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5.16 Waste Management

This section discusses waste management issues related to the PHPP, including identifying the hazardous and non-hazardous wastes generated by Project construction and operation and the potential impacts from those activities, as well as proposed mitigation measures for any potential significant impacts. Appendix K contains the Phase I Environmental Site Assessment (ESA) prepared for the Project site.

5.16.1 LORS Compliance

Table 5.16-1 and the following subsections summarize the waste management LORS applicable to the proposed Project.

Table 5.16-1 LORS Applicable to Waste Management

LORS	Applicability	Where Discussed in AFC
Federal:		
Solid Wastes: Title 40, Code of Federal Regulations (CFR), Subchapter I	Establishes the criteria for characterizing hazardous waste, hazardous waste generator requirements, and management of oil and universal waste.	Section 5.16.1
Hazardous Materials: Title 49, CFR , Subchapter C	Establishes standards for the transportation of hazardous wastes.	Sections 5.16.1 and 5.16.3
Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act (RCRA) of 1976, et al) and subsequently amended in 1978, 1980 and 1984: Title 42, United States Code (U.S.C.), §§ 6901, et seq.	Provides the basic framework for Federal regulation of non-hazardous and hazardous waste.	Sections 5.16.1 and 5.16.3
Comprehensive Environmental Response, Compensation and Liability Act: (Superfund) Title 42, U.S.C., §§ 9601, et seq.	Establishes mechanisms for the clean up of accidental spills or releases of pollutants into the environment.	Section 5.16.1
Clean Water Act of 1977 (including 1987 amendments) §§ 402, 33 U.S.C., §§ 1342, 40 CFR Subchapter D	Establishes requirements for discharges of wastewater and storm water along with spill prevention of petroleum products.	Section 5.16.1

5.16 Waste Management

LORS	Applicability	Where Discussed in AFC
State:		
Hazardous Waste Control Act of 1972, as amended. Title 22, California Health and Safety Code (HSC), Division 20, Chapter 6.5	Establishes the framework for managing hazardous waste in California.	Section 5.16.1 and 5.16.3
Environmental Health Standards for the Management of Hazardous Waste: Title 22, California Code of Regulations (CCR), Division 4.5.	Establishes the requirements for disposal and management of hazardous waste in California.	Section 5.16.1 and 5.16.3
Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program):	Establishes the framework for six environmental and emergency response programs and includes the mechanism for implementing the CUPA program.	Section 5.16.1 and 5.16.3
HSC, Chapter 6.11 §§ 25404 – 25404.9	Establishes specific Certified Unified Program Agency (CUPA) reporting requirements for businesses.	Section 5.16.1
Unified Hazardous Waste and Hazardous Materials Management Regulatory Program:	Establishes mandates and standards for management of solid waste.	Section 5.16.1 and 5.16.3
Title 27, CCR, Division 1, Subdivision 4, Chapter 1, §§ 15100, et seq.	Establishes minimum standards for solid waste handling and disposal.	Section 5.16.1
Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14): HSC, Division 20, Chapter 6.5, Article 11.9, §§ 25244.12, et seq.	Establishes the State's hazardous waste source reduction activities.	Section 5.16.1 and 5.16.3
Hazardous Waste Source Reduction and Management Review: Title 22, CCR, §§ 67100.1 et seq.	Further clarification of the State's hazardous waste source reduction activities.	Section 5.16.1 and 5.16.3
Local:		
Los Angeles County Fire Department County of Los Angeles Codes, Title 32 Fire Code	Establish requirements for the use, generation, storage, and disposal of hazardous materials and wastes within the Los Angeles County.	Section 5.16.3
Solid Waste Handling and Recycling Services Chapter 5.52 City of Palmdale Municipal Code	Establish requirements for commercial and industrial collection of solid waste.	Section 5.16.1

5.16.1.1 Federal LORS

Federal waste management LORS are described below.

Solid Wastes, Title 40 CFR, Subchapter I

These regulations were established by the U.S. Environmental Protection Agency (EPA) to implement the provisions of the Solid Waste Disposal Act and RCRA (described below). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes.

- Part 246 addresses source separation for materials recovery guidelines;
- Part 257 addresses the criteria for classification of solid waste disposal facilities and practices;
- Part 258 addresses the criteria for municipal solid waste landfills; and
- Parts 260 through 279 address management of hazardous wastes, used oil, and universal wastes (i.e., batteries, mercury containing equipment, and lamps).

The EPA implements the regulations at the Federal level. However, California is an authorized state so the regulations are implemented by State agencies and authorized local agencies in lieu of the EPA.

Hazardous Materials Regulations, Title 49, CFR, Subchapter C

The U.S. Department of Transportation has established standards for transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping of hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests.

The Resource Conservation and Recovery Act, 42 U.S.C., §§ 6901-6992

The Solid Waste Disposal Act, as amended and revised by the RCRA, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions and responsibilities, as well as research, training, and grant funding provisions. Provisions are established for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing generator record keeping, labeling, shipping papers, placarding, emergency response information, training, and security plans.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Title 42, U.S.C., §§ 9601, et seq.

CERCLA (also known as Superfund), establishes authority and funding mechanisms for cleanup of uncontrolled or abandoned hazardous waste sites, as well as cleanup of accidents, spills, or emergency releases of pollutants and contaminants into the environment.

Clean Water Act of 1977 (including 1987 amendments) §§ 402, 33 U.S.C. §§ 1342, 40 CFR, Subchapter D

The Clean Water Act authorizes the EPA to regulate discharges of wastewater and storm water into surface waters by using permits. Specifically, 40 CFR Part 110 and 112 address discharge of oil and oil pollution prevention, Part 117 addresses reportable quantities for hazardous substances, and Parts 122, 125, and 129 addresses National Pollutant Discharge Elimination System (NPDES) permit program. Spill prevention control and countermeasure plans are required for facilities storing petroleum products at quantities above the regulatory threshold (40 CFR 112).

5.16.1.2 State LORS

Applicable State of California LORS are described below.

Hazardous Waste Control Act of 1972, Title 22, California HSC, Division 20, Chapter 6.5

This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a State hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements. The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPA) implement some elements of the law at the local level. The Los Angeles County Fire Department is the CUPA for this Project.

Environmental Health Standards for the Management of Hazardous Waste, Title 22, CCR, Division 4.5

These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste offsite, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.

The standards addressed by Title 22, CFR include:

- Identification and Listing of Hazardous Waste (Chapter 11, §§ 66261.1, et seq.);
- Standards Applicable to Generators of Hazardous Waste (Chapter 12, §§ 66262.10, et seq.);
- Standards Applicable to Transporters of Hazardous Waste (Chapter 13, §§ 66263.10, et seq.);
- Standards for Universal Waste Management (Chapter 23, §§ 66273.1, et seq.);
- Standards for the Management of Used Oil (Chapter 29, §§ 66279.1, et seq.); and
- Requirements for Units and Facilities Deemed to Have a Permit by Rule (Chapter 45, §§ 67450.1, et seq.).

The Title 22 regulations are established and enforced at the State level by DTSC. Some generator standards are also enforced at the local level by the applicable CUPA.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), HSC, Chapter 6.11 §§ 25404 – 25404.9

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below:

- Aboveground Storage Tank Program;
- Business Plan Program;
- California Accidental Release Prevention (CalARP) Program;
- Hazardous Material Management Plan / Hazardous Material Inventory Statement Program;
- Hazardous Waste Generator / Tiered Permitting Program; and
- Underground Storage Tank Program.

The State agencies responsible for these programs set the standards for their programs while local governments implement the standards. The Los Angeles County Fire Department is the CUPA and has jurisdiction over the Project.

The Waste Management analysis provided in this section only considers application of the Hazardous Waste Generator/Tiered Permitting element of the Unified Program. Other elements of the Unified Program are addressed in AFC Section 5.6, Hazardous Materials Handling and/or Section 5.18, Worker Safety.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, Title 27, CCR, Division 1, Subdivision 4, Chapter 1, § 15100, et seq.

While these regulations primarily address certification and implementation of the program by the local CUPAs, the regulations do contain specific reporting requirements for businesses:

- Article 9 – Unified Program Standardized Forms and Formats (§§ 15400-15410).
- Article 10 – Business Reporting to CUPAs (§§15600 – 15620).

California Integrated Waste Management Act of 1989, Public Resources Code, Division 30, §§ 40000, et seq.

The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. This law regulates non-hazardous solid waste and provides a solid waste management system to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible in an efficient and cost-effective manner to conserve natural resources, to protect the environment, and to improve landfill safety. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements. The Los Angeles County Fire Department has developed and implemented an integrated waste management program.

California Integrated Waste Management Board, Title 14, CCR, Division 7

These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions:”

- Chapter 3 – Minimum Standards for Solid Waste Handling and Disposal;
- Chapter 7 – Special Waste Standards;
- Chapter 8 – Used Oil Recycling Program; and
- Chapter 8.2 – Electronic Waste Recovery and Recycling.

Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14), HSC, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq.

This law was enacted to expand the State’s hazardous waste source reduction activities. Among other things, it establishes hazardous waste source reduction review, planning, and reporting requirements for businesses that routinely generate more than 12,000 kilograms (approximately 26,400 pounds) of hazardous waste in a designated reporting year. The review and planning elements are required to be done on a four-year cycle, with a summary progress report due to DTSC every fourth year.

Hazardous Waste Source Reduction and Management Review, Title 22, CCR, § 67100.1, et seq.

These regulations further clarify and implement the provisions of the Hazardous Waste Source Reduction and Management Review Act of 1989 (noted above). The regulations establish the specific review elements and reporting requirements to be completed by generators subject to the Act.

5.16.1.3 Local LORS

Los Angeles County Fire Department.

The County of Los Angeles Fire Code (LACFC), Title 32 of the Los Angeles County Code, regulates the use, generation, storage, and disposal of hazardous materials and wastes within the County of Los Angeles. The designated CUPA for this Project is the Los Angeles County Fire Department, Health Hazardous Materials Division (HHMD). The HHMD administers the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program, the California Accidental Release Prevention Program (Cal-ARP), the Aboveground Storage Tank Program, and the Underground Storage Tank Program.

City of Palmdale Public Works, Environmental Division

The City of Palmdale Public Works, Environmental Division (PPWED) is responsible for environmental compliance efforts, such as solid waste. City of Palmdale Municipal Code (Chapter 5.52) contains provisions for the disposal of non hazardous solid waste within the limits of the City.

5.16.1.4 Involved Agencies and Local Contacts

Agencies with jurisdiction to issue applicable permits or enforce LORS related to waste management are shown in Table 5.16-2.

Table 5.16-2 Agencies and Agency Contacts

Agency Contact	Phone/E-mail	Permit/Issue
Andre Amy Staff Duty Officer Department of Toxic Substances Control Chatsworth	(818) 717-6581 AAmy@dtsc.ca.gov	Hazardous waste management
Joe Koutsky Water Resources Control Engineer Regional Water Quality Control Board Lahontan Region (RWQCB) 14440 Civic Drive, Ste. 200 Victorville, CA 92392	(760) 241-6583 JKoutsky@waterboards.ca.gov	Waste Discharge Requirements
Los Angeles County Fire Department Health Hazardous Materials Division (CUPA) 5825 Rickenbacker Road Commerce, CA 90040	(323) 890-4045	Hazardous waste management
Los Angeles County Fire Department Cal-ARP Unit 200 N. Main Street Room 1780 Los Angeles, CA 90012	(213) 978-3680	Cal-ARP
Ben Lucha City of Palmdale Public Works Environmental Division 38250 Sierra Highway Palmdale, CA	(661) 267-5300 blucha@cityofpalmdale.org	Non-hazardous solid waste management

5.16.1.5 Required Permits and Permit Schedule

As a generator of hazardous waste, the Project will be required to obtain an EPA identification number from the DTSC, discussed in Section 5.16.4 (WM-2). In addition, a Hazardous Materials Handler and Hazardous Waste Generator permit will be required from the Los Angeles County Fire Department, Hazardous Materials Division. The Los Angeles County Fire Department also requires permits for the installation and operation of underground storage tanks (USTs) and above ground storage tanks (ASTs). Table 5.16.3 identifies the waste management permits required for the Project.

Table 5.16-3 Permits Required and Permit Schedule

Permit/Approval	Schedule
EPA ID No. and register as a Hazardous Waste Generator with DTSC	Takes 7-10 businesses days once the application form has been received.
Hazardous Waste Generator Permit from Los Angeles County Fire Department, Hazardous Materials Division	Allow five business days for processing.
Waste Discharge Requirements from Los Angeles Regional Water Quality Control Board	Allow approximately six months for processing once the application has been deemed complete.

5.16.2 Affected Environment

There are eight permitted Class III landfills located in Los Angeles County. There are two major permitted Class I hazardous waste landfills located in Southern California. The locations and the permitted, operating, and remaining capacities of the hazardous and non-hazardous waste landfills are summarized below and in Table 5.16-4.

Table 5.16-4 Solid and Hazardous Waste Disposal Facilities

Waste Disposal Site	Title 23 Class	Maximum Permitted Capacity	Current Operating Capacity	Remaining Capacity	Estimated Closure Date	Enforcement Action Taken?
Scholl Canyon Sanitary Landfill 3001 Scholl Canyon Road Glendale, CA	Class III	69,200,000 cubic yards	3,400 tons/day	10,804,900 cubic yards	2019	No
Burbank Landfill Site No. 3 1600 Lockheed View Drive Burbank, CA	Class III	5,933,365 cubic yards	240 tons/day	5,107,465 cubic yards	2053	No
Azusa Land Reclamation Co. Landfill 1211 West Gladstone Street Asuza, CA	Class III	66,670,000 cubic yards	6,500 tons/day	34,100,000 cubic yards	2025	No
Chiquita Canyon Sanitary Landfill 29201 Henry Mayo Drive Castaic, CA	Class II and III	63,900,000 cubic yards	6,000 tons/day	35,800,000 cubic yards	2019	No
Puente Hills Landfill 13130 Crossroads Pkwy South Industry, CA	Class III	106,400,000 cubic yards	13,200 tons/day	49,348,500 cubic yards	2013	No
Antelope Valley Public Landfill II 1200 West City Ranch Road Palmdale, CA	Class III	6,480,000 cubic yards	1,800 tons/day	11,740,000	2027	No
Lancaster Landfill and Recycling Center 600 East Avenue F Lancaster, CA	Class III	26,665,000 cubic yards	1,700 tons/day	19,088,739	2012	No
Calabasas Sanitary Landfill 5300 Lost Hills Road Agoura, CA	Class III	69,700,000 cubic yards	3,500 tons/day	16,900,400 cubic yards	2028	No
Clean Harbors Buttonwillow LLC 2500 West Lokern Road Buttonwillow, CA	Class I	14,293,760 cubic yards	10,482 tons/day	9,500,000 cubic yards	2040	No
Kettleman Hills - B18 Nonhaz Codisposal 35251 Old Skyline Road Kettleman City, CA	Class I and II	10,700,000 cubic yards	8,000 tons/day	6,000,000 cubic yards	N/A	No
Pebble Beach (Avalon) Disposal Site 1 Dump Road, Avalon, CA	Class III	143,142 cubic yards	49 tons/day	104,100 cubic yards	2033	No
Source: CIWMB/SWIS, May 2008 ¹ Maximum Permitted Throughput						

5.16.2.1 Non-Hazardous Solid Waste Disposal Sites

Non-hazardous solid waste generated at the Project site during both construction and operation phases will be taken offsite for recycling or disposal to a permitted Class III landfill.

There are eight Class III landfills located in Los Angeles County. The permitted, operating, and remaining capacities of these landfills are described in Table 5.16-4. The nearest Class III landfill to the Project site is the Lancaster Landfill and Recycling Center, which is expected to be used for disposal of the Project's non-hazardous solid waste during construction. As the Lancaster Landfill has sufficient capacity to remain operational until approximately 2012 (CIWMB, 2008), Project operations non-hazardous waste likely will be disposed at Antelope Valley Public Landfill II has sufficient capacity to remain operational until approximately 2027 (CIWMB, 2008). Specific plans for the disposal of solid waste beyond 2027 for the southern California region as a whole (including the Antelope Valley) are still uncertain. Among the options being considered for the region (including the Palmdale area) are rail transportation and disposal at a mega landfill, such as is proposed in Imperial County (Mesquite Regional Landfill). Such a mega landfill may have capacity for as much as 100 years at operating capacities of up to 20,000 tons per day. Given the availability of non-hazardous solid waste disposal capacity over the next 20 years as described in Table 5.16-4, and the modest amounts of solid waste expected to be generated by the PHPP, impacts related to non-hazardous solid waste disposal will be less than significant.

5.16.2.2 Hazardous Waste Disposal Sites

Hazardous waste generated at the facility will be taken offsite for recycling or disposal by a licensed and permitted hazardous waste transporter to a permitted treatment, storage, and disposal facility (i.e., Class I landfill).

There are two major operating hazardous waste (Class I) landfills located relatively near the Project site:

- Clean Harbors Buttonwillow Landfill (Kern County) is located on Lokern Road between State Highways 33 and 58. It is a treatment, storage and disposal facility that accepts Class I solid wastes and Class II solid and liquid wastes. The permitted capacity of this landfill is 14,293,760 cubic yards. The EPA Identification Number for this facility is 110000500912.
- B18 Nonhaz Codisposal is located in Kettleman Hills (Kings County) on State Highway 41 approximately two miles west of Interstate 5. The Class I portion of this landfill has approximately 6.0 million cubic yards remaining capacity of a total permitted capacity of 10.7 million cubic yards. (Yarborough 2006). The EPA Identification Number for this facility is CAD000646117.

The permitted, operating, and remaining capacities of these landfills are described in Table 5.16-4. It is expected that hazardous wastes generated during the construction and operational phases of the Project will be disposed at the Buttonwillow landfill.

5.16.2.3 Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) was prepared by qualified professional staff in May 2008 in order to identify, to the extent feasible, recognized environmental conditions (RECs) relevant to development of the Project. The Phase I ESA was performed in conformance with the general scope and limitations of ASTM Standard Practice E 1527-05. The property was assessed in March and April 2008. The ESA Report is contained in Appendix K and this subsection summarizes the ESA and its findings.

Site History.

Historical research indicates the subject property has been as it currently appeared during the site visit, which is almost entirely vacant undeveloped land. The PHPP plant site in its current condition consists of vacant, undisturbed land. Air Force Plant 42 is located to the east and south and vacant land owned by the City of Palmdale is immediately to the west. E Ave M is the site's northern boundary and across E Ave M is mixed industrial and commercial area (north and northwest) and undeveloped land (north and northeast).

Incidents and Notifications.

The Project site was not listed in the environmental database report (EDR), which summarizes databases with environmental and historical land use information on the Project site and surrounding properties. Air Force Plant 42, a portion of which is adjacent to the south and east of the Project site, was listed on the EnviroStor database with an "active" status. Contamination was detected in groundwater but the contaminant plumes do not extend onto the subject property. No additional offsite sources of concern were identified in the EDR, or during a visit to the site and vicinity during preparation of the ESA.

Summary of Findings and Conclusions.

Based on a site visit; the review of governmental environmental databases, files, and historical documents; and interviews conducted during the Phase I ESA process with selected individuals, no recognized environmental conditions were identified on the Project site evaluated and within the Project boundaries.

5.16.3 Environmental Impacts

The analysis of environmental impacts related to Project waste management issues is based on the following criteria:

- Offsite treatment or disposal of non-hazardous solid wastes must not significantly impact available landfill, recycling or treatment program capacities.
- Offsite disposal of hazardous wastes must not significantly impact available Class I landfill capacity.
- The facility must comply with all applicable LORS regarding management of non-hazardous and hazardous wastes.
- Additionally, according to the California Environmental Quality Act (CEQA) Guidelines, a project has a significant impact if it:
 - Breaches standards relating to solid waste or litter control.
 - Creates a potential public health hazard or involves materials which pose a hazard.
 - Results in a need for new systems or substantial alterations to existing waste disposal facilities.

The following sections describe the types of waste that are expected to be generated during the construction and operation of the proposed Project and how non-hazardous solid waste and hazardous wastes will be managed.

To ensure that public health and safety and the environment are protected, a facility closure plan will be prepared prior to Project closure. The facility closure plan will outline the proper steps to be taken for both permanent and temporary closure of the Project. The closure plan will ensure that the management, recycling, and/or disposal of non-hazardous and hazardous wastes are in accordance with applicable LORS (also see Section 3.0, Closure).

5.16.3.1 Construction

Table 5.16-5 summarizes the anticipated waste streams generated during Project construction, along with appropriate management methods for treatment or disposal.

A detailed Waste Management Plan and procedures to minimize hazardous, universal, and non-hazardous waste generation will be prepared prior to startup to assure proper storage, labeling, packaging, recordkeeping, manifesting, minimization, and disposal of wastes. The Waste Management Plan is discussed in more detail in Section 5.16.4, Mitigation Measures.

During construction activities, the Project will require contractors to manage the wastes they generate as part of their activities. Each contractor will be required to prepare a written summary of how they plan to appropriately handle construction-related wastes. Additional details are discussed in Section 5.16.4, Mitigation Measures.

Hazardous Waste Disposal

Most of the hazardous waste generated during Project construction, such as paint and primer, paint thinner, solvents, vehicle and equipment maintenance-related materials and HRSG cleaning wastes, can be recycled. Empty containers (i.e., drums and totes) will be returned to the vendor if possible. The small quantities of hazardous waste that cannot be recycled are not expected to significantly impact the capacity of the Class I landfills located in California.

In the unlikely event that contaminated soil is encountered during excavation activities, the soil will be segregated, sampled, and tested to determine appropriate disposal/treatment options. If the soil is classified as hazardous, the Los Angeles County Fire Department, Health Hazardous Materials Division (HHMD) will be notified and the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. The HHMD also will be notified during construction if wells, tanks, or other underground storage facilities are discovered. Subsequent removal of such equipment, including potential remediation, will be conducted in accordance with CCR Title 22 and the California Health and Safety Code. With the implementation of these procedures, impacts related to hazardous waste disposal during construction will be less than significant.

Universal Waste Disposal

Information on universal wastes anticipated to be generated during Project construction is provided in Table 5.16-5. Universal wastes and unusable materials will be handled, stored, and managed per California Universal Waste requirements.

Table 5.16-5 Summary of Construction Waste Streams and Management Methods

Waste Stream and Classification¹	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	Onsite Treatment	Waste Management Method/ Offsite Treatment
Construction waste - Hazardous	Empty hazardous material containers	1 cubic yard per week (cy/wk)	Intermittent	None. Accumulate onsite for <90 days	Return to vendor or dispose at permitted hazardous waste disposal facility
Construction waste - Hazardous	Solvents, used oil, paint, oily rags	175 gal	Every 90 days	None. Accumulate onsite for <90 days	Recycle or use for energy recovery
HRSR cleaning waste – Hazardous	Chelant type solution	60,000 gal	One time event	None	Dispose to permitted hazardous waste disposal facility or recycle
Spent batteries - Universal	Lead acid, alkaline type	20 in 2 years	Intermittent	None. Accumulate onsite for <90 days	Recycle
Construction waste - Nonhazardous	Scrap wood, concrete, steel, glass, plastic, paper	40 cy/wk	Intermittent	None	Dispose to Class III landfill or recycle
Construction waste - Nonhazardous	Spent compressed gas cylinders	4 cyl/wk	Intermittent	None	Recycle
Sanitary waste - Nonhazardous	Portable Chemical Toilets - Sanitary Waste	200 gals/ day	Periodically pumped to tanker truck by licensed contractors	None	Ship to sanitary wastewater treatment facility
Office waste - Nonhazardous	Paper, aluminum, food	3 cu yd/wk	Intermittent	None	Recycle or dispose to Class III landfill

Non-Hazardous Solid Waste Disposal

Solid waste generated from Project construction activities may include scrap lumber, pallets, plastic, metal, glass, excess concrete, and empty non-hazardous containers. Management and disposal of these wastes will be the responsibility of the construction contractor(s). Typical management practices for this material include recycling when possible, proper storage of waste to prevent wind dispersion, proper covers to prevent storm water contact, and routine pick-up and disposal of waste to approved local Class III landfills. Solid wastes from Project construction are not expected to significantly impact the capacity of the Class III landfills in Los Angeles County.

Wastewater generated at the construction site will include sanitary wastes, dust suppression drainage, and equipment wash water. Construction-related sanitary wastes, collected in portable self-contained chemical toilets, will be pumped periodically. Potentially contaminated equipment wash water will be contained at designated wash areas and transported to a wastewater treatment facility via a licensed hauler. Given the

availability of non-hazardous solid waste disposal sites described in Table 5.16-4, impacts related to non-hazardous solid waste disposal will be less than significant.

5.16.3.2 Operation

Operation of the Project is expected to generate sanitary wastewater, non-hazardous wastes, and small quantities of hazardous wastes. Operation of the natural gas and reclaimed water supply pipelines will generate minimal quantities of waste. The types of waste and their estimated volumes are described below and summarized in Table 5.16-6.

Table 5.16-6 Summary of Operation Waste Streams and Management Methods

Waste Stream and Classification ¹	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite
Used Hydraulic Fluid, Oils and Grease, Oily Filters – Hazardous	Turbines and other users of hydraulic actuators	<5 gals/day	Intermittent	Accumulated for <90 days	Recycle
Effluent from oily water separation system – Hazardous	Plant washdown area/oily water separation system	3,000 gals/year	Intermittent	None	Recycle
Oily rags, oil absorbent, and oil filters – Hazardous	Various	55 gals/ month	Intermittent	Accumulated for <90 days	Sent offsite for recovery or disposed at Class I landfill
Spent SCR catalyst - Hazardous	HRSG, Heavy metals	20,000 ft ³	Intermittent Once every 3 to 5 years	None	Recycle
Spent batteries – Hazardous	Lead acid	20 every 2 years	Intermittent	Accumulated for <90 days	Recycle
Soil contaminated with Heat Transfer Fluid (HTF) > 10,000 mg/kg – Non-RCRA Hazardous	Solar array equipment leaks	10 cubic yards per year (cy/yr)	Intermittent	Accumulated of < 90 days	Sent offsite for disposal at a Class I landfill
Spent batteries – Universal	Rechargeable and household types	<10/month	Continuous	Accumulate for <1 year	Recycle
Spent fluorescent bulbs – Universal	Facility lighting	< 50 per year	Intermittent	Accumulate for <1 year	Recycle
Soil contaminated with HTF (< 10,000 mg/kg – Nonhazardous)	Solar array equipment leaks	750 cy/yr	Intermittent	Bioremediation unit	Dispose to waste management facility
Anthracite & sand, filter, media – Nonhazardous	Media Filter	100 ft ³	Once every 3 years	None	Recycle
Spent Demineralizer resin –Nonhazardous	Demineralizer	10 ft ³	Once every 3 years	None	Recycle

Waste Stream and Classification ¹	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite
Used air filters – Nonhazardous	CTG inlet	2,100 filters	Every 5 yrs	None	Recycle
Cooling Tower Basin Sludge – Nonhazardous	Cooling tower	2 tons/year	Annually	None	Dispose to waste management facility
Spent softener resin – Nonhazardous	Softener	100 ft ³	Once every 3 years	None	Recycle
Water Treatment Solids (Including cooling tower waste water treatment solids) – Nonhazardous	Filter press solids, dewatered sludge cake	1,200 lbs per hour	Continuous	None	Dispose to waste management facility
Sanitary wastewater - Nonhazardous	Toilets, washrooms	5,400 gals/day	Continuous	None	Dispose - POTW

A detailed Waste Management Plan and procedures to minimize hazardous, universal, and non-hazardous waste generation will be prepared prior to startup to assure proper storage, labeling, packaging, recordkeeping, manifesting, minimization, and disposal of wastes. The Waste Management Plan is discussed in more detail in Section 5.16.4, Mitigation Measures.

Hazardous Waste Disposal

A discussion of hazardous wastes anticipated to be generated during Project operation is provided in Table 5.16-6. A summary of that information is provided below:

- Used hydraulic fluids, oils, greases, oily filters and rags oil and associated wastes: Used oils, greases, and oily effluent from the water separation systems will be accumulated and maintained onsite in secure hazardous waste accumulation areas within secondary containment. These wastes will be recycled whenever possible. Used oil and recovered oil from the oil/water separator will be recycled by a licensed oil recycler. Oily rags and oil absorbent (used to contain small spills) will be generated as a normal part of maintenance activities. These wastes will be sent for energy recovery or disposed in a Class I landfill.
- Selective Catalytic Reduction (SCR) catalyst: Spent catalyst will be generated approximately every three to five years. The spent catalysts will be recycled by the manufacturer for metals reclamation and/or disposed of in a Class I landfill.
- Cleaning solutions: Waste cleaning solutions, such as solvents and other chemical cleaning solutions will be generated during routine equipment maintenance and repair. These waste cleaning solutions will be collected and recycled by a licensed contractor on a regular basis.
- Heat Transfer Fluid (HTF) Contaminated Soil: Soil contaminated with HTF in concentrations greater than 10,000 mg/kg may be generated during equipment failure or maintenance activities in the solar array. The contaminated soil (i.e., greater than 10,000 mg/kg of HTF) will be collected and will be transported and disposed at Class I landfill or licensed recycling facility.

- Spent batteries: Lead-acid batteries will be returned to the vendor. Other spent batteries will be accumulated onsite in labeled containers and recycled at least annually per California Universal Waste requirements.

Hazardous wastes, as well as hazardous materials that are spilled or otherwise become unsuitable for use will be stored in satellite accumulation area(s) or an appropriately contained hazardous waste accumulation area in accordance with federal, state, and local regulations. The containment for a hazardous waste accumulation area will be sized to hold a volume equal to at least 110 percent of the largest container capacity. The hazardous waste accumulation areas will be inspected and maintained on a weekly basis. The wastes will be transported for recycling or disposal in accordance with State hazardous waste generator requirements.

Hazardous wastes will be transported by a licensed hazardous waste hauler using a Uniform Hazardous Waste Manifest and disposed or recycled at an appropriately-permitted facility described in Table 5.16-4, above. Copies of manifests, reports, waste analysis, exception reports, land disposal restriction notifications, and other related documents will be maintained onsite for at least three years.

Facility employees will receive hazardous waste management training as outlined in Section 5.16.4, Mitigation Measures.

Given the planned hazardous waste management procedures described above and the availability of disposal facilities shown in Table 5.16-4, impacts related to the disposal of hazardous waste during PHPP operation will be less than significant.

Universal Waste Disposal

Information on expected waste generation during Project operation is provided in Table 5.16-6. Universal wastes and unusable materials will be handled, stored, and managed per California Universal Waste requirements.

Non-Hazardous Waste Disposal

Non-hazardous solid wastes generated during operation of the Project will include solid waste from routine maintenance (including used air filters, spent demineralizer resins, sand and filter media, cooling tower basin sludge, spent softener resins, clarifier blowdown sludge), and office and domestic wastes. Maintenance-derived wastes will be recycled to the extent practical. Those maintenance-derived wastes that cannot be recycled will be transported for disposal at a Class III landfill. Domestic wastes, including office paper, newsprint, aluminum cans, plastic, and glass containers and other non hazardous solid waste material, will be recycled to the extent practical. The remaining solid wastes will be removed on a regular basis by a permitted waste hauler for disposal at a Class III landfill. Given the availability of non-hazardous solid waste disposal sites described in Table 5.16-4 until 2027, impacts related to non-hazardous solid waste disposal will be less than significant.

While solar collector design has advanced to an excellent level of performance and reliability, occasional small spills of HTF do occur, primarily due to equipment failures. The existing solar thermal plants in southern California that utilize the same parabolic trough technology as proposed for the Project have reduced HTF spills to very low levels. If a spill or release is identified, the system operators in the power block will be notified immediately and the affected collector loop shut down. An appropriately equipped crew will make any necessary equipment repairs and any HTF-impacted soil will be cleaned up immediately and placed in drums for offsite disposal at an appropriately permitted disposal facility.

5.16.3.3 Cumulative Impacts

The Class III landfills that currently serve the Project area have a combined estimated closure date of 2027. The Class I landfills that serve the Project area have ample remaining disposal capacities. Project waste generation volumes of Class I and Class III waste are expected to be modest. The Project's contribution to potential significant cumulative waste management impacts would be less than significant.

5.16.4 Mitigation Measures

Although the Project will not result in significant impacts related to the management of non-hazardous and hazardous wastes, the following mitigation measures will be implemented to ensure any potential impacts related to Waste Management are reduced to the maximum extent feasible:

WM-1 A detailed Waste Management Plan and procedures to minimize hazardous and non-hazardous waste generation will be prepared prior to startup to assure proper storage, labeling, packaging, recordkeeping, manifesting, minimization, and disposal of wastes. Employees will be trained in procedures to reduce the volume of hazardous waste generated at the proposed facility. The procurement of hazardous materials will be controlled to minimize surplus materials onsite and to prevent unused materials from becoming "off specification." Non-hazardous materials will be used in lieu of hazardous materials whenever possible. Hazardous materials will be reused or recycled whenever possible. The waste management plan will include:

- A description of each hazardous waste stream, including origin, estimates of amounts, frequency of generation, and classification of waste
- Handling, transport, treatment, and disposal procedures for each waste
- Preparedness, prevention, contingency and emergency procedures
- Personnel training

Spill control and management procedures will be included in the detailed Hazardous Waste Management Plan to be developed for the PHPP. The purpose of the spill control and management procedures is to avoid accidental mixing of incompatible chemicals and spills during transfer of chemicals. The design of spill control and management procedures will include the containment, collection, and treatment systems.

WM-2 Contract specifications for construction of the on-site facilities (e.g., power generating facilities and onsite auxiliary facilities), and linear facilities (transmission lines, natural gas supply pipeline, reclaimed water supply, and sanitary wastewater pipeline), or any other facilities associated with the Project will include provisions that require the contractor to manage construction-generated hazardous materials and solid waste in accordance with established good housekeeping practices. In addition, the Project will require each contractor to provide a written summary of how they will appropriately handle and dispose of construction-generated hazardous materials during and following construction.

WM-3 Wastes identified as hazardous will be stored onsite for no more than 90 days (or other accumulation period as allowed by CCR Title 22 for hazardous waste generators) and will be managed in accordance with Federal and State hazardous waste generator requirements.

Hazardous wastes will be stored within secondary containment in an appropriately segregated hazardous waste accumulation area. The containment area will be sized to hold a volume equal to the largest container plus an additional 10 percent to account for precipitation. The hazardous waste accumulation area will be visually inspected and maintained weekly.

WM-4 Hazardous wastes will be collected by a licensed hazardous waste hauler using hazardous waste manifests. Hazardous waste generator reports will be submitted biannually to DTSC. Copies of manifests, reports, waste analyses, exception reports, etc. will be kept onsite and available for inspection for at least three years.

WM-5 Facility employees will receive hazardous waste management training, which will include, but not limited to, the following subjects:

- Hazardous waste characteristics
- Use and management of containers
- Waste packing
- Marking and labeling
- Accumulation/ storage areas
- Inspections
- Emergency response procedures
- Hazardous waste manifesting
- Waste minimization

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