SECTION 4.10

HAZARDS AND HAZARDOUS MATERIALS

This section describes federal, state and local regulations applicable to hazards and hazardous materials. It also describes the environmental setting with regard to potential hazards within the Project area and potential hazards created as a result of implementing the proposed Project. All of the solar field site parcels comprising the Solar Energy Center were addressed as part of the "Phase I Environmental Site Assessment of 2,664 Acres of Agricultural Land Located Near State Route 98 and Rockwood Road, Imperial County, California" (AECOM 2013b) and the "Phase I Environmental Site Assessment of Approximately 560 Acres of Agricultural Land Located Near Rockwood Road and Anza Road, Imperial County, California" (AECOM 2013c).

This section describes potential exposure to hazardous materials and/or creation of hazards that could result from implementation of the proposed Wistaria Ranch Solar Energy Center. The discussion focuses on hazardous materials and hazards requiring remediation or mechanisms to prevent accidental release. Measures are identified to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the proposed Project. A discussion of cumulative impacts related to hazards and hazardous materials is also included in this section.

Through the scoping process, the public raised various other concerns regarding potential hazards perceived to be associated with the Project, such as exposure to electromagnetic fields, interference with radio-frequency communications, hazardous shocks, fire hazards (non-wildland/operational), valley fever, and heat island. In accordance with the requirements of CEQA, these concerns are briefly discussed below.

The potential exposure of workers to hazardous materials used at the proposed Project is addressed through mandatory compliance with all applicable codes and requirements regarding worker safety including the Occupational Safety and Health Act. Employers must inform employees of hazards associated with their work and provide those employees with special protective equipment and training to reduce the potential for health impacts from the handling of hazardous materials.

Health risks associated with exposure to diesel particulate matter (DPM) are discussed in Section 4.4, Air Quality. Seismic hazards, exposure to noise, and flood hazards are discussed in Section 4.6, Geology and Soils, Section 4.8, Noise and Section 4.11, Hydrology and Water Quality, respectively.

While there were no Recognized Environmental Concerns relative to any of the proposed solar field site parcels, the Full Build-out Scenario would represent the worst-case scenario with regard to hazards and hazardous materials because the greatest quantity of hazardous materials associated with construction would be present at one time under this scenario.

4.10.1 REGULATORY FRAMEWORK

A. FEDERAL

Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the United States Environmental Protection Agency (EPA) to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. The Project site currently contains a few items that are considered potentially hazardous. Small quantities of hazardous materials will be used and stored on-site during operations and maintenance of the Project.

Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act, as the Clean Water Act (CWA), is a comprehensive statute focused on restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Originally enacted in 1948, the CWA was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost on an annual basis.

Primary authority for the implementation and enforcement of the CWA rests with the EPA. The CWA authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and tribes for water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways. The Project would be subject to the General Permit for Discharges of Storm Water Associated with Construction Activity (NPDES No. CAS000002)(Construction General Permit Order 2010-2014-DWQ effective February 14, 2011) during construction. Operation of the Project would be covered under Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) (NPDES permit No. CAS000001).

Occupational Safety and Health Act (OSHA)

Congress passed the Occupational Safety and Health Act (OSHA) to assure safe and healthful working conditions for men and women. OSHA authorized enforcement of the standards developed under the CWA and assists states in efforts to assure safe and healthful working conditions. OSHA also provides for research, information, education, and training in the field of occupational safety and health. The Project would be subject to OSHA requirements during construction, operations and maintenance and decommissioning.

Title 14, Part 77 of the Code of Federal Regulation, "Objects Affecting the Navigable Air Space"

The Federal Aviation Administration (FAA) regulates aviation at regional, public, private, and military airports. The FAA requires notification of structures to be constructed in excess of 200 feet in all areas (and, potentially, of structures less than 200 feet, depending on proximity of the proposed structure to public use airports). The U.S. Department of Transportation (DOT) and California Department of Transportation (Caltrans) also require the applicant to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace (49 CFR Part 77.17). Any structure that would constitute a hazard to air navigation, as defined in FAA Part 77, requires issuance of a permit from the Caltrans' Aeronautics Program. If the FAA aeronautical study determines that the structure has no impact on air navigation, a permit is not required.

Part 77, Subpart C, of the Federal Aviation Regulations limits the heights of structures, trees, and other objects in the vicinity of an airport within Compatibility Zones C and D to less than 35 feet above the level of the ground. (Note: Per the Imperial County ALUCP, Compatibility Zone C is located in areas of Common Traffic Pattern with the following impact elements: limited risk – aircraft at or below 1,000 feet AGL; frequent noise intrusion); Compatibility Zone D is located in areas of Other Airport with the following impact elements: negligible risk; potential for annoyance from overflights (Imperial County 1996a, p. 2-17)). Proponents of a project which may exceed a Part 77 limit must notify the FAA as required. Currently, there are no such locations near the existing airports in Imperial County. Proposed

structures to be built for Project collector lines could exceed 120 feet, but would not exceed 140 feet. Applicant is currently applying for the applicable height variances in accordance with the County Code. No structures (including Gen-Tie structures) would be more than 200 feet above ground level (AGL). Therefore, because no portion of the proposed Project is located in Compatibility Zones C and D, Part 77 would not apply to the proposed Project.

Title 47, CFR, section 15.2524, Federal Communications Commission (FCC)

Title 47 CFR section 15.2524, Federal Communications Commission (FCC) prohibits operation of devices that can interfere with radio-frequency communication. As part of the design and construction process for the Project, the Applicant will limit the conductor surface electric gradient in accordance with the Institute of Electrical and Electronic Engineers Radio Noise Design Guide.

B. STATE

Title 22 of the California Code of Regulations

Hazardous Materials Defined

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. According to Title 22 of the California Code of Regulations (CCR) section 66260.10, a hazardous material is defined as:

> *…A substance or combination of substances which because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or, (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed*.

This definition includes, but is not limited to, any chemical requiring a Material Safety Data Sheet (MSDS) or a Safety Data Sheet (SDS) per Hazardous Substances defined at Health and Safety Code 25501(q), materials listed in 49 CFR 172, and Hazardous Waste.

Chemical and physical properties that cause a substance to be considered hazardous include the properties of toxicity, ignitability, corrosivity, and reactivity (22 CCR sections 66261.20 through 66261.24). Factors that influence the health effects of exposure to hazardous materials include dosage, frequency, the exposure pathway, and individual susceptibility. The proposed Project would require use of small amounts of hazardous materials (such as diesel fuel, oil and grease for heavy equipment, transformer fluid) during construction, operation and maintenance and decommissioning.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal EPA) and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Small quantities of hazardous materials would be used and stored at the Project site for miscellaneous, general maintenance activities that would be subject to state and local laws.

Department of Toxic Substances Control

The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). Enforcement is delegated to local jurisdictions that enter into agreements with DTSC.

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On-site Treatment
- Underground Storage Tanks
- Hazardous Material Release Response Plans and Inventories
- California Accidental Release Prevention Program
- Aboveground Storage Tanks (spill control and countermeasure plan only)
- Uniform Fire Code Hazardous Material Management Plans and Inventories

The statute requires all counties to apply to the Cal EPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most CUPAs have been established as a function of a local environmental health or fire department.

The Office of the State Fire Marshal participates in all levels of the CUPA program including regulatory oversight, CUPA certifications, evaluations of the approved CUPAs, training, and education. The DTSC serves as the CUPA in Imperial County.

Small quantities of hazardous materials would be transported to and from each CUP site and used and stored at the Project site for miscellaneous, general operations and maintenance activities.

California Public Utilities Commission (CPUC), General Order 95 (GO-95), "Rules for Overhead Electric Line Construction"

GO-95 governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements. These standards ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. The proposed Project would be designed in accordance with the GO-95.

California Public Utilities Commission, General Order 52 (GO-52)

GO-52 governs the construction and operation of power and communications lines to prevent or mitigate interference resulting from such lines. The proposed Project would be subject to this order.

California Public Utilities Commission, General Order 131-D, "Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California"

GO-131-D specifies application and noticing requirements for new line construction including electromagnetic field (EMF) reduction. The proposed Project would be subject to this order.

Title 8, California Code of Regulations (CCR) section 2700 et seq. "High Voltage Safety Orders"

Title 8 of the California Code of Regulations specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment. The proposed Project would be subject to Title 8.

National Electrical Safety Code

The National Electrical Safety Code specifies grounding procedures to limit nuisance shocks and specifies minimum conductor ground clearances. The proposed Project would be subject to this code and would be designed with a grounding system providing an adequate path-to-ground to permit the dissipation of current created by lightning and ground faults.

14 California Code of Regulations (CCR), Sections 1250 – 1258, "Fire Prevention Standards for Electric Utilities"

Tile 14 of the CCR, sections 1250 through 1258 provides specific exemptions from electric pole and tower firebreak. Title 14 CCR sections 1250 through 1258 also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects. The proposed Project would be subject to these standards.

C. LOCAL

County of Imperial General Plan

Both natural and man-made hazards are addressed in the Imperial County General Plan. The Seismic and Public Safety Element also contains a set of goals and objectives for land use planning and safety, emergency preparedness, and the control of hazardous materials. The goals and objectives, together with the implementation programs and policies provide direction for development.

Table 4.10-1 analyzes the consistency of the Project with the applicable goal and objectives relating to public safety in the Imperial County General Plan. While this EIR analyzes the Project's consistency with the General Plan pursuant to CEQA Guidelines section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
SEISMIC AND PUBLIC SAFETY ELEMENT		
Control Hazardous Materials		
Goal 3: Protect the public from exposure to hazardous materials and wastes.	Yes	The County has adopted an Emergency Operations Plan (EOP) and a Fire Prevention and Explosives Ordinance to protect the

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		public from exposure to hazardous materials wastes. The EOP provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental or conflict-related risks that produce situations requiring coordinated response. The County of Imperial Fire Prevention and Explosives Ordinance, Section 53101-53300, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. Such measures in this Ordinance include the following: • Storage of flammable materials • Storage of radioactive materials • Permit required for sale and use of fireworks • Abatement of weeds and other vegetation The proposed Project does not involve exposure of the public to hazardous materials and wastes. Prior to using or storing hazardous materials on the Project site, the Applicant would be required to prepare a Hazardous Material Management Plan or other similar plans for both the Full Build-out Scenario and the Phased CUP Scenario, as applicable. Thus, the proposed Project is consistent with this goal.
Objective 3.1 Discourage the transporting of hazardous materials/waste near or through residential areas and critical facilities.	Yes	A total of 21 potentially occupied residential structures are adjacent to, or in close proximity to, the solar field site parcels and is not a dense residential area. The Project area does not contain, nor is located near, critical facilities such as a hospital or fire station. Additionally, no schools are located on or adjacent to the solar field site parcels. In addition, large quantities of hazardous materials are not required as part of

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		construction, operations and maintenance, or decommissioning of the proposed Project. Therefore, the proposed Project is consistent with this objective.
Objective 3.2 Minimize the possibility of hazardous materials/waste spills.	Yes	As noted under the analysis for Goal 3, prior to using or storing hazardous materials on any of the solar field site parcels, the Applicant would prepare a Hazardous Material Management Plan (per Health and Safety Code Sections 25500-25519) or other similar plans, as applicable for the proposed Project. In addition, special training would be implemented to avoid accidental spills during refueling of equipment at the time of construction (refer to Chapter 2.0 of this EIR). Therefore, the proposed Project is consistent with this objective.
Objective 3.3 Discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations.	Yes	The solar field site parcels are surrounded by agricultural lands and solar energy facilities similar to the proposed Project. The proposed Project is compatible with surrounding uses and none of the solar field site parcels are adjacent to any hazardous facilities. Therefore, the proposed Project is consistent with this objective.

Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) sets forth the criteria and policies which the Imperial County Airport Land Use Commission (ALUC) uses assessing the compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding them. The ALUCP primarily deals with review of local general plans, specific plans, zoning ordinances and other land use documents covering broad geographic areas. Certain individual land use development proposals also may be reviewed by the ALUC as provided in the policies identified in the ALUCP. The ALUC does not have authority over existing incompatible land uses or the operation of any airport. The Project was presented to the ALUC on March 19, 2014 and found to be consistent with the ALUCP.

Imperial County Office of Emergency Services – Emergency Operations Plan

The Imperial County Fire Department (ICFD) is the local Office of Emergency Services (OES) in Imperial County. The County Fire Chief is the OES Coordinator. An Assistant OES Coordinator maintains the OES program for the County of Imperial. ICFD acts as the lead agency for the Imperial County Operational

Area (OA) and provides leadership in all phases of developing the emergency management organization, including public education, training, EOC operations, interagency coordination, and plan development (Imperial County OES, 2007).

The Imperial County Operational Area Emergency Operations Plan (EOP) provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property. The EOP is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the U.S. Department of Homeland Security National Incident Management System (NIMS) for managing response to multi-agency and multi-jurisdictional emergencies. SEMS/NIMS incorporates the use of the Incident Command System (ICS), mutual aid, the operational area concept, and multi/interagency coordination. The Project site is in Zone 1-A of Fire/Emergency Management/Staging and Shelter Zones in the EOP (Imperial County OES, 2007, p. 73).

County of Imperial Fire Prevention and Explosives Ordinance

The County of Imperial Fire Prevention and Explosives Ordinance, sections 53101-53300, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. Measures in this Ordinance include the following:

- Storage of flammable materials
- Storage of radioactive materials
- Permit required for sale and use of fireworks
- Abatement of weeds and other vegetation

Weed and vegetation control would be enforced as part of operations and maintenance of the proposed Project.

4.10.2 ENVIRONMENTAL SETTING

A. SOLAR ENERGY CENTER

The proposed Project is located on approximately 2,793 gross acres of privately-owned, undeveloped agricultural lands in Imperial County. The proposed Project is approximately 5.5 miles west of the community of Calexico, California. As shown in **Figure 2.0-2**, the solar field site parcels are generally bounded by Wahl Road on the north, Brockman and Rockwood Roads on the west, the U.S./Mexico border on the south, and Ferrell and Corda Roads on the east.

Phase I Environmental Site Assessment

Information contained in this section is summarized from the "Phase I Environmental Site Assessment of 2,664 Acres of Agricultural Land Located Near State Route 98 and Rockwood Road, Imperial County, California" (AECOM 2013b) and the "Phase I Environmental Site Assessment (ESA) of Approximately 560 Acres of Agricultural Land Located Near Rockwood Road and Anza Road, Imperial County, California" (AECOM 2013c). These documents are provided on the attached CD of Technical Appendices as **Appendix H** of this EIR.

The purpose of a Phase I ESA is to determine if any recognized or potential environmental conditions are present on the Project site. The American Society for Testing and Materials (ASTM) defines "recognized environmental conditions" (REC) as "any hazardous substance or petroleum product under conditions that indicate an existing, past, or material threat of release into the structures, ground, groundwater, or surface water at the subject site."

The Phase I ESAs included results of a site reconnaissance to identify current conditions of the solar field site parcels and adjoining properties, a review of various readily available federal, state, and local government agency records, and review of available historical site and site vicinity information.

Background Review

Historical Data

Reviews of historic topographic maps (1957), historic aerial photographs (1953-1996), and previous environmental investigations were performed to evaluate potentially adverse environmental conditions resulting from prior ownership and uses of the parcels. All historic maps and photographs indicate that the solar field site parcels were developed as agricultural cropland with scattered houses and/or farm shop and storage areas (e.g., equipment/material storage or hay stacking) from at least the early 1950s until the present time (2012). The northwest corner of the Holtz property (APN 052-350-022) located within proposed CUP 13-0043, is reported to have been built with a school house in the 1920s and 1930s and then resided with a house, which was removed prior to the installation of the overhead power transmission line constructed in the 1980s. APN 052-350-022 (proposed CUP 13-0043) is currently vacant land with no agricultural crops. Currently, four IID-sump pumps are located within three different CUP areas: Pump #416 within CUP 13-0042; Pump #423 within CUP 13-0048; and Pump #246 within CUP 13-0051 and Pump #272 within CUP 13-0052. Additionally, records of access roadways, irrigation canals/laterals, and levees traversing the solar field site parcels was found in the historical information researched.

No other on-site sources of concern were identified during a review of these historical sources. Based on the historical use of the solar field site parcels as field crops, residual concentrations of organo-chlorine pesticides (OCPs) may be present in shallow soil, as is common throughout much of the agricultural regions of California. While chemical retention in surface and subsurface soils could be of concern, the majority of agricultural chemicals degrade rapidly in the presence of ultraviolet light from the sun. Further, most newer-formulated chemicals have lower retention time especially at the lower application concentrations directed by regulatory agencies. Therefore the ESA identified that the potential presence of residual concentrations of OCPs in the shallow on-site soils is not expected to present a concern that constitutes a REC.

Owner Provided Information

On August 21, 2012, AECOM submitted an ASTM 1527-05 User Questionnaire to the Applicant representative, Mr. Joseph Finocchiaro of Wistaria Ranch Solar, LLC (WRS). Mr. Finocchiaro completed the questionnaire indicating that WRS is not aware of the presence of environmental clean-up liens filed or recorded against the properties contained in the Project area, or activities or land-use limitations that are in place on the properties of the Project area or that have been filed or recorded in a registry.

Mr. Finocchiaro reported that WRS does not have specialized knowledge or experience related to the solar field site parcels or nearby properties. It is Mr. Finocchiaro's understanding that past uses of the solar field site parcels are agricultural in nature. Additionally, Mr. Finocchiaro is not aware of other commonly known or reasonably ascertainable information about the solar field site parcels that would identify conditions indicative of RECs. Based on Mr. Finocchiaro's knowledge and experience related to

the property, Mr. Finocchiaro reported that there were no obvious indicators that point to the presence or likely presence of contamination within the Project area (AECOM 2013b and AECOM 2013c).

Database Information

In accordance with ASTM Standard E-1527-05, a site-specific environmental database search of various governmental databases was conducted to determine the potential for environmental impacts to the solar field site parcels from on-site and/or off-site sources of concern. Results from the background reviews conducted by Environmental Data Resources, Inc. (EDR) are presented in the Phase I ESAs (AECOM 2013b and AECOM 2013c); **Appendix H** of this EIR).

Based on the research conducted for the Phase I ESAs, none of the solar field site parcels are located on or within a one-mile radius of tribal lands. No reported environmental liens or activity and use limitations were found associated with the solar field site parcels (AECOM 2013b and AECOM 2013c).

Site Reconnaissance

On August 14, 2013, a reconnaissance survey of the solar field site parcels was conducted. The site visit methodology consisted of driving and traversing the paved and unpaved roadways along the perimeter and interior of the solar field site parcels, in order to observe possible storage areas, infrastructure, or buildings, as well as portions of the surrounding area (AECOM 2013b; AECOM 2013c).

Due to the size of the Project area, it was not possible to traverse all solar field site parcels during the site reconnaissance. Areas of concentrated survey included those accessible from roadways and where hazardous materials were known or suspected to be stored. The residences and properties adjacent to, but outside of the boundaries of the solar field site parcels were not included in the site reconnaissance and entry of these structures was not completed. Additionally, the properties adjacent to the solar field site parcels consisting of active irrigation canals owned by the Imperial Irrigation District (IID) were not included in the site reconnaissance (AECOM 2013b; AECOM 2013c).

Site Conditions

The Project area consists of approximately 2,793 acres of agricultural cropland (i.e., row and field-crops). Paved and unpaved roadways and irrigation canals/laterals surround and traverse the solar field site parcels. The irrigation canals/laterals provide irrigation water for the on-site agricultural fields through gravity-fed concrete structures with latch doors. The agricultural fields are irrigated using flood irrigation.

Several hay stack storage areas were observed throughout the solar field site parcels. Four IID-owned irrigation water sump pumps located within three different CUP areas (#416 [13-0042] #423 [13-0048], and #246 [13-0051] and #272 [13-0052]) were recorded on the solar field site parcels. However, because of poor road conditions, water sumps #246 and #272 were not observed during the site visit. These drainage water sump pumps are used to remove excess water from the fields after flood irrigation. Both on-site irrigation water sump pumps are electric powered. Overhead power transmission lines and several utility-owned pole-mounted transformers were observed on and surrounding the solar field site parcels. The pole-mounted transformers were generally located near IID-owned sump pumps used to withdraw irrigation water.

During the site visit, no visual evidence of underground storage tanks (USTs) (e.g., vent pipes or fill ports), potable or irrigation water wells, monitoring wells, dry wells, or clarifiers were observed to be within the Project area or reported by the Applicant. Visual evidence of discolored soil, water, or unusual vegetative conditions or odors was not observed during the site visit.

A series of gravity flow drainage canals are also present with the solar field site parcels to collect drainage from the agriculture land. The irrigation and drainage canals, allowed through property easements and maintained by the IID, are not included in the acreage of proposed Project. Landowner irrigation ditches within the boundary of each proposed CUP that would conflict with the site's configuration will be demolished.

Surrounding Properties

The solar field site parcels are surrounded primarily by other large scale industrial solar sites, agricultural (farm and crop) land, with scattered residences, irrigation canals/laterals, irrigation water sump pumps, overhead power transmission lines, paved/unpaved access roadways, a former dairy, and cattle feed lot and other solar generation facilities.

The solar field site parcels are surrounded by only 21 residential structures that may or may not be currently occupied. Some of the residential properties are also part of operational farming activities and include barns and associated storage structures. Although detailed accounts of all residences was not included as part of the Phase I ESAs, it is properly assumed that all of these structures contain hazardous substances normally associated with residential use (household cleaning products, solvents, paints, pesticides/herbicides). These household hazardous materials are typically used in small quantities that do not constitute RECs. The farming activities that are a part of some of the residential properties surrounding the sites have the potential to include storage tanks for water, fuel, or pesticides. However, it can be assumed that the amount and condition of the hazardous materials are maintained in a condition that is functional and would not be of size that would constitute a REC to the proposed Project activities. The proposed Project does not include any structures and the identified residential properties are located outside of Project site parcel boundaries (AECOM 2013b and AECOM 2013c).

Gasoline service stations or dry cleaners were not observed in the immediate vicinity (i.e., 500 feet) of any of the solar field site parcels. Beyond the 21 residences, the only other sensitive receptors identified adjacent to or in the immediate vicinity of the Project area include the Greeson Drain (which is located along the southwest border/section of the solar field site parcels); the New River (which abuts the northwest border of the solar field site parcels); and the All American Canal (which extends along the southern boundary of CUPs 13-0050 through 13-0052). Based on the site reconnaissance of the surrounding area, no off-site sources of concern were identified (AECOM 2013b and AECOM 2013c).

Hazardous Substances

Although various features on the solar field site parcels have potential to contain hazardous substances or potential contamination, the Phase I ESAs determined that proposed Project's activities and features do not constitute RECs. Aspects evaluated are briefly discussed below based on details provided in the Phase I ESAs (AECOM 2013b and AECOM 2013c).

Lead-Based Paint

No structures are present within the solar field site parcels. In addition, the Applicant does not propose to demolish or disturb on-site buildings. Therefore, lead based paint is not anticipated to represent an adverse environmental or public health impact (Falzarano and Wier 2014).

Asbestos

The northwest corner of APN 052-350-022 is reported to have been built with a school house in the 1920s and 1930s and then resided with a house, which was removed prior to the installation of the overhead power transmission line constructed in the 1980s; this parcel is currently vacant land with no agricultural crops. Currently, one farm residence/shop area and two IID-sump pumps are located at the subject property (Studer and Preece and Ulle properties, respectively) (AECOM 2013b). The current on-

site house was built in approximately 1988. No other historical on-site sources of concern were identified during a review of these historical sources. (AECOM 2013b and AECOM 2013c).

The use of asbestos was primarily discontinued after the late 1970s. No structures that would contain asbestos were observed during the site reconnaissance. In addition, the Applicant does not propose to demolish or disturb on-site buildings. Therefore, asbestos is not anticipated to represent an adverse environmental or public health impact (Falzarano and Wier 2014).

Radon

A U.S. EPA survey by state and county of indoor radon concentrations indicated that the radon zone level for Imperial County is 3. Zone 3 areas are predicted to have an indoor radon screening potential of less than 2.0 picocuries per liter of air (pci/l) (Geocehck Version 2.1 Summary included as appendix to AECOM 2013b and AECOM 2013c). The U.S. EPA action level for radon is 4.0 pci/l. Further assessment for radon appears unwarranted based on regional background levels.

Pesticide Use

Based on the historical use of the solar field site parcels as field crops, residual concentrations of organo-chlorine pesticides (OCPs) may be present in shallow soil as is common throughout much of the agricultural regions of California. However, based on the current use of the solar field site parcels as agricultural field crop and residential/farm, it is AECOM's opinion that the potential presence of residual concentrations of OCPs in the shallow on-site soils is not expected to present a concern (AECOM 2013b and AECOM 2013c).

Storage Tanks

AECOM observed one approximately 1,000-gallon gasoline above-ground storage tank (AST), one approximately 1,000-gallon diesel fuel AST, one approximately 500-gallon AST labeled with "UST for hazardous liquids", one rectangular-shaped approximately 300-gallon AST of unknown contents, and several portable fertilizer ASTs located at the subject property. Mrs. Studer reported that motor oil (55-gallon drum) and gasoline (five-gallon containers) are currently used at the solar field site parcels. No additional ASTs were observed during ESA site visit or reported by the site contacts. In addition, no ASTs were listed for the solar field site parcel APNs in the site-specific environmental database report reviewed by AECOM (AECOM 2013b).

Visual evidence of Underground Storage Tanks (USTs) (e.g., vent pipes or fill ports) was not observed during the site visit and none were listed for the Project area in the site-specific environmental database search reports conducted for the ESAs (AECOM 2013b and AECOM 2013c).

Polychlorinated Biphenyls, Lubrication Oil, and Mercury

Polychlorinated biphenyls (PCB)-containing dielectric fluids have been widely used as coolants and lubricants in transformers, capacitors, and other electric equipment based on the insulating and nonflammable properties of these materials.

During the site visit, several utility-owned pole-mounted transformers were observed throughout the solar field site parcels and surrounding sites. The transformers are owned by, and are the responsibility of, the IID. Transformers observed did not contain any markings or information that indicated PCB content. Also, transformers and transmission poles observed during the site visit did not contain oil staining on the base (AECOM 2013b and AECOM 2013c).

No other hydraulic equipment (e.g., pad-mounted transformers, trash compactors, or lifts) was observed on the solar field site parcels or reported by the Applicant to be located within the solar field site parcels (AECOM 2013b and AECOM 2013c).

Waste Disposal or Dumping

No solid waste dumpsters, other evidence of inappropriate disposal activities, or significant staining related to waste disposal or dumping, were observed in any of the areas surveyed for the ESAs (AECOM 2013b and AECOM 2013c).

Pits, Ponds, Lagoons, Septic Systems, Cisterns, Sumps, Drains and Clarifiers

Irrigation of the existing solar field site parcels is provided by irrigation canals operated by the IID. The larger canals (e.g. All American, Woodbine) serve smaller canals managed through a flood gate system to deliver irrigation water to the fields. The irrigation canals/laterals provide irrigation water for the on-site agricultural fields through gravity-fed concrete structures with latch doors. Several hay stack storage areas were observed throughout the subject property. Two IID-owned irrigation drainage water sump pumps were identified at the site (AECOM 2013b and AECOM 2013c). The on-site irrigation water sump pumps are electric powered. No visual evidence of clarifiers, septic tanks, or leach fields was observed on the subject property during the site visit (AECOM 2013b and AECOM 2013c).

Hazardous Waste

No evidence of hazardous waste generation was observed at the solar field site parcels, and the database searches conducted for the ESAs did not find occurrences of reported hazardous wastes or other environmental concerns related to the solar field site parcels (AECOM 2013b and AECOM 2013c).

Water

Based on the ESA site visits, the solar field site parcels are not connected to a potable water source. No potable water wells were observed at the subject property (AECOM 2013b and AECOM 2013c).

The IID provides non-potable irrigation water to the agricultural uses within the solar field site parcels and surrounding farms. Irrigation water is pumped into irrigation canals/laterals, which gravity feed to the associated farms for usage. Four Imperial IID-owned irrigation water sump pumps located within three different CUP areas (#416 [13-0042], #423 [13-0048], and #246 [13-0051] and #272 [13-0052]) were recorded on the solar field site parcels.

Wastewater

Based on the ESAs site visits, the solar field site parcels are not connected to a municipal sanitary sewer system (AECOM 2013b and AECOM 2013c).

Stormwater

Based on the site visit observations, stormwater from the solar field site parcels appears to infiltrate on-site soils or drain via sheet flow to the adjacent roadways, agricultural drainage canals/levees, and/or adjacent creeks (AECOM 2013b and AECOM 2013c).

Airport Land Use Compatibility Plan/Military Airspace

The Naval Air Facility, El Centro is approximately 6 miles north of northernmost solar field site parcels (i.e. northern CUP cluster); the El Centro Airport is approximately 7.5 miles to the northeast of the northernmost solar field site parcels (i.e. northern CUP cluster); and the Calexico International Airport is located approximately 4 miles east of the easternmost solar field site parcels (i.e. southern CUP cluster);. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the ALUCP, none of the solar field site parcels are within any of the Naval Air Facility, El Centro land use compatibility zones. According to Figure 3E (Compatibility Map-Imperial County Airport) of the ALUCP, none of the solar field site parcels are within any of the Imperial County Airport land use compatibility zones. According to Figure 3B (Compatibility Map-Calexico International Airport) of the ALUCP, none of the solar field site

parcels are within any of the Calexico International Airport land use compatibility zones (Imperial County 1996).

The Johnson Brothers Airstrip, a privately owned air field, is located approximately 1.5 miles east of the easternmost boundary (Ferrell Road) of CUP 13-0052 (APN 052-210-020). Frontier Agricultural Services uses the facility for crop dusting services which includes the routine dispersal of fungicides or insecticides on crops.

The Applicant submitted 17 Variance Applications to the ICPDSD. The Variance Applications were submitted to address Gen-Tie structures that may exceed the A-2, A-2-R, and A-3 zoning height limitation of 120 feet. The maximum height of the Gen-Tie line structures could be up to 140 feet. As such, the project was subject to review by the ALUC.

Emergency Plans

The County of Imperial has adopted the "Imperial County Operational Area - Emergency Operations Plan," which addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The plan identifies certain open space areas and public buildings to serve as emergency shelters when residents must be relocated. None of the solar field site parcels are designated as an emergency shelter area on the Fire/Emergency Management/Staging and Shelter Zone Map (Imperial County Office of Emergency Services 2007).

Fire Hazard/Smoke

The potential for a major fire in the unincorporated areas of the County is generally low. According to the Imperial County Fire Hazard Severity Zone Map prepared by the California Department of Forestry and Fire Protection (CDF 2007), the Project area is not located in an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) very high fire hazard severity zone. The closest wildland area prone to forest fire (moderate level) is located is approximately 22 miles west of the Project area.

Valley Fever

Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. Soils within the Imperial Valley, including the Project area, fit the profile to harbor Valley Fever spores. When soils are disturbed by the wind or other activities such as construction and farming, Valley Fever fungal spores become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus. Infection risk is highest in California during a six month period from June to November. Animals are also susceptible to the disease. In extreme cases, the disease can be fatal, though the majority of Valley Fever cases are very mild with over 60 percent or more of infected people having no symptoms or flu-like symptoms (BLM 2010a). Despite a high level of soil disturbance from farming, Imperial County has a relatively low Valley Fever incidence rate. Data as of September 10, 2011 indicated that there were 3 cases in 2006; 11 cases is 2007; 8 cases in 2008; 9 cases in 2009 and 4 cases in 2010 (CDPH 2011).

4.10.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to hazards and hazardous materials if it would result in any of the following:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area.

f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Several criteria were eliminated from further evaluation as part of the Initial Study. Criterion “c” was eliminated because the Project area is not located within one-quarter mile of an existing school. Furthermore, the Project would not create any hazardous emissions. Therefore, this issue is not discussed further in this EIR.

Criterion “d” was eliminated because, as confirmed by the Phase I ESAs performed for the Project, none of the solar field site parcels are listed as hazardous materials sites pursuant to government Code Section 65962.5. Therefore, this issue is not discussed further in this EIR.

Criteria “e” was eliminated because the solar field site parcels are not located within two miles of a public airport. The proposed Gen-Tie and is not located within the airport compatibility zones associated with any of the public airports in Imperial County. The Naval Air Facility El Centro is approximately 6 miles north of northernmost solar field site parcels; the El Centro Airport is approximately 7.5 miles to the northeast of the northernmost solar field site parcels; and the Calexico International Airport is located approximately 4 miles east of the easternmost solar field site parcels. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the ALUCP, none of the solar field site parcels are within any of the Naval Air Facility, El Centro land use compatibility zones According to Figure 3E (Compatibility Map-Imperial County Airport) of the Airport Land Use Compatibility Plan (ALUCP), none of

the solar field site parcels are within any of the Imperial County Airport land use compatibility zones as identified in the ALUCP. According to Figure 3B (Compatibility Map-Calexico International Airport) of the ALUCP, none of the solar field site parcels are within any of the Calexico International Airport land use compatibility zones (Imperial County 1996). Thus, no impact is identified with regard to a safety hazard associated with a public airport, and this issue is not discussed further in this EIR.

Criteria "f" was eliminated because the solar field site parcels, gen-tie lines, and electrical collector lines are not within the sphere of influence of any private airstrip. The Johnson Brothers Private Airstrip is located 1.5 miles east of the eastern border of the solar field site parcels that would be developed as the central and southern CUP clusters. However it does not experience high levels of air traffic and there is not a high incidence of crop dusting or other aircraft hitting gen-tie or electrical collector lines in Imperial County. Thus no impact is identified for any safety hazard for people residing or working in the Project area from the Project's proximity to the private airstrip.

Criterion "g" regarding interference with an adopted emergency plan was eliminated because the "Imperial County Emergency Plan" addressed Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the individual CUPs and Full Build-out Scenario would be required to provide emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flooding, seismic damage, and fire hazard. Thus, the proposed Project would not impair the implementation of, or physically interfere with, any adopted emergency response plans or emergency evacuation plans. No impact is identified with regard to interference with an adopted emergency plan, and this issue is not discussed further in this EIR.

Lastly, criterion "h" was eliminated because the solar field site parcels are not characterized as an area of urban/wildland interface. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (2000), none of the solar field site parcels fall within an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) a very high fire hazard severity zone. Thus, the Project would not expose people or structures to significant risk of loss injury or death involving wildland fire. No impact is identified with regard to the urban/wildland interface, and this issue is not discussed further in this EIR.

C. Issues of General Public Concern

Several hazards of potential concern to the public were expressed during the public scoping process. In accordance with CEQA Guidelines 15083 (a) "Scoping has been helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important." CEQA Guidelines 15128 states that an "EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." CEQA Guidelines 15143 states that an "EIR shall focus on the significant effects on the environment. The significant effects shall be discussed with emphasis in proportion to their severity and probability of occurrence." Finally, CEQA Guidelines 15151 requires the agency to provide an adequate, complete and good faith effort at full disclosure so decisions can be intelligently made, but it does not require an exhaustive of "perfect" analysis.

While these concerns were raised by the public, the issues do not require detailed study either because the probability of occurrence is low or there is not a sufficient body of evidence to support that the issues represent hazards that would be caused by the Project. Therefore, in accordance with CEQA Guidelines 15151, while there may be disagreement among experts, the analysis below makes a good faith effort at full disclosure to assist decision-makers with making a decision that intelligently accounts for environmental consequences.

Electromagnetic Fields

The public's concern with respect to electromagnetic field impacts are briefly acknowledged here. Both electric and magnetic fields occur together whenever electricity flows. Electric voltage (electric field) and electric current (magnetic field) from the proposed Gen-Tie would create the potential for electromagnetic field (EMF) exposure.

The available evidence as evaluated by the California Public Utilities Commission (CPUC) and other regulatory agencies has not established that such fields pose a significant health hazard to exposed humans. To date, there are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. Likewise, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities (BLM/CEC 2010). In addition, the CPUC issued Decision D.06-01-042 in 2006, which states: "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences…however, this decision directs the Commission's Energy Division to pursue and review all available studies regarding EMF, and to review scientific information and report on new findings. Should such studies indicate negative EMF health impacts, we will reconsider our EMF policies, and open a new rulemaking if necessary" (CPUC 2006). No new rulemaking has been opened.

The EPA acknowledges public concern regarding potential adverse health effects associated with EMF from power lines; however, the EPA also states that: "Much of the research about power lines and potential health effects is inconclusive…The general scientific consensus is that, thus far, the evidence available is weak and is 'not sufficient to establish a definitive cause-effect relationship.'" (EPA 2006). . In addition, the "Preliminary Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF)" prepared by the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) stated that "The few available studies on combined exposure to EMF of different frequency ranges do not provide sufficient information to challenge existing risk assessment; in addition in most experiments an absence of effects has been reported." Further, with regard to health effects from co-exposure of EMF and other stressors, SCENIHR concluded that "The available literature suggests that EMF exposure may modify the effects of chemicals or other physical agents. However, the reports on combined effects lack consistency and are not linked to specific experimental conditions. Therefore, further research is needed in order to clarify any relevance of combined exposures to human cancer risk under real life exposure conditions, and to explore the potentially beneficial (protective) effects of such exposures." (SCENIHR 2013).

Based on the foregoing discussion explaining that the probability of EMF occurrence is low, and the evidence to support that EMFs are hazards that would be caused by the Project is insufficient, the potential for EMF levels to cause a hazardous health condition is not analyzed further in this EIR.

Interference with Radio-Frequency Communications

The public's concern with gen-tie related radio-frequency interference is briefly acknowledged here. Radio-frequency interference can be produced by the physical interactions of line electric fields. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as "corona discharge" (also discussed in Section 4.8, Noise), but is referred to as "spark gap electric discharge" when it occurs within gaps between the conductor and insulators or metal fittings (BLM/CEC 2010). When generated, spark gap electric discharge manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio communication. The level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions. As a result, maximum interference levels are not specified as design criteria for modern transmission lines. The level of any such interference usually

depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts is rendered insignificant reducing the line electric fields and locating the line away from inhabited areas.

As described above, medium voltage collection lines would be used to transmit the electricity from the panel array fields to the Project substation(s). Substations/switchgear may be connected to one another through lines up to 230-kV that ultimately connect to the Mount Signal Solar Farm gen-tie. The proposed collector and Gen-Tie lines would be built and maintained in keeping with all applicable standards and regulations, including GO-95, the CPUC's "Rules for Overhead Electric Line Construction." GO-95 establishes standards to ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. The environmental impacts from spark gap electric discharge interference can be potentially significant for lines 345-kV or above, but not for 230-kV and lower voltage lines as included in the proposed Project. Therefore, because the probability of interference with radio communications is low, and the body of evidence to support the existence of hazards at the voltage of lines proposed for the Project is insufficient, this issue is not analyzed further in this EIR.

Hazardous Shocks

The public's concern with hazardous shocks is briefly acknowledged here. Hazardous shocks are those that could result from direct or indirect contact between an individual and an energized line. No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines (BLM/CEC 2010). Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. The proposed electrical collection lines and the Gen-Tie that the collector lines would connect to would be located in rural areas making it highly unlikely that the public would come in contact with the line. In addition, the Project would be designed, constructed, and operated to meet or exceed the requirements of GO-95 (Ferrara 2014d).

Lightning protection at the substation would be designed in accordance with the requirements of American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) 998 using a combination of lightning masts and static wire. The PV solar energy field would have a ground system for all components that require grounding (Ferrara 2014d). GO-95 governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements. These standards ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. Therefore, because the probability of hazardous shock occurrence is low and the body of evidence is insufficient to support that shocks are hazards with the construction standards proposed for the Wistaria Solar Energy Center project, the potential for hazardous electric shock is not analyzed further in this EIR.

Fire Hazard (Non-Wildland/Operational)

The public's concern with fire hazards from the operation of the Project is acknowledged here. The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, the Project includes routine weed abatement and landscape maintenance. The O&M building(s) would be constructed in accordance with local building codes. On-site fire-fighting equipment and training are features of the Project in the required Fire Prevention Plan. Finally, emergency fire access to nearby properties would not be hindered or restricted by the Project. As such, the Project represents a negligible increase in fire potential. With these Project features, there is a low probability of a significant fire hazard. Therefore, because the probability of fire hazard is low, the potential for non-wildland fires is not analyzed further in this EIR.

Valley Fever

The public's concern with exposure to Valley Fever is briefly acknowledged here. Construction of the proposed Project would occur in an area favorable to the growth of Valley Fever (*Coccidioides immitis*). Moreover, construction activities would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. However, Imperial County is not considered to have a high incidence of Valley Fever (BLM 2011). While the potential exposure of workers to Valley Fever spores could occur during construction, implementation of MM 4.4.1a identified to reduce PM_{10} in Section 4.4, Air Quality would be effective in reducing airborne dust. This mitigation measure includes a dust control plan which would, when implemented, would minimize the spread of fungal spores thereby reducing potential for contracting Valley Fever during Project construction, operation, and decommissioning. With these mitigation measures, there is a low probability of a significant exposure to Valley Fever. Furthermore, the existing agricultural operations at the solar field site parcels already disturb the soil and could potentially cause fungal spores to become airborne, potentially putting farmworkers and wildlife at risk of contracting Valley Fever. Therefore, there is no evidence that the Project creates any increase in impacts to exposure Valley Fever, much less an impact that would rise to the level of significance. Therefore, because the probability of occurrence of any significant increase in exposure is so low, the potential for exposure to Valley Fever is not analyzed further in this EIR.

Heat Islands

The public's concern with a potential heat island effect on a nearby cattle feeding operation (Meloland Cattle Company) is briefly acknowledged here. An empirical study entitled "Analysis of the Potential for Heat Island Effect in Large Solar Farms" (Fthenakis and Yu, n.d.) conducted by Columbia University concludes that there is no significant increase in ambient air temperature around solar farms. The study indicates that the air temperature increases by 0.9 degrees Fahrenheit at a distance of 100 meters (approximately 328 feet) from a solar farm. With an increase of less than one degree, development of a solar farm is not considered to cause a significant rise in ambient air temperatures. Moreover, this increase would not put a strain on cattle that are currently subject to Imperial Valley temperatures reaching 115 degrees Fahrenheit in the summer months. The Columbia University study also indicated that solar panels store less heat than the natural earth surface and serve to cool temperatures below ambient levels based on their construction of lightweight glass surrounded by airflow. Accordingly, the study concluded that a PV solar farm does not induce an on-going increase in ambient temperature, and therefore, adverse micro-climate changes from a PV solar farm are not significant. Finally, the study concluded that the access roads between the solar fields allow for substantial cooling (Fthenakis and Yu, n.d.). Both the Full Build-out Scenario and the Phased CUP Scenario include access roads within each solar field. In addition, a road provides a separation between the proposed CUP nearest the Meloland Cattle feeding operation. Therefore, because the probability of occurrence of a significant heat island effect is so low and the body of evidence is insufficient to support that heat islands are hazards with the construction standards proposed for the Wistaria Solar Energy Center, the potential for environmental impacts from a heat island effect is not analyzed further in this EIR.

D. METHODOLOGY

The analysis of hazardous materials is twofold: hazards potentially existing on the solar field site parcels; and hazardous materials that would be used as part of Project construction, operations and maintenance, and decommissioning.

Potential existing hazards were assessed based on information contained in the "Phase I Environmental Site Assessment of 2,664 Acres of Agricultural Land Located Near State Route 98 and Rockwood Road, Imperial County, California" (AECOM 2013b) and the "Phase I Environmental Site Assessment of

Approximately 560 Acres of Agricultural Land Located Near Rockwood Road and Anza Road, Imperial County, California" (AECOM 2013c). These documents are provided on the attached CD of Technical Appendices as **Appendix H** of this EIR. As previously discussed, the ESAs did not identify historical or current RECs associated with the solar field site parcels.

Some hazardous materials would be used on a short-term basis during construction and decommissioning (e.g. drilling mud). Others would be stored on-site for use during operation and maintenance. Therefore, this analysis was conducted by examining the choice and amount of chemicals to be used, the manner in which the Applicant would use the chemicals, the manner by which they would be transported to the facility, and the way in which the Applicant plans to store the materials on the solar field site parcels during construction and decommissioning and the CUPs during operation. The greatest amount of chemicals used, transported and stored on the solar field site parcels have the potential to occur during the Full Build-out Scenario (regardless of near-term or long-term). Therefore, the Full Build-out Scenario is considered the worst-case scenario for the purposes of this analysis.

E. PROJECT IMPACTS AND MITIGATION MEASURES

Hazardous Materials Transport, Use, Disposal and Accidental Release

Impact 4.10.1 Implementation of both the Full Build-out Scenario and Phased CUP Scenario would use some hazardous materials for the construction, operations, and decommissioning phases and could create a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials. Compliance with State and Federal regulations and the implementation of a Module Recycling Program would reduce the risk to the public or environment to levels considered a **less than significant impact**.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

The Full Build-out Scenario and all the CUPs (13-0036 thru 13-0052) would require the same activities for the construction, operations and maintenance, and decommissioning of the proposed Project. Likewise, both the Full Build-out Scenario and the Phased CUP Scenario would be developed with similar solar modules and ancillary infrastructure. Therefore, the transport, use, and disposal of potential hazards and hazardous materials would be the same for both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

Transport

Some hazardous materials would be required during construction of the proposed Project. These include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. Large quantities of these materials are not anticipated to be necessary but would require transport to the solar field site parcels. All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the solar field site parcels during construction would occur in compliance with DTSC regulations. Therefore, the likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated and impacts are considered **less than significant**.

Use and Storage

The proposed Project would require use of some hazardous materials during construction. Limited quantities of hazardous materials would be stored or used on site. These include diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and equipment, and mineral oil for the substation transformers and PCS switchgear. The Project would also be required to comply with State laws and County Ordinance restrictions which regulate and control hazardous materials handled on site.

The Applicant will submit and receive a National Pollutant Discharge Elimination System permit from the Regional Water Quality Control Board (RWQCB) in accordance with a Stormwater Pollution and Prevention Plan (SWPPP) approved by the County. The SWPPP shall include source control and treatment control Best Management Practices (BMPs) which would address the use and storage of potentially hazardous materials.

No acutely toxic hazardous materials would be used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. Each CUP owner would provide appropriate training and supervision of onsite personnel throughout construction of both the Full Build-out Scenario and the Phased CUP Scenario regarding management of materials and wastes, and responding to hazardous releases or spills or other site emergencies. This training would include the procedures to follow during any site emergency, and appropriate reporting of spills, releases, or other emergencies to Imperial County, and local emergency service providers. The project features include personnel to oversee all aspects of a hazardous materials management plan. Both the Full Build-out Scenario and Phased CUP Scenario would include a site-specific Injury and Illness Prevention Program designed to meet the OSHA and California OSHA (CalOSHA) requirements. The Program must be a written plan that includes procedures and is put into practice (CalOSHA 2014). The following elements are required for the written plan:

- Management commitment/assignment of responsibilities;
- Safety communications system with employees;
- System for assuring employee compliance with safe work practices;
- Scheduled inspections/evaluation system;
- Accident investigation;
- Procedures for correcting unsafe/ unhealthy conditions;
- Safety and health training and instruction; and
- Recordkeeping and documentation.

As part of the Injury and Illness Prevention Program, each CUP owner would follow BMPs. Any hazardous materials used during construction would be appropriately handled and stored. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered **less than significant**.

Drilling Mud

Project construction will require multiple crossings for electrical transmission lines at IID water delivery and drainage facilities as well as County or State roadways. While the preferred crossing method is above-ground, some or all crossing may require polyvinyl (PVC) conduits with directional drilling equipment. Directional drilling allows a “non-trenched” installation of conduit pipe by advancing an electrically guided drill head at an angle to cross under a facility and then to reverse the downward angle to allow the pipes to emerge on the opposite side of the facility being crossed. The drilling involves the use of “drilling mud.” A common drilling mud is bentonite slurry which aids in cooling the drill bit, lubricates the shaft of the drill stem and prevents intrusion of groundwater and soil particles into the drill hole. Bentonite is a naturally occurring clay which is very expansive when wetted and is very slick when blended with water. Bentonite pellets can be coated with a biodegradable compound so that the entire slurry is non-toxic to the environment (Lyon 2013).

Bentonite slurry, when dry, has a similar composition and appearance to naturally occurring clays in the Imperial Valley. Imperial County Environmental Health would require all generated drilling mud to be contained on-site and tested prior to disposal. If test results indicate the waste is non-hazardous, the material may be utilized on site in a beneficial manner. Prior to applying the non-hazardous waste on

land in Imperial County, the Applicant would be required to obtain approval from ICPDSD, Imperial County Environmental Health, and if necessary, the Agricultural Commissioner's Office (LaMoure 2014).

Disposal

During construction, typical construction wastes such as wood, concrete, and miscellaneous packaging materials as well as some broken PV or CPV modules would be generated. Spill cleanup procedures and kits would be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, would be collected on a regular basis and stored in designated areas. Concrete and paint washout areas would be installed and properly maintained in areas conducting the associated activities (Fuscoe 2014, pp. 26-27).

Construction wastes would be disposed of in accordance with local, State and federal regulations, and recycling would be used to the greatest extent possible. Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during Project construction. Any spent or surplus hazardous wastes would be transported off-site for disposal in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

PV modules for the PV systems would be removed and would be repurposed, recycled, or disposed of in accordance with all applicable waste disposal laws. Any PV modules damaged or broken during construction will be returned to Tenaska's manufacturing facility where they would be recycled into new modules or for use in other new products. At end-of-life, PV or CPV modules would be classified as California-only hazardous waste but can still be collected and recycled under Tenaska's Module Collection and Recycling Program, which implements applicable California and Federal hazardous waste requirements. Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during construction is considered **less than significant.**

Operation

Transport

Hazardous materials used during Project operation of both the Full Build-out Scenario and Phased CUP Scenario would be similar to those used during construction and could include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. However, during Project operations, less of these materials are likely to be necessary because the activities required to operate and maintain the facilities would be less intensive than construction activities. Even though less of the hazardous materials would be required, transportation of the materials to the site and throughout the site during Project operations would be necessary. However, similar to Project construction, all transported hazardous material would occur in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated and impacts are considered **less than significant**.

Use and Storage

Operation of both the Full Build-out Scenario and Phased CUP Scenario would require the use of some hazardous materials (diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and equipment, and mineral oil for the substation transformers and PCS switchgear). However Project operation, less of these materials are likely to be necessary because the activities required to operate and maintain the facilities would be less intensive than construction activities. Additionally, no acutely

toxic hazardous materials would be used and none of the materials necessary are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals.

Battery-Based Energy Facility Hazardous Materials

In order to provide a definitive description of hazardous materials and hazardous wastes used or generated at a battery-based energy storage facility in California, specific knowledge of the battery technology used at such a facility must be identified. (Note: In California, all batteries to be discarded are hazardous waste per waste battery guidance.[1]) Currently, the battery technologies under consideration can be classified into two categories and include:

Category 1: Existing Technologies with Proven Performance

Lithium Ion: Lithium ion battery technologies include a system of small connected lithium ion battery cells, which are not serviceable. As such, cells are replaced occasionally based on performance. In California, all such cells are hazardous materials when used based on the lithium component of the cell and are hazardous waste when discarded requiring management under 22 CCR Division 4.5.

Lead-Acid (serviceable or sealed): Lead-acid battery technologies include a system of connected lead-acid batteries, which may be serviceable or sealed. Individual lead-acid batteries are replaced occasionally based on performance. In California, all such batteries are hazardous materials when used based on the sulfuric acid component of the battery as the electrolyte as well as the lead component. Lead-acid batteries are a listed Recyclable Hazardous Waste when discarded requiring specific management under 22 CCR 66266.81.

Category 2: New Technologies

Sodium Sulfide: Sodium sulfide batteries are non-serviceable batteries comprised of molten salts. In California, these batteries are hazardous materials when used. These batteries are expected to have long-term use and would not be expected to be replaced frequently. Because this is a newer technology, literature regarding waste classification is limited. However, California rules require hazardous waste determinations to include federal and California hazardous waste criteria. When discarded, sodium sulfide batteries would likely meet the California criteria and be a hazardous waste (non-Resource Conservation and Recovery Act (RCRA) hazardous waste if not a RCRA hazardous waste) based on characteristic testing for toxicity.

Nickel Chloride: Sodium nickel chloride batteries are non-serviceable batteries comprised of molten salts. In California, these batteries are hazardous materials when used. These batteries are expected to have long-term use and would not be expected to be replaced frequently. Because this is a newer technology, literature regarding waste classification is limited. However, California rules require hazardous waste determinations to include federal and California hazardous waste criteria. When discarded, sodium nickel chloride batteries would likely meet the California criteria and be a hazardous waste (non-RCRA hazardous waste if not a RCRA hazardous waste) based on characteristic testing for toxicity.

Flow Batteries: Flow batteries use 2 or more tanks connected by membranes containing electrolytes (either vanadium in a sulfuric acid solution or zinc in a bromine solution). In California, the electrolytes are hazardous materials. These batteries are expected to have long-term use and would not be expected to be replaced frequently. Because this is a newer technology, literature regarding waste classification is limited. However, California rules require hazardous waste determinations to include federal and California hazardous waste criteria. When discarded, flow batteries or electrolytes would likely meet the

[1] http://www.calrecycle.ca.gov/reducewaste/Batteries/

California criteria and be a hazardous waste (non-RCRA hazardous waste if not a RCRA hazardous waste) based on characteristic testing for toxicity.

- Vanadium in Sulfuric Acid Solution
- Zinc in Bromine Solution

Cooling Systems: Category 1 battery technologies and flow battery technologies would require cooling systems (either Heating, Ventilation and Air Conditioning [HVAC] or chillers with cooling towers). Coolants and additives to chillers are Hazardous Materials. HVAC units use ozone-depleting chemicals carrying specific management requirements under federal and state rules.

Transformers: A battery-based energy storage facility would add additional transformers to a solar project. The transformers would not be different than other transformers at the site, but all transformer fluids meet the definition of hazardous materials.

As with Project construction, operation of both the Full Build-out Scenario and Phased CUP Scenario would also be required to comply with hazardous materials State laws and County Ordinance restrictions, provide appropriate training and supervision of onsite staff, prepare and obtain approval of a National Pollutant Discharge Elimination System (NPDES) permit, and prepare and implement a site-specific Health and Safety Plan designed to meet the OSHA and CalOSHA requirements. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during Project operation is considered **less than significant**

Disposal

Similar to Project construction, spent materials and wastes (used oil filters, used batteries, used hydraulic fluid, oils, and grease) would be generated during Project operation for both the Full Build-out Scenario and Phased CUP Scenario. However, during Project operations, less of these materials are likely to be necessary after installation of the solar arrays because the activities required to operate and maintain the facilities would be less intensive than construction activities. Nevertheless, the spent materials and wastes would be transported off-site for disposal according to applicable provisions of Health and Safety Code Section Sections 25160-25166.5, and in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

As described in the discussion of Project construction, disposal of any PV or CPV modules damaged or broken during operations would occur in compliance with the Module Collection and Recycling Program. Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during operations and maintenance is considered **less than significant.**

Decommissioning

Transport

Hazardous materials used during Project decommissioning of the Project would be similar in type and quantity to those used during Project construction and could include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. These materials are likely to be used because the activities required to decommission the facilities would be similar in nature to construction activities and transportation of the materials to the site and throughout the site during decommissioning would be necessary. However, similar to the construction phase, all transported hazardous material would occur in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or

residual contamination following accidental release is not anticipated and impacts are considered **less than significant** during Project decommissioning.

Use and Storage

Decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario would require the use of some hazardous materials (diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and equipment, and mineral oil for the substation transformers and PCS switchgear). During the Project decommissioning, a comparable amount of these materials to the materials required for construction are likely to be necessary because the activities required to decommission the facilities would be similar in nature to construction activities. Additionally, no acutely toxic hazardous materials would be used and none of the materials necessary are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals.

Similar to Project construction, decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario, would also be required to comply with hazardous materials State laws and County Ordinance restrictions, provide appropriate training and supervision of onsite staff, prepare and obtain approval of a National Pollutant Discharge Elimination System permit, and prepare and implement a site-specific Health and Safety Plan be designed to meet the OSHA and CalOSHA requirements. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during Project operation is considered **less than significant** during Project decommissioning.

Disposal

Similar to Project construction, spent materials and wastes (used oil filters, used batteries, used hydraulic fluid, oils, and grease) would be generated during decommissioning for both the Full Build-out Scenario and the Phased CUP Scenario. Spill cleanup procedures and kits would be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, would be collected on a regular basis and stored in designated areas. Concrete and paint washout areas would be installed and properly maintained in areas conducting the associated activities (Fuscoe 2014, pp. 26-27). Similar to Project construction, the spent materials and wastes would be transported off-site for disposal according to Health and Safety Code Sections 25160-25166.5, and in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

As described in the discussion of Project construction, disposal of any PV or CPV for purposes of decommissioning would occur in compliance with the Module Collection and Recycling Program. Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during Project decommissioning is considered **less than significant.**

Overall, impacts associated with the creation of a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials are considered **less than significant** in association with both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Hazard Through Upset/Release of Hazardous Materials

Impact 4.10.2 No hazardous materials that could be a significant hazard to the public or the environment were identified on the proposed solar field site parcels. Compliance with applicable management plans, regulations, and air quality requirements would ensure that any non-identified hazardous residues or materials encountered during routine construction, operations, or decommissioning activities would be disposed of properly. Therefore, impacts associated with hazard through upset/release of hazardous materials are considered **less than significant.**

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

As previously noted, Project-specific Phase I ESAs conducted historical and regulatory database research, as well as a site reconnaissance survey to determine the extent of potential hazardous materials and conditions on the Project site. After a thorough investigation and analysis of data related to potentially hazardous materials (PCBs, ASTs, USTs, solid waste, and hazardous waste) located within the solar field site parcels and surrounding property conditions, the ESAs concluded that no evidence of RECs were identified.

Additionally, all the CUPs would contain similar solar modules and ancillary infrastructure and would also require the same activities for the construction, operation and maintenance, and decommissioning of the proposed Project. Therefore, the transport, use, and disposal of potential hazards and hazardous materials would be the same for all CUPs. The discussion below is applicable to both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

As previously stated, the ESAs concluded that no evidence was found of RECs in connection with any of the CUPs (AECOM 2013b; AECOM 2013c). Therefore, potential for hazards to the public or the environment through reasonably foreseeable upset and accident conditions during construction is considered **less than significant.**

Herbicides/Pesticides

The solar field site parcels have historically been farmed and most are currently in agricultural production. The ESAs noted that based on the historical use of the solar field site parcels as field crops, residual concentrations of OCPs may be present in shallow soil of the solar field site parcels, as is common throughout much of the agricultural regions of California. However, based on the current use of the solar field site parcels as agricultural field crop and residential/farm, the ESAs concluded that the potential presence of residual concentrations of OCPs in the shallow on-site soils is not considered to be a REC (AECOM 2013b; AECOM 2013c).

The chemical retention in surface and subsurface soils is not a significant concern because the majority of agricultural chemicals degrade rapidly in the presence of ultraviolet light from the sun. Further, most newer-formulated chemicals have lower retention time especially at the lower application concentrations directed by regulatory agencies. Therefore, no soil remediation was necessary or recommended (AECOM 2013b; AECOM 2013c).

The application of herbicides and pesticides to the solar field site parcels are controlled by the applicators as directed by the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the solar field site parcels is not at hazardous levels. Additionally, any potential for air dispersion of pesticide residues in dust during grading activities would be minimized by the fugitive dust control plan implemented by the Applicant in accordance with ICAPCD

requirements, as discussed in Section 4.4, Air Quality, MM 4.4.1a. Also, the proposed Project would not contain a residential or commercial component that would result in long term exposure of people to potential pesticides/herbicides (AECOM 2013b; AECOM 2013c). No direct impact (exposure during construction) or indirect impact (exposure following construction) would occur relative to pesticide residue in association with construction of both the Full Buildout Scenario and the Phased CUP Scenario. Therefore, impacts associated with exposure to pesticide residue during construction would be **less than significant**.

Polychlorinated Biphenyls

During the site visit conducted for the ESAs, several utility-owned pole-mounted transformers were observed throughout the solar field site parcels and surrounding sites. The transformers are owned by, and are the responsibility of the IID. Transformers observed did not contain any markings or information that indicated PCB content. Also, transformers and transmission poles observed during the site visit did not contain oil staining on the base (AECOM 2013b; AECOM 2013c).

Additionally, if, during construction activities, on-site transformers that require removal are found to contain PCBs, the contractor would be required to comply with applicable federal, state, and local regulations included in the Hazardous Material Management Plan to be prepared for the Project. Therefore, impacts associated with transformers potentially containing PCBs are considered **less than significant**.

Operation

As previously discussed with regard to construction, the ESAs concluded that no evidence was found of RECs in connection with any of the proposed CUPs in the Project area (AECOM 2013b; AECOM 2013c). Therefore, potential for hazards to the public or the environment through reasonably foreseeable upset and accident conditions during operations and maintenance is considered **less than significant.**

Herbicides/Pesticides

Less soil disturbance would occur during Project operations compared to Project construction. However, some dust producing activities may occur. As previously discussed for Project construction, residual concentrations of OCPs may be present in shallow soil of the solar field site parcels. However, the potential presence of residual concentrations of OCPs in the shallow on-site soils is not considered to be a REC and no soil remediation was recommended in the Project ESAs (AECOM 2013b; AECOM 2013c) because the potential presence of low concentrations of agricultural chemicals on the Project site is not anticipated to be at hazardous levels (AECOM 2013b; AECOM 2013c). Additionally, any potential for air dispersion of pesticide residues in dust during grading activities would be minimized by the fugitive dust control plan implemented by the Applicant in accordance with ICAPCD requirements, as discussed in Section 4.4, Air Quality, MM 4.4.1a. No direct impact (exposure during construction) or indirect impact (exposure following construction) would occur relative to pesticide residue in association with operations and maintenance of both the Full Build-out Scenario and Phased CUP Scenario. Therefore, impacts associated with exposure to pesticide residue during operations and maintenance would be **less than significant**.

Decommissioning

As previously discussed for Project construction, the ESAs concluded that no evidence was found of RECs in connection with any of the CUPs in the Project area (AECOM 2013b; AECOM 2013c). Therefore, potential for hazards to the public or environment through reasonably foreseeable upset and accident conditions during operations and maintenance is considered **less than significant.**

Herbicides/Pesticides

As a result of the removal of the Project infrastructure, decommissioning of the proposed Project would result in a similar amount of soil disturbance as the construction phase. As previously discussed in association with Project construction, residual concentrations of OCPs may be present in shallow soil of the solar field site parcels. However, the potential presence of residual concentrations of OCPs in the shallow on-site soils is not considered to be a REC and no soil remediation was necessary or recommended in the Project ESAs (AECOM 2013b; AECOM 2013c) because the potential presence of low concentrations of agricultural chemicals on the Project site is not anticipated to be at hazardous levels (AECOM 2013b; AECOM 2013c). Additionally, any potential for air dispersion of pesticide residues in dust during grading activities would be minimized by the fugitive dust control plan implemented by the Applicant in accordance with ICAPCD requirements, as discussed in Section 4.4, Air Quality, MM 4.4.1a. No direct impact (exposure during construction) or indirect impact (exposure following construction) would occur relative to pesticide residue in association with decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario. Therefore, impacts associated with exposure to pesticide residue during decommissioning would be **less than significant**.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.10.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope of the cumulative setting for hazards and hazardous materials is a one-mile radius from the geographical center point of the solar field site parcels. One mile is the standard ASTM standard search distance for hazardous materials. This geographic scope encompasses an area larger than the Project area and provides a reasonable context wherein cumulative projects in the vicinity of the proposed Project could affect hazards and hazardous materials. Based on **Table 3.0-1** (Proposed, Approved and Reasonably Foreseeable Projects in the Vicinity of the Proposed Project) in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, there are ten other projects from the cumulative projects list within the geographic scope: Calexico I-A, I-B, II-A, II-B, Mount Signal Solar Farm, Rockwood Solar, Centinela Solar Energy, Ferrell Solar, and Lyons Solar.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Hazards and Hazardous Materials Impact

Impact 4.10.3 The proposed Project, in combination with other reasonably foreseeable projects in the vicinity of the solar field site parcels, would increase the density of development in the area, thereby potentially increasing the potential for the presence hazards and use of hazardous materials. However, are addressed on a case-by-case basis through federal and state hazardous materials laws, regulations, and policies. Therefore, cumulative hazards and hazardous materials impacts are considered **less than cumulatively considerable**.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Seven of the projects identified in the list of cumulative projects are not within a one-mile radius of the Project area, and are therefore considered outside of the geographic scope for the consideration of cumulative effects from hazardous materials sites. The proposed Project and ten other projects are

within the cumulative study area for hazardous materials. These projects could contribute to cumulative adverse effects from hazards and hazardous materials.

All the CUPs would contain similar solar modules and ancillary infrastructure and would also require the same activities for the construction, operations and maintenance, and decommissioning of the proposed Project. Therefore, the analysis of cumulative impacts would be the same for all CUPs (13-0036 thru 13-0052). The discussion below is applicable to the both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed Project site. Both the proposed Project and the other cumulative Projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction. Accidental release of hazardous materials during construction can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative Projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, the proposed Project includes measures to avoid spills (i.e. training and supervision of on-site personnel regarding management of materials and wastes). Based on the nature of the proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the potential for release of hazardous materials. Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during construction would be **less than cumulatively considerable**.

Any existing on-site hazards, if present on any of the cumulative project sites, are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of onsite hazards during construction. Project-specific mitigation measure MM 4.4.1a in Section 4.4, Air Quality, has been developed for the proposed Project to reduce dust related impacts. It is anticipated that the other projects located in the cumulative setting will be required to implement similar mitigation measures. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts is considered **less than cumulatively considerable**.

Operation

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed Project site. Both the proposed Project and the other cumulative Projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during operation and maintenance. Accidental release of hazardous materials during operation and maintenance can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, the proposed Project includes measures to avoid spills. Based on the nature of the proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the

potential for release of hazardous materials. Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during operation and maintenance would be **less than cumulatively considerable**.

Existing on-site hazards, are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of onsite hazards during operation and maintenance. Project-specific mitigation measure MM 4.4.1a (as identified in Section 4.4, Air Quality) has been developed for the proposed Project to reduce dust related impacts. It is anticipated that the other projects located in the cumulative setting will be required to implement similar mitigation measures. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts is considered **less than cumulatively considerable**.

Decommissioning

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed solar field site parcels. Both the proposed Project and the other cumulative projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during decommissioning. Accidental release of hazardous materials during decommissioning can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, compliance with State laws and Federal regulations require that measures are taken to avoid spills. Based on the nature of the proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the potential for release of hazardous materials during decommissioning. Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during decommissioning would be **less than cumulatively considerable**.

Existing onsite hazards are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of on-site hazards during decommissioning. Project-specific mitigation measure MM 4.4.1a (identified in Section 4.4, Air Quality) has been developed for the proposed Project to reduce dust related impacts. It is anticipated that the other projects located in the cumulative setting will be required to implement similar mitigation measures. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts during decommissioning is considered **less than cumulatively considerable**.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.