure.
 - f) A comparison of the costs associated with the construction, operation and maintenance, and long-term sustainability of the proposed new public water system to the costs associated with providing water to the proposed new public water system's service area through annexation by, consolidation with, or connection to an existing public water system.
 - g) A discussion of all actions taken by the applicant to pursue a contract for managerial or operational oversight from an existing public water system.
 - h) An analysis of whether a proposed new public water system's total projected water supplies available during normal, single dry, or multiple dry water years during a 20-year projection will meet the projected water demand for the service area.
 - i) Any information provided by the local agency formation commission (LAFCO). The applicant shall consult with the LAFCO if any adjacent public water system identified pursuant to paragraph (1) is a local agency as defined by Section 56054 of the Government Code.
84. If wells are found on-site, evidence shall be provided that all wells are: (1) properly destroyed, by an approved C57 contractor and under permit from the County OR (2) constructed to EHS standards, properly sealed and certified as inactive OR (3) constructed to EHS standards and meet the quality standards for the proposed use of the water (industrial and/or domestic). Evidence shall be submitted to EHS for approval.
85. Method of sewage disposal shall be EHS approved onsite wastewater treatment system (OWTS).
86. If sewer connection and/or service are unavailable, onsite wastewater treatment system(s) may then be allowed under the following conditions: A soil percolation report per June 2017 standards shall be submitted to EHS for review and approval. If the percolation report cannot be approved, the project may require an alternative OWTS. For information, please contact the Wastewater Section at 1-800-442-2283.
87. Existing onsite wastewater treatment system can be used if applicant provides certification from a qualified professional (i.e., Professional Engineer (P.E.), Registered Environmental Health Specialist (REHS), C42 contractor, Certified Engineering Geologist (C.E.G.), etc.) that the system functions properly, meets code, and has the capacity required for the proposed project. Applicant shall provide documentation outlining methods used in determining function.
88. Written clearance shall be obtained from the designated California Regional Water Quality Control Board (listed below) and a copy forwarded to the Division of Environmental Health Services for projects with design flows greater than 10,000 gallons per day.
- Lahontan Region, 15095 Amargosa Road Bldg 2 Suite 210 Victorville, CA 92392.
89. Submit preliminary acoustical information demonstrating that the proposed project maintains noise levels at or below San Bernardino County Noise Standard(s), San Bernardino Development Code Section 83.01.080. The purpose is to evaluate potential future on-site and/or adjacent off-site noise sources. If the preliminary information cannot demonstrate compliance to noise standards, a project specific acoustical analysis shall be required. Submit information/analysis to the DEHS for review and approval. For information and acoustical checklist, contact DEHS at 1-800-442-2283.
90. All demolition of structures shall have a vector inspection prior to the issuance of any permits pertaining to demolition or destruction of any such premises. For information, contact DEHS Vector Section at 1-800-442-2283.

PRIOR TO FINAL INSPECTION OR OCCUPANCY

The Following Shall Be Completed

LAND USE SERVICES DEPARTMENT – Planning Division (909) 387-8311

91. Fees Paid. Prior to final inspection by Building and Safety Division and/or issuance of a Certificate of Conditional Use by the Planning Division, the applicant shall pay in full all fees required under actual cost job number P201900125.
92. Shield Lights. Any lights used to illuminate the site shall include appropriate fixture lamp types as listed in SBCC Table 83-7 and be hooded and designed so as to reflect away from adjoining properties and public thoroughfares and in compliance with SBCC Chapter 83.07, "Glare and Outdoor Lighting" (i.e. "Dark Sky Ordinance).
93. CCRF/Occupancy. Prior to occupancy/use, all Condition Compliance Release Forms (CCRF) shall be completed to the satisfaction of County Planning with appropriate authorizing signatures from each reviewing agency.
94. Screen Rooftop. All roof top mechanical equipment is to be screened from ground vistas.
95. Installation of Improvements. All required on-site improvements shall be installed per approved plans.
96. GHG – Installation/Implementation Standards. The developer shall submit for review and obtain approval from County Planning of evidence that all applicable GHG performance standards have been installed, implemented properly and that specified performance objectives are being met.
97. Removal Surety. Surety in a form and manner determined acceptable to County Counsel and the Land Use Services Director shall be required for the closure costs and complete removal of the solar energy generating facility and other elements of the facility. The developer shall either:
 - Post a performance or other equivalent surety bond issued by an admitted surety insurer to guarantee the closure costs and complete removal of the solar panels and other elements of the facility in a form or manner determined acceptable to County Counsel and the Land Use Services Director in an amount equal to 120 percent of the cost estimate generated by a licensed civil engineer and approved by the Land Use Services Director; OR
 - Cause the issuance of a certificate of deposit or an irrevocable letter of credit payable to the County of San Bernardino issued by a bank or savings association authorized to do business in this state and insured by the Federal Deposit Insurance Corporation for the purpose of guaranteeing the closure costs and complete removal of the solar panels and other elements of the facility in a form or manner determined acceptable to County Counsel and the Land Use Services Director in an amount equal to 120 percent of the cost estimate generated by a licensed civil engineer and approved by the Land Use Services Director.

LAND USE SERVICES DEPARTMENT – Land Development Division – Drainage Section (909) 387-8311

98. Drainage Improvements. All required drainage improvements if any shall be completed by the applicant. The private registered engineer shall inspect improvements outside the County right-of-way and certify that these improvements have been completed according to the approved plans. Certification letter shall be submitted to Land Development.

LAND USE SERVICES DEPARTMENT – Land Development Division – Road Section (909) 387-8311

99. LDD Requirements. All LDD requirements shall be completed by the applicant prior to occupancy.
100. Parkway Planting. Trees, irrigation systems, and landscaping required to be installed on public right-of-way shall be approved by County Public Works and Current Planning and shall be maintained by the adjacent property owner or other County-approved entity.

COUNTY FIRE DEPARTMENT – Community Safety Division (909) 386-8465

101. Street Sign. This project is required to have an approved street sign (temporary or permanent). The street sign shall be installed on the nearest street corner to the project. Installation of the temporary sign shall be prior to any combustible material being placed on the construction site. Prior to final inspection and occupancy of the first structure, the permanent street sign shall be installed. Standard 901.4.4 [F72]
102. Commercial Addressing. Commercial and industrial developments of 100,000 sq. ft. or less shall have the street address installed on the building with numbers that are a minimum six (6) inches in height and with a three quarter (3/4) inch stroke. The street address shall be visible from the street. During the hours of darkness, the numbers shall be electrically illuminated (internal or external). Where the building is two hundred (200) feet or more from the roadway, additional non-illuminated contrasting six (6) inch numbers shall be displayed at the property access entrances. Standard 901.4.4 [F82]
103. Key Box. An approved Fire Department key box is required. The key box shall be provided with a tamper switch and shall be monitored by a Fire Department approved central monitoring service. In commercial, industrial and multi-family complexes, all swing gates shall have an approved fire department Knox Lock. Standard 902.4 [F85]
104. Water System Commercial. A water system approved and inspected by the Fire Department is required. The system shall be operational, prior to any combustibles being stored onsite. All fire hydrants shall be spaced no more than 300 feet apart (as measured along vehicular travel ways) and no more than 300 feet from any portion of a structure. [F54]
105. Hydrant Marking. Blue reflective pavement markers indicating fire hydrant locations shall be installed as specified by the Fire Department. In areas where snow removal occurs or non-paved roads exist, the blue reflective hydrant marker shall be posted on an approved post along the side of the road, no more than three (3) feet from the hydrant and at least six (6) feet high above the adjacent road. Standard 901.4.3. [F80]
106. Material Identification Placards. The applicant shall install Fire Department approved material identification placards on the outside of all buildings and/or storage tanks that store or plan to store hazardous or flammable materials in all locations deemed appropriate by the Fire Department. Additional placards shall be required inside the buildings when chemicals are segregated into separate areas. Any business with an N.F.P.A. 704 rating of 2-3-3 or above shall be required to install an approved key box vault on the premises, which shall contain business access keys and a business plan. Standard 704. [F95]
107. Inspection by Fire Department. Permission to occupy or use the building (Certification of Occupancy or Shell Release) will not be granted until the Fire Department inspects, approves and signs off on the Building and Safety job card for "fire final". [F03]

COUNTY FIRE DEPARTMENT – Hazardous Materials Division (909) 386-8401

108. Prior to occupancy, the business operator shall be required to apply for one or more of the following permits, or apply for an exemption from hazardous material permitting requirements: Hazardous Material Permit, Hazardous Waste Permit, Aboveground Storage Tank Permit or an Underground Storage Tank Permit. Application for one or more of these permits shall occur by submitting a hazardous materials business plan using the California Environmental Reporting System (CERS) <http://cers.calepa.ca.gov/>.
109. Facilities handling greater than 1320 gallons of petroleum products in aboveground storage tanks (shell capacity) shall prepare and implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR 112.3 and CHSC 25270.4.5(a). Additional information can be found at <http://www.sbcfire.org/ofm/Hazmat/PoliciesProcedures.aspx> or you may contact The Office of the Fire Marshal, Hazardous Materials Division at (909) 386-8401.

END OF CONDITIONS

EXHIBIT C

Site Plan



OFFICIAL USE ONLY

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN BERNARDINO AND DESCRIBED AS FOLLOWS:

PARCEL A:
 PARCEL NO. 1 OF PARCEL MAP NO. 12194, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 EXCEPTING ALL OIL AND GAS AND TO IT OR PERSONS AUTHORIZED BY IT THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME, UPON COMPLIANCE WITH THE CONDITIONS AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA TO JAY HUBERT MARSHALL, RECORDED MAY 11, 1927, IN BOOK 231, PAGE(S) 86 OF OFFICIAL RECORDS OF SAN BERNARDINO COUNTY, CALIFORNIA.
 EXCEPT ONE-HALF IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950 IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-101-56

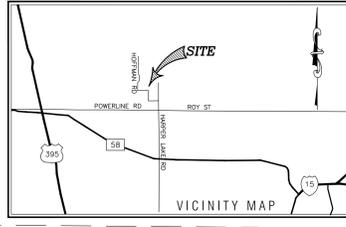
PARCEL B:
 PARCEL NO. 2 OF PARCEL MAP NO. 12194, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 EXCEPT ONE-HALF INTEREST IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950, IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-223-32

PARCEL C-1:
 PARCEL NO. 7 OF PARCEL MAP NO. 12194, AS PER MAP RECORDED IN BOOK 142, PAGE(S) 44 THROUGH 53, RECORDS OF SAID COUNTY.
 EXCEPTING AND RESERVING TO THE UNITED STATES OF AMERICA ALL OIL AND GAS IN THE SAID LANDS, AND TO IT OR PERSON AUTHORIZED BY IT, THE RIGHT TO PROSPECT FOR, MINE AND REMOVE SUCH DEPOSITS FROM THE SAME UPON COMPLIANCE WITH THE CONDITIONS OF, AND SUBJECT TO THE PROVISIONS AND LIMITATIONS OF THE ACT OF JULY 17, 1914 (38 STAT. 509) AS RESERVED IN THE PATENT RECORDED JANUARY 20, 1925 IN BOOK 0, PAGE(S) 122 OF PATENTS.
 ALSO EXCEPT ONE-HALF IN ALL MINERAL RIGHTS, AS CONTAINED IN DEED FROM FRANK R. BECKER AND LAVONIA M. BECKER, HUSBAND AND WIFE, TO L.M. LOOKHART, RECORDED OCTOBER 20, 1950 IN BOOK 2858, PAGE(S) 525 OF OFFICIAL RECORDS.
 APN: 0490-101-55

PARCEL C-2:
 THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 NORTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.
 EXCEPTING THEREFROM THE EASTERLY 2 ACRES.

PARCEL C-3:
 THE SOUTHWEST ONE-FIFTH OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 NORTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

PARCEL C-4:
 THE SOUTHWEST THREE-QUARTERS OF THE WESTERLY ONE-FIFTH OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 NORTH, RANGE 4 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.
 APN: 0490-111-14



UTILITIES:

WATER:
 POTABLE WATER TRUCKED IN BY SPARKLETS, ADDRESS: PO BOX 800, ROSMEAD, CA 91770 PHONE #: 1-800-655-4555
 NON-POTABLE WATER PROVIDED BY ON-SITE WELL

SEWERAGE:
 SEPTIC SEWER SYSTEM

GAS:
 PACIFIC GAS & ELECTRIC ADDRESS: 401 MERRILL 7, NORWALK, CT 06851 PHONE #: 1-800-743-5000

ELECTRICITY:
 SOUTHERN CALIFORNIA EDISON ADDRESS: PO BOX 800, ROSMEAD, CA 91770 PHONE #: 1-800-655-4555

PHONE:
 FRONTIER COMMUNICATIONS ADDRESS: 401 MERRILL 7, NORWALK, CT 06851 PHONE #: 1-877-730-7106

CABLE TV:
 NO CABLE SERVICE REQUIRED

PARKING SUMMARY:

BUILDING: 10,320 SF
 REQUIRED: 1 SPACE / 1,000 SF = 11 SPACES
 PROVIDED: 54 STANDARD SPACES, 3 ADA SPACES, 57 TOTAL

PARCEL NUMBERS:

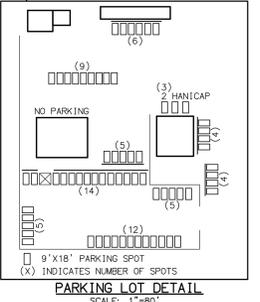
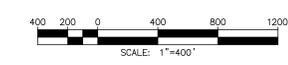
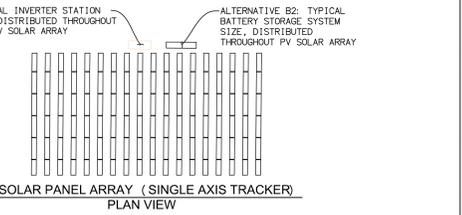
APN 0490-223-32, 0490-101-55, 0490-101-56, 0490-111-14

LEGEND

- FLOW ARROW
- PROPOSED PV SOLAR FIELDS
- PROPOSED REMOVAL AREA
- OVERHEAD POWER LINES
- STANDARD TRASH & RECYCLE DUMPSTERS 6' X 5'
- NO SIGNS PROPOSED
- NO PROTECTED PLANTS
- NO NEW DEDICATED ROADWAYS

NOTE:

THE FINAL LAYOUT OF PV ARRAYS ARE SUBJECT TO MODIFICATION PURSUANT TO FINAL DESIGN ENGINEERING. HOWEVER, ALL ROADWAYS WILL COMPLY WITH THE 20' FOR INTERIOR AND 26' FOR PERIMETER ROADWAY WIDTHS PER SB COUNTY FIRE AUTHORITY REQUIREMENTS. SHOULD THE LOCATION AND/OR REQUIRED ACCESS ROUTES CHANGE THEY SHALL BE FOUND IN SUBSTANTIAL CONFORMANCE PROVIDED THE ABOVE CRITERIA IS MET AND WITHIN THE EXISTING AREA OF DEVELOPMENT.



Michael Baker INTERNATIONAL
 51 Main Center Drive, Suite 500
 Santa Ana CA 92707
 Phone: (949) 472-3505
 MB@BAKERINTL.COM

LOCKHART SOLAR PV PLOT PLAN - FORMERLY SEGS VII & IX CSP POWER PLANTS
 COUNTY OF SAN BERNARDINO

SHEET 1 of 1
 DATE: 8/01/2019

EXHIBIT D

Letter of Intent

LOCKHART SOLAR LETTER OF INTENT

This Project description is for the approximately 1,073-acre Lockhart Solar Photovoltaic Project (Project) proposed by the applicant, Lockhart Solar PV, LLC. The proposed Project will involve the decommissioning of the previously CEC permitted 160-megawatt (MW) SEGS VIII and IX concentrated solar thermal power projects and the redevelopment, at the same location, of a new photovoltaic (PV) solar facility and associated infrastructure necessary to generate up to a combined 160 megawatts (MW) AC of renewable electrical energy and/or energy storage capacity.

The applicant for this CUP requests a CEQA Class 2 Categorical Exemption under Section 15302 for replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. The new structures will be located on the same site and within the same footprint and will have the same solar utility purpose and capacity as the structures replaced. Additionally, operating conditions of the proposed project will have fewer environmental impacts (particularly regarding air emissions, aesthetics and hazardous materials) when compared to the existing conditions.

Project Objectives

The proposed Project would provide San Bernardino County and the State of California with a renewable energy source, that is on previously permitted and disturbed land that would assist the state in complying with the Renewables Portfolio Standard under Senate Bill 350, which requires that by December 31, 2030, 50% of all electricity sold in the state shall be generated from renewable energy sources. The following are the Project objectives:

- Develop a previously disturbed power-generating site that utilizes existing transmission infrastructure in order to minimize environmental impacts.
- Develop a solar PV facility that has the same or less environmental impacts than is currently in operation at the property.
 - Same development footprint
 - Fewer visual impacts with lower profile PV panels (current solar mirror troughs are at least 20 ft tall and new PV will be about 12 ft), no power block and no cooling tower plume
 - Fewer air quality impacts with shut down of gas-fired backup heaters, exhaust towers and cooling towers
 - Less water use and wastewater generated with shut down of steam turbine generator
 - Less hazardous waste generated with no heat transfer fluid needed for solar PV technology
 - Less potential of spills of hazardous materials due to the lack of heat transfer fluid

- Less GHG generated with the shut down of the gas-fired heaters.
- Establish solar PV power-generating facilities of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Use proven and established PV and energy storage technology that is efficient, requires low maintenance, and is recyclable.
- Assist California in meeting its greenhouse gas emissions reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016.

Project Site

The Project site is in Lockhart, CA, approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project site consists of four parcels, each of which may contain solar, energy storage facilities, or O&M facilities, which together would compose the Project site. Parcel A (APN 0490-223-32) is approximately 416 acres, Parcel B (APN 0490-101-55) is approximately 415 acres, Parcel C (APN 0490-101-56) is approximately 240.7 acres and Parcel D (APN 0490-111-14) is approximately 1.74 acres. The Project site is bordered by Hoffman Road to the south and Harper Lake Road to the East. Its westerly edge follows an unnamed dirt road and its northern edge follows an unnamed dirt road. The Project site is accessed via Harper Lake Road.

An existing 13.8 mile 220 kV generator tie-in line (gen-tie) line currently connects the site to the Kramer Junction substation, which is owned and operated by Southern California Edison (SCE). The solar PV Project would utilize this transmission line. Pending engineering review of remaining equipment life, the Project intends to use and/or upgrade the two existing on-site substations which currently connect to an on-site switchyard and finally to the gen-tie line.

Project Overview and Design

The proposed Project would include the development of solar facilities and associated infrastructure with the capacity to generate up to 160 MW of renewable electric energy and/or energy storage capacity – the same approximate amount of electricity generated with the current project with less environmental impact. Power generated by the proposed Project would be transferred to the Kramer Junction substation utilizing the existing 13.8 mile 220 kV gen-tie line. The solar facilities would use PV technology and consist of solar arrays mounted on either fixed or tracking structures mounted to vertical posts. The solar facilities would operate year-round and would generate electricity during the daylight hours.

The proposed Project consists of two development areas that compose the Project site and may be built in phases pending power purchase agreements. Combined, the solar facilities would generate a total of up to 160 MW of renewable electrical energy and/or energy storage capacity.

Each of the Project's facilities would include solar panels/modules, inverters, internal service roads, and telecommunication equipment, including underground and overhead electrical collection systems and fiber optics. Electrical collection systems would be installed in conjunction with panel arrays within the Project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the collector substation. The solar panel circuits would gather into 13.8 kV or 34.5 kV circuits and step-up to 220 kV at the on-site substations. The power would then be delivered via 220 kV circuits to a grid interconnection point at the Kramer Junction Substation which is owned by Southern California Edison.

The Project would consist of the following components:

- **Solar PV Generating Facilities and Solar Modules:** Installation of solar facilities capable of up to a combined 160 MW of renewable electrical energy and/or energy storage via PV modules made of thin film or polycrystalline silicon material covered by glass, mounted on a galvanized metal fixed-tilt or single-axis racking system and connected to inverters, and/or a commercially viable energy storage facility
- **Collector Substation:** Collector substation(s) including circuit breakers, disconnect switches, metering and protection equipment, and main step-up transformer(s)
 - Alternative A1: This alternative would upgrade the two existing substations located within the central portions of each existing thermal solar array for reuse within the same footprint for the solar PV plant.
 - Alternative A2: This alternative would remove the two existing substations located within the central portions of the thermal solar array and consolidate all substation equipment into a central location between the two sections of the solar PV plant. The substation facility would be located to the north of the California Electric Power Company easement centerline. and would be approximately six acres in size.
- **Battery Energy Storage Station (BESS):** Installation of an energy storage facility and appurtenances that would provide energy storage capacity for the electric grid.
 - Alternative B1: This alternative would construct a consolidated BESS north of the existing switchyard, warehouse building and parking lot. The BESS would be approximately six acres in size.
 - Alternative B2: This alternative would distribute the BESS throughout the solar array. Individual approximately 3MW battery storage facilities would be located adjacent and connected to individual inverter stations.
- **Operations and Maintenance (O&M) building, warehouse and employee building:** An existing O&M/Control building, a warehouse building, and an employee training building will continue to be used on site for operations and maintenance of the solar PV plant

- **Electrical Collector System and Inverters:** Overhead and underground collection systems throughout the solar facilities (the collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions within the Project facilities, leading to the collector substation)
- **Gen-Tie Power Line and Interconnection with the Statewide Grid:** An existing 13.8 mile gen-tie transmission line will be used for the Project
- **Telecommunication Facilities:** Telecommunication equipment, including underground and overhead fiber optics, microwave, and meteorological data collection systems or supervisory control and data acquisition (SCADA)
- **Site Access and Security:** On-site access roads and existing perimeter security fencing and nighttime directional lighting

The facilities are intended to operate year-round and would be designed to produce up to a combined 160 MW of solar power and/or energy storage capacity at the point of interconnection to the transmission grid.

Solar PV Generating Facilities and Solar Modules

Solar modules for the proposed Project would be provided on either a fixed-mount array system or a single-axis tracker system. Depending on the type of technology (modules) used, the panels would measure between 4 and 7 feet in length, and the total height of the panel system measured from ground surface would be approximately 7 to 12 feet. The length of each row of panels would be approximately 300 feet and would be oriented in the east–west direction in the case of a fixed-mount array being used, and oriented in the north–south direction in the case of single-axis trackers being used.

Access roads would be located throughout the Project area. Spacing between each solar panel row would be approximately 8 to 22 feet. Single-axis tracking systems would employ a motor mechanism that would allow the arrays to track the path of the sun (from east to west) throughout the day. The motors would be installed after the horizontal cross-members are in place. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.

Energy Storage Facility

Adjacent to the on-site switchyard and/or throughout the solar arrays, energy storage systems are proposed. The energy storage batteries would be housed within air-conditioned connex-type structures. The batteries are housed in open-air-style racking 10 to 12 feet high. The associated inverters, transformers, and switchgear would be located immediately adjacent to the structure on concrete pads or on pre-assembled skids mounted on pile foundations.

The energy storage structure(s) would also have a fire rating in conformance with County standards and specialized fire suppression systems installed for the battery rooms. The structure(s) would also have HVAC cooling to maintain energy efficiency. Power to the HVAC, lighting, etc. would be provided via a connection to the on-site substation service transformer with connection lines installed aboveground and/or belowground. The energy storage system would be unmanned, with remote operational control and periodic inspections and maintenance performed as necessary.

Telecommunication Facilities

The Project would also require telecommunication facilities to meet the communication requirements for interconnecting with the Kramer Junction Substation and to support remote Project operations monitoring. To provide for communication, a fiber-optic cable would be placed on the gen-tie line poles and a microwave system or an underground fiber optic cable installed within the existing transmission line roadway would be used to provide redundant communications required by SCE. The Project would use local exchange carrier services with Frontier, already in use, for telecommunication to support remote monitoring requirements.

The Supervisory Control and Data Acquisition (SCADA) system is critical to the California Independent System Operator (CAISO) and SCE utility interconnection, and for the proper operation and maintenance, which uses proprietary software; a fiber-optic transmission system; a telephone, radio, and/or microwave communication network; and other means of communication such as radio links and phase loop communication systems. The SCADA system functions as a remote start, stop, reset, and tag out for the facility, thus minimizing the manpower and site diagnostic information generated from the arrays. The SCADA system would also control the substations, allowing for fully centralized Project operation to meet all CAISO and utility interconnection requirements.

Existing security fencing and electronic gate will be used for the Project. Desert tortoise fencing is already in place and will continue to be maintained for the life of the Project.

Permanent motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation areas and points of ingress/egress. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. All lighting would also conform to applicable San Bernardino County night-sky ordinance requirements. Lighting would be used from dusk to dawn once the facilities are operational. Motion-sensitive cameras would also be installed throughout each solar facility at the inverters for added security. The cameras would be mounted on poles of approximately 20 feet in height.

Operations and Maintenance Activities

Typical O&M activities that would occur on the Project site during operation include, but are not limited to, liaison and remote monitoring; administration and reporting; semi-annual and annual services; remote operations of inverters; site security and management; additional communication protocol; repair and maintenance of solar facilities, substations, electrical transmission lines, and other Project facilities; and periodic panel washing.

Solid and Nonhazardous Waste

The Project would produce a small amount of waste associated with maintenance activities, which could include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid waste, including the typical refuse generated by workers. Most of these materials would be collected and delivered back to the manufacturer or to recyclers. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill.

Hazardous Materials

Limited amounts of hazardous materials would be stored or used on the site during operations, including diesel fuel, gasoline and motor oil for vehicles, mineral oil to be sealed within the transformers, and lead-acid-based and/or lithium-ion batteries for emergency backup. Appropriate spill containment and cleanup kits would be maintained during operation of the Project.



State of California - Department of Fish and Wildlife
2020 ENVIRONMENTAL FILING FEE CASH RECEIPT
 DFW 753.5a (REV. 12/01/19) Previously DFG 753.5a

Print **StartOver** **Finalize&Email**

RECEIPT NUMBER:
 36 — 01082020 — 008
 STATE CLEARINGHOUSE NUMBER (If applicable)

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY County of San Bernardino Land Use Department	LEAD AGENCY EMAIL	DATE 01082020
COUNTY/STATE AGENCY OF FILING San Bernardino	DOCUMENT NUMBER	

PROJECT TITLE

A conditional use permit involving the decommissioning of the previously permitted 160-megawatt (MW) SEGS VIII and IX

PROJECT APPLICANT NAME County of San Bernardino Land Use Department	PROJECT APPLICANT EMAIL	PHONE NUMBER (909) 387-3067
PROJECT APPLICANT ADDRESS 385 North Arrowhead Avenue	CITY San Bernardino	STATE CA
		ZIP CODE 92415-0187

PROJECT APPLICANT (Check appropriate box)

- Local Public Agency School District Other Special District State Agency Private Entity

CHECK APPLICABLE FEES:

- | | | | |
|---|------------|----|-------|
| <input type="checkbox"/> Environmental Impact Report (EIR) | \$3,343.25 | \$ | 0.00 |
| <input type="checkbox"/> Mitigated/Negative Declaration (MND)(ND) | \$2,406.75 | \$ | 0.00 |
| <input type="checkbox"/> Certified Regulatory Program (CRP) document - payment due directly to CDFW | \$1,136.50 | \$ | 0.00 |
|
 | | | |
| <input checked="" type="checkbox"/> Exempt from fee | | | |
| <input checked="" type="checkbox"/> Notice of Exemption (attach) | | | |
| <input type="checkbox"/> CDFW No Effect Determination (attach) | | | |
| <input type="checkbox"/> Fee previously paid (attach previously issued cash receipt copy) | | | |
| <hr/> | | | |
| <input type="checkbox"/> Water Right Application or Petition Fee (State Water Resources Control Board only) | \$850.00 | \$ | 0.00 |
| <input checked="" type="checkbox"/> County documentary handling fee | | \$ | 50.00 |
| <input type="checkbox"/> Other | | \$ | |

PAYMENT METHOD:

- Cash Credit Check Other **SAP** **TOTAL RECEIVED** \$ **50.00**

SIGNATURE X	AGENCY OF FILING PRINTED NAME AND TITLE Lisa Arredondo, Deputy Clerk
-----------------------	--

Notice of Exemption

To: Office of Planning and Research
 1400 Tenth Street, Room 121
 Sacramento, CA 95814

From: San Bernardino County
 Land Use Services Department
 Planning Division
 385 North Arrowhead Avenue, First Floor
 San Bernardino, CA 92415-0187

Clerk of the Board of Supervisors
 County of San Bernardino
 385 North Arrowhead Avenue, Second Floor
 San Bernardino, CA 92415-0130

DATE FILED & POSTED

Posted On: 01/08/2020

Removed On: 02/20/2020

Receipt No: 30-01082020-008

Project Description

Applicant

APN: 0490-101-55 (Multiple Parcel Associations)
APPLICANT: Simon Day/Lockhart Solar PV, LLC
PROPOSAL: A CONDITIONAL USE PERMIT INVOLVING THE DECOMMISSIONING OF THE PREVIOUSLY PERMITTED 160-MEGAWATT (MW) SEGS VIII AND IX CONCENTRATED SOLAR THERMAL POWER PROJECTS AND THE REDEVELOPMENT, AT THE SAME LOCATION, OF A NEW PHOTOVOLTAIC (PV) SOLAR FACILITY AND ASSOCIATED INFRASTRUCTURE NECESSARY TO GENERATE UP TO A COMBINED 160 MEGAWATTS (MW) AC OF RENEWABLE ELECTRICAL ENERGY AND ENERGY STORAGE CAPACITY ON 1,073 ACRES
PROJECT#: P201900125
COMMUNITY: HINKLEY
LOCATION: 43880 Harper Lake Road Hinkley, CA 92347

Simon Day/
Lockhart Solar PV, LLC
 Name

11455 El Camino Real #160
 Address

San Diego, CA 92130

(415) 404-0807
 Phone

Representative

Noelle Steele/Michael Baker Int.
 Name

5 Hutton Center Drive #500
 Address

Santa Ana, CA 92707

(949) 855-3683
 Phone

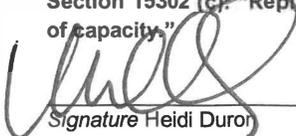
Anthony DeLuca, Senior Planner
 Lead Agency Contact Person

(909) 387-3067
 Area Code/Telephone Number

Exempt Status: (check one)

- Ministerial [Sec. 21080(b)(1); 15268];
- Declared Emergency [Sec. 21080(b)(3); 15269(a)];
- Emergency Project [Sec. 21080(b)(4); 15269(b)(c)];
- Categorical Exemption. State type and section number: 15302(c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.
- Statutory Exemptions. State code number: _____
- Other Exemption: _____

Reasons why project is exempt: The proposed project meets the Categorical Exemptions guidelines and has been determined to be exempt from the provisions of the California Environmental Quality Act (CEQA). The project has been found categorically exempt per Section 15302 (c): "Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity."


 Signature Heidi Duron

 Planning Director
 Title

 January 7, 2020
 Date

Signed by Lead Agency Signed by Applicant
 Date received for filing at OPR: _____

APPENDIX C

AIR QUALITY ANALYSIS



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MEMORANDUM

DATE: March 29, 2022

To: Amanda Johnson, Project Manager

FROM: Ronald Brugger, Senior Air Quality Specialist

SUBJECT: Solar Energy Generating System IX Decommissioning Plan - Air Quality Technical Analysis

INTRODUCTION

Luz Solar Partners, Ltd. IX, an indirect wholly owned subsidiary of Terra-Gen, LLC (Project Owner), submitted the Facility Decommissioning Plan for the Solar Energy Generating System (SEGS) IX (89-AFC-01C) to the California Energy Commission (CEC). The Decommissioning Plan fulfills the compliance requirement of Condition of Certification (COC) DECOMMISSIONING-2, as found in the Commission Final Decision for the SEGS IX. All references used in this analysis are included in Attachment A.

The Project Owner intends to decommission the existing SEGS IX concentrated solar thermal facility and replace it with a new solar photovoltaic (PV) and battery energy storage facility (Lockhart Solar PV). The Lockhart Solar PV facility would not require gas-fired heaters, an exhaust tower, or cooling tower operation. The Lockhart Solar PV facility is under the local jurisdiction of the County of San Bernardino (County). The County issued a Conditional Use Permit to Lockhart Solar PV, LLC¹ for redevelopment of the existing SEGS VIII and IX solar thermal facilities with the Lockhart Solar PV facility on October 3, 2019.

Cessation of SEGS IX operations would result in a substantial reduction in air emissions. Activities associated with decommissioning of SEGS IX would result in short-term, minor, and localized air quality impacts from fugitive dust, tailpipe emissions from construction equipment used, waste/recycling truck trips, and construction worker commutes. This technical memorandum identifies temporary emissions associated with decommissioning of SEGS IX to ensure that activities conform to the applicable federal, State, and local air quality laws, ordinances, regulations, and standards (LORS).

Project Location

The SEGS IX facility (Project) is located on approximately 415 acres near Harper Lake in San Bernardino County, California (see Figure 1, Project Location; all figures are provided in Attachment B). While SEGS IX shares a project footprint with SEGS VIII, this analysis is provided for

¹ Lockhart Solar PV, LLC is also an indirect wholly owned subsidiary of Terra-Gen, LLC.

the decommissioning of SEGS IX only. A separate Decommissioning Plan was submitted for SEGS VIII and approved by the CEC on August 20, 2020. Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022.

Project Description

SEGS IX currently generates a peak of 80 megawatts of solar thermal electricity for the Southern California Edison transmission grid using fields of parabolic solar collector mirrors. Heat from the mirrors is concentrated on tubes of heat transfer fluid, which is circulated to steam boilers to produce electricity. The solar thermal facility also operates the natural gas fired heaters equipment to supplement energy from the sun during periods of low solar radiation. Although the SEGS IX facility can continue to operate as a concentrated solar thermal plant, the Project Owner intends to decommission the existing SEGS IX concentrated solar thermal facility and replace it with a new solar PV facility.

Facilities to be Removed

The following lists SEGS facilities that would be removed, and Figure 2, Existing Plot Plan, shows the location of the existing facilities:

- Substation
- On-site generation transmission (gen-tie)/distribution lines poles and towers (if they cannot be reused to support the future Lockhart Solar PV facility)
- Cooling towers: This includes an evaporative cooling tower system.
- Power block: This includes storage tanks, a steam turbine generator, transformers, heat exchangers, a power block, pumps, and other ancillary equipment.
- Parabolic mirrors, above-ground supports, above-ground heat transfer fluid (HTF) piping, and related equipment
- Water evaporation ponds: Ponds would be closed per Lahontan Regional Water Quality Control Board (RWQCB) requirements.
- Water treatment facility: This includes ancillary equipment associated with the on-site water treatment process.
- Several support and miscellaneous buildings (e.g., sheds, mechanical shop, etc.) currently on site may be removed if they would not be reused for the PV facility

The facilities planned for removal would be disconnected from existing electrical, fuel, lubrication, and other lines and removed from their foundations. Above-ground demolition entails breakdown and removal of above-ground structures and facilities. Residual materials from these activities would be transported via heavy haul dump truck to one or more central recycling/staging areas where the debris would be processed for transport to an off-site recycler or a licensed disposal

facility. The strategy for demolition consists of the use of mechanized equipment and trained personnel in the safe dismantling and removal of the following above-ground structures:

- Parabolic mirrors, supports, and related equipment using low environmental impact equipment.
- Support and miscellaneous buildings using conventional dismantling, deconstruction, and demolition techniques. Temporary or stationary facilities such as storage buildings, containers and small tanks would be detached, disassembled as minimally as possible and as required for safe transport, then hauled off site for reuse or recycling.
- Storage tanks would be emptied of all remaining residues and products such as HTF, diesel, hydraulic oil, lubricating oil, and mineral oils, and other materials (where feasible) to reduce potential personnel and environmental exposure and to facilitate decommissioning. Hazardous material and petroleum containers and pipelines would be rinsed clean when feasible and the rinsate collected for off-site disposal. In general, these materials would be placed directly into tanker trucks or other transport vessels and removed from the site at the point of generation to reduce the need for hazardous material and waste storage at the site.
- Removal of the turbine generators, heaters, condensers and related equipment, transmission lines and towers that cannot be reused on site, and above-ground pipelines using conventional deconstruction and demolition equipment and techniques.

Evaporation ponds would be closed in accordance with the Lahontan RWQCB regulations. The SEGS VIII and IX Evaporation Ponds Closure Plan, prepared and submitted to Lahontan RWQCB on May 29, 1992 (included in Appendix F of the Decommissioning Plan and Petition to Terminate License), would be updated as needed per the RWQCB's most current standards. The current plan assumes that all solid waste (e.g., salts, sands, high density polyethylene [HDPE] liners, PVC leak detection drains, and Geonet Geotextile, etc.) from two of the ponds would be moved into the third pond. The two ponds that have been emptied would then be "clean" closed. The third pond would be sealed/capped as a landfill. Long-term monitoring would be conducted for the landfill pond per Lahontan RWQCB requirements.

Schedule

Decommissioning is scheduled to begin as early as August 2023, pending the approval of this plan and market-driven business decisions. Decommissioning will be completed using traditional heavy construction equipment including but not limited to front-end loaders, track mounted and rubber-tired excavators, bull dozers, concrete crushers, dump trucks, and heavy haul trucks. Although various types of decommissioning and demolition equipment would be utilized to dismantle each type of structure or equipment, dismantling would proceed according to the following general staging process.

After mobilization, the first stage consists of safe layup of Project facilities including removal of HTF, which will take approximately 30 to 60 days. The second stage consists of dismantling and demolition of above-ground structures to be removed. This is anticipated to take approximately 3 months. The third stage consists of concrete removal and crushing as needed to ensure that no concrete structure remains within 3 feet of final grade (i.e., floor slabs, below-ground walls, and

footings) in areas that need to be cleared for future Lockhart Solar PV facilities. This stage would take approximately 30 to 60 days. The fourth stage consists of removal/ dismantling of underground utilities within 3 feet of final grade if the underground utility conflicts with placement of PV equipment. The fifth stage consists of the closure of the evaporation ponds in accordance with the Lahontan RWQCB requirements. This stage would take approximately 30 days. The Project Owner intends to limit the need for underground utility removal to the maximum extent practical. This stage would take approximately 30 days.

Sensitive Land Uses in the Project Vicinity

The project site is bounded by dry Harper Lake to the east, Hoffman Road to the south, open space to the north and west, and a few abandoned structures are located to the south. The nearest single-family home is located approximately 8,500 feet (1.6 miles) to the southeast.

REGULATORY BACKGROUND

State and Local Agency Review Requirements

The CEC will review project-related emissions to determine whether SEGS IX decommissioning activities will comply with all applicable LORS. The Mojave Desert Air Quality Management District (MDAQMD) may also review SEGS IX decommissioning-related emissions to ensure compliance with all applicable MDAQMD rules and regulations.

The MDAQMD is a commenting agency on air quality and related matters within its jurisdiction or affecting its jurisdiction. The MDAQMD reviews projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its *CEQA and Federal Conformity Guidelines* (2016) and associated updates, were followed in the assessment of air quality impacts related to SEGS IX decommissioning activities.

Air Pollution Constituents and Attainment Status

Both the State of California (State) and the federal government have established health-based ambient air quality standards (California Ambient Air Quality Standards [CAAQS] and National Ambient Air Quality Standards [NAAQS], respectively) for seven air pollutants. These pollutants include ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H₂S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

The Mojave Desert Air Basin (MDAB) is a nonattainment area for O₃, PM₁₀, and PM_{2.5} under the NAAQS and/or CAAQS. The poor air quality in the basin is the result of cumulative emissions from motor vehicles, off-road equipment, commercial and industrial facilities, and other emissions sources. Projects that emit these pollutants or their precursors (i.e., volatile organic compounds

[VOCs] and oxides of nitrogen [NO_x] for ozone) potentially contribute to poor air quality. The MDAQMD significance thresholds take into account the cumulative impact of a project that adds emissions to the entire air basin, in this case a basin already in nonattainment for O₃, PM₁₀, and PM_{2.5}.

For most construction projects, motor vehicles and equipment make up the bulk of greenhouse gas (GHG) emissions produced on an operational basis. The primary GHGs emitted by motor vehicles include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons. In August 2011, the MDAQMD revised its California Environmental Quality Act (CEQA) and federal conformity guidelines, which provide background information and guidance on its preferred analysis approach for GHG emissions. The revisions established significant emissions thresholds for GHGs of 100,000 tons per year or 548,000 pounds per day.

In September 2011, San Bernardino County adopted a Greenhouse Gas Reduction Plan (County 2011b) and amended its General Plan (County 2011a) to include a policy addressing the County's intention to reduce GHG emissions that are reasonably attributable to (1) the County's internal activities, services, and facilities; and (2) private industry and development that is located within the area subject to the County's land use and building permit authority. The Greenhouse Gas Reduction Plan Update was adopted in September 2021 (County 2021).

Mojave Desert Air Quality Management District Thresholds

The MDAQMD has established daily emissions thresholds for construction and operation of projects in the MDAB. It should be noted that the emissions thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (USEPA 2016), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

The County utilizes the MDAQMD's *CEQA and Federal Conformity Guidelines* (2016) to identify potentially significant impacts on air quality. For the purposes of this analysis, an impact is considered significant if a project:

- Generates total emissions (direct and indirect) in excess of the thresholds given in Table A;
- Generates a violation of any ambient air quality standard when added to the local background;
- Does not conform with the applicable attainment or maintenance plan(s);¹ or
- Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to ten in a million, and/or a health index (non-cancerous) greater than or equal to one.

¹ A project is deemed to not exceed this threshold, and hence not be significant if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments, and similar land use plan changes, which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold.

Table A presents the MDAQMD’s regional air quality significance thresholds.

Table A: MDAQMD Thresholds of Significance

Pollutant	Annual Threshold (tons per year)	Daily Threshold (pounds per day)
Carbon Monoxide (CO)	100	548
Oxides of Nitrogen (NOx)	25	137
Volatile organic compounds (VOCs)	25	137
Oxides of sulfur (SO _x)	25	137
Particulate matter (PM ₁₀)	15	82
Particulate matter (PM _{2.5})	15	82
Carbon Dioxide Equivalent (CO ₂ e)	100,000	548,000

Source: Mojave Desert Air Quality Management District. *California Environmental Quality Act and Federal Conformity Guidelines* (2016).

The MDAQMD significance thresholds are based on either daily or total annual air pollutant emissions (i.e., the amount of air pollutants generated during the approximately 9-month SEGS IX decommissioning period). For multi-phased projects, such as projects with separate construction phases, phases shorter than 1 year can be compared to the daily value. MDAQMD thresholds are the same for construction and operation. Emissions associated with decommissioning activities are similar to that of construction; therefore, this air quality analysis refers to construction for emission calculations. If emissions exceed the thresholds, then a project is considered to have a significant impact on air quality and must incorporate all feasible mitigation measures.

EMISSION CALCULATION ASSUMPTIONS

SEGS IX decommissioning activities would result in short-term, minor, and localized air quality impacts from fugitive dust, tailpipe emissions from construction equipment used, waste/recycling truck trips, and construction worker commutes. Exhaust emissions from decommissioning activities would vary daily as activity levels change. Emissions quantification related to decommissioning activities is necessary for comparison to the MDAQMD significance thresholds. In addition, the environmental documentation must include support for the quantification methodology used, including emission factors, emission factors sources, assumptions, and sample calculations where necessary. Because emission calculation tools such as OFFROAD and EMFAC emission factor data were used, the emissions calculation assumption section presets the general assumptions for the specific inputs and settings used for this air quality analysis.

General Assumptions

1. The Project Owner's equipment schedule, based on construction contractor bid information, was used to determine emissions from off-road equipment.
2. The Project Owner's trip assumptions, based on construction contractor bid information, were used to determine emissions from on-road equipment.

On-Road Equipment Assumptions

1. Trip lengths were adjusted to reflect that trips would be between the SEGS IX facility and Barstow, landfill facility, recycling facility, and hazardous waste facility locations.
2. Exhaust emissions for on-road equipment were calculated using the EMFAC2021 emission factors for scenario year 2023.
3. All on-road construction equipment emissions were determined using on-road emission factors; none were estimated using off-road emission factors.
4. Fugitive dust emissions were estimated for both paved roads and unpaved roads, where applicable.

Off-Road Equipment Assumptions

1. Exhaust emissions were calculated using the OFFROAD2017 emission factors for scenario year 2023.
2. Specific activity fugitive dust emissions were calculated based on the information from the USEPA 2009 document, *AP-42 Compilation of the Air Pollutant Emission Factors*. All reference emissions calculations are provided in the footnotes of the spreadsheet provided in Attachment C of this analysis. The specific construction equipment list was obtained from the Project Owner.

Construction Information

Construction-related emissions are based on the following:

1. The site total acreage inside the proposed fence-line is approximately 415 acres. The maximum acreage to be disturbed in any single day or month is approximately 50 acres.
2. Mobilization of the construction equipment may occur in the open spaces of the shared facilities area. Equipment and vehicle travels may also occur within the 415-acre project site and the shared facilities area.
3. Construction activity is expected to last for approximately 9 months.

The construction will occur in the following five main phases/stages:

- Safe layup and HTF removal;
- Dismantling and demolition of above-ground structures;
- Concrete removal and crushing
- Removal/dismantling of underground utilities; and
- Evaporation ponds closure¹, consisting of:

¹ The SEGS IX water evaporation ponds would be closed per the Lahontan Regional Water Quality Control Board (RWQCB) requirements. The SEGS VIII and IX Evaporation Ponds Closure Plan, prepared and submitted to Lahontan RWQCB on May 29, 1992 (included as Appendix F of the Decommissioning Plan and Petition to Terminate License), would be updated, as needed, per the RWQCB's most current standards.

- Standard earth-moving equipment (e.g., grader, dozer, excavator) used to transfer materials from two ponds into the third pond.
- The two ponds that have been emptied would then be “clean” closed. The two emptied ponds will be backfilled with onsite material (crushed rock) to the extent possible before importing fill. Final grade shall be leveled and reclaimed.
- The third pond would be sealed/capped as a landfill. Long-term monitoring would be conducted for the landfill pond per Lahontan RWQCB requirements
- The two emptied ponds will be backfilled with onsite material (crushed rock) to the extent possible before importing fill. Final grade shall be leveled and reclaimed.

Fugitive dust emissions from the demolition activities will result from:

- Dust entrained during mobilization and demolition at the construction site;
- Dust entrained during off-site travel on paved and unpaved surfaces;
- Dust entrained during recycled concrete loading, crushing, and unloading operations; and
- Dust entrained during evaporation pond closure earthmoving.

Combustion emissions during construction will result from:

- Exhaust from the diesel construction equipment used on-site;
- Exhaust from water trucks used to control construction dust emissions;
- Exhaust from pickup and diesel trucks used to transport workers and materials around the project site;
- Exhaust from diesel trucks used to deliver metals, glass, concrete, and HTF supplies to the recycling, and landfill sites; and
- Exhaust from automobiles used by workers to commute to the project site.

To determine the potential worst-case daily construction impacts, exhaust and dust emission rates have been evaluated for each source of emissions. Worst-case daily dust emissions are expected to occur during mirror farm demolition activities. The worst-case daily exhaust emissions are expected to occur during the middle of the construction schedule during truck hauling of materials to recycling centers and landfill sites. Daily emissions are based on the maximum equipment mix and use rates during the peak construction day. Annual emissions are derived from the daily values using the estimated construction time frame.

Construction-related emissions at the project site are consistent with emissions commonly encountered at construction sites. Compliance with the provisions of the following permits (as incorporated in the CEC Conditions of Certification) will generally result in minimal site emissions: (1) demolition permit, (2) Stormwater Pollution Prevention Plan (SWPPP) requirements, and (2) MDAQMD rules compliance, which will require compliance with the provisions of all applicable fugitive dust rules that pertain to the site construction phase. An analysis of construction emissions is presented in Attachment C. This analysis incorporates the following mitigation measures or control strategies as required by the MDAQMD’s *Dust Control Plan Guidance Document* (MDAQMD 2017):

- The Project Owner will have an on-site construction mitigation manager who will be responsible for the implementation and compliance of the construction mitigation program. The documentation of the ongoing implementation and compliance with the proposed construction mitigations will be provided on a periodic basis.
- All unpaved roads and disturbed areas within the project site and laydown areas will be watered as frequently as necessary to control fugitive dust. The frequency of watering will be on a minimum schedule of every two hours during daily construction activities. Watering may be reduced or eliminated during periods of precipitation.
- On-site vehicle speeds will be limited to 5 miles per hour (mph) on unpaved areas within the project site.
- The project site entrance(s) will be posted with visible speed limit signs.
- All construction equipment vehicle tires will be inspected and cleaned as necessary to be free of dirt prior to leaving the construction site via paved roadways.
- Gravel ramps will be provided at the tire cleaning area.
- All unpaved exits from the construction site will be graveled or treated to reduce track-out to public roadways.
- All construction vehicles will enter the site through the treated entrance roadways.
- The first 500 feet of any public roadway exiting the construction site will be cleaned on a periodic basis (or less during periods of precipitation), using wet sweepers or air-filtered dry vacuum sweepers, when construction activity occurs or on any day when dirt or runoff from the construction site is visible on the public roadways.
- Any soil storage piles and/or disturbed areas that remain inactive for longer than 10 days will be covered, or shall be treated with appropriate dust suppressant compounds.
- All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions will be covered, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to minimize fugitive dust emissions. A minimum freeboard height of two feet will be required on all bulk materials transport.
- Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) will be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition will remain in place until the soil is stabilized or permanently covered with vegetation.

To reduce exhaust emissions from construction equipment, the Project Owner is proposing the following:

- The Project Owner will work with the construction contractor to utilize to the extent feasible, USEPA/California Air Resources Board (ARB) Tier II/Tier III engine compliant equipment for equipment over 100 horsepower (hp).

- Ensure periodic maintenance and inspections per the manufacturers’ specifications.
- Reduce idling time through equipment and construction scheduling.
- Use California low sulfur diesel fuels (<=15 ppmw S).

Based on the temporary nature and the time frame for decommissioning, these measures will reduce construction emissions and impacts to levels that are in compliance with the MDAQMD air quality regulations. Use of these emission control strategies will ensure that the site does not cause any violations of existing air quality standards as a result of construction-related activities. Attachment C presents the evaluation of construction-related emissions.

CONSTRUCTION EMISSIONS ANALYSIS

The SEGS IX facility is expected to be decommissioned in five phases or stages. Construction emissions of each stage were calculated using the equipment list and construction schedule contained in Attachment C. Because the same equipment and staging would be used for each stage of decommissioning, the peak emissions listed in Table B, Daily Construction Emissions by Stage (Pounds per Day), are applicable to each stage. The peak day emissions shown in Table B are calculated using the assumption that Stages 1, 2, 3, 4, and 5 would occur separately.

Table B: Daily Construction Emissions by Stage (Pounds per Day)

Construction Stage	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂ e
Stage 1 - Safe layup and HTF removal	0.66	6.01	8.75	0.03	40.27	4.31	3,503
Stage 2 - Dismantling and demolition of above-ground structures	1.67	16.36	64.16	0.18	41.77	4.77	18,910
Stage 3 - Concrete removal and crushing	2.30	22.39	121.88	0.33	42.63	5.24	34,863
Stage 4 - Removal/dismantling of underground utilities	1.39	13.74	39.06	0.11	40.99	4.58	11,974
Stage 5 – Evaporative Pond Closure	1.39	13.67	39.01	0.11	37.21	4.01	11,962
Peak Day	2.30	22.39	121.88	0.33	42.63	5.24	34,863
MDAQMD Threshold	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Source: Compiled by LSA (2022).

CO = carbon monoxide

CO₂e = carbon dioxide equivalent

HTF = Heat Transfer Fluid

MDAQMD = Mojave Desert Air Quality Management District

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SO_x = sulfur oxides

VOC = volatile organic compounds

The daily emissions from decommissioning activities would not exceed the MDAQMD daily significance thresholds for any of the criteria pollutants nor for CO₂e. The daily thresholds for all criteria pollutants would be less than significant. Table C, Annual Construction Emissions by Stage (Tons per Year), presents the annual construction emissions.

As shown in Table C (below), the annual emissions from decommissioning activities would not exceed the MDAQMD annual significance thresholds for all criteria pollutants nor for CO₂e. The annual thresholds for all criteria pollutants would be less than significant.

Table C: Annual Construction Emissions by Stage (Ton per Year)

Construction Stage	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO _{2e}
Stage 1 - Safe layup and HTF removal	0.013	0.15	0.26	0.0010	2.20	0.25	105.1
Stage 2 - Dismantling and demolition of above-ground structures	0.057	0.65	2.89	0.008	2.02	0.26	851
Stage 3 - Concrete removal and crushing	0.06	0.62	3.66	0.01	2.23	0.27	1,046
Stage 4 - Removal/dismantling of underground utilities	0.01	0.18	0.59	0.00	2.20	0.25	180
Stage 5 – Evaporative Pond Closure	0.03	0.35	1.16	0.00	2.01	0.22	357
Total Annual Emissions	0.17	1.95	8.56	0.02	10.65	1.24	2,539
MDAQMD Threshold	100	25	25	25	15	12	100,000
Exceedance?	No	No	No	No	No	No	No

Source: Compiled by LSA (2022).

CO = carbon monoxide

CO_{2e} = carbon dioxide equivalent

HTF = Heat Transfer Fluid

MDAQMD = Mojave Desert Air Quality Management District

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SO_x = sulfur oxides

VOC = volatile organic compounds

SEGS IX decommissioning is not expected to generate any odors that would cause a public nuisance or impact a substantial population at any off-site location.

AIR QUALITY REGULATORY COMPLIANCE MEASURE

In order to ensure compliance with local regulations, the following regulatory compliance measure should be implemented.

D-AQ-1 Prior to the issuance of decommissioning permits or approvals, the Project Owner shall develop a Dust Control Plan (DCP) per the requirements of Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2. The DCP shall comply with MDAQMD Rules 403 and 403.2 to control fugitive dust, including particulate matter less than 10 microns in size (PM₁₀), by addressing objectives, key contacts, roles and responsibilities, dust sources, and control measures.

The DCP shall address the following sources of dust:

- Demolition-created dust sources
- Equipment and haul trucks travel over disturbed surfaces
- Equipment travel over unstable surfaces
- Equipment and haul trucks travel over unpaved roads
- Haul trucks travel over paved roads
- Unspecified fugitive dust emission sources

Attachments: A: References
 B: Figures: Figure 1: Project Location
 Figure 2: Existing Plot Plan
 C: Estimated Emission Calculations

ATTACHMENT A

REFERENCES

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ATTACHMENT B

FIGURES



FIGURE 1

LSA

LEGEND

 SEGS Project Footprint

Note: Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022.



SEGS IX
Project Location

SOURCE: Luz Solar Partners VIII and IX, LLC (6/2019), Google (9/2015)
I:\TGL1902\GIS\MXD\ProjectLocationMap.mxd (2/14/2022)

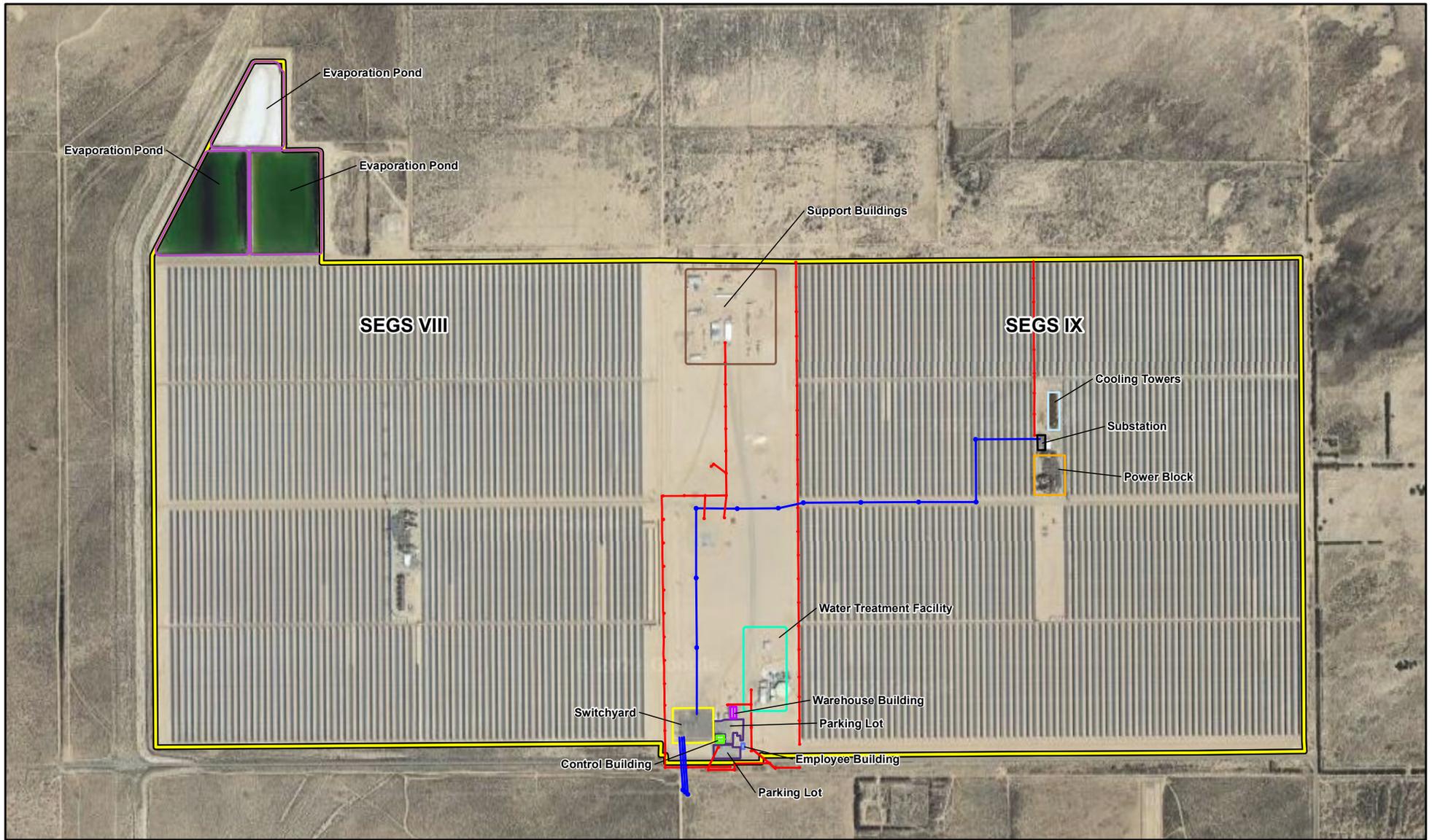


FIGURE 2

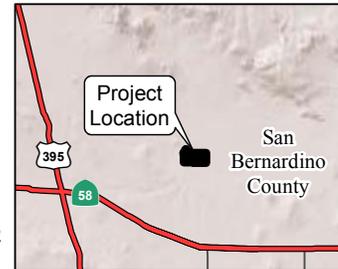
LSA



LEGEND

- | | | |
|------------------------|-------------------|--------------------------|
| SEGS Project Footprint | Evaporation Ponds | Substation |
| Existing Plot Plan | Gen-Tie | Support Buildings |
| Control Building | Parking Lot | Switchyard |
| Cooling Towers | Power | Warehouse Building |
| Employee Building | Power Block | Water Treatment Facility |

Note: Decommissioning of SEGS VIII is currently underway and is expected to be completed in April 2022



SEGS IX
Existing Plot Plan

SOURCE: Luz Solar Partners VIII and IX, LLC (10/2019), Google (9/2015)

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ATTACHMENT C

ESTIMATED EMISSION CALCULATIONS

Data provided by Facility

Schedule Breakdown by Phase	Duration	Days
Safe layup and HTF removal	60 days	60
Dismantling and demolition of above-ground structures	3 months	90
Concrete removal and crushing	60 days	60
Removal/dismantling of underground utilities	30 days	30
Evaporation ponds closure	30 days	30
Total Demolition Duration	9 months	270

start in August 2023
days/month = 30

Equipment to be Used	Qty
Mobile Shears Backhoe	3
Excavators	4
Wheel Loaders	2
Skid Steer Loaders	3
Bulldozers	2
Water Trucks	3
Small misc equipment (electric)	0
Semi-Trucks	5-15
Pick-Up/Crew Trk	5-15

Amount of Materials to be demolished	Qty	Units	Conversion	Unit	Truck Capacity	Units	Number of Truck Hauls	Hauls per day
Cubic Yard of Concrete to be crushed	300,000	tons	250,000	cy	n/a		n/a	n/a
Recycled Concrete for road base	250,000	tons			n/a		n/a	n/a
Recycled Concrete for backfill	50,000	tons			n/a		n/a	n/a
Contaminated Concrete	32	tons			16	tons	2	2
Glass	6250	tons			20	tons	313	5
Other non-recyclable waste	4,000	tons			14	tons	286	5
Metal	7,500	tons			22	tons	341	11
HTF Material	320,000	gallons			11,600	gallons	28	5

Travel Distance	Distance
Distance to Recycling Location	150 miles
Distance to Landfill Location	25 miles
Distance to Hazardous Waste Location	250 miles

Note:

All Facility Data was obtained from the Project Description and Construction Information For the SEGS VIII Decommissioning Project, Prepared by Zach Sawicki - Terra-Gen, April 2020. Assuming that the SEGS IX decommissioning will use the same data.

Solar Energy Generating System (SEGS) IX - Estimated Daily Construction Equipment and Vehicle Exhaust Emissions (worst-case day emissions in lbs/day)

2-Mar-22

Equipment Type	Quantity	Hours per Day	Days per Week	Weeks	Hp	Load Factors	Miles RT ¹	Trip/day	Emission Factors ² (g/hp-hr or g/mi)								Maximum Emission Rates (lbs/day)						Maximum Emission Rates (lbs/day)				
									ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO _{2e}
Safe layup and HTF removal																											
Mobile Shears Backhoe	3	1	5	1	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	2	0.00	0.00	2
Excavators	4	1	5	1	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	2	0.00	0.00	2
Wheel Loaders	2	1	5	1	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.01	0.00	0.00	0.00	1	0.00	0.00	1
Skid Steer Loaders	3	1	5	1	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	1	0.00	0.00	1
Bulldozers	2	1	5	1	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	1	0.00	0.00	0
Water Trucks	3	1	5	1	n/a	n/a	54	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.07	0.18	1.38	0.01	0.04	0.02	840	0.00	0.06	859
Semi-Trucks	5	1	5	1	n/a	n/a	54	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.07	0.71	6.86	0.02	0.12	0.05	1,829	0.00	0.15	1,873
Pick-Up/Crew Trk	8	1	5	1	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.51	5.09	0.48	0.01	0.04	0.02	761	0.06	0.01	766
Dismantling and demolition of above-ground structures																											
Mobile Shears Backhoe	3	10	6	1	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.01	0.05	0.08	0.00	0.00	0.00	18	0.01	0.00	18
Excavators	4	10	6	1	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.01	0.10	0.08	0.00	0.00	0.00	16	0.01	0.00	16
Wheel Loaders	2	10	6	1	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.02	0.05	0.00	0.00	0.00	7	0.00	0.00	8
Skid Steer Loaders	3	10	6	1	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.08	0.06	0.00	0.00	0.00	12	0.00	0.00	12
Water Trucks	3	10	6	1	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.01	0.02	0.17	0.00	0.00	0.00	78	0.00	0.01	80
Semi-Trucks	5	10	6	1	n/a	n/a	500	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.69	6.55	62.82	0.16	1.16	0.51	16,937	0.03	1.35	17,340
Pick-Up/Crew Trk	15	10	6	1	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.95	9.54	0.89	0.01	0.07	0.04	1,426	0.11	0.03	1,437
Concrete removal and crushing																											
Mobile Shears Backhoe	3	10	6	10	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.01	0.05	0.08	0.00	0.00	0.00	18	0.01	0.00	18
Excavators	4	10	6	10	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.01	0.10	0.08	0.00	0.00	0.00	16	0.01	0.00	16
Wheel Loaders	2	10	6	10	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.02	0.05	0.00	0.00	0.00	7	0.00	0.00	8
Skid Steer Loaders	3	10	6	10	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.08	0.06	0.00	0.00	0.00	12	0.00	0.00	12
Bulldozers	2	10	6	10	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	8	0.00	0.00	0
Water Trucks	3	10	6	10	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.01	0.02	0.17	0.00	0.00	0.00	78	0.00	0.01	80
Semi-Trucks	16	10	6	10	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	1.32	12.57	120.54	0.31	2.22	0.98	32,518	0.06	2.59	33,293
Pick-Up/Crew Trk	15	2	6	10	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.95	9.54	0.89	0.01	0.07	0.04	1,426	0.11	0.03	1,437
Removal/dismantling of underground utilities																											
Mobile Shears Backhoe	3	10	6	17	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.01	0.05	0.08	0.00	0.00	0.00	18	0.01	0.00	18
Excavators	4	10	6	17	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.01	0.10	0.08	0.00	0.00	0.00	16	0.01	0.00	16
Wheel Loaders	2	10	6	17	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.02	0.05	0.00	0.00	0.00	7	0.00	0.00	8
Skid Steer Loaders	3	10	6	17	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.08	0.06	0.00	0.00	0.00	12	0.00	0.00	12
Water Trucks	3	10	6	17	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.01	0.02	0.17	0.00	0.00	0.00	78	0.00	0.01	80
Semi-Trucks	5	10	6	17	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.41	3.93	37.73	0.10	0.69	0.31	10,162	0.02	0.81	10,404
Pick-Up/Crew Trk	15	2	6	17	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.95	9.54	0.89	0.01	0.07	0.04	1,426	0.11	0.03	1,437
Evaporative Pond Closure																											
Mobile Shears Backhoe	3	10	6	17	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.01	0.05	0.08	0.00	0.00	0.00	18	0.01	0.00	18
Excavators	4	10	6	17	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.01	0.10	0.08	0.00	0.00	0.00	16	0.01	0.00	16
Wheel Loaders	2	10	6	17	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.02	0.05	0.00	0.00	0.00	7	0.00	0.00	8
Bulldozers	2	10	6	10	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.01	0.01	0.00	0.00	0.00	8	0.00	0.00	0
Water Trucks	3	10	6	17	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.01	0.02	0.17	0.00	0.00	0.00	78	0.00	0.01	80
Semi-Trucks	5	10	6	17	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.41	3.93	37.73	0.10	0.69	0.31	10,162	0.02	0.81	10,404
Pick-Up/Crew Trk	15	2	6	17	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.95	9.54	0.89	0.01	0.07	0.04	1,426	0.11	0.03	1,437

	Tire Wear (g/mi)		Brake Wear (g/mi)		Start Emission Rate (g/trip)									Hot Soak	Evaporative Loss
	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	(g/trip)	(g/trip)
Water Trucks	0.012	0.003	0.061496	0.021524	-	-	5.21699203	-	-	-	-	-	-	-	-
Semi-Trucks	0.03593	0.008982	0.13694	0.047929	-	-	19.104318	-	-	-	-	-	-	-	-
Pick-Up/Crew Trk	0.008	0.002	0.015827	0.00554	2.462797	28.218991	1.01015101	0.0023068	0.0081087	0.007456	207.4597	0.319341	0.04532	0.26144	3.152581

Safe layup and HTF removal	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(lbs/day)
Total Emissions for Mobilization (lbs/day)	0.66	6.01	8.75	0.03	0.21	0.10	CO₂e 3,503.27
Threshold Limits (lbs/day)	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Dismantling and demolition of above-ground structures	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(lbs/day)
Total Emissions for HTF Removal (lbs/day)	1.67	16.36	64.16	0.18	1.24	0.56	CO₂e 18,910.11
Threshold Limits (lbs/day)	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Concrete removal and crushing	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(lbs/day)
Total Emissions for Mirror Farm Demolition (lbs/day)	2.30	22.39	121.88	0.33	2.31	1.03	CO₂e 34,862.81
Threshold Limits (lbs/day)	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Removal/dismantling of underground utilities	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(lbs/day)
Total Emissions for Co-Generation Facility Demolition (lbs/day)	1.39	13.74	39.06	0.11	0.78	0.36	CO₂e 11,974.15
Threshold Limits (lbs/day)	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Evaporative Pond Closure	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(lbs/day)
Total Emissions for Co-Generation Facility Demolition (lbs/day)	1.39	13.67	39.01	0.11	0.78	0.36	CO₂e 11,962.47
Threshold Limits (lbs/day)	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Notes:

¹Contractor truck trips conservative assumption of simultaneous 54 mile roundtrips (SEGS IX Facility - Barstow).

²Emissions factors for off-road equipment and on-road trucks are conservatively assumed to be the 2023 scenario year presented in OFFROAD and EMFAC2021 spreadsheets.

On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks

Solar Energy Generating System (SEGS) IX - Estimated Annual Construction Equipment and Vehicle Exhaust Emissions (annual emissions in tons/year)

2-Mar-22

Equipment Type	Quantity	Hours per Day	Days per Duration	Weeks	Hp	Load Factors	Miles RT ¹	Trip/day	Emission Factors ² (g/hp-hr or g/mi)								Maximum Emission Rates (tons/year)						Maximum Emission Rates (tons/year)						
									ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	CO _{2e}		
Safe layup and HTF removal																													
Mobile Shears Backhoe	3	1	60	1	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Excavators	4	1	60	1	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Wheel Loaders	2	1	60	1	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Skid Steer Loaders	3	1	60	1	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Bulldozers	2	1	60	1	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Water Trucks	3	1	60	1	n/a	n/a	54	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.00	0.01	0.04	0.00	0.00	0.00	0.00	25	0.00	0.00	26	
Semi-Trucks	5	1	60	1	n/a	n/a	54	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.00	0.02	0.20	0.00	0.00	0.00	0.00	55	0.00	0.00	56	
Pick-Up/Crew Trk	8	1	60	1	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.01	0.12	0.01	0.00	0.00	0.00	0.00	23	0.00	0.00	23	
0.01																													
Dismantling and demolition of above-ground structures																													
Mobile Shears Backhoe	3	10	90	1	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1
Excavators	4	10	90	1	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1
Wheel Loaders	2	10	90	1	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Skid Steer Loaders	3	10	90	1	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1
Water Trucks	3	10	90	1	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.00	0.00	0.01	0.00	0.00	0.00	0.00	4	0.00	0.00	4	
Semi-Trucks	5	10	90	1	n/a	n/a	500	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.03	0.29	2.82	0.01	0.03	0.01	0.01	762	0.00	0.06	780	
Pick-Up/Crew Trk	15	10	90	1	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.02	0.35	0.04	0.00	0.01	0.00	0.00	64	0.00	0.00	65	
0.04																													
Concrete removal and crushing																													
Mobile Shears Backhoe	3	10	60	10	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1
Excavators	4	10	60	10	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Wheel Loaders	2	10	60	10	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Skid Steer Loaders	3	10	60	10	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Bulldozers	2	10	60	10	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Water Trucks	3	10	60	10	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.00	0.00	0.01	0.00	0.00	0.00	0.00	2	0.00	0.00	2	
Semi-Trucks	16	10	60	10	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.04	0.38	3.61	0.01	0.04	0.02	0.02	976	0.00	0.08	999	
Pick-Up/Crew Trk	15	2	60	10	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.02	0.23	0.03	0.00	0.00	0.00	0.00	43	0.00	0.00	43	
0.04																													
Removal/dismantling of underground utilities																													
Mobile Shears Backhoe	3	10	30	17	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Excavators	4	10	30	17	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Wheel Loaders	2	10	30	17	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Skid Steer Loaders	3	10	30	17	65	0.37	n/a	n/a	0.1884	3.2771	2.5046	0.0049	0.1084	0.099700	471.9075	0.152600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Water Trucks	3	10	30	17	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1	
Semi-Trucks	5	10	30	17	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.01	0.06	0.56	0.00	0.01	0.00	0.00	152	0.00	0.01	156	
Pick-Up/Crew Trk	15	2	30	17	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.01	0.12	0.01	0.00	0.00	0.00	0.00	21	0.00	0.00	22	
0.01																													
Evaporative Pond Closure																													
Mobile Shears Backhoe	3	10	30	1	358	0.59	n/a	n/a	0.1937	1.3582	2.0798	0.0048	0.0730	0.067200	468.2447	0.151400	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Excavators	4	10	30	1	158	0.38	n/a	n/a	0.2314	3.0860	2.2784	0.0049	0.1104	0.101500	472.2891	0.152700	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Wheel Loaders	2	10	30	1	203	0.36	n/a	n/a	0.2902	1.2689	3.4212	0.0048	0.1136	0.104500	469.5127	0.151800	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Bulldozers	2	10	30	1	247	0.4	n/a	n/a	0.6195	2.3710	6.5033	0.0049	0.3185	0.293000	474.7928	0.153600	0.004274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0
Water Trucks	3	10	30	1	n/a	n/a	5	4	0.2034	0.5015	3.7333	0.0225	0.0400	0.0383	2353.1957	0.0094	0.171641	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1	0.00	0.00	1	
Semi-Trucks	5	10	30	1	n/a	n/a	300	2	0.1247	1.1879	11.3827	0.0293	0.0371	0.0355	3072.9959	0.0058	0.245001	0.01	0.06	0.56	0.00	0.01	0.00	0.00	152	0.00	0.01	156	
Pick-Up/Crew Trk	15	2	30	1	n/a	n/a	54	2	0.3046	4.2967	0.4985	0.0081	0.0168	0.0155	798.7749	0.0599	0.014963	0.01	0.12	0.01	0.00	0.00	0.00	0.00	21	0.00	0.00	22	
0.01																													

	Tire Wear (g/mi)		Brake Wear (g/mi)		Start Emission Rate (g/trip)									Hot Soak	Evaporative Loss
	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}	ROG	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂	CH ₄	N ₂ O	(g/trip)	(g/trip)
Water Trucks	0.012	0.003	0.061496	0.021524	-	-	5.21699203	-	-	-	-	-	-	-	-
Semi-Trucks	0.03593	0.008982	0.13694	0.047929	-	-	19.104318	-	-	-	-	-	-	-	-
Pick-Up/Crew Trk	0.008	0.002	0.015827	0.00554	2.462797	28.218991	1.01015101	0.0023068	0.0081087	0.007456	207.4597	0.319341	0.04532	0.26144	3.152581

Safe layup and HTF removal	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(tons/year)
Total Emissions for Mobilization (tons/year)	0.01	0.15	0.26	0.00	0.01	0.00	CO ₂ e
Threshold Limits (tons/year)	100	25	25	25	15	12	105.10
Exceedance?	No	No	No	No	No	No	100,000
							No

Dismantling and demolition of above-ground structures	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(tons/year)
Total Emissions for HTF Removal (tons/year)	0.06	0.65	2.89	0.01	0.04	0.02	CO ₂ e
Threshold Limits (tons/year)	100	25	25	25	15	12	850.97
Exceedance?	No	No	No	No	No	No	100,000
							No

Concrete removal and crushing	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(tons/year)
Total Emissions for Mirror Farm Demolition (tons/year)	0.06	0.62	3.66	0.01	0.04	0.02	CO ₂ e
Threshold Limits (tons/year)	100	25	25	25	15	12	1,045.90
Exceedance?	No	No	No	No	No	No	100,000
							No

Removal/dismantling of underground utilities	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(tons/year)
Total Emissions for Co-Generation Facility Demolition (tons/year)	0.01	0.18	0.59	0.00	0.01	0.00	CO ₂ e
Threshold Limits (tons/year)	100	25	25	25	15	12	179.62
Exceedance?	No	No	No	No	No	No	100,000
							No

Evaporative Pond Closure	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}	(tons/year)
Total Emissions for Co-Generation Facility Demolition (tons/year)	0.03	0.35	1.16	0.00	0.03	0.01	CO ₂ e
Threshold Limits (tons/year)	100	25	25	25	15	12	357.06
Exceedance?	No	No	No	No	No	No	100,000
							No

Notes:

¹Contractor truck trips conservative assumption of simultaneous 54 mile roundtrips (SEGS IX Facility - Barstow).

²Emissions factors for off-road equipment and on-road trucks are conservatively assumed to be the 2023 scenario year presented in OFFROAD and EMFAC2021 spreadsheets.

On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks

Onsite Vehicle Fugitive PM Emissions - Unpaved Roads

Vehicle Activity

Group ID	Source	Miles per round trip	Load Weight (tons)	Material Transferred (Tons)		VMT	
				Annual	Daily	Annual	Daily
ST	Semi-Trucks ⁽¹⁾	0.5	37	17,800	972	240.54	13.14
L1	Mobile Shear Loader	0.32	45	13,750	156	98	1
L2	Excavator	0.32	45	13,750	156	98	1
L3	Wheel Loader	1.6	12.5	300,000	2,720	38,400	348
L4	Skid Steer Loader	0.06	12.5	13,750	156	66	1
L5	Bulldozer	4.8	40	300,000	2,720	36,000	326.40
WT1	Water Truck					3,050	34
T2	Construction/Misc Truck ⁽²⁾					2,200	10

Notes:

(1) Includes off-road haul trucks only. Trucks hauling concrete travel on unpaved surface.

(2) Fifty-percent of time Construction/Misc trucks are on paved surfaces.

Emission Factors

ID	Source	k (PM10)	k (PM2.5)	s ⁽¹⁾	W ⁽²⁾	% Control Efficiency ⁽³⁾	Moisture ⁽¹⁾	PM10 EF lb/VMT	PM2.5 EF lb/VMT
ST	Semi-Trucks	1.5	0.15	7.4	32	98	5.7	0.056	0.006
L1	Mobile Shear Loader	1.5	0.15	7.4	55	98	5.7	0.072	0.007
L2	Excavator	1.5	0.15	7.4	55	98	5.7	0.072	0.007
L3	Wheel Loader	1.5	0.15	7.4	13	98	5.7	0.037	0.004
L4	Skid Steer Loader	1.5	0.15	7.4	9	98	5.7	0.032	0.003
L5	Bulldozer	1.5	0.15	7.4	43	98	5.7	0.064	0.006
WT1	Water Truck	1.5	0.15	7.4	19	98	5.7	0.044	0.004
T2	Construction/Misc Truck	1.5	0.15	7.4	1.5	98	5.7	0.014	0.001

Notes:

(1) Average silt content and moisture content for unpaved roads with routine watering.

(2) The vehicle weights are based on the average weight of unloaded and loaded weights for haul trucks and the water truck. The other vehicle weights are based on the estimated Gross Mean Vehicle Weight provided by manufacturers. The following table summarizes the weight basis:

ID	Vehicle Type	Advertised Empty GMVW (tons)	Load Weight (tons)	Ave Weight (tons)	Source
ST	Semi-Trucks	13	37	32	Caterpillar Advertised Weights and Capacities - http://www.cat.com/cda/layout?m=37840&x=7&location=drop
L1	Mobile Shear Loader	32.5	45	55	
L2	Excavator	32.5	45	55	
L3	Wheel Loader	6.5	12.5	13	
L4	Skid Steer Loader	3	12.5	9	
L5	Bulldozer	22.5	40	43	
WT1	Water Truck	8.5	20	19	Manufacturer Advertised Weight for vehicle class
T2	Construction/Misc Truck	1.5	NA	1.5	

(3) Control efficiency from Figure 13.2.2-2, AP-42 5th Ed., Section 13.2.2, Unpaved Roads, December 2003, revision. Uncontrolled moisture content was assumed to be 1.0% and control moisture 5.7% which gives an M of 5.7 (and control efficiency of 99.7%). To be conservative, used 98% control. The uncontrolled road moisture was based on Fugitive Particulate Matter Emissions Final Draft Report, U.S. Environmental Protection Agency, Research Triangle Park, NC, EPA Contract No. 68-D2-0159, Assignment 4-06, January 1997, which reported a uncontrolled moisture content of 0.52% on unpaved roads. A value of 1.0% was selected which results in a more conservative estimate of control efficiency.

Assume 98% control also applies to soil stabilization based on the frequency of water application.

Emission Factor Source: AP-42 5th Ed., Section 13.2.2, Unpaved Roads, Rev.: December, 2003.

$$E = k(s/12)^a(W/3)^b$$

E = emission factor in lb/VMT

k = particle size multiplier (1.5 for PM10, 0.15 for PM2.5)

s = silt content of road surface materials, %

W = mean vehicle weight, ton

a = 0.9 for PM10

b = 0.45 for PM10

a = 0.9 for PM2.5

b = 0.45 for PM2.5

PM10 Emissions - Unpaved Roads

Group ID	Source	PM10 Emissions		PM2.5 Emissions		Source Type
		Daily lb/day	Annual TPY	Daily lb/day	Annual TPY	
ST	Semi-Trucks	0.73	0.01	0.07	0.00	Area
L1	Mobile Shear Loader	0.08	0.00	0.01	0.00	Area
L2	Excavator	0.08	0.00	0.01	0.00	Area
L3	Wheel Loader	12.96	0.715	1.30	0.071	Area
L4	Skid Steer Loader	0.02	0.001	0.00	0.000	Area
L5	Bulldozer	20.89	1.152	2.09	0.115	Area
WT1	Water Truck	1.48	0.067	0.15	0.007	Area
	Sub-Total - Plant Area	36.25	1.95	3.63	0.19	
T2	Construction/Misc Truck	0.14	0.016	0.01	0.002	Area
	Grand Total	36.40	1.96	3.64	0.20	
	Threshold Limits	82.00	15.00	65.00	12.00	
	Exceedance?	No	No	No	No	

Example Calculation: Loader PM10 = (44 VMT/day) x (0.103 lb/VMT) = 4.53 lb/day

Loader PM10 = (11,250 VMT/day) x (0.103 lb/VMT) / (2000 lb/ton) = 0.58 TPY

Crusher Equipment Data:

340 TPH Recycled Concrete Material
 2,720 TPD Recycled Concrete Material
 300,000 TPY Recycled Concrete Material
 8.0 hr/day (Recycled Material Production)
 882 hr/yr (Recycled Material Production)

Recycled Material Crusher Process Emissions

ID No.	Equipment Category	Description	Feed Rate (TPH)	Emission Controls	PM ₁₀ EF	PM _{2.5} EF	Notes	Source Type						
					(lb/ton)	(lb/ton)	lb/hr	lb/hr	lb/day	lb/day	ton/yr	ton/yr		
RF-1	Recycled Material Feeder Bin	Recycled Material Loaded to Feeder	340	Wet Suppression	1.60E-05	2.40E-06	5.44E-03	8.16E-04	4.35E-02	6.53E-03	2.40E-03	3.60E-04	1	Volume
RCR-1	Recycled Material Jaw Crusher	Recycled Material Crushing	340	Wet Suppression	5.40E-04	8.10E-05	1.84E-01	2.75E-02	1.47E+00	2.20E-01	8.10E-02	1.22E-02	2	Volume
RTC-1	Recycled Material Transfer Conveyor	Transfer Conveyor	170	Wet Suppression	4.60E-05	6.90E-06	7.82E-03	1.17E-03	6.26E-02	9.38E-03	3.45E-03	5.18E-04	2	Volume
RTC-2	Recycled Material Transfer Conveyor	Transfer Conveyor	170	Wet Suppression	4.60E-05	6.90E-06	7.82E-03	1.17E-03	6.26E-02	9.38E-03	3.45E-03	5.18E-04	2	Volume
RSC-1	Recycled Material Stacker Conveyor	Stacker Conveyor	170	Wet Suppression	4.60E-05	6.90E-06	7.82E-03	1.17E-03	6.26E-02	9.38E-03	3.45E-03	5.18E-04	2	Volume
RSC-2	Recycled Material Stacker Conveyor	Stacker Conveyor	170	Wet Suppression	4.60E-05	6.90E-06	7.82E-03	1.17E-03	6.26E-02	9.38E-03	3.45E-03	5.18E-04	2	Volume
RS-1	Recycled Material 3-Deck Screen	Recycled Material Screening	340	Wet Suppression	7.40E-04	1.11E-04	2.52E-01	3.77E-02	2.01E+00	3.02E-01	1.11E-01	1.67E-02	2	Volume
Total									3.78	0.57	0.21	0.03		

82 65 15 12 Threshold Limits
No No No No Exceedance?

Notes:

1. Based on emission factor for truck unloading of fragmented stone to the feeder provided in Table 11.19.2-2., AP-42 5th Ed. Final Section 11.19.2 updated August 2004.
2. Based on controlled emission factors (with wet suppression) for applicable activity provided in Table 11.19.2-2 (Crushed Stone Processing and Pulverized Mineral Processing), AP-42 5th Ed. Final Section 11.19.2 updated August 2004. Since there was no data for PM₄, the controlled emission factor for PM₁₀ was used and scaled to PM₄ using the ratio 0.15, provided in AP-42, Section 13.2.4, dated November 2006. The PM_{2.5} emission factors were calculated as follows:

Crusher: 5.4E-04 lbs/ton x 0.15 = 8.1E-05 lbs/ton

Screens: 7.4E-04 lbs/ton x 0.15 = 1.11E-04 lbs/ton.

Conveyors: 4.6E-05 lbs/ton x 0.15 = 6.90E-06 lbs/ton.

Product Delivery Truck/ Employee Vehicle On-Site Emissions

Source Data

On-Road Product Delivery Truck Activity

Haul Truck Type	Truck Trips ¹ (trip /day)	Truck Trips (trip/constr duration)	Load Weight (tons)	Truck Weight (unloaded) (tons)	Truck Weight (loaded) (tons)	Average Truck Weight ² (tons)	Delivery Days ³ days/yr	Truck Idling Time ⁴ (min/truck)	Travel Distance (one way) (miles)
Metal Product Truck	4	341	25	12	37	24.5	60	11	150
Glass Product Truck	5	313	25	12	37	24.5	60	11	150
Trash/Debris Truck	5	286	20	12	32	22	5	11	25
HFT Fluids Delivery Truck	5	28	20	12	32	22	5	11	250
Water Truck ⁵	6	66	16	3	19	11	156	11	25
Construction/Misc Truck ⁵	5	780	0.5	2.5	3	2.75	156	11	25
Total HHDD Trucks	30	1,814							

1. The number of truck trips are based on the *Project Description For SEGS VIII Decommissioning Project*, Prepared by Zach Sawicki - Terra-Gen, April 2020. Assuming that the SEGS IX decommissioning will use the same number of trucks.
2. The average truck weight is the average of the loaded and unloaded weights.
3. The number of delivery days per year was calculated from the total material divided by daily weight of material hauled as follows:
 $7,500 \text{ tons of material processed per yr} / (12 \text{ trucks per day} \times 22 \text{ tons of material hauled per truck}) = 28 \text{ days/yr}$
4. Truck Idling time based on loading material estimates. Title 13 CCR Section 1956.8 limits idling with parking brake engaged to 5 minutes. However, the rule does not apply to trucks more than 100 feet from residences and if the parking brake is not engaged, the rule limits idling to less than 15 minutes. Therefore, the actual idle time of 11 minutes will be used.
5. The water trucks and construction/miscellaneous trucks may travel on any of the roadways. However, worst case emissions are assumed if they travel on the plant ingress and egress access roads.

Vehicles (Employees)

Vehicle Trips ¹ (trips/day)	Operating Days (days/year) ²	Vehicle Weight ³ (tons)	Travel Distance (one way) (miles)
30	156	2.38	25

1. The number of vehicles trips are based on the number of crew truck listed in the *Project Description For SEGS VIII Decommissioning Project*, Prepared by Zach Sawicki - Terra-Gen, April 2020. Assuming that the SEGS IX decommissioning will use the same number of truck trips.
2. Based on the construction duration of 156 days per construction period: 6 days per week at 26 weeks per year.
3. Based on the mid point of the weight class for Light Duty Trucks (LDT2) as used in EMFAC2021, where the weight class range is 3751 to 5750 pounds.

Emission Factors

Idling tailpipe¹

Vehicle Type	PM10		PM2.5	
	(grams/hour/vehicle)	(lbs/min-vehicle)	(grams/hour/vehicle)	(lbs/min-vehicle)
Heavy Heavy Duty Diesel Trucks	0.016	5.95E-07	0.015	5.69E-07

1. Idling emission factors estimated from the CA mobile emission model, EMFAC2021, for model year 2023. Idling emissions for Light Duty Trucks (considered employee vehicles) were not considered since the EMFAC model only assesses idling emissions for Heavy Duty Trucks or larger and because it is unlikely for employees to leave their vehicles idling on a frequent basis.

Driving tailpipe -Running Exhaust¹

ID	Source	PM10	PM2.5
		(g/mile)	(g/mile)
Heavy Heavy Duty Diesel Trucks	Product Delivery Truck	0.012	0.011
Light Duty Trucks (All)	Light Duty Truck	0.0104	0.0096

1. Running emission factors based on CA mobile emission model, EMFAC2021, for model year 2023. For Heavy Heavy Duty Diesel Trucks, a speed of 10 miles per hour was used. For Light Duty Trucks (employee vehicles) a speed of 10 miles per hour was also used since the truck traffic would impede the light duty traffic.

Re-Entrained Dust

ID	k ¹ (PM10)	k ¹ (PM2.5)	sL ²	W	C ³ (PM10)	C ³ (PM2.5)	Precipitation ⁴	Control Efficiency ⁵	PM10 EF ⁶	PM2.5 EF ⁶
	(lb/VMT)	(lb/VMT)	(g/m ²)	(tons)	(lb/VMT)	(lb/VMT)	(days)	(%)	(lb/VMT)	(lb/VMT)
Metal Product Truck	0.016	0.0024	0.022	24.5	0.00047	0.00036	35	80	0.003794984	0.000512736
Glass Product Truck	0.016	0.0024	0.022	24.5	0.00047	0.00036	35	80	0.003794984	0.000512736
Trash/Debris Product Truck	0.016	0.0024	0.022	22	0.00047	0.00036	35	80	0.003215521	0.000425816
HTF Delivery Truck	0.016	0.0024	0.022	22	0.00047	0.00036	35	80	0.003215521	0.000425816
Water Truck	0.016	0.0024	0.022	11.00	0.00047	0.00036	35	80	0.001077549	0.00010512
Construction/ Misc. Truck	0.016	0.0024	0.022	6.00	0.00047	0.00036	35	80	0.000379298	3.82749E-07

1. The particle size multiplier (k) is based on values for PM10 and PM2.5, shown in November 2006 AP-42 Section 13.2.1, Table 13.2-1.1.
2. The silt loading (sL) value is based on the SCAQMD CEQA handbook page A9-96, which gives a silt loading for a freeway of 0.00065 oz/yd² (0.022 g/m²). This value was chosen since the area is granite rock, the roads are swept each shift, and vehicle traffic is frequent (38 trucks per day).
3. Based on the November, 2006 AP-42 Section 13.2.1.3 predictive emission factor equation, the vehicle fleet exhaust, brake and tire wear (C) are to be subtracted from the equation. The estimation of exhaust, tire and brake wear are separately accounted for based on Emfac, model year 2020. The C value for PM4 was determined using linear interpolation between PM2.5 and PM10.
4. Number of "wet" days with precipitation at least 0.254 mm (0.01 in), average of 35 days/yr in Barstow, CA, from Western Regional Climate Center <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0519>
5. MDAQMD Rule 403 requires removing any soil track-out within one hour, and operating a PM10 street sweeper with 80% efficiency per SCAQMD Rule 1186, resulting in 80% control efficiency.
6. Particulate emission factors includes control efficiency for sweeping and excludes "wet" days.
7. The Fleet Average Vehicle Weight is based on the weighted mean.

Brake and Tire Wear¹

Vehicle Type	PM10 (g/mile)		
	Brake Wear	Tire Wear	Total
Heavy Heavy Duty Diesel Trucks	0.0617	0.0351	0.0968
Light Duty Trucks	0.0107	0.008	0.0187

1. Brake and Tire Wear emission factors based on CA mobile emissions model, EMFAC2021, for model year 2023. For Heavy Heavy Duty Diesel Trucks, a speed of 10 miles per hour was used. For Light Duty Trucks (employee vehicles) a speed of 10 miles per hour was also used since the truck traffic would impede the light duty traffic.

Daily Emissions

Vehicle Type	Emission Source	Source ID	PM10	PM2.5
			(lb/day)	(lb/day)
Mobilization Trucks	Idling	HD-Idle	3.27E-05	3.13E-05
	Driving	HD-drive	0.0033	0.0031
	Brake & Tire Wear	HD-B&T	0.027	0.027
	Re-entrained Dust	VehRoad	0.0010	0.0001
	Subtotal		0.0310	0.0300
Metal Product Trucks	Idling	HD-Idle	2.62E-05	2.50E-05
	Driving	HD-drive	0.016	0.015
	Brake & Tire Wear	HD-B&T	0.13	0.13
	Re-entrained Dust	VehRoad	0.0050	0.0007
Subtotal		0.1488	0.1437	
Glass Product Trucks	Idling	HD-Idle	3.27E-05	3.13E-05
	Driving	HD-drive	0.020	0.019
	Brake & Tire Wear	HD-B&T	0.13	0.13
	Re-entrained Dust	VehRoad	0.0050	0.0007
Subtotal		0.1527	0.1475	
Trash/Debris Product Trucks	Idling	HD-Idle	6.55E-05	6.26E-05
	Driving	HD-drive	0.0065	0.0062
	Brake & Tire Wear	HD-B&T	0.027	0.027
	Re-entrained Dust	VehRoad	0.0009	0.0001
Subtotal		0.0341	0.0331	
HTF Material Delivery Trucks Water Trucks Construction and Misc Trucks	Idling	HD-Idle	1.05E-04	1.00E-04
	Driving	HD-drive	0.039	0.038
	Brake & Tire Wear	HD-B&T	0.30	0.30
	Re-entrained Dust	VehRoad	0.0093	0.0012
Subtotal		0.35	0.34	
Peak Day		0.35	0.34	
Threshold Limits		82	65	
Exceedance?		No	No	

Annual Emissions

Vehicle Type	Emission Source	Source ID	PM10	PM2.5
			(ton/yr)	(ton/yr)
Mobilization Trucks	Idling	HD-Idle	5.63E-09	5.38E-09
	Driving	HD-drive	2.54E-04	2.43E-04
	Brake & Tire Wear	HD-B&T	2.08E-03	2.08E-03
	Re-entrained Dust	VehRoad	8.16E-05	1.10E-05
	Subtotal			0.002
Metal Product Trucks	Idling	HD-Idle	2.46E-09	2.35E-09
	Driving	HD-drive	6.66E-04	6.37E-04
	Brake & Tire Wear	HD-B&T	5.46E-03	5.46E-03
	Re-entrained Dust	Veh	2.14E-04	2.89E-05
	Subtotal			0.006
Glass Product Trucks	Idling	HD-Idle	2.26E-09	2.16E-09
	Driving	HD-drive	6.11E-04	5.85E-04
	Brake & Tire Wear	HD-B&T	5.01E-03	5.01E-03
	Re-entrained Dust	Veh	1.96E-04	2.65E-05
	Subtotal			0.006
Trash/Debris Product Trucks	Idling	HD-Idle	5.55E-05	8.32E-06
	Driving	HD-drive	0.00E+00	0.00E+00
	Brake & Tire Wear	HD-B&T	7.63E-04	7.63E-04
	Re-entrained Dust	Veh	2.99E-05	4.04E-06
	Subtotal			0.001
HTF Material Delivery Trucks Water Trucks Construction and Misc Trucks	Idling	HD-Idle	7.14E-10	6.03E-09
	Driving	HD-drive	3.66E-04	3.51E-04
	Brake & Tire Wear	HD-B&T	3.01E-03	3.01E-03
	Re-entrained Dust	Veh	9.98E-05	1.32E-05
	Subtotal			0.003
Total			0.016	0.016
Threshold Limits			15	12
Exceedance?			No	No

1. HHDD annual emissions based on product delivery operations (delivery days/yr) for each haul truck type, shown in Source Data Table above.
2. LDT annual emissions based on 6 months of decommissioning operations.

Table Construction Emissions by Stage (Pounds per Day)

Construction Stage	CO	VOC	NOx	SOx	PM10	PM2.5	CO2e
Stage 1 - Safe Layup and HTF Removal	0.66	6.01	8.75	0.03	40.27	4.31	3,503
Stage 2 - Dismantling and Demolition of Above-ground Structures	1.67	16.36	64.16	0.18	41.77	4.77	18,910
Stage 3 - Concrete Removal and Crushing	2.30	22.39	121.88	0.33	42.63	5.24	34,863
Stage 4 - Removal/Dismantling of Underground Utilities	1.39	13.74	39.06	0.11	40.99	4.58	11,974
Stage 5 - Evaporative Pond Closure	1.39	13.67	39.01	0.11	37.21	4.01	11,962
Peak Day	2.30	22.39	121.88	0.33	42.63	5.24	34,863
MDAQMD Threshold	548	137	137	137	82	65	548,000
Exceedance?	No	No	No	No	No	No	No

Construction Emissions by Stage (Tons per Year)

Construction Stage	CO	VOC	NOx	SOx	PM10	PM2.5	CO2e
Stage 1 - Safe Layup and HTF Removal	0.013	0.15	0.26	0.0010	2.20	0.25	105.1
Stage 2 - Dismantling and Demolition of Above-ground Structures	0.057	0.65	2.89	0.008	2.02	0.26	851
Stage 3 - Concrete Removal and Crushing	0.06	0.62	3.66	0.01	2.23	0.27	1,046
Stage 4 - Removal/Dismantling of Underground Utilities	0.01	0.18	0.59	0.00	2.20	0.25	180
Stage 5 - Evaporative Pond Closure	0.03	0.35	1.16	0.00	2.01	0.22	357
Total Annual Emissions	0.17	1.95	8.56	0.02	10.65	1.24	2,539
MDAQMD Threshold	100	25	25	25	15	12	100,000
Exceedance?	No	No	No	No	No	No	No

APPENDIX D

BIOLOGICAL RESOURCES REPORT



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LOCKHART SOLAR PROJECT

Hinkley Area,
San Bernardino County, California

BIOLOGICAL RESOURCES REPORT

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November 2018
JN 169638

LOCKHART SOLAR PROJECT

HINKLEY AREA,
SAN BERNARDINO COUNTY, CALIFORNIA

Biological Resources Report

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a biological resources assessment for the above-referenced project.



Stephen Anderson
Biologist
Natural Resources/Regulatory Permitting



Dan Rosie
Ecologist/Project Manager
Natural Resources/Regulatory Permitting

November 2018

Executive Summary

On behalf of Lockhart Solar PV, LLC, Michael Baker International (Michael Baker) has prepared this Biological Resources Report for the Lockhart Solar Project (Project), located in the Lockhart area northwest of the unincorporated community of Hinkley, San Bernardino County, California. The Lockhart Solar Project will result in the decommissioning and demolition of the previously permitted solar thermal power plants and the development of new solar PV facilities and associated infrastructure necessary to generate up to a combined 160 megawatts alternate current of renewable electrical energy and/or energy storage capacity.

This report was prepared to document all biological resources identified within the survey area during a general biological resources survey, which includes a floral and faunal inventory, vegetation/land use mapping, and habitat suitability assessments to determine the potential for special-status plant and wildlife species and vegetation communities to occur within the survey area.

The survey area, located in the Mojave Desert, consists of highly disturbed areas of bare ground, open water, and developed areas (i.e., solar fields and associated infrastructure, evaporation ponds, and open areas) almost entirely devoid of any plants or wildlife. No special-status plant or wildlife species or vegetation communities were observed within or surrounding the survey area during the survey. In addition, based on 9-quadrangle database record searches, Michael Baker determined that the ten (10) special-status plants species and sixteen (16) special-status wildlife species known to occur within the vicinity of the survey area are either not expected or have a low potential to occur within or surrounding the survey area.

Further, bird nesting opportunities and wildlife movement are limited and relatively restricted throughout most of the survey area, respectively, due to a lack of vegetative cover on-site, and development and infrastructure within and surrounding the survey area. In addition, no U.S. Fish and Wildlife Service-designated critical habitat has been mapped within the survey area.

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Appendices

Appendix A: Site Photographs
Appendix B: Plant and Wildlife Species Observed List
Appendix C: Special-Status Species Table

LIST OF ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Management
CDFW	California Department of Fish and Wildlife
CFGC	California Fish and Game Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
FEMA	Federal Emergency Management Agency
FT	Federally Threatened
kV	Kilovolt
MBTA	Migratory Bird Treaty Act
Michael Baker	Michael Baker International
MW	Megawatt
NRCS	Natural Resources Conservation Service
PV	photovoltaic
SEGS	Solar Electric Generating System
SSC	Species of Special Concern
ST	State Threatened
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WL	Watch List

Section 1 Introduction

On behalf of Lockhart Solar PV, LLC, Michael Baker International (Michael Baker) has prepared this Biological Resources Report for the proposed Lockhart Solar Project (Project). This report describes the biological resources record searches and literature review, survey methodologies, and results of the biological resources survey conducted within the survey area to determine the presence or potential occurrence of State-listed and/or Federally-listed rare, threatened, or endangered species, and other special-status plants, animals, and natural communities.

1.1 PROJECT LOCATION

The survey area is located in the southwestern portion of the Mojave Desert, approximately 7 miles north of Highway 58 and 11 miles east of U.S. Highway 395, northwest of the unincorporated community of Hinkley, San Bernardino County, California (Figure 1, *Regional Vicinity*). Specifically, the survey area is depicted within Sections 13, 19, and 24, Township 11 North, Range 4 and 5 West, of the U.S. Geological Survey *Lockhart, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*).

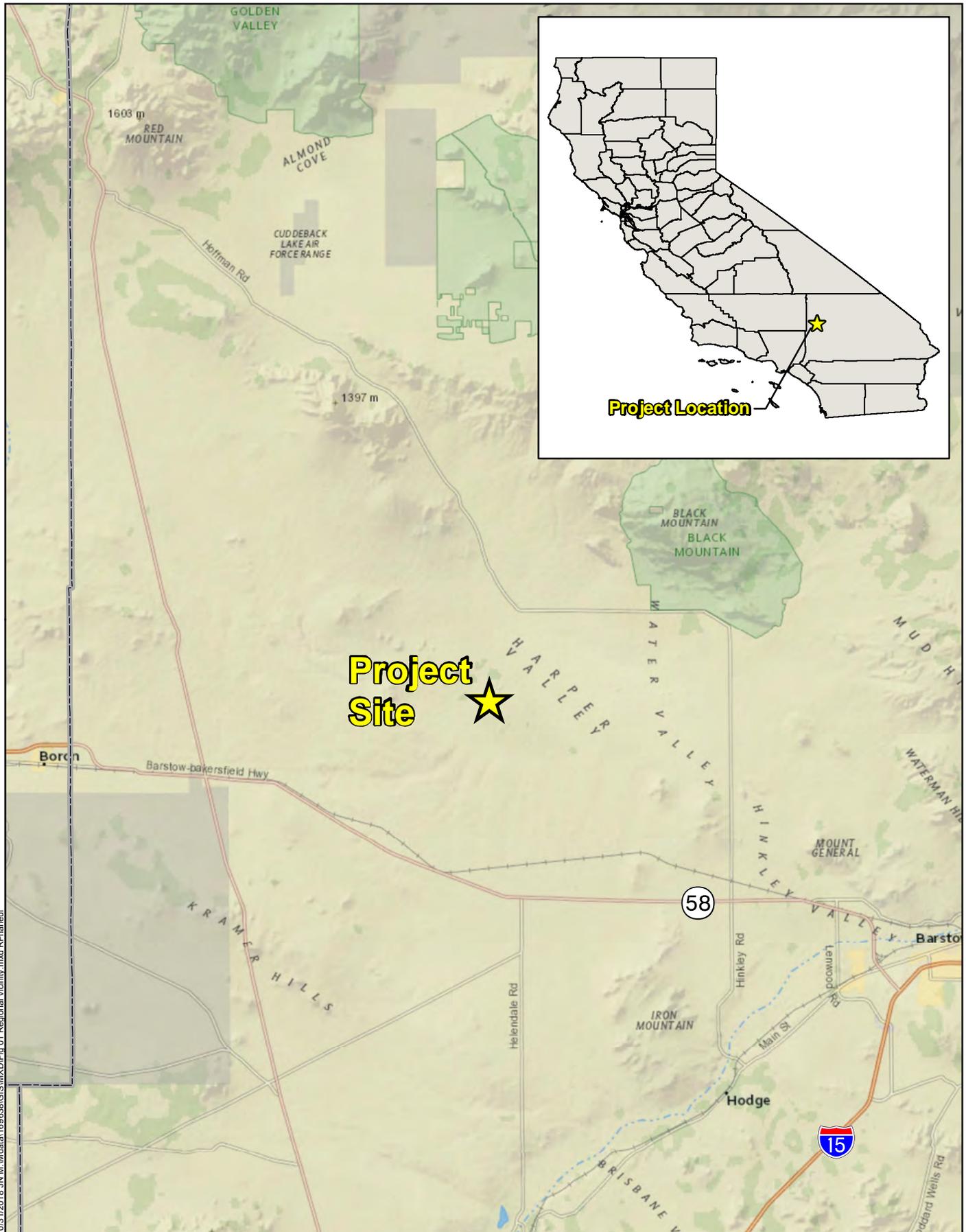
The site is located in the Lockhart area west of Harper Dry Lake approximately 11 miles east of Kramer Junction and 7 miles north of Mojave-Barstow Highway 58. The redevelopment site is bordered by Hoffman Road to the south and Harper Lake Road to the east (Figure 3, *Survey Area*). Its western and northern edges follow unnamed dirt roads. The project is accessed from Hoffman Road via Harper Lake Road.

1.2 PROJECT BACKGROUND AND DESCRIPTION

Lockhart Solar PV, LLC, is seeking land use approval from San Bernardino County on this approximately 1,007-acre redevelopment site. The proposed redevelopment project consists of the decommissioning and demolition of the previously permitted 160-megawatt (MW) solar thermal power plant and the development of a new solar photovoltaic (PV) facility and associated infrastructure necessary to generate up to a combined 160 MW alternate current of renewable electrical energy and/or energy storage capacity.

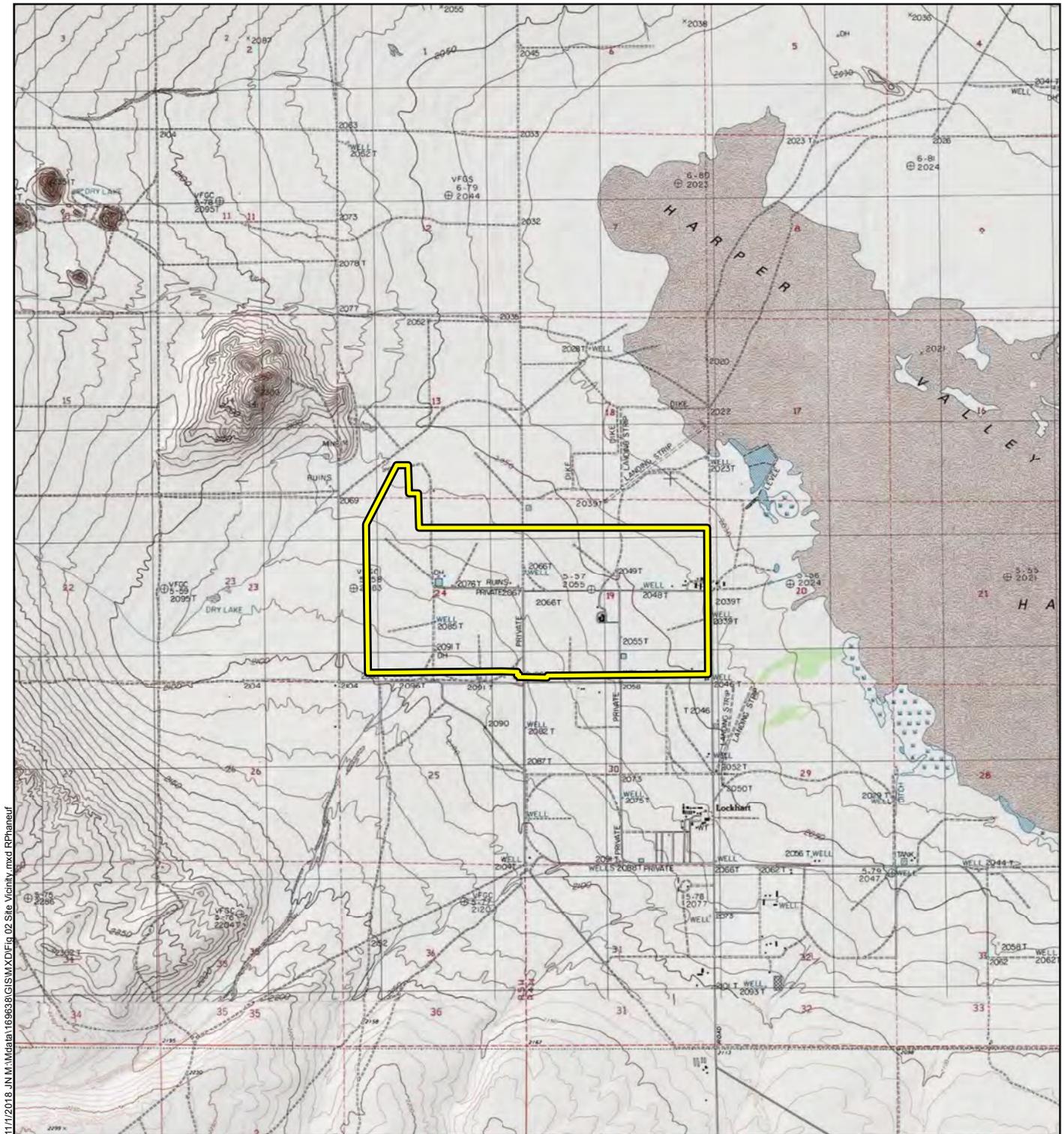
The proposed project consists of three highly disturbed development areas generally in the same location as the existing Solar Electric Generating System (SEGS) VIII and IX project parcels (also collectively known as Lockhart Solar). The solar facility would use PV technology and consist of solar arrays mounted on tracking structures mounted to vertical steel posts. The solar facility would be built in phases and would operate year-round generating electricity during the daylight hours.

Project components would include solar panels/modules, inverters, internal service roads, and



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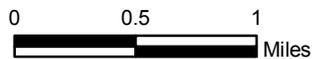




Legend

 Survey Area

USGS 7.5-Minute topographic quadrangle maps: *Lockhart, California (1986)*



Source: ArcGIS Online, 2018

LOCKHART SOLAR PROJECT
 BIOLOGICAL RESOURCES REPORT
Site Vicinity

Figure 2



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Legend



Survey Area



Photo Point and Direction



Source: ArcGIS Online, 2018

LOCKHART SOLAR PROJECT
 BIOLOGICAL RESOURCES REPORT
Survey Area

Figure 3

telecommunication equipment, including underground and overhead electrical collection systems and fiber optics. Underground electrical collection systems would be installed in conjunction with panel arrays within the project site, connecting each solar panel to a feeder circuit; each feeder circuit would in turn be connected to the collector substation. The solar panel circuits would gather into 13.8 kilovolts (kV) circuits or 34.5 kV and would step-up to 230 kV at either new electrical substations or using the existing reconditioned electrical substations located on site. The solar PV projects would utilize the existing gen-tie line to Kramer Junction. On-site operations and maintenance facilities will remain to service the new power plants.

An energy storage facility will be constructed on site consisting of battery banks and control systems assembled in temperature controlled 10-foot by 40-foot roll-off containers using about 2 acres of land. The energy storage system will be connected to the substation equipment to provide power as needed.

1.3 PURPOSE OF DOCUMENT

This report documents all biological resources identified within the survey area during a general biological resources survey. It includes an analysis of the potential for the various on-site biological resources to support special-status plant and wildlife species and special-status vegetation communities known to occur within the vicinity of the survey area that are subject to provisions of the Federal Endangered Species Act of 1973, Migratory Bird Treaty Act (MBTA), California Endangered Species Act, California Environmental Quality Act, California Fish and Game Code (CFGC), California Native Plant Protection Act, Bald and Golden Eagle Protection Act, and other local policies and ordinances protecting biological resources.

Section 2 Methodology

2.1 LITERATURE REVIEW AND DATABASE SEARCHES

Prior to conducting the field surveys, Michael Baker conducted a 9-quadrangle (Fremont Peak, Bird Spring, Opal Mountain, The Buttes, Lockhart, Water Valley, Kramer Hills, Twelve Gauge Lake, and Hinkley) search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) RareFind 5 (CDFW, Biogeographic Data Branch 2018) and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2018), and generated a Species and Resources List queried from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation online system (USFWS 2018a). This helped to identify special-status plant and wildlife species, vegetation communities, and other biological resources that have been previously documented within, near, and/or have the potential to occur within the survey area. The *Special Animals List* (CDFW 2018a), *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2018b), and CNPS California Rare Plant Ranking System (CRPR) were reviewed for the current status of rare and endangered plant and wildlife species. Other resources reviewed include the USFWS Critical Habitat for Threatened & Endangered Species mapper (USFWS [ArcGIS Online] 2018); recent and historical aerial photography (Google Earth Pro 2018); the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA, NRCS 2018); USFWS National Wetland Inventory (USFWS 2018b), and Federal Emergency Management Agency (FEMA) – 100 Year Flood Zones (FEMA [ArcGIS Online] 2018).

2.2 GENERAL BIOLOGICAL RESOURCES SURVEYS

Following the database searches, on October 30, 2018, Michael Baker biologists Stephen Anderson, Dan Rosie, and Tom Millington conducted a general biological resources assessment of the entire survey area between the hours of 0800 and 1200, with weather conditions consisting of temperatures ranging from approximately 60 to 95 degrees Fahrenheit (°F), winds approximately 1 to 5 miles per hour, and clear skies. The survey was conducted to document existing site conditions, including an inventory of plant and wildlife species and mapping of vegetation communities/land uses, to determine the potential for various special-status plant and wildlife resources known to occur within the vicinity of the survey area, and to identify jurisdictional aquatic features, if present. Representative photographs of the survey area are provided at the end of this report in Appendix A, *Site Photographs*. Refer to Figure 3 for the location and direction from which each photograph was taken.

2.2.1 Vegetation/Land Use Mapping and Plant Species Inventory

Classification of the on-site vegetation communities and other land uses is based on the descriptions of terrestrial vegetation classification systems described in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Plant species nomenclature

and taxonomy follow *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin *et al.* 2012). All plant species encountered were noted and identified at minimum to the lowest possible taxonomic level necessary to determine rarity. Refer to Appendix B for a complete list of plant species observed on-site.

2.2.2 General Wildlife Observations

Wildlife identification and nomenclature followed standard reference texts, including The American Ornithologists' Union *Checklist of North and Middle American Birds* (The American Ornithologists' Union 2013); the *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, With Comments Regarding Confidence In Our Understanding* (Crother 2012); and *Mammals of North America, Second Edition* (Kays and Wilson 2009). All wildlife species observed and/or otherwise detected through sign (e.g., tracks, scat) were recorded. Other wildlife species may occupy the site but are not easily detectable during the day (i.e., nocturnal) and without extensive survey efforts during the appropriate season, in addition to several species being transient and potentially occupying the site other times of the year. However, due to the highly disturbed nature of the site and the lack of suitable habitat, nocturnal and transient species are not expected to occur on-site. Refer to Appendix B for a complete list of wildlife species observed or otherwise detected on-site.

2.3 SURVEY LIMITATIONS

This Biological Resources Report has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Biological surveys for the presence or absence of certain taxa have been conducted as part of this assessment but were not necessarily performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided.

The findings and opinions conveyed in this report are based on findings derived from site reconnaissance and a review of the CNDDDB and CNPS Online Inventory, and other resources. Standard data sources relied upon during the completion of this report, such as the CNDDDB, may vary with regard to accuracy and completeness. In particular, the CNDDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Michael Baker believes the data sources

are reasonably reliable, Michael Baker cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

Section 3 Existing Conditions

The following is a summarization of the results of the database review and general biological resources survey performed by Michael Baker. Discussions regarding the general environmental setting, vegetation communities and other land uses present, and plant and wildlife species observed are presented below. Representative photographs of the survey area are provided in Appendix A, and a complete list of all the plant and wildlife species observed on-site during the field surveys is provided in Appendix B.

3.1 ENVIRONMENTAL SETTING

The survey area is located within the Mojave Desert Region of the Desert Province and is dominated by highly disturbed/developed land and bare ground. Specifically, the survey area consists entirely of previously graded, open areas devoid of vegetation, development with active infrastructure, and solar power facilities. The survey area consists entirely of developed land and bare ground with trace amounts of non-native grasses and forbs.

3.1.1 Climate

The survey area, located in the high desert - southwest portion of the Mojave Desert, has an arid climate characterized by cool winters and hot summers. With an average annual temperature typically of approximately 65 °F, highs in the summer average approximately 97 °F and lows in the winter averaging approximately 38 °F, and low humidity throughout the year. Average annual precipitation for the Barstow, California, area is approximately 5.27 inches (U.S. Climate Data 2018).

3.1.2 Hydrology

The survey area is located within the Mojave Hydrologic Unit (Hydrologic Unit Code 18090207) and Lockhart Hydrologic Area. Located in the west Mojave Desert, the Lockhart Hydrologic Area encompasses approximately 700 square miles. Within this watershed, the Lockhart site is tributary to Harper Lake, a terminal dry lake located directly east of the project site. Harper Valley is drained by numerous ephemeral streams towards Harper Lake. Floodwater from Grass Valley occasionally flows into Harper Valley via Black Canyon on the eastern side of the valley.

Harper Lake is an endorheic basin that once contained water and a natural marsh into the early 20th century but began to disappear once agricultural development began to deplete the groundwater that sustained its level. The lake eventually became dry in the late 1990s after the agricultural fields in the area were shut down and the lake was no longer fed by agricultural runoff. However, the SEGS power plant was required by the Bureau of Land Management (BLM) to deliver water to the lake as a mitigation agreement. Up to 75-acre feet of water per year is managed by the BLM and transferred to the lake.

Michael Baker searched the FEMA – 100 Year Flood Zones for flood data within the survey area (ArcGIS 2018). According to FEMA, the survey area is located within Zone D or areas with undetermined flood hazard.

3.2 TOPOGRAPHY AND SOILS

The survey area is situated in western region of the Mojave Desert. The region is known as the “High Desert” due to its approximate elevation of 2,800 feet above mean sea level (amsl). Much of the project area is relatively flat. Surface elevations within the survey area vary between approximately 2,105 feet amsl in the southwest corner to approximately 2,040 feet amsl in the northeast corner.

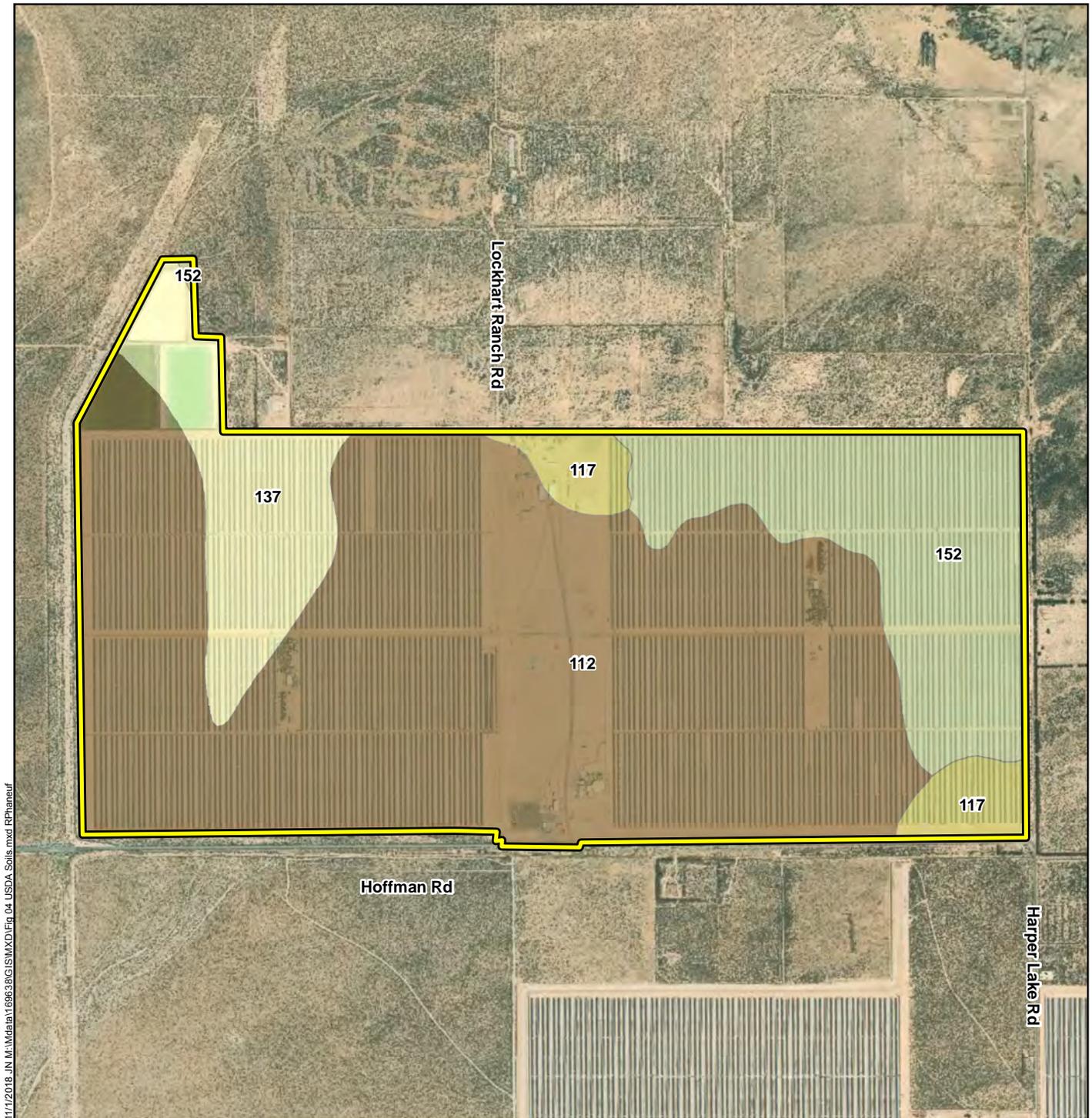
On-site and adjoining soils were reviewed prior to the field survey using the Web Soil Survey (USDA, NRCS 2018). Mapped soils within the survey area include the following (refer to Figure 4, *USDA Soils*):

- Cajon sand, 0 to 2 percent slopes (Map Unit Symbol: 112)
- Cajon loamy sand, loamy substratum, 0 to 2 percent slopes (117)
- Kimberlina loamy fine sand, cool, 0 to 2 percent slopes (137)
- Norob-Halloran complex, 0 to 5 percent slopes (152)

Michael Baker then reviewed the National Hydric Soils List (USDA, NRCS 2018) to identify soils mapped within the survey area that are considered to be hydric. According to the soils list, Cajon sand, 0 to 3 percent slopes (112); Cajon loamy sand, loamy substratum, 0 to 2 percent slopes (117); and Norob-Halloran complex, 0 to 5 percent slopes (152) are considered hydric. Soil textures identified on-site were generally consistent with those mapped by the Web Soil Survey, but which are substantially altered and compacted on-site. Due to the high level of disturbance and human activity within the survey area, most of the soils are highly compacted and devoid of any vegetation. Although hydric soils are present according to the USDA soils report, no hydric vegetation was present on-site.

3.3 VEGETATION COMMUNITIES AND OTHER LAND USES

No terrestrial vegetation communities were identified on-site during the field survey. Vegetation classification was based on Holland (1986). A complete list of plant species observed during the field surveys is provided in Appendix B. A map that illustrates the extent of the terrestrial vegetation communities and other land uses observed within the survey area is presented as Figure 5, *Vegetation Communities and Land Uses*. Table 1, below, provides the acreages of each vegetation community/land use on-site, followed by each discussed in detail.



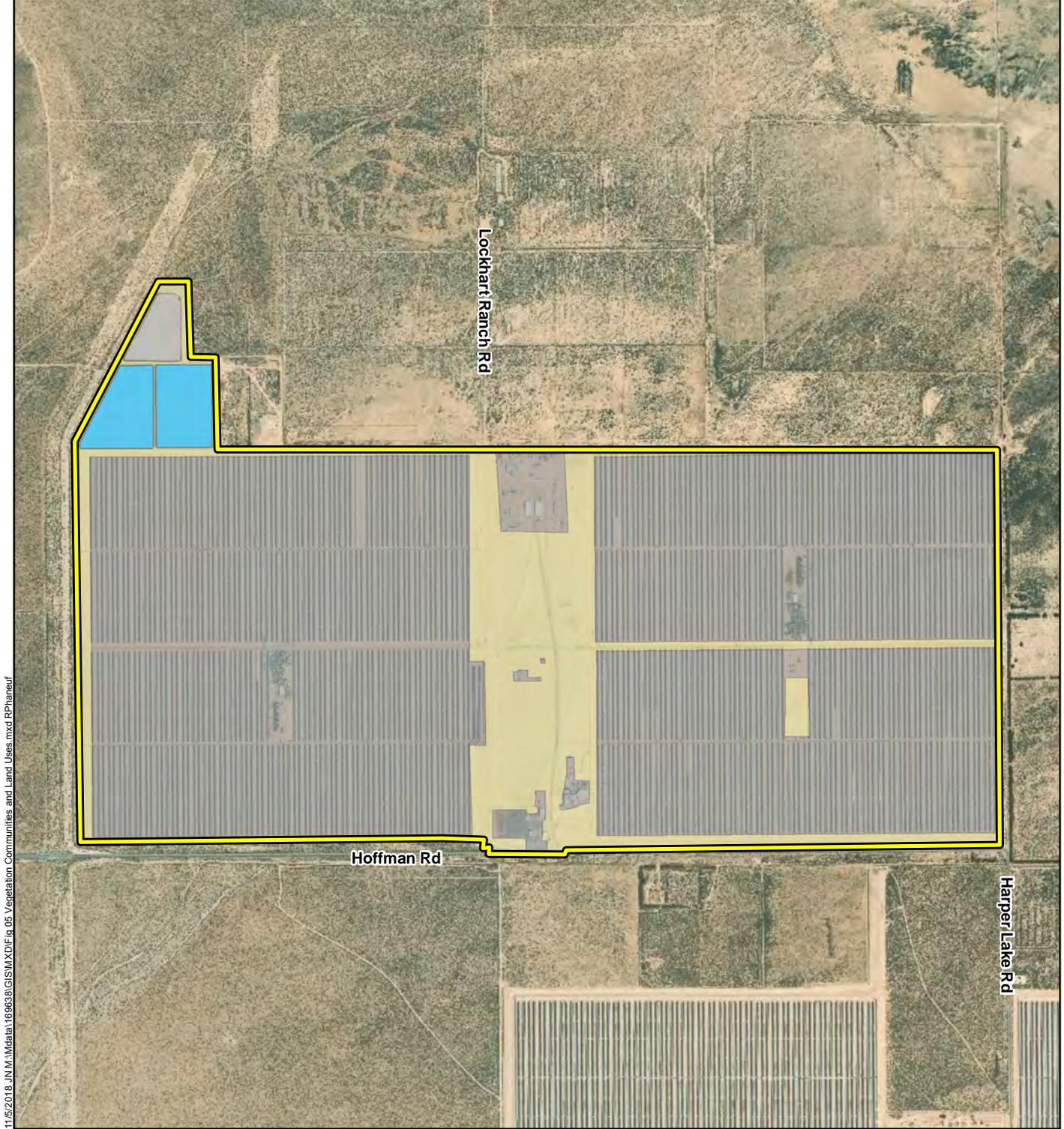
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 Survey Area

Soil Type

-  117 Cajon Loamy Sand, loamy substratum, 0 to 2 percent slopes
-  112 Cajon Sand, 0 to 2 percent slopes
-  137 Kimberlina Loamy Fine Sand, cool, 0 to 2 percent slopes
-  152 Norob-Halloran Complex, 0 to 5 percent slopes





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Legend		Vegetation Communities/Land Uses	
	Survey Area		Bare Ground (178.58 acres)
			Developed (805.92 acres)
			Open Water (24.17 acres)

Figure 5

Table 1. Vegetation Communities and Land Uses within the Survey Area

Vegetation Communities and Land Uses	Acreage
Urban/Developed (12000)	805.92
Bare Ground	178.58
Open Water	24.17
TOTAL*	1,008.68

* Total may not equal to sum due to rounding.

Urban/Developed (12000)

Developed portions of the survey area include the SEGS VIII and IX solar fields along with infrastructure and facilities associated with said solar fields.

Bare Ground

Bare ground mapped on-site includes unpaved pathways associated with site maintenance activities (i.e., solar field and facilities inspection) and an open area dividing the SEGS VIII and IX solar fields.

Open Water

Open water mapped on-site includes the process water evaporation ponds located at the northwest corner of the project site.

3.4 GENERAL WILDLIFE OBSERVATIONS

The projects site contains areas of minimal vegetation or friable soils necessary to support various wildlife species. Species common to disturbed areas were observed during the general survey. Some common species observed include common raven (*Corvus corax*), house finch (*Haemorrhous mexicanus*), mallard (*Anas platyrhynchos*), and horned lark (*Eremophila alpestris*). A barn owl (*Tyto alba*) was observed within an athel tree (*Tamarix aphylla*) roughly 80 feet east of the project site. In addition, several nest mounds of harvester ant (*Pogonomyrmex* spp.) were observed throughout the survey area. Refer to Appendix B for a complete list of wildlife species observed during the field survey.

Section 4 Special-Status Biological Resources

The following discusses the potential for special-status plant and wildlife species and special-status vegetation communities to occur within the survey area. “Potential to occur” determinations were based on the presence or absence of suitable habitat for each special-status species evaluated, as well as the general ecological requirements for each species and known occurrences on and/or within the vicinity of the survey area. All CNDDDB occurrences documentation of special-status species and vegetation communities and USFWS-designated critical habitats within a 5-mile radius of the survey area are shown in Figure 6, *Special-Status Biological Resources and Critical Habitat Documented Within a 5-mile Radius*. Please note that occurrences within the survey area were observed prior to the construction of SEGS VIII and IX (built in 1990); therefore, the dates of those occurrences are provided in Figure 6 for clarification. An evaluation of the potential for each species identified in the database records search to occur on-site is presented in Appendix C.

4.1 SPECIAL-STATUS SPECIES

The results of the 9-quadrangle database record searches revealed documented occurrences for a total of ten (10) special-status plants species and sixteen (16) special-status wildlife species. Species determined to have a “Moderate” or “High” potential for occurring warrant a discussion. However, all of the special-status species with documented occurrences were evaluated by Michael Baker as having a “Low” or “Not Expected” potential for occurrence and are therefore not discussed further.

No special-status plant or wildlife species were observed during the field survey. Based on the literature review and database searches and on-site habitat suitability assessments, Michael Baker determined that the survey area does not contain suitable habitat for any special-status plant or wildlife species.

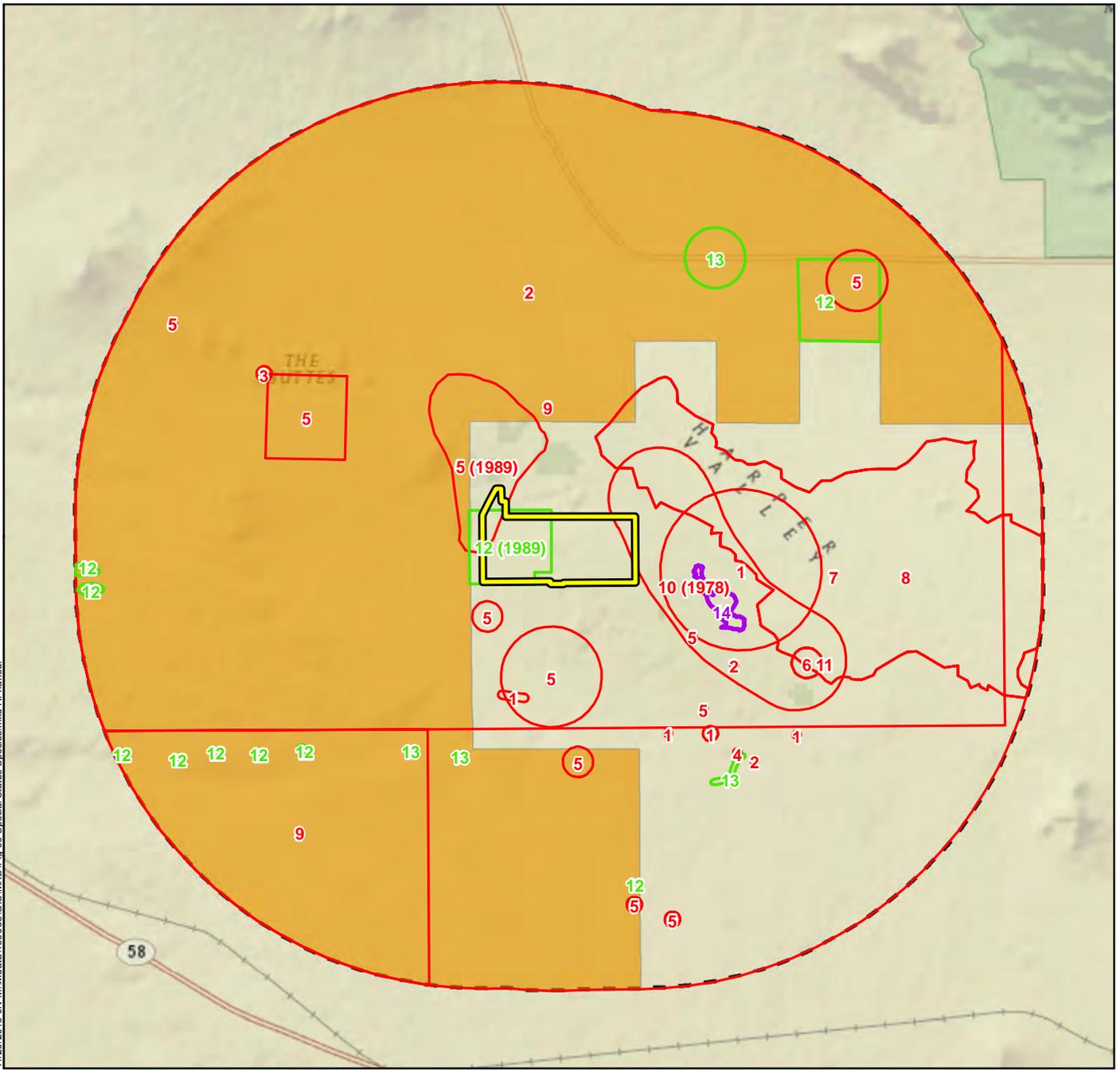
4.1.1 Special-Status Plant Species

No special-status plant species were observed during the field survey. Further, Michael Baker determined that no special-status plant species have a moderate or high potential for occurring within the survey area.

4.1.2 Special-Status Wildlife Species

No special-status wildlife species were observed during the survey. Further, Michael Baker determined that no special-status wildlife species have a moderate or high potential for occurring within the survey area.

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Legend

- Survey Area
- 5-mile Radius Buffer

Special Status Resources

- Animal
- Plant
- Vegetation Community

Critical Habitat

- Desert tortoise

ID	Animal	ID	Animal	ID	Plant	ID	Vegetation Community
1	burrowing owl	7	Mojave fringe-toed lizard	12	Barstow woolly sunflower	14	Transmontane Alkali Marsh
2	desert tortoise	8	mountain plover	13	desert cymopterus		
3	golden eagle	9	prairie falcon				
4	loggerhead shrike	10	western snowy plover				
5	Mohave ground squirrel	11	Yuma Ridgway's rail				
6	Mohave river vole						

LOCKHART SOLAR PROJECT
BIOLOGICAL RESOURCES REPORT

**Special-Status Species/Habitat
Documented within a 5-mile Radius**



Source: Esri, CNDDB

Figure 6

4.2 SPECIAL-STATUS VEGETATION COMMUNITIES

No special-status vegetation communities were observed within (or in proximity to) the survey area. According to the CNDDDB records search, one special-status habitat/vegetation community has been documented within the vicinity of the survey area, Transmontane Alkali Marsh, which was not observed present within the survey area.

4.3 NESTING BIRDS AND WILDIFE MOVEMENT

The survey area provides minimal nesting habitat for a limited number of ground-nesting bird species. In addition, several stick nests occupied by common raven were observed atop the power line towers located at the southern end of the survey area. Conversely, most ground-moving wildlife (e.g., mammals and reptiles) are unable to utilize the survey area to migrate and forage on-site due to the exclusionary fencing around the perimeter of the survey area. Due to the close proximity of desert tortoise (*Gopherus agassizii*) critical habitat, fencing to prevent tortoises of all sizes from entering the survey area was previously installed. This fencing prevents most wildlife from entering the survey area, except for small mammals and reptiles that may be able to pass through the fencing.

4.4 CRITICAL HABITAT

Currently, no USFWS-designated critical habitats (proposed or final) have been mapped within the survey area. Critical habitat for desert tortoise surrounds the project site to the south, west, and north, with the nearest portion of mapped critical habitat located approximately 0.15 mile to the west (refer to Figure 6).

4.5 LOCAL POLICIES AND ORDINANCES

There are no biological resources-related local policies or ordinances within the County of San Bernardino known to be applicable to the survey area.

Section 5 Recommendations

The following sections discuss the possible adverse impacts to biological resources that may occur from implementation of the proposed project and suggest appropriate mitigation measures that would reduce those impacts to less than significant levels.

5.1 SPECIAL-STATUS SPECIES

No special-status plant or wildlife species were observed within or surrounding the survey area by Michael Baker biologists during the field survey. Further, Michael Baker determined that the survey area does not contain suitable habitat for any special-status plant or wildlife species documented within the vicinity of the survey area.

5.1.1 Special-Status Plant Species

No special-status plant species were observed within the survey area. Further, Michael Baker determined that the survey area does not contain suitable habitat for any special-status plant species documented within the vicinity of the survey area. Therefore, no impacts to special-status plant species are expected to occur as a result of the proposed project.

5.1.2 Special-Status Wildlife Species

No special-status wildlife species were observed within the survey area. Further, Michael Baker determined that the survey area does not contain suitable habitat for any special-status wildlife species documented within the vicinity of the survey area. Therefore, no impacts to special-status wildlife species are expected to occur as a result of the proposed project.

5.2 SPECIAL-STATUS VEGETATION COMMUNITIES

No special-status vegetation communities were observed within the survey area. Therefore, no impacts to special-status vegetation communities are expected to occur as a result of the proposed project.

5.3 NESTING BIRDS AND WILDIFE MOVEMENT

Impacts to wildlife movement are not expected as a result of the project. Suitable nesting habitat is limited within the survey area. The following avoidance and minimization measures are recommended to reduce impacts to nesting birds to a less than significant level:

Suggested Mitigation Measures

BIO-1: If bird breeding season (typically January through July for raptors and February through August for other avian species) avoidance is not feasible, a qualified

biologist shall conduct a pre-construction nesting bird survey for avian species to determine the presence/absence, location, and status of any active nests on or adjacent to the area proposed project site. The extent of the survey buffer area surrounding the nest should be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and the CFGC, nesting bird surveys shall be performed twice per week during the three weeks prior to the scheduled project activities.

In the event that active nests are discovered, a suitable buffer (distance to be determined by the biologist) shall be established around such active nests, and no construction within the buffer allowed, until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest).

Nesting bird surveys are typically not required for construction activities occurring September through December; however, hummingbirds (Family Trochilidae), for example, are known to nest year-round; therefore, a pre-construction nesting bird survey for activities outside of the breeding season should be conducted within 24 hours of construction to ensure full compliance with the regulations.

5.4 CRITICAL HABITAT

Currently, no USFWS-designated critical habitat has been mapped within the survey area. Therefore, no impacts to critical habitat are expected to occur as a result of the proposed project.

5.5 LOCAL POLICIES AND ORDINANCES

There are no biological resources-related local policies or ordinances within the City or the County of San Bernardino known to be applicable to the survey area.

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Appendix A Site Photographs



Photograph 1 – View of desert tortoise fencing along the southern end of the survey area, facing southwest.



Photograph 2 – View of bare ground in the center of the survey area, facing southeast.



Photograph 3 – View of a row of solar panels at the northern end of the survey area, facing south.



Photograph 4 – View of process water evaporation pond at the northwest end of the survey area, facing southwest.



Photograph 5 – View of cooling tower and power block in the eastern half of the survey area, facing north.



Photograph 6 – View of proposed work area in the eastern half of the survey area, facing west.



Photograph 7 – View of common raven nest atop a power pole at the southern end of the survey area, looking southeast.



Photograph 8 – View of the southern edge of the survey area, facing west.

Appendix B Plants and Wildlife Species
Observed List

Scientific Name*	Common Name	Cal-IPC Rating**
Plants		
<i>Atriplex polycarpa</i>	allscale saltbush	
<i>Bromus tectorum</i> *	cheat grass	High
<i>Heliotropium curassavicum</i>	salt heliotrope	
<i>Salsola tragus</i> *	Russian thistle	Limited
<i>Schismus barbatus</i> *	common Mediterranean grass	Limited
<i>Sisymbrium irio</i> *	London rocket	Limited
<i>Spergularia bocconi</i>	Boccone's sand spurry	
<i>Tamarix ramosissima</i> *	saltcedar	High
Reptiles		
<i>Uta stansburiana elegans</i>	western side-blotched lizard	
Birds		
<i>Amphispiza bilineata</i>	black-throated sparrow	
<i>Anas platyrhynchos</i>	mallard	
<i>Artemisiospiza nevadensis</i>	sagebrush sparrow	
<i>Corvus corax</i>	common raven	
<i>Eremophila alpestris</i>	horned lark	
<i>Haemorhous mexicanus</i>	house finch	
<i>Larus californicus</i>	California gull	
<i>Lophodytes cucullatus</i>	hooded merganser	
<i>Oxyura jamaicensis</i>	ruddy duck	
<i>Passerculus sandwichensis</i>	savannah sparrow	
<i>Podiceps nigricollis</i>	eared grebe	
<i>Sayornis nigricans</i>	black phoebe	
<i>Setophaga coronata</i>	yellow-rumped warbler	
<i>Sturnus vulgaris</i>	common starling	
Mammals		
<i>Lepus californicus</i>	black-tailed jackrabbit	

* Non-native plant species

** **California Invasive Plant Council (Cal-IPC) Ratings**

High These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes

result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Appendix C **Special-Status Species Table**

Scientific Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Common Name			
PLANTS			
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand- verbena	-- / -- 1B.1	Annual herb. Blooms January through September. Occurs in sandy areas in chaparral, coastal scrub, and desert dunes. Known elevations range from 50 to 4,985 feet amsl.	Not Expected. Suitable habitat (sandy places in desert scrub, chaparral, and coastal scrub) is not present within the survey area. Further, the nearest occurrence is over 10 miles to the southeast.
<i>Canbya candida</i> white pygmy-poppy	-- / -- 4.2	Annual herb. Blooms March through June. Occurs in sandy places in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Known elevations range from 2,280 to 5,280 feet amsl.	Not Expected. Suitable habitat (sandy places in Joshua tree woodland, desert scrub, and pinyon and juniper woodland) is not present within the survey area. Further, the nearest occurrence is over 10 miles to the southwest.
<i>Chorizanthe spinosa</i> Mojave spineflower	-- / -- 4.2	Annual herb. Blooms March through July. Occurs in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and playas. Known elevations range from 2,735, to 2,915 feet amsl.	Not Expected. Suitable habitat (desert scrub, Joshua tree scrub, and chenopod scrub) is not present within the survey area. Further, the nearest occurrence is over 2.5 miles to the northeast.
<i>Cymopterus deserticola</i> desert cymopterus	-- / -- 1B.2	Perennial herb. Blooms March through May. Found on fine to coarse, loose, sandy soils of flats in old dune areas with well-drained sand in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 2,065 to 4,920 feet amsl.	Not Expected. Suitable habitat (loose, sandy soils in Joshua tree woodland and desert scrub) is not present within the survey area. Further, the nearest occurrence is over 2.5 miles to the southwest.
<i>Diplacus mohavensis</i> Mojave monkeyflower	-- / -- 1B.2	Annual herb. Blooms April through June. Found on dry, sandy or rocky washes along the Mojave River, in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 1,965 to 5,740 feet amsl.	Not Expected. Suitable habitat (dry, sandy washes in desert scrub) is not present within the survey area. Further, the nearest occurrence is over 10 miles to the southeast.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Eriophyllum mohavense</i> Barstow woolly sunflower	-- / -- 1B.2	Annual herb. Blooms April through May. Found in silty or sandy areas w/ saltbush scrub, or creosote bush scrub. Known elevations range from 1,985 to 4,232 feet amsl.	Not Expected. Suitable habitat (sandy places in desert scrub) is not present within the survey area. There is an occurrence within the project site; however, there is limited data on this occurrence and suitable habitat is not currently present within the project site.
<i>Lycium torreyi</i> Torrey's box-thorn	-- / -- 4.2	Shrub. Blooms March through May. Occurs on sandy, rocky washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. Known elevations range from -150 to 3,600 feet amsl.	Not Expected. Suitable habitat (sandy washes in desert scrub) is not present within the survey area. Further, the nearest occurrence is over 8 miles to the southwest.
<i>Mentzelia tridentata</i> creamy blazing star	-- / -- 1B.3	Annual herb. Blooms March through May. Found in Mojavean desert scrub. Known elevations range from 2,200 to 3,805 feet amsl.	Not Expected. Suitable habitat (desert scrub) is not present within the survey area. Further, the nearest occurrence is over 8 miles to the northeast.
<i>Muilla coronata</i> crowned muilla	-- / -- 4.2	Perennial herb. Blooms March through April. Occurs on barren flats and ridges in sandy, granitic soils in Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub, and chenopod scrub. Known elevations range from 2,200 to 6,430 feet amsl.	Not Expected. Suitable habitat (sandy soils in desert scrub) is not present within the survey area. Further, the nearest occurrence is over 10 miles to the southeast.
<i>Pediomelum castoreum</i> Beaver Dam breadroot	-- / -- 1B.2	Perennial herb. Blooms April through May. Found on sandy soils of desert washes and road cuts in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 1,965 to 3,495 feet amsl.	Not Expected. Suitable habitat (sandy soils of desert washes and road cuts) is not present within the survey area. Further, the nearest occurrence is over 10 miles to the southwest.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
INVERTEBRATES			
<i>Bombus crotchii</i> Crotch bumble bee	-- / -- G3G4 / S1S2	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Nectar plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Not Expected. Suitable habitat (nectar plants) is not present within the survey area. Further, the nearest occurrence is over 9 miles to the southwest.
<i>Bombus occidentalis</i> western bumble bee	-- / -- G2G3 / S1	Found along the western United States. Nectar plant genera include <i>Melilotus</i> , <i>Cirsium</i> , <i>Trifolium</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> / <i>Ericameria</i> , and <i>Eriogonum</i> .	Not Expected. Suitable habitat (nectar plants) is not present within the survey area. Further, the nearest occurrence is over 9 miles to the southwest.
FISH			
<i>Siphateles bicolor mohavensis</i> Mohave tui chub	FE / SE, FP G4T1 / S1	Endemic to the Mojave River basin; adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.	Not Expected. Suitable habitat (alkaline, mineralized waters of the Mojave River basin) is not present within the survey area. Further, the nearest occurrence is over 9 miles to the southeast.
AMPHIBIANS			
<i>Anaxyrus californicus</i> arroyo toad	FE / SSC G2G3 / S2S3	Inhabits washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores, oaks, and cottonwoods. Has extremely specialized habitat needs, which include exposed sandy streambanks with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding.	Not Expected. Suitable habitat (washes, arroyos, sandy riverbanks, and riparian areas) is not present within the survey area. Further, the nearest occurrence is over 15 miles to the southeast.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
REPTILES			
<i>Gopherus agassizii</i> desert tortoise	FT / ST G3 / S2S3	Most commonly occurs in desert scrub, desert wash, and Joshua tree habitats (i.e., almost every desert habitat). Requires friable soils for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms is preferred.	Not Expected. Suitable habitat (friable soils in desert scrub) is not present within the survey area. Further, no suitable burrows were observed during the survey and the entire site is developed with barriers that would prevent this species from entering the site.
<i>Uma scoparia</i> Mojave fringe-toed lizard	-- / -- G3G4 / S3S4	Found in fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet.	Not Expected. Suitable habitat (loose sand in dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub) is not present within the survey area. Further, the nearest occurrence is over 2.5 miles to the east.
BIRDS			
<i>Aquila chrysaetos</i> (Nesting & wintering) golden eagle	-- / FP G5 / S3	Inhabits rolling foothills, mountain areas, sage-juniper flats, and deserts. Preferred habits include broadleaved upland forest, cismontane woodland, coastal prairie, and Great Basin grassland. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Not Expected. Suitable foraging habitat (deserts) and suitable nesting habitat (cliff-walled canyons) are not present within the survey area. Further, the nearest occurrence is roughly 3 miles to the northeast.
<i>Athene cunicularia</i> (Burrow sites & some wintering sites) burrowing owl	-- / SSC G4 / S3	Primarily found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, but it persists and even thrives in some landscapes highly altered by human activity, such as earthen canals, berms, rock piles, and pipes. Subterranean nester, most often dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Otospermophilus beecheyi</i>).	Not Expected. Suitable habitat (open grasslands and scrublands, California ground squirrel burrows) is not present within the survey area. Further, the nearest occurrence is roughly 1 mile to the east in undeveloped habitat.

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT / -- G3T3 / S2S3	Found in sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	Not Expected. Suitable foraging habitat (sandy beaches, salt pond levees, and shores of large alkali lakes) is not present within the survey area. Further, the nearest occurrence is roughly 1 mile to the east.
<i>Charadrius montanus</i> mountain plover	-- / -- G3 / S2S3	Found in short grasslands, freshly plowed fields, newly sprouting grain fields, and somethings sod farms. Prefers short vegetation, bare ground, and flat topography. Also prefers grazed areas with burrowing rodents.	Not Expected. Suitable foraging habitat (grasslands and agricultural fields) is not present within the survey area. Further, the nearest occurrence is roughly 2.5 miles to the east.
<i>Falco mexicanus</i> (Nesting) prairie falcon	-- / WL G5 / S4	Inhabits dry, open terrain, either level or hilly, in Great Basin grasslands, Great Basin scrub, Mojavean desert scrub, and valley and foothill grasslands. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Not Expected. Suitable foraging habitat (desert scrub and grasslands) is not present within the survey area. Location information is suppressed.
<i>Lanius ludovicianus</i> loggerhead shrike	-- / SSC G4 / S4	Found in broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Not Expected. Suitable habitat (desert scrub, woodlands) is not present within the survey area. Further, the nearest occurrence is roughly 2.5 miles to the southeast.
<i>Rallus obsoletus yumanensis</i> Yuma Ridgway's rail	FE / ST G5T3 / S1S2	Prefers stands of cattails and tule dissected by narrow channels of flowing water containing crawfish. Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea.	Not Expected. Suitable foraging habitat (freshwater marshes) is not present within the survey area. Further, the nearest occurrence is roughly 2.5 miles to the southeast.

Scientific Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
Common Name			
MAMMALS			
<i>Microtus californicus mohavensis</i> Mohave river vole	-- / SSC G5T1 / S1	Occurs only in weedy herbaceous growth in wet areas and riparian scrub along the Mojave River. May be found in some irrigated pastures. Burrows into soft soil. Feeds on leafy parts of grasses, sedges and herbs. Clips grasses to form runways from burrow.	Not Expected. Suitable habitat (wet areas and riparian scrub along the Mojave River, and irrigated pastures) is not present within the survey area. Further, the nearest occurrence is roughly 2.5 miles to the southeast.
<i>Taxidea taxus</i> American badger	-- / -- G5 / S3	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground where it can burrow and prey on burrowing rodents.	Not Expected. Suitable habitat (shrub, forest, and herbaceous) is not present within the survey area. Further, the nearest occurrence is roughly 8.5 miles to the southeast.
<i>Xerospermophilus mohavensis</i> Mohave ground squirrel	-- / ST G2G3 / S2S3	Inhabits open desert scrub, alkali scrub, and Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils; avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	Not Expected. Suitable habitat (sandy and gravelly soils in open desert scrub, alkali scrub, and Joshua tree woodland) is not present within the survey area. Further, the nearest occurrence is roughly 0.25 mile to the south.

*

FESA Classifications

FE Federally Endangered
FT Federally Threatened

CESA Classifications

SE State Endangered
ST State Threatened
SCT State Candidate for Listing as Threatened
SSC California Species of Special Concern
FP Fully Protected
WL Watch List

California Rare Plant Rank (CRPR)

1A Plants presumed extirpated in California and either rare or extinct elsewhere
1B Plants rare, threatened, or endangered in California and elsewhere
2A Plants presumed extirpated in California, but common elsewhere
2B Plants rare, threatened, or endangered in California, but more common elsewhere
3 Plants about which more information is needed - a Review List
4 Plants of limited distribution - a Watch List

Threat Ranks

.1 Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
.2 Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)

- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

G-Rank / S-Rank

Global Rank and State Rank as per NatureServe and CDFW's CNDDDB RareFind 5, ranging from critically imperiled (G1/S1) to demonstrably secure (G5/S5), with variations and qualifiers¹.

Intraspecific Taxon Conservation Status Ranks

Intraspecific taxa refer to subspecies, varieties, and other designations below the level of the species. Intraspecific taxon status (T-ranks) apply to plants and animals only; these T-ranks do not apply to ecological communities. The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks.

¹ <http://explorer.natureserve.org/granks.htm>

APPENDIX E

AGREEMENT FOR MITIGATION OF IMPACTS ON DESERT TORTOISES ALONG HARPER LAKE ROAD BY LUZ SOLAR PARTNERS LTD. VIII AND LUZ SOLAR PARTNERS LTD. IX



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**HARPER LAKE ROAD
TORTOISE MONITORING
AND FENCING AGREEMENT**

I. AGREEMENT

The Desert Tortoise Preserve Committee (Preserve Committee), California Energy Commission (Commission), and Bureau of Land Management (Bureau) hereafter referred to as the Parties, hereby agree that the Preserve Committee, after full execution of this agreement and the "Agreement for Mitigation of Impacts on Desert Tortoises along Harper Lake Road by Luz Solar Partners Ltd. VIII and Luz Solar Partners Ltd IX", and upon receipt of a lump sum payment in the amount of \$489,300 from Luz Solar Partners Ltd. VIII (LSP VIII) and Luz Solar Partners Ltd. IX (LSP IX), under the oversight of the Commission and the Bureau shall take all reasonable and necessary actions to satisfy the Commission's SEGS VIII Biological Resources Condition of Certification 4 f., as amended (incorporated by reference into the Department's Biological Opinion, as amended), and the Bureau's Right-of-Way Grant CA--21591, Exhibit D-Environmental Protection Stipulation Numbers 3.J. and 3.K., as amended (which incorporates by reference the U.S. Fish and Wildlife Service's Biological Opinion, as amended).

II. PURPOSE

- A. The purpose of this agreement is to establish the relationship between the Parties regarding the use of the \$489,300 provided to the Preserve Committee by LSP VIII and LSP IX for the purposes described in Paragraph I. and II B. of this agreement.
- B. The purpose of the fund provided by LSP VIII and LSP IX to the Preserve Committee is to:
 - 1. Pay the cost of tortoise monitoring activities along Harper Lake Road until monitoring is no longer required, as specified in this agreement;
 - 2. Acquire the long-term right for installation of tortoise-proof fencing and gates and, where appropriate, under-road culverts, on private property along Harper Lake Road;

3. Install tortoise-proof fencing and gates along both sides of Harper Lake Road from Highway 58 to Lockhart Road;
4. Install tortoise-proof "wing" fencing perpendicular to Harper Lake Road at Roy Street, Santa Fe Road, Lockhart Road, and the Atchison, Topeka and Santa Fe railroad tracks;
5. Install four under-road culverts; and
6. To maintain the tortoise-proof fencing, gates and culverts.

III. GOALS

- A. To obtain the approval of all owners of land along Harper Lake Road, between Highway 58 and Lockhart Road, for the installation of approximately 11.4 miles of tortoise-proof fencing, and where applicable underground culverts, on their property at the earliest possible date.
- B. That the four under-road culverts be installed within one year of the Preserve Committee's receipt of the \$489,300.
- C. That both sides of Harper Lake Road between Highway 58 and Lockhart Road be completely fenced with tortoise-proof fencing, and gates as appropriate, at the earliest possible date.

IV. DUTIES

- A. **Desert Tortoise Preserve Committee**

The Preserve Committee shall be responsible for the following:

1. Establishing and placing \$409,300 of the \$489,300 received from LSP VIII and LSP IX into an interest bearing restricted savings account (or equivalent) with the Naval Weapons Center Federal Credit Union in Ridgecrest, CA. The account shall be named: Harper Lake Road Desert Tortoise Fence Account. Account records shall be available for inspection at any time by the Parties.
2. Placing \$80,000 of the \$489,300 into an interest bearing Certificate of Deposit maintenance account. The interest, not principal, from this Certificate of Deposit shall be used for long-term maintenance of the tortoise fence and culverts, except in a defined emergency. Account records shall be available for inspection at any time by the Parties.

3. Obtaining Commission Compliance Project Manager (CPM) authorization for each transfer of funds from the \$409,300 restricted savings account to the interest bearing checking account. Transfers from the Certificate of Deposit maintenance account will not require CPM approval, but will be itemized in the quarterly reports.
4. Providing a tortoise monitor to patrol Harper Lake Road from its intersection with Highway 58 north to the intersection with Lockhart Road in accordance with all the provisions of the attached Interim Procedures for Protecting Desert Tortoises Along Harper Lake Road (Monitoring Protocol) as revised February, 1994. This monitoring shall begin upon the Preserve Committee's receipt of the funding for the purposes of this agreement, and shall continue until 50 percent of the length of the complete tortoise fence has been installed, or until the funds are exhausted, whichever occurs first.
5. Obtaining approvals in accordance with this agreement from landowners of properties abutting Harper Lake Road between its intersection with Highway 58 and Lockhart Road for the installation and long-term maintenance of tortoise-proof fencing and gates along both sides of Harper Lake Road, and where applicable for underground culverts subject to the approval of the San Bernardino County Transportation and Flood Control Department.
6. The purchase and storage of fencing, gate and culvert materials for installation along Harper Lake Road.
7. Acquiring permission from The Gas Company for the installation of tortoise-proof fencing and under-road culverts within The Gas Company's underground gas pipeline easement along Harper Lake Road.
8. Acquiring all necessary permits for the installation of tortoise-proof fencing or under-road culverts from San Bernardino County Department of Transportation and Flood Control.
9. The engineering design drawings for the installation of the four under-road culverts.
10. Providing quarterly written progress reports to the California Energy Commission and the Bureau of Land Management. These reports shall include an itemized listing of all expenditures for the period covered by the report as well as cumulative to-date expenditures.

11. The installation of tortoise-proof fencing and gates (according to the design specified in Paragraph V. A. and V. B. herein) along both sides of Harper Lake Road between its intersections with Highway 58 and Lockhart Road.
12. The installation of a total of approximately 0.3 miles of tortoise-proof wing fencing (according to the design specified in Paragraph V. A. herein) along both sides of Santa Fe Road and Roy Street, along both sides of the Atchison, Topeka and Santa Fe railroad tracks on each side of Harper Lake Road, and along the south side of Lockhart Road and along the northern, east-west boundary opposite Lockhart Road.
13. The installation of four under-road culverts (according to the design specified in Paragraph V. C. herein) subject to approval of the San Bernardino County Transportation and Flood Control Department.
14. The long-term maintenance of the tortoise-proof fencing and gates installed along both sides of Harper Lake Road between its intersections with Highway 58 and Lockhart Road.
15. The long-term maintenance of the tortoise-proof wing fencing installed along both sides of Santa Fe Road and Roy Street, along both sides of the Atchison, Topeka and Santa Fe railroad tracks on each side of Harper Lake Road, and along the south side of Lockhart Road and along the northern, east-west boundary opposite Lockhart Road.
16. The long-term maintenance of the under-road culverts installed along Harper Lake Road.

B. **California Energy Commission**

BLM?
Co. of San Bernardino

1. The Commission shall have sole responsibility for authorizing the expenditure of funds for all purposes proposed by the Preserve Committee regarding this agreement.
2. The Commission shall respond in writing as quickly as possible, normally within 10 working days of the date of receipt of each and every Preserve Committee request for authorization for fund transfer. All transfers of funds from the Harper Lake Road Desert Tortoise Account savings to checking, except those for fence maintenance, shall be subject to Commission approval.

C. Bureau of Land Management

1. The Bureau shall be responsible for surveying and marking Harper Lake Road, Roy Street, Santa Fe Road, Lockhart Road, and the Atchison, Topeka and Santa Fe railroad tracks for the installation of the tortoise-proof fencing and the under-road culverts.

V. FENCE AND CULVERT DESIGN

A. Fence and Wing Fence Design

Two (2) inch diameter, seven (7) foot, sixteen (16) gauge steel posts at one hundred (100) foot intervals. At ten (10) foot intervals between each imbedded post will be Type 133 seven (7) foot high "T" bar posts driven thirty (30) inches deep. Four (4) strands of ten (10) gauge tension wires spaced fifteen inches apart will be placed on each post. Tortoise fence (1/2" x 1/2" x 36 " galvanized steel hardware cloth) will be installed twelve (12") inches below grade with the balance above grade attached to the tension wire using steel hog rings at approximately thirty six (36") inch intervals. The tortoise fence will be attached to the posts using steel tie wires.

B. Gate Design

Each gate will have tortoise fencing (1/2" x 1/2" x 36" steel hardware cloth) attached to the bottom portion of the gate.

C. Culvert Design

Culverts shall be corrugated metal pipe a minimum of 18" high and forty (40) feet long. Installation requirements depend on the specific location, and the requirements stipulated by the San Bernardino County Department of Transportation and Flood Control as part of their permit.

D. Gap Protection

Gaps between gate poles and gates and the bottoms of the gates should have appropriate material attached at the opening side of the gate to provide, to the extent possible, an effective barrier to tortoise passage.

VI. AGREEMENT MONITORING

Representatives assigned by the Parties shall monitor the progress of the Preserve Committee in meeting the objectives/goals of this agreement.

VII. AGREEMENT AMENDMENTS

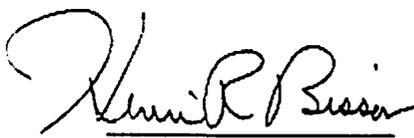
Amendments to this agreement may be initiated by any party to the agreement. Proposed amendments shall be served on all of the parties to this agreement in writing. Representatives of the parties to the agreement shall meet, in person or by telephone, to discuss the proposed change(s), and render a decision. The CPM shall provide each party to this agreement with a written summary of the representatives decision and amended agreement language.

VIII. AGREEMENT TERMINATION

If the Desert Tortoise Preserve Committee terminates operation for any reason, or if it decides not to administer the funds pursuant to this Agreement, the Preserve Committee shall tender the remaining funds to the California Energy Commission for deposit into a Special Deposit Fund Account which will be created for use exclusively to carry out the terms of this Agreement. If the Commission should decline to accept the funds, then the Preserve Committee shall tender the funds to the Bureau of Land Management for deposit into a 7122 Account for use in carrying out this Agreement. The Preserve Committee shall make the tender within 30 days of its decision to terminate.


THOMAS DODSON 7/11/95
Date
Desert Tortoise Preserve
Committee, Inc.
A California Nonprofit Corporation


ROBERT L. THERKELSEN 7-11-95
Date
California Energy Commission
State of California


HENRI BISSON 7/11/95
Date
Bureau of Land Management
U. S. Department of the Interior

APPENDIX F

SEGS VIII AND IX EVAPORATION PONDS CLOSURE PLAN (1992)



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UC Operating Service
Interoffice Memorandum

TO: Earl Grebing
FROM: Craig Udy *cc*
DATE: 1 July 1992

REGARDING: EVAPORATIVE POND CLOSURE PROCEDURE AND COST ESTIMATE

Please find enclosed the proposed plans and cost estimate for the closure of the two SEGS VIII evaporative ponds (SEGS VIII-ponds 1 and 2) and the SEGS IX evaporative pond.

The SEGS VIII ponds will be "clean" closed. All solid waste (i.e. salts, sands, HDPE liners, PVC leak detection drains, Geonet, Geotextile, etc.) from the two SEGS VIII ponds will be moved to the SEGS IX pond. The SEGS IX will then be sealed with the lower liner from the SEGS VIII-pond 1. This procedure requires capping and long term monitoring of only one pond.

Some items should be noted in this plan. First of all, in a previous plan submitted in March 1990 a grading cost of \$2.50/cy was estimated. Recent bids obtained from grading contractors estimate a \$1.25/cy cost. This lower cost was used to calculate grading costs.

A second note, Gundle Lining Systems, Inc. (a HDPE manufacturer) indicates that the material life expectancy and weatherability is within design specifications for materials in use for over 40 years. There is no data which indicates that the material could not be reused when it is removed and resealed at the new location.

The existing upper 60 mil HDPE liner and geonet from the two SEGS VIII ponds as well as the lower liner of the SEGS VIII-pond 2 will be removed and disposed of within the SEGS IX pond. The lower 60 mil liner from pond 1 of SEGS VIII will be carefully removed for capping the SEGS IX pond. The liner will be cut into wide strips and rolled. The rolls will be "walked" with two cranes to the SEGS IX pond. Each strip will be welded, using the same technique and QA/QC as original pond construction. The cover will be seamed in and welded to the lower liner.

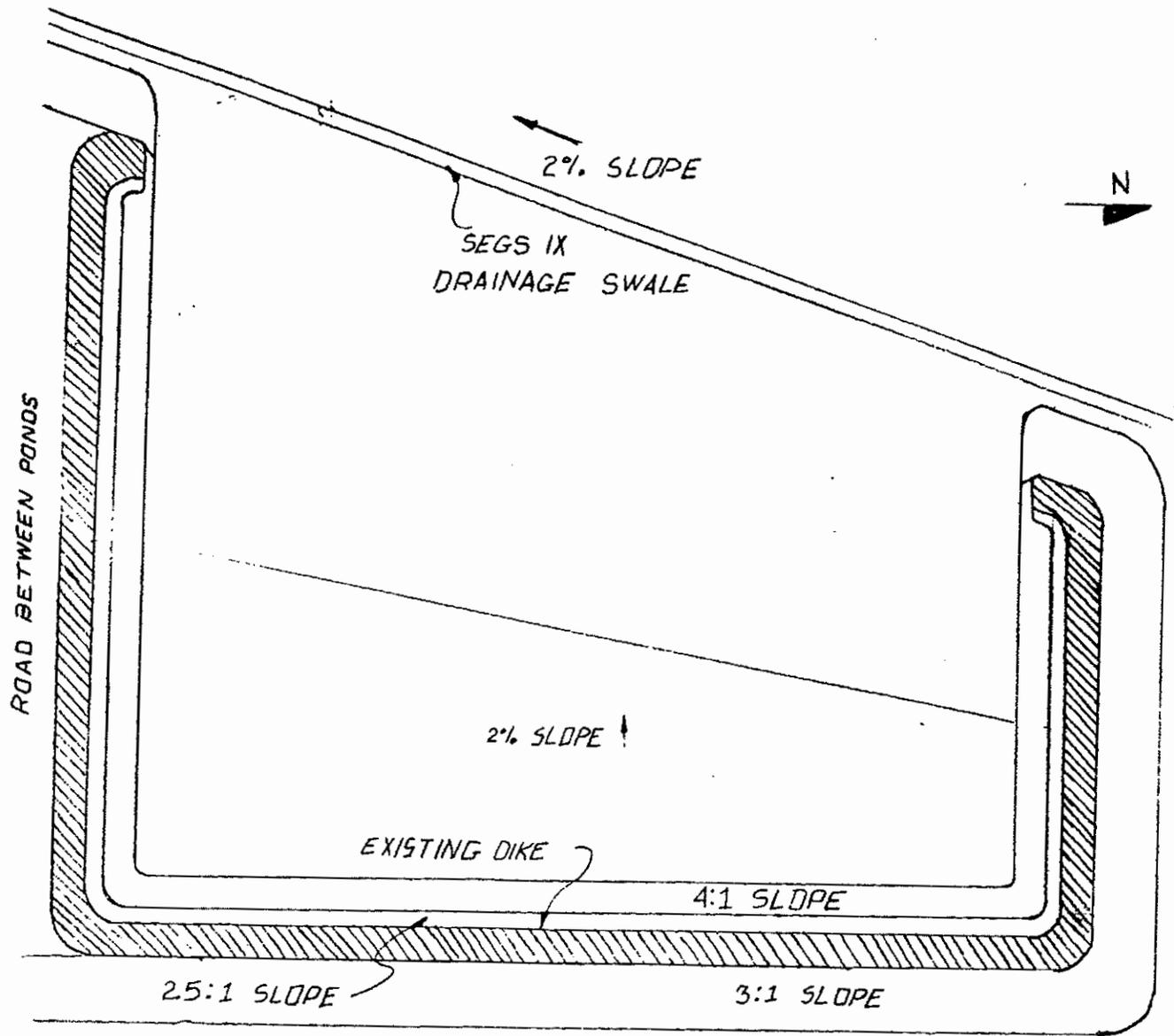
The cap for the SEGS IX pond will be below the top of the dike. As shown in Figure 1, the west dike of the SEGS IX pond will be removed to allow precipitation to drain out. The lower liner (from the existing SEGS IX material) and the cap liner material will be overlapped at the edge and anchored in a trench to prevent rain infiltration. Figure 2 illustrates how the cap will be sealed at the edge.

Pond closure cost estimates for additional pond construction are not included in this package and are forth coming. Should any questions arise concerning the pond closure procedures and cost estimate please contact me.

CAU:cau

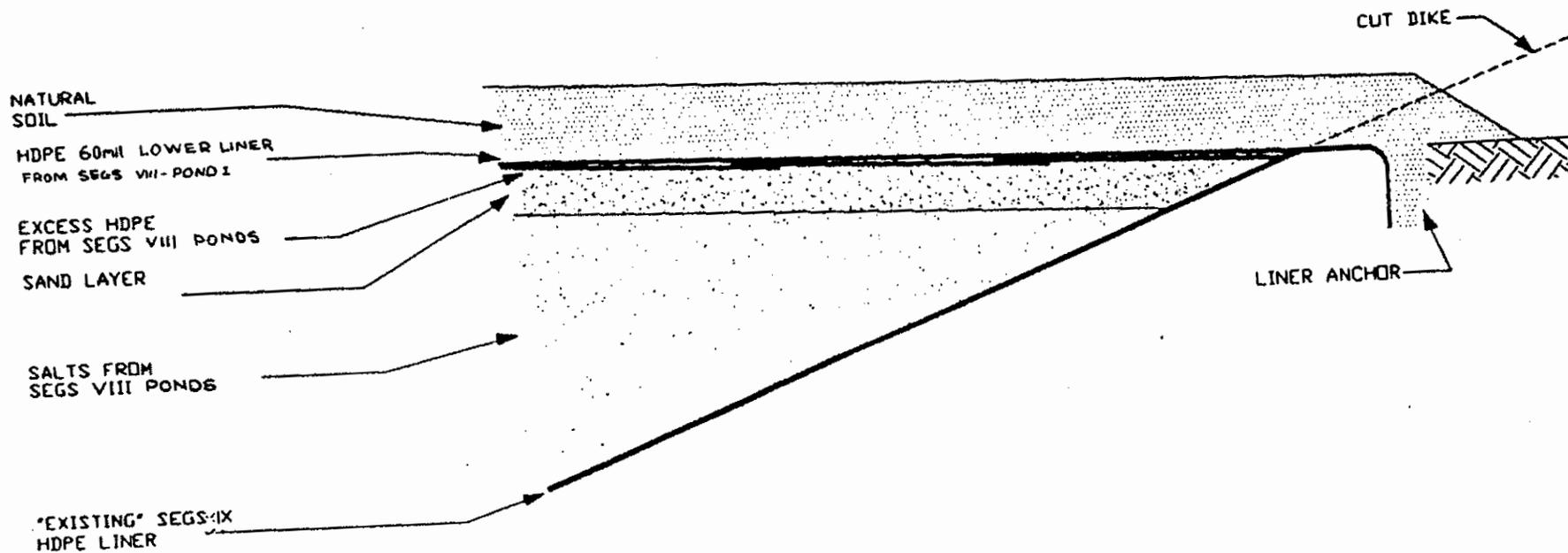
Attachments:

- Figure 1, Plan View, SEGS IX Evaporation Pond Cap
- Figure 2, Edge Detail, SEGS IX Evaporation Pond Cap
- SEGS VIII & IX Evaporation Ponds Closure Plan
- SEGS VIII & IX Closure Cost Summary



PLAN VIEW SEGS IX
EVAPORATION POND CAP - 29 MAY 1992

FIG. 1.



EDGE DETAIL
SEGS IX EVAPORATION POND CAP

MARCH 1991
FIG. 2

CLOSURE PLAN

SEGS VIII & IX EVAPORATION PONDS

UC OPERATING SERVICES - HARPER LAKE

May 26, 1992

The evaporation ponds will be closed according to California Code of Regulations, Title 23, Sections 2581 (a) and (b) (2). The following outlines the closure steps, which will be under the direct supervision of a registered civil engineer or certified engineering geologist. The following steps will be taken to close the evaporation ponds.

1. All free liquid in SEGS VIII and SEGS IX ponds will be allowed to evaporate. Evaporation time for the deepest pond, SEGS VIII- pond 1, is 2 years. During this 2 year period ground water and pond water managing and monitoring will be conducted. The salts remaining after evaporation will be analyzed for inorganics by California approved procedures (TTLC and STLC).
2. The South dikes of SEGS VIII ponds 1 & 2 as well as the west dikes of SEGS IX pond will be removed for drainage.
3. All the salts in SEGS VIII ponds 1 & 2 will be moved to the SEGS IX pond and placed on top of SEGS IX pond salts. The salts will be compacted, if necessary.
4. The salts will be placed into the SEGS IX pond with a clam shell to prevent damage to the SEGS IX HDPE liner. All the salts within the cap pond (SEGS IX pond) will be covered by 3 feet of sand. Sand is to be obtained from local vendors. This layer will be compacted with a small pneumatic, rubber tired roller to prevent damage to the SEGS IX pond liner. This sand will also be compacted to the maximum density obtainable at optimum moisture content using methods that are in accordance with accepted civil engineering practice.
5. The South dikes of SEGS VIII ponds 1 & 2 and west dike of SEGS IX pond will be removed.
6. The top liner from the two SEGS VIII ponds, the geonet, geotextile, PVC leak detection pipes, and the bottom liner from the SEGS VIII pond 2 will be placed on the compacted sand.
7. The lower 60 mil HDPE liner from the SEGS VIII pond 1 will be placed on the sand layer to provide a layer with a permeability of at least $10E-11$ cm/sec.

8. On top of this will be placed a cover of two feet of soil containing no waste or leachate. Material will be added to provide a finished grade that eliminates ponding and provides a slope of at least two percent.
9. The four ground monitoring wells for SEGS VIII will be closed by filling with concrete plugs. Well casings will be cut flush with grade.
10. Lysimeter tube well casings will be removed from pond area and disposed as scrap material.
11. The SEGS VIII pond leak detection sumps will be demolished and used with the upper soil layer.
12. Native grasses will be planted with rooting systems which will not impact the HDPE layer.
13. Two permanent monuments will be installed by a licensed land surveyor or registered civil engineer from which the location and elevation of the ponds and pond covers can be determined.
14. The leachate collection and removal system will be operated as long as leachate is generated and detected. The site will be monitored, and necessary maintenance provided, to maintain the structural integrity and effectiveness of all containment structures, and maintain the final cover as necessary to correct the effects of settlement, erosion or other adverse factors.
15. Systems will be maintained to monitor the perched ground water zone and the unsaturated zone. TDS, Selenium, and Arsenic in the perched zone will be analyzed quarterly for the first two years following closure. Subsequent monitoring will be done once a year for TDS, Selenium, and Arsenic.

SEGS VIII & IX POND CLOSURE COST SUMMARY

Design/Engineering/Permits	\$16,600
SEGS VIII-East and SEGS VIII-West Demolition	69,550
SEGS IX Capping	120,000
Soil Preparation, Revegetation, monument, etc.	30,000
Evaporation Pond Water Sampling and Management	65,000
Long Term Soil Sampling	<u>21,420</u>
Subtotal	322,570
10% Contingency	<u>32,250</u>
Total	354,820

**CLOSURE COST & MONITORING COST ESTIMATE BREAKDOWN FOR SEGS VIII
(PONDS 1 & 2) AND SEGS IX EVAPORATION PONDS.**

Design/Engineering/Permits

Design/Engineering/Permits		\$ 15,000
Salt Analysis of SEGS VIII IX		1,600

SEGS VIII-East and SEGS VIII-West Demolition

Move Salt from two SEGS VIII pond to SEGS IX pond	10,500 cy x \$1.25/cy	13,100
Remove and grade dike portions	39,000 cy x \$1.25/cy	48,750
Demolish Sumps	4 sumps x \$500/sump	2,000
Plug 4 ground monitoring wells with concrete	12 cy x \$ 60/cy	700
Remove lysimeter and neutron tube well casings		5,000

SEGS IX Capping

Sand foundation layer	34,000 cy x \$2.5/cy	85,000
Move excess HDPE, geonet, etc. from SEGS VIII ponds		5,000
Installation of HDPE layer		25,000
Quality control/Quality assurance		5,000

Soil Preparation, Revegetation, Monument, etc.

Soil Preparation, Revegetation, monuments, misc.		30,000
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Evaporation Pond Water Sampling and Management

Quarterly and Annual Ground Water Monitoring Reports	2 years x \$ 32,500/year	\$65,000
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Long Term Soil Sampling

Years 1 and 2

TDS	8 samples x \$ 20/sample	\$ 160
Arsenic, Selenium	8 samples x \$ 75/sample	600
Sample Gathering Costs	8 days x \$ 400/day	3,200
Report Labor	16 hrs x \$ 60/hr	240

Years 3 to 30

TDS	28 samples x \$ 20/sample	560
Arsenic, Selenium	28 samples x \$ 75/sample	2,100
Sample Gathering Costs	28 days x \$ 400/day	11,200
Report Labor	56 hrs x \$ 60/hr	3,360