

## **7.13 WASTE MANAGEMENT**

## 7.13 WASTE MANAGEMENT

In accordance with California Energy Commission (CEC) regulations, this section evaluates the potential impacts of non-hazardous and hazardous wastes associated with construction and operation of the proposed San Gabriel Generating Station (SGGS), including the installation of water and natural gas conveyance lines, electrical transmission lines, and upgrading of access roads.

The existing conditions of the project site are described in Section 7.13.1. The types of waste that would be generated during the construction and operation phases for the proposed SGGS are described in the following sections. The waste disposal sites for both non-hazardous and hazardous wastes have been identified in order to evaluate whether adequate disposal capacity is available for the proposed project. The mitigation measures (i.e., best management practices) that will be used by the proposed project to manage and minimize waste generation are also described. Finally, this section includes a discussion of the relevant federal, state, and local requirements and evaluates the conformance of the proposed project with these requirements.

### 7.13.1 Affected Environment

The proposed SGGS will be located approximately 1 mile east of I-15 and 1.5 miles north of I-10. The project will be constructed primarily at the Etiwanda Generating Station (EGS) site property, an existing power plant owned and operated by Reliant Energy Etiwanda, Inc (a wholly owned subsidiary of Reliant Energy, Inc.). The site is bordered by Etiwanda Avenue to the east, an existing and unmanned Southern California Edison (SCE) switchyard and vacant SCE-owned land to the south, undeveloped SCE-owned land to the west, a parcel to the southwest owned by the Inland Empire Utilities Agency (IEUA), and Burlington Northern Santa Fe Railroad tracks to the north. The location of the proposed SGGS is shown in Figure 2.2-1.

A Phase I Environmental Site Assessment (ESA) of the EGS and the proposed SGGS project site within the EGS site (see Appendix S) was performed in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessment: Phase I Site Assessment Process, as required by the CEC for an AFC.

Based on the results of the Phase I ESA, Recognized Environmental Conditions (RECs) were identified at the SGGS site. The ASTM guidance document *ASTM Standards on Environmental Site Assessments for Commercial Real Estate*, Designation E 1527, defines RECs as “the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.” In addition to RECs, URS identified areas of concern (AOCs) where potential environmental issues exist but are considered RECs. The RECs and AOCs identified at the EGS during the Phase I ESA are discussed in the Phase I ESA report (see Appendix S). For the purposes of this AFC, only RECs identified in the proposed SGGS project area are discussed below:

- The former cooling towers in the proposed SGGS site are considered a REC due to the presence of treated wood that contains arsenic. Analytical results of soil sampling indicate that while elevated arsenic is present in soil in the immediate area of the former cooling towers for Units 1 and 2, arsenic has not spread far beyond the immediate area of the cooling towers. When the cooling towers are demolished, the arsenic treated wood will need to be handled and disposed of according to applicable local, state and federal regulations. An investigation beneath the cooling tower basins will be required as part of the Resource Conservation and Recovery Act (RCRA) closure requirements for the facility, discussed in more detail below.

A copy of the Phase I ESA is included in Volume II, Appendix S of this AFC.

### 7.13.1.1 RCRA Closure Requirements

On February 1, 1995, a Final Judgment Pursuant to Stipulation between the DTSC and SCE was recorded in the Los Angeles Superior Court. On August 22, 2005, the DTSC issued a Notification of RCRA Requirements for Closure and Corrective Action at the Former SCE Generating Stations. The EGS was one of these stations. The RCRA requirements for closure of the hazardous waste management units (HWMUs) under the California Code of Regulations, Title 22, Section 66256 are specified in the Final Judgment Pursuant to Stipulation. Pursuant to the Health and Safety Code, Sections 25187 and 25200.10, corrective action is required to investigate and remediate all releases of hazardous wastes or constituents from solid waste management units (SWMUs) at a hazardous waste management facility.

The corrective action process under RCRA involves several components. It should be noted that depending on the results of any one of the components associated with the corrective action process, a no further action determination may be made. The following are the main components of the corrective action process:

- RCRA Facility Assessment (RFA);
- RCRA Facility Investigation (RFI);
- Health Risk Assessment (HRA);
- Corrective Measures Study (CMS);
- Corrective Measures Implementation (CMI); and
- Corrective Action Completion.

The site was subjected to RCRA corrective action due to the presence of unpermitted HWMUs including a boiler wash basin, RO basin, and two retention basins (north and south). None of these basins are located within the proposed project site. However, due to the nature of the requirements under RCRA, a full investigation (referred to as a fence to fence investigation) of the entire facility, as configured at the time of sale to Reliant, is required in order to assess the potential impacts from these units and obtain closure.

On March 15, 2007, Reliant held a conference call with the DTSC to inform them of their intent to submit an AFC for a new generating unit at the EGS facility. This is a requirement of the new owner under the Final Judgment Pursuant to Stipulation. During the conference call, the implications of not having completed the RCRA corrective action process in the proposed project site was discussed. On March 20, 2007 a meeting was held at the site to further discuss the proposed project, the process to be followed to address the requirements for corrective action, and to conduct a site reconnaissance of the proposed project site. Representatives from the DTSC, Reliant, SCE, and URS attended the meeting.

During the meeting, the DTSC indicated that although corrective action was still required for the facility as a whole, that a phased approach to the corrective action would be acceptable to the DTSC. As such, the area of the proposed SGGGS can be subjected to the corrective action process, as indicated above, independently of the rest of the EGS site. After the process is completed, the DTSC would issue a Partial Termination of Corrective Action for this portion of the overall EGS property. The DTSC indicated that a collaborative approach would be taken where both parties enter in to a Consent Agreement with the DTSC.

## 7.13.2 Environmental Consequences

### 7.13.2.1 Project Waste Generation

The wastes that would be generated during both the construction and the operation phases of the proposed project were identified to determine whether the project would result in any potentially significant impacts. The significance criteria are based on the California Environmental Quality Act Guidelines, Appendix G, Environmental Checklist Form (approved January 1, 1999) and on performance standards or thresholds adopted by responsible agencies. An impact may be considered significant if:

- Construction activities result in waste materials being introduced into the environment in violation of federal, state, or local waste management and disposal regulations.
- Construction activities generate waste materials that exceed the receiving capacity of appropriate disposal facilities.
- Operation of the facility results in waste materials being introduced into the environment in violation of federal, state, or local waste management and disposal regulations.

#### Construction

During construction of the SGGs, the primary waste generated would be solid nonhazardous waste. However, some nonhazardous liquid waste(s) would also be generated. It is anticipated that some hazardous solid and liquid waste(s) would also be generated during plant construction. Generation of hazardous waste during construction of water and natural gas supply lines and the electrical transmission lines to the adjacent substation is anticipated to be minimal. The types of waste(s) and estimated quantities are described below and summarized in Table 7.13-1.

#### Nonhazardous Solid Wastes

Nonhazardous solid wastes generated during the construction phase of the SGGs would include excess scrap wood, concrete, and empty containers (plastic, metal, glass, cardboard, and Styrofoam); scrap metals, rubbers, and plastics; and thermal insulation (silicate and mineral wool). Anticipated waste streams and their estimated quantities are described below and summarized in Table 7.13-1.

**Wood, Paper/Cardboard, Glass, Plastic, Insulation, and Concrete.** Wood, paper, cardboard glass, plastic, insulation, and minor amounts of concrete would be generated from waste lumber, packing and insulation materials, and empty nonhazardous waste materials containers. Approximately 3,520 cubic yards of these wastes are anticipated to be generated during the construction of the SGGs. Where practical, these wastes will be recycled. Nonhazardous wastes that are not recycled will be disposed of at a Class III landfill in accordance with all federal, state, and local regulations.

**Metal.** Metal wastes would include scrap from welding and cutting operations, construction materials (reinforcement bar, wire mesh, metal sheeting, tubing, piping, ducting, and wire), and empty non-hazardous materials containers. It is anticipated that approximately 50 tons of waste metal would be generated during construction of the SGGs. Where practical, ferrous and nonferrous waste metals would be recycled. Waste metals that cannot be recycled would be disposed of at a Class III landfill in accordance with all federal, state, and local regulations.

**Table 7.13-1  
Summary of Anticipated Construction Waste Streams and Management Methods  
(Page 1 of 2)**

Waste Stream	Anticipated Waste Stream Classification	Estimated Quantity	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite Treatment
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wool insulation, cardboard and corrugated Packaging.	Nonhazardous solids	40 cubic yards	Weekly	Containerize, housekeeping	Recycle and/or Class III/II landfill disposal
Empty hazardous material containers	Hazardous solids	1 cubic yard	Weekly	Store for less than 90 days	Recycle and/or Class I/II landfill disposal
Spent welding materials	Hazardous solid	200 pounds	Monthly	Containerize	Dispose at Class I landfill
Waste oil filters	Hazardous solid	200 pounds	Monthly	Containerize	Dispose at Class I landfill
Used and waste lube oil during CT lube oil flushes	Hazardous or non-hazardous liquids	55 gallon drums	200 drums over life of construction	Store for less than 90 days	Oil would be recycled.
Oil rags, oil absorbent generated during normal construction activities excluding lube oil flushes	Hazardous solids	55 gallon drum	Monthly	Store for less than 90 days	Oily rags would be recycled. Class I landfill disposal for other solids.
Solvents, used construction equipment lube oils, paint, adhesives	Hazardous liquids	200 gallons	Monthly	Store for less than 90 days	Recycle or disposal at TSDF.
Spent lead acid batteries	Hazardous solids	2 batteries	Yearly	Store for less than 1 year	Recycled
Spent alkaline batteries	Hazardous solids	60 batteries	Monthly	Store for less than 1 year	Recycled

**Table 7.13-1  
Summary of Anticipated Construction Waste Streams and Management Methods  
(Page 2 of 2)**

Waste Stream	Anticipated Waste Stream Classification	Estimated Quantity	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite Treatment
Waste oil from oil waste holding tank	Hazardous liquid	20 gallons	Monthly	Store for less than 90 days if hazardous	Oil would be recycled
Sanitary waste from potable chemical toilets and construction office holding tanks	Nonhazardous liquids	400 gallons	Daily	Periodically pumped to tanker truck by licensed contractors	Removed from site by sanitary toilet contractor
Storm water from construction area	Nonhazardous liquids	670,000 gallons	For a once in 2 year, 24 hour storm event	Detain and discharge per NPDES Stormwater program	
Fluorescent, mercury vapor lamps	Hazardous solids	30	Yearly	Store for 1 year	Recycle
Hydrotest water	Hazardous or non-hazardous liquids	300,000 gallons	Once before initial startup	Sample. If suitable for discharge, route to sedimentation/detention basin. If hazardous, store for less than 90 days.	If hazardous, dispose to TSDF

## Nonhazardous Liquid Wastes

Nonhazardous liquid waste generated during construction would be mainly wastewater generated from sanitary waste, pipe hydrotesting, equipment washing, and stormwater runoff. Sanitary waste would be collected in portable, self-contained toilets serviced by an outside contractor. Equipment wash water and hydrotest water would be contained in tanks or other storage containers at specifically designated areas. If the water is thought to contain free-phase hydrocarbons, it would be run through an oil-water separator. Oil removed from the oil-water separator would be collected and taken off site by an oil recycler. The remaining water would be tested to determine its final disposition. If the water is contaminated, it would be removed from the site and disposed of at a liquid disposal facility. If the water is suitable for discharge, it would be discharged to a surface impoundment (storm water detention basin) if capacity exists, or discharged to the IEUA under the EGS' current Industrial User's permit.

For construction activities, a Storm Water Pollution Prevention Plan (SWPPP) would be developed and implemented in accordance with all applicable state and local requirements. The SWPPP would be developed using the California Storm Water Best Management Practice Handbook for Construction (CASQA, 2003) or other similar guidance documents.

As indicated in the above sections, the nonhazardous solid wastes that cannot be recycled or reused would be disposed of at a Class III landfill. It is expected that the disposal of solid wastes from the facility would represent only a nominal (less than 0.01 percent) increase relative to current disposal volumes at the Class III landfills available to receive the nonhazardous solid wastes. These increases would not significantly affect the available landfill capacity and are considered a less-than-significant impact. Table 7.13-2 shows candidate landfill locations, capacity, annual tonnage, and estimated closure dates.

## Hazardous Wastes

The majority of the hazardous waste generated during construction would consist of liquid waste such as waste oil from routine equipment maintenance, flushing and cleaning fluids, passivating fluids (to prepare piping for use), waste solvents, and waste paints or other material coatings. Additionally, some solid waste in the form of spent welding materials; oil filters; oily rags; absorbent, spent batteries; and empty hazardous materials containers may also be generated.

Waste liquid is generated when pipes are cleaned, flushed and pressure tested. The volume of flushing, cleaning and pressure testing liquid waste generated during construction is estimated to be up to 300,000 gallons. The quantity of waste oil to be generated is estimated at approximately 440 gallons over the entire construction period. Waste solvents and waste paint and other coating waste materials would be generated at an estimated rate of approximately 200 gallons a month.

Spent welding materials would be generated at a rate of approximately 200 pounds per month. Additionally, waste oil filters would also be generated at approximately 200 pounds per month.

The construction contractor would be considered the generator of hazardous waste associated with SGGS construction activities and would be responsible for proper handling of all hazardous wastes in accordance with all federal, state, and local regulations. This would include all licensing requirements, training of employees where required, accumulation limits and duration, and recordkeeping and reporting requirements. Wastes that are deemed hazardous would be collected in hazardous waste accumulation containers placed near the area of generation. After the end of each workday, the accumulation containers would be moved to the contractor's licensed hazardous waste accumulation area where hazardous wastes can be stored up to 90 days after the date of generation. All hazardous wastes would be removed from the site by a licensed hazardous waste management facility (see Tables 7.13-2 and 7.13-3).

**Table 7.13-2  
Candidate Landfills, TSDFs, and Transfer Stations**

Landfill/Transfer Station	Phone Number	Location	Class	Materials Accepted	Permitted Capacity	Annual Usage (cu yd)	Remaining Capacity (cu yd)	Estimated Closure Date	Approximate Distance from Site (in miles)	Comments
Mid-Valley Landfill	(909) 386-8735	2390 Alder Avenue Rialto, CA 92377	Class III	Solid Class III only	62 million cubic yards	1,875,000 tons	71,500,000	2033	9	Mixed municipal, construction/ demolition, industrial, tires
California Street Landfill	(909) 798-7698	2151 Nevada Street Redlands, CA 92373	Class III	Solid Class III only	10 million cubic yards	207,250 tons	6,800,000	2031	26	Mixed municipal, construction/ demolition, sludge (biosolids)
San Timoteo Sanitary Landfill	(909) 386-8735	San Timoteo Canyon Rd Redlands, CA 92373	Class III	Solid	20.4 million cubic yards	250,000 tons	9,491,163	2016	26	Agricultural, construction/ demolition, dead animals, industrial, inert, mixed municipal, sludge (biosolids)
Clean Harbors Buttonwillow Landfill	(661) 762-6200	2500 Lokern Road Buttonwillow, CA 93206	Class I and II	Solid & liquid <sup>a</sup>	11 million cubic yards	351,000 tons	8,500,000	2030	169	Will accept RCRA hazardous waste, California hazardous waste and non-hazardous waste
Clean Harbors Imperial County Landfill	(760) 344-9400	5295 Garvery Road Westmorland, CA 92281	Class I	Solid & liquid <sup>a</sup>	NA	NA	NA	NA	150	Not accepting waste at this time; working on new cells.
Chemical Waste Management Kettleman Hills Landfill	(559) 386-9711	35251 Old Skyline Road Kettleman City, CA 93239	Class I, II, III	Solid & liquid <sup>a</sup>	10.7 million cubic yards (hazardous)	1 million tons	16,000,000	2013	217	Class III municipal waste
Clean Harbors San Jose	(408) 451-5000	1040 Commercial Street San Jose, CA 95112	TSDF/ recycle center	Solvents for fuel blending; solids and liquids	NA	NA	Unlimited	None	382	Handles all profiled wastes, mostly Class I.

Notes:  
 cu yd = cubic yards  
 NA = not available  
 TSDF = treatment, storage, and disposal facility  
<sup>a</sup> Liquid wastes require treatment/stabilization and solidification prior to landfilling

**Table 7.13-3  
Recycling/Transfer Centers**

Recycling Center	Phone Number	Location	Class	Materials Accepted	Permitted Capacity	Annual Usage (cu yd)	Remaining Capacity (cu yd)	Estimated Closure Date	Approximate Distance from Site (in miles)	Comments
Heap's Peak Transfer Station	(909) 386-8735	29898 State Highway 18 Running Springs, CA 92382	Transfer Center	Class III	None	NA	Unlimited	None	42	Green materials
Camp Rock Transfer Station	(909) 386-8735	29805 Squaw Bush Road Lucerne Valley, CA 92356	Transfer Center	Class III	14 tons per day	NA	Unlimited	None	67	Mixed municipal
Advance Disposal Transfer/Processing Facility	(909) 386-8735	17105 Mesa Street Hesperia, CA 92345	Transfer, processing	Class III	600 tons per day	NA	Unlimited	None	37	Construction/demolition, industrial, mixed municipal, tires, wood waste, green materials
California Bio-Mass Inc. Victor Valley Regional Composting Facility	(760) 246-7946	20055 Shay Rd. Victorville, CA 92392	Composting	Class III	700 tons per day	NA	270,000 Cubic Yards	None	45	Agricultural, construction/demolition, food wastes, liquid waste, manure, mixed municipal
Clean Harbors Wilmington	(310) 835-9998	1737 East Denni Street Wilmington, CA 90744	TSDF/ recycle center	Solvents for fuel blending; solids and liquids	NA	NA	Unlimited	None	61	Handles all profiled wastes, mostly Class I
Clean Harbors Los Angeles	(323) 277-2500	5756 Alba Street Los Angeles, CA 90058	TSDF	Small Quantity Class I, II Profiled Wastes	NA	NA	NA	NA	50	Inorganic cleaning solutions, oils, flammable solvents, organic and inorganic chemicals, paint residues, toxic/reactive debris, off-spec commercial products.

Notes:

cu yd = cubic yards

NA = not available

TSDF = treatment, storage, and disposal facility

The types and quantities of hazardous wastes expected to be generated during construction activities at the facility are listed in Table 7.13-1. The quantities of solid hazardous waste that would be generated are well below the capacity of the available disposal facilities, and most of the liquid hazardous wastes would be recycled. These increases in waste volume would not significantly affect the capacity of the available hazardous waste treatment and disposal facilities and would be a less-than-significant impact.

## Operation Phase

### Nonhazardous Solid Wastes

The operation and maintenance of the SGGS would generate nonhazardous solid wastes typical of power generation facilities. These wastes would include scrap metal and plastic, insulation material, paper, glass, empty containers, sludge, and used equipment parts from maintenance activities, including used gaskets for piping flanges, pumps, spent air filters, and spent turbine parts. Nonhazardous solid wastes would be recycled, to the extent practical, and the remainder disposed of on a regular basis at a Class III landfill. Additionally, sludge from the septic system may have to be periodically removed and trucked offsite for disposal. It is expected that the disposal of solid wastes from the facility would represent only a nominal (less than 0.01 percent) increase relative to current disposal volumes at the Class III landfill. These increases would not significantly alter the available landfill capacity and would be a less-than-significant impact.

### Nonhazardous Liquid Wastes

The plant wastewater system would collect all process wastewater generated in the operation of the SGGS in a sump. Wastewater streams will include wastewater from the combustion turbine generator (CTG) evaporative coolers, HRSGs, water treatment system, chemical feed area drains, and general plant drains. Process wastewater will be discharged to the IEUA under the EGS' current Industrial User's permit. Figure 2.5-8 in Chapter 2, Facility Description and Location, shows the SGGS's wastewater streams and the disposition of wastewater.

The following summaries describe the plant's water streams and treatments. Detailed summaries are presented in Section 2.4.6 in Chapter 2, Facility Description and Location.

**Evaporative Cooler Blowdown.** The concentration of dissolved solids in the evaporative cooler water will be maintained below given limits, primarily for total dissolved solids (TDS), by withdrawing a portion of the evaporative cooler water and replacing it with fresh makeup water. The blowdown stream from the evaporative coolers will be sent directly to the plant process wastewater sump.

**HRSG Blowdown.** Water circulating in the plant's steam cycle will accumulate dissolved solids. The concentration of dissolved solids will be maintained below specified limits to prevent deposition of solid particles on the steam turbine blading. This will be achieved by withdrawing a portion of the water from the HRSG steam drums and replacing it with product water from the demineralization unit. HRSG blowdown will be routed directly to the plant wastewater sump.

**Water Treatment System Demineralizer.** Wastewater from the demineralizer system's microfiltration and reverse osmosis systems will be discharged directly to the plant wastewater sump. The mixed bed demineralizer will be regenerated offsite and, consequently, will not generate onsite wastes.

**Chemical Feed Area Drainage.** The chemical feed area will be provided with a containment area to keep any spilled chemicals out of the plant drainage system. Spilled chemicals will be cleaned up or neutralized before being discharged to the plant wastewater sump.

**General Plant Drainage.** General plant drainage will consist of wastewater collected by sample drains, equipment drains, equipment leakage, and area washdowns. Wastewater collected in the general plant

drainage system will be routed to the plant wastewater sump. General plant drainage that potentially contains oil or grease will be routed through the oil-water separator.

Other nonhazardous liquid wastes include sanitary wastewater and stormwater runoff. The sanitary wastewater septic system, would collect sanitary wastewater from sinks, toilets, and other sanitary facilities and discharge it to an onsite septic system. The sanitary system would be based on gravity flow and may include lift stations if required. The septic system will discharge to on-site seepage pits. Stormwater runoff will be collected in the plant site using catch basins and a storm drain system. The stormwater system will terminate in a sedimentation/detention basin located in the far southern corner of the proposed plant, adjacent to Chadwick Channel. Runoff will flow into the basin and be detained. The water accumulated in the basin will be discharged to Chadwick Channel.

### **Hazardous Waste**

Hazardous wastes will be generated as a result of the SGGs construction, operation, and maintenance. The majority of hazardous waste generated during construction will be liquid wastes such as waste oil and other lubricants from machinery operations, solvents used for cleaning and materials preparation, waste paints, and other material coatings. A description of the types and quantities of hazardous wastes that are likely to be generated is given in Section 7.13.2.1 and are presented in Tables 7.13-1 and 7.13-4.

The methods used to properly collect and dispose or recycle hazardous waste generated by the proposed plant will depend on the nature of the waste. Hazardous wastes generated by the proposed plant will include spent selective catalytic reduction (SCR) and oxidation catalyst, used oil filters, used oil, and chemical cleaning wastes. Spent SCR and oxidation catalyst will be recycled by the catalyst supplier. Used oil filters will be recycled or disposed of in an offsite disposal facility. Used oil will be recovered and recycled by a waste oil recycling contractor.

Chemical cleaning wastes will consist of acid and alkaline cleaning solutions used for preoperational chemical cleaning of the HRSG pressure parts and steam cycle piping systems; acid cleaning solutions used for periodic chemical cleaning of the HRSGs; and wash water used in periodic cleaning of the HRSG, CTG, and STG. These wastes, which may have elevated concentrations of metals, will be tested. If hazardous, they will be disposed of in accordance with all applicable laws, ordinances, regulations, and standards (LORS). These and all other hazardous solid and liquid wastes will be disposed of in accordance with applicable LORS.

Workers will be trained to handle waste generated at the SGGs site as described in Section 7.7, Worker Safety and Health.

The amount of solid hazardous waste that would require offsite disposal would result in a nominal (less than 0.01 percent) increase relative to current disposal volumes at approved landfills in California (see Section 7.13.3) and would be a less-than-significant impact.

#### **7.13.2.2 Waste Disposal Sites**

Nonhazardous solid wastes (municipal solid waste or garbage) will be recycled. If the material is not recyclable, it will be disposed of at a Class III landfill. Nonhazardous liquid wastes (stormwater runoff and domestic wastewater) will be discharged to the sedimentation/detention basin or to the septic system. Both solid and liquid hazardous wastes will be disposed of at a treatment, storage, and disposal facility (TSDF) or placed into a permitted Class I landfill.

Tables 7.13-2 and 7.13-3 list the candidate disposal and recycling facilities that could be used for the non-hazardous waste produced by the SGGs. Mid-Valley Landfill services some areas of San Bernardino County.

**Table 7.13-4  
Summary of Anticipated Operating Waste Streams and Management Methods**

Waste Stream	Waste Stream Classification	Estimated Amount	Estimated Frequency of Generation	Waste Management Method	
				Onsite	Offsite Treatment
Used hydraulic fluid and oils	Hazardous or non-hazardous liquids	Less than 400 gallons	Yearly	Store for less than 90 days	Oil and hydraulic fluid would be recycled
Spent batteries, lead, acid, Lithium, Nickel Hydride, Potassium Hydroxide	Hazardous solids	190 lbs.	Yearly	Store for less than 1 year	Recycled
Propylene Glycol	Hazardous liquids				
Waste oil from oily water separator	Hazardous or non-hazardous liquids	800 gallons	Yearly	Store for less than 90 days	Oil would be recycled
Oily rags, oil absorbent generated during normal operating and maintenance activities excluding lube oil flushes	Hazardous solids	Eight 55 gallon container	Monthly	Store for less than 90 days	Oily rags would be recycled Class I landfill disposal for other solids
CTG used air filters	Non-hazardous solids	960 filters	Every 3 years	Store for less than 90 days	Class III/II landfill disposal
HRSO Chemical Cleaning	Hazardous or non-hazardous liquids	400,000 gallons	Every 7-10 years	Sample. Store hazardous portion for less than 90 days	If hazardous dispose to a TSDF
Spent catalyst (heavy metals)	Hazardous solids	120,000 lbs.	Every 5 years	Removed to truck by licensed contractors	Recycled
Fluorescent, mercury vapor lamps	Universal Waste	70 lbs.	Yearly	Store for 1 year	Recycle
Sanitary wastewater	Non-hazardous liquids	1,400 gallons	Daily	Discharge to onsite septic tank and seepage pits.	Solids pumped to tanker truck by licensed contractors
Storm water	Non-hazardous liquids	716,000 gallons	For a once in 2 year, 24 hour storm event	Discharge to the storm water retention basin	
Wastewater from Evaporative Cooler, HRSO, Demineralizer, Chemical Feed Drain	Non-hazardous liquid	184,320 gallons	Daily	Discharge to plant process wastewater sump	Discharge to Inland Empire Utility Agency

Hazardous waste generated at the facility would be stored on site for fewer than 90 days at specified accumulation points. A licensed hazardous waste transporter would haul the waste to a TSD or Class I landfill. Some of these facilities may only store waste, but others are permitted to treat waste for the recovery of reusable products or dispose of the waste by incineration, deep-well injection, or landfilling (incineration and deep-well injection are not allowed in California).

There were 137 RCRA TSDs in California according to the U.S. Environmental Protection Agency (U.S. EPA) *Biennial RCRA Hazardous Waste Report* (U.S. EPA, 1999). However, many of these facilities are on military installations or industrial locations and do not accept waste from other generators.

The closest TSD facility is Clean Harbors Los Angeles, which is permitted to store and treat solvents, paints, and batteries. It also recycles used oil. Wastes collected at this facility are treated prior to transfer to an appropriate landfill.

California has three hazardous waste (Class I) landfills that may be used for the disposal of hazardous waste:

- **Clean Harbors, Buttonwillow Landfill in Kern County:** The Buttonwillow Landfill has a permitted capacity of 11 million cubic yards. Approximately 8.5 million cubic yards of capacity remain. The landfill is expected to remain open until at least 2030. Buttonwillow is permitted to accept all hazardous wastes except for flammables, polychlorinated biphenyl (PCB) wastes with concentrations exceeding 50 parts per million, medical wastes, explosives, and radioactive wastes with radioactivity greater than 20,000 picocuries.
- **Clean Harbors, Imperial County Landfill in Imperial County:** This landfill was previously permitted to receive 4 million cubic yards of Class I waste. However, when this AFC was prepared, the Clean Harbors Imperial County facility was not currently accepting waste because they were in the process of constructing new disposal cells.
- **Chemical Waste Management, Kettleman Hills Landfill in Kings County:** The Kettleman Hills landfill has a permitted capacity of 10.7 million cubic yards for Class I waste, the overall permitted capacity for the landfill (includes Class I, II, and III) is 16 million cubic yards. The landfill is expected to remain open until at least 2013.

The selection of a disposal vendor is subject to their receiving a favorable audit. There is currently no shortage of hazardous waste landfill capacity in California. The hazardous wastes that would be generated annually by the SGGs are expected to be well below 0.01 percent of the combined capacity of the three hazardous waste landfills after Clean Harbors Imperial County begins receiving waste again. This amount of hazardous waste generation would be a less-than-significant impact.

### 7.13.3 Cumulative Impacts

Past, current and potential future projects, including the proposed project, would generate nonhazardous waste. There are, however, adequate recycling facilities and landfill capacities to dispose of the waste from San Bernardino County over the next 40 to 50 years. While nonhazardous waste generated by the proposed project would add to the total waste generated in San Bernardino County and in California, it would not be contributing to a cumulatively significant impact, and cumulative impacts of the proposed project would be less than significant.

Past, current and potential future projects, including the proposed project, would generate hazardous waste. California has more than adequate treatment and disposal capacity for the hazardous wastes that

cannot be recycled. The hazardous waste generated at the facility will be recycled and treated to the extent possible. By definition, the proposed project would not therefore contribute to a cumulatively significant impact, and cumulative impacts of the proposed project would be less than significant.

#### **7.13.4 Mitigation Measures**

No significant impacts relative to waste management are expected from the proposed project; however, several best management practices will be used by the SGGs to manage and minimize the amount of waste generated. The following priorities would be established for waste management during the construction and operation phases of the facility:

- Source reduction (preferred option);
- Recycling;
- Treatment; and
- Disposal (least desirable option).

Disposal will only be used for wastes that cannot be eliminated through source reduction or addressed by recycling or treatment.

##### **7.13.4.1 Construction Phase**

The nonhazardous solid wastes produced during construction will be collected in onsite dumpsters and periodically picked up for disposal. The waste will be taken to an appropriate facility where recyclable materials will be removed and the residue will be disposed of at an appropriate landfill. The disposal of wastewater will be coordinated by the construction contractor. Stormwater will be discharged in accordance with the requirements of the construction stormwater management permit obtained prior to construction. However, it is anticipated that storm water discharge will be to Chadwick Channel, which traverses the EGS. The generation of nonhazardous wastewater will be minimized through water conservation and reuse measures.

The majority of the hazardous waste generated during construction will be liquid wastes (waste oil, cleaning fluids, passivating fluids, and solvents). The construction contractor will manifest these wastes for disposal at a permitted Class I facility or recycling facility. Some solid waste (e.g., dried paint, welding materials, or spent filters) may be generated, but the quantity of this material is expected to be minimal. The construction contractor would be the generator and will dispose of this waste in accordance with all federal, state, and local laws and regulations.

##### **7.13.4.2 Operation Phase**

###### **Nonhazardous Waste**

Minor quantities of nonhazardous solid wastes are expected to be generated at the SGGs during operation; these minor quantities will require no further mitigation. Nonhazardous wastes will either be recycled (paper, cardboard, glass, metals, plastic, etc.) or hauled to an appropriate Class III landfill facility. No further mitigation of nonhazardous solid wastes is proposed.

The generation of nonhazardous wastewater at the facility will be minimized as much as practical by standard water conservation measures. No further mitigation is proposed.

## Hazardous Wastes

To prevent impacts to human health or the environment, procedures will be developed for the proper handling, labeling, packaging, storage, recordkeeping, and disposal of hazardous waste. The following general procedures will be employed:

- The facility will apply to the U.S. EPA for a U.S. EPA Hazardous Waste Identification Generator Number as a generator of hazardous waste;
- Hazardous wastes will be stored on site for less than 90 days in accordance with the requirements of Title 22 California Code of Regulations (CCR);
- Hazardous wastes will be segregated for compatibility and stored in designated accumulation areas with appropriate secondary containment;
- Hazardous wastes will be picked up for transport only by licensed hazardous waste haulers. All hazardous wastes will be properly manifested to a permitted disposal facility;
- Hazardous waste documentation, including the biennial hazardous waste generator reports that will be submitted to the DTSC, will be kept on site and accessible for inspection for a period of not less than 3 years;
- Employees will be trained in hazardous waste management, spill prevention and response, and waste minimization; and
- Procedures will be developed to reduce the quantity of hazardous waste generated. Non-hazardous materials will be substituted for hazardous materials, and wastes will be recycled where possible.

### 7.13.4.3 Monitoring

Because the environmental impacts caused by the construction and operation of the SGGs are expected to be minimal, extensive monitoring programs are not required. Generated wastes will be monitored in accordance with the generator permit requirements throughout the life of the plant. Wastewater (storm water) discharged from the plant will be monitored in accordance with the waste discharge requirements specified by the Santa Ana Regional Water Quality Control Board.

### 7.13.4.4 Temporary Facility Closure

If it becomes necessary to close the SGGs temporarily for any reason (due to a disruption in the natural gas supply, flooding, damage from an earthquake, fire, storm, etc.), facility security will be maintained on a 24-hour basis and the CEC will be notified. A contingency plan for temporary closure will be prepared prior to startup of the facility to ensure compliance with all LORS and to protect human health and the environment. Depending on the duration of any temporary shutdown, the plan will direct the safe shutdown of all equipment and the draining of all chemicals from the process. Any waste generated under these circumstances will be disposed of in accordance with all LORS.

### 7.13.4.5 Permanent Closure

The planned life of the facility is 30 years, though operation could be longer. A general closure plan identifying the handling and disposal requirements for nonhazardous and hazardous wastes will be prepared prior to closure. This plan will identify opportunities for recycling. All equipment containing

liquids will be drained and decommissioned as part of closure procedures to protect public safety and the environment. Unused chemicals will be sold back to the suppliers or other purchasers where practicable. All nonhazardous wastes will be disposed of in appropriate landfills or recycled. Hazardous wastes will be disposed of according to all applicable LORS. The site will be secured 24 hours per day during the decommissioning activities.

### **7.13.5 Laws, Ordinances, Regulations, and Standards**

The handling, storage, and disposal of nonhazardous and hazardous wastes from the facility would be governed by federal, state, and local laws. The LORS applicable to waste management at the facility are summarized in Table 7.13-5.

#### **7.13.5.1 Federal**

The handling, storage, and disposal of both hazardous and nonhazardous waste are addressed through RCRA (42 USC 6901 et seq.) and its implementing regulations (40 CFR 260 et seq.). In RCRA Subtitle D, minimum criteria are established for use by the state for the best practical controls and monitoring requirements for solid waste disposal facilities. The generation, storage, transportation, and disposal of hazardous wastes are comprehensively addressed in RCRA Subtitle C. The U.S. EPA is responsible for implementing this law. The facility will conform with RCRA Subtitle C in all aspects of hazardous waste management.

Wastewater discharges from the facility are governed by the Clean Water Act.

#### **7.13.5.2 State of California**

Nonhazardous solid waste is regulated under the California Integrated Waste Management Act (CIWMA) of 1989 (PRC Sections 40000 et seq.). State and local efforts in source reduction, recycling, and land disposal safety are coordinated through CIWMA. CIWMA requires each county to submit an integrated waste management plan to the state. San Bernardino County, the solid waste hauler, and the disposal site will all comply with CIWMA requirements. CIMWA affects the facility to the extent that hazardous wastes are not to be disposed of with nonhazardous wastes.

The discharge of wastewater is regulated by the State Water Resources Control Board (SWRCB). The SARWQCB administers state water programs locally. The Porter-Cologne Water Quality Control Act controls the discharge of wastewater to surface or groundwater in California.

RCRA allows states to develop their own programs for the regulation of hazardous waste. The California Hazardous Waste Control Law (HWCL) (Health and Safety Code Sections 25100 et seq.) controls the storage, treatment, and disposal of hazardous wastes in California. Most administration and enforcement of HWCL rests with the DTSC. A memorandum of understanding has delegated some elements of the implementation of HWCL to local health departments. The HWCL identifies some wastes as being hazardous that are not classified as hazardous under RCRA. The HWCL will be adhered to throughout the construction and operation of the SGGS as hazardous wastes are removed from the site.

#### **7.13.5.3 Local**

For solid nonhazardous waste, San Bernardino County Department of Environmental Health has responsibility for administering and enforcing the CIWMA. For hazardous waste, local regulation consists primarily of the administration and enforcement of the HWCL. The San Bernardino County Department of Environmental Health, the Department of Emergency Services, and the Fire Department are the local agencies that will regulate the hazardous waste associated with the SGGS. For emergency spills, the San Bernardino County Fire Department Hazardous Materials Division Emergency Response

Program should be contacted. A Hazardous Material Spill Response contractor (Clean Harbors) may also respond for containment, cleanup, and remediation. Local agency requirements and LORS associated with the proposed project will be addressed before the construction and operation of the facility, and the facility would conform to all local requirements. These include the need to obtain a Hazardous Materials Business Plan from the San Bernardino County Fire Department Hazardous Materials Division that will permit the storage of hazardous materials and wastes in accordance with state and local regulations.

**Table 7.13-5  
Applicable Waste Management Laws, Ordinances, Regulations, and Standards  
(Page 1 of 3)**

<b>Laws, Ordinances, Regulations and Standards</b>	<b>Administering Agency</b>	<b>Applicability</b>	<b>AFC Section</b>
<b>Federal</b>			
RCRA Subtitle D (42 USC 6941-6949a)	U.S. EPA, Region IX and Cal-EPA; DTSC	Controls solid waste collectors, recyclers, and depositors.	Solid waste will be collected and disposed of by a collection company in conformance with RCRA Subtitle D. Project will meet standards for recordkeeping, labeling, notification, manifesting, and reporting. Sections 7.13.2 and 7.13.5
Title 40, Code of Federal Regulations, Part 260	U.S. EPA, Region IX	Contain regulations promulgated by the EPA to implement the requirements of RCRA as described above. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity, and specific types of wastes are listed.	Solid hazardous wastes will be tested prior to transport to landfills. Sections 7.13.2 and 7.13.5.
RCRA Subtitle C (42 USC 6921-6939b)	U.S. EPA, Region IX	Controls generation, storage, transportation, treatment, and disposal of hazardous waste.	Hazardous waste will be managed in conformance with RCRA Subtitle C. Sections 7.13.2 and 7.13.5
49 CFR 172, 173, and 179	California Highway Patrol and U.S. Department of Transportation	Controls labeling, placards, and packaging for hazardous waste shipments.	The proposed project will use required placards, packaging, and labels for hazardous waste shipments. Section 7.13.5

**Table 7.13-5  
Applicable Waste Management Laws, Ordinances, Regulations, and Standards  
(Page 2 of 3)**

<b>Laws, Ordinances, Regulations and Standards</b>	<b>Administering Agency</b>	<b>Applicability</b>	<b>AFC Section</b>
Clean Water Act	SWRCB; RWQCB Santa Ana Region	Controls discharge of wastewater to the surface waters of the U.S.	Discharge will be in accordance with CWA NPDES permit. Section 7.13.7
<b>State of California</b>			
California Integrated Waste Management Act, PRC 40000, et seq.	San Bernardino County Department of Environmental Health	Controls solid waste collectors, recyclers, and depositors. Hazardous wastes are not to be disposed of with non-hazardous wastes.	Solid waste will be collected and disposed of by a collection company in conformance with the CIWMA. Sections 7.13.4.1 and 7.13.4.2
Title 14, California Code of Regulations, 17200 Et Seq. (Minimum Standards for Solid Waste Handling and Disposal)	DTSC	Set forth-minimum standards for solid waste handling and disposal; guidelines to ensure conformance of solid waste facilities with county solid waste management plans, as well as enforcement and administration provisions.	Solid waste will be collected and disposed according to proper solid waste handling and disposal guidelines. Section 7.13.4.1 and 7.13.4.2.
Hazardous Materials Release Response Plans and Inventory, CA Health and Safety Code 25500-25541	DTSC; San Bernardino County Fire Department Hazardous Materials Division	Requires business plan for releases of hazardous materials.	The proposed project will ensure that a business plan consistent with the requirements of Section 25503 is prepared. Section 7.13.5.3
Porter-Cologne Water Quality Control Act	SWRCB; RWQCB Santa Ana Region	Controls discharge of wastewater to the surface and groundwaters of California.	Discharge will be in accordance with CWA/Porter-Cologne. Section 7.13.7
Hazardous Waste Control Law (HWCL), CA Health and Safety Code 25100 et seq.; 22 CCR 66001 et seq.	DTSC; San Bernardino County Fire Department Hazardous Materials Division	Controls storage, treatment, and disposal of hazardous waste.	Hazardous waste will be handled by contractors in conformance with HWCL. Sections 7.13.4.1 and 7.13.4.2

<b>Table 7.13-5 Applicable Waste Management Laws, Ordinances, Regulations, and Standards (Page 3 of 3)</b>					
<b>Laws, Ordinances, Regulations and Standards</b>	<b>Administering Agency</b>	<b>Applicability</b>	<b>AFC Section</b>		
Hazardous Waste Source Reduction and Management Review, 22 CCR 67100	DTSC; San Bernardino County Fire Department Hazardous Materials Division	Requires source reduction evaluation review and plan every 4 years.	The proposed project will prepare a plan for reducing the generation of hazardous waste and prepare associated performance reports. Sections 7.13.2 and 7.13.5		
22 CCR 66260-66270	DTSC; San Bernardino County Fire Department Hazardous Materials Division	Regulates generators of hazardous waste.	The proposed project will obtain generator identification number and comply with all generator requirements. Section 7.13.4.2		
<b>Local</b>					
San Bernardino County Code	San Bernardino County Code	A business emergency/contingency plan for the storage of hazardous materials and wastes.	The proposed project will prepare a business emergency/contingency plan for the storage of hazardous materials and wastes. Section 7.13.5		
None	San Bernardino County Fire Dept Hazardous Materials Division Emergency Response Program	Emergency spills	Will contain and clean emergency spills. Section 7.13.5.3		
<p>Notes:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>AFC = Application for Certification                      Cal-EPA = California Environmental Protection Agency                      CCR = California Code of Regulations                      CFR = Code of Federal Regulations                      CWA = Clean Water Act                      DTSC = Department of Toxic Substances Control                      HWCL = Hazardous Waste Control Law</p> </td> <td style="width: 50%; vertical-align: top;"> <p>LORS = laws, ordinances, regulations, and standards                      NPDES = National Pollutant Discharge Elimination System                      RCRA = Resource Conservation and Recovery Act                      RWQCB = Regional Water Quality Control Board                      SWRCB = State Water Resources Control Board                      USC = U.S. Code                      U.S. EPA = U.S. Environmental Protection Agency</p> </td> </tr> </table>				<p>AFC = Application for Certification                      Cal-EPA = California Environmental Protection Agency                      CCR = California Code of Regulations                      CFR = Code of Federal Regulations                      CWA = Clean Water Act                      DTSC = Department of Toxic Substances Control                      HWCL = Hazardous Waste Control Law</p>	<p>LORS = laws, ordinances, regulations, and standards                      NPDES = National Pollutant Discharge Elimination System                      RCRA = Resource Conservation and Recovery Act                      RWQCB = Regional Water Quality Control Board                      SWRCB = State Water Resources Control Board                      USC = U.S. Code                      U.S. EPA = U.S. Environmental Protection Agency</p>
<p>AFC = Application for Certification                      Cal-EPA = California Environmental Protection Agency                      CCR = California Code of Regulations                      CFR = Code of Federal Regulations                      CWA = Clean Water Act                      DTSC = Department of Toxic Substances Control                      HWCL = Hazardous Waste Control Law</p>	<p>LORS = laws, ordinances, regulations, and standards                      NPDES = National Pollutant Discharge Elimination System                      RCRA = Resource Conservation and Recovery Act                      RWQCB = Regional Water Quality Control Board                      SWRCB = State Water Resources Control Board                      USC = U.S. Code                      U.S. EPA = U.S. Environmental Protection Agency</p>				

### 7.13.6 Involved Agencies and Agency Contacts

Both the U.S. EPA and California Environmental Protection Agency regulate hazardous and non-hazardous waste and will be involved in the regulation of waste generated by the facility. However, hazardous waste laws are administered and enforced primarily through local agencies, including the local fire department. Nonhazardous waste laws are administered and enforced primarily by the San Bernardino County Department of Environmental Health, San Bernardino County Fire Department Hazardous Materials Division, and the SARWQCB. The San Bernardino County Fire Department Hazardous Materials Division will advise on the health effects of leaks and spills of hazardous materials and hazardous waste. The agencies and persons to contact for each type of waste are shown below. Appropriate local agencies and LORS associated with the proposed project will also be addressed before the construction and operation of the SGGS.

<b>Issue</b>	<b>Agency/Address</b>	<b>Contact/Title</b>	<b>Telephone</b>
Hazardous solid waste disposal	Department of Toxic Substances Control 1011 North Grandview Glendale, CA 91201-2205	Andre Amy DTSC Duty Officer	(818) 551-2830
Nonhazardous solid waste disposal	West Valley Recycling and Transfer Station 13373 Napa Street Fontana, CA 92335	Richard Dickson, Director	(909) 899-5501
Nonhazardous solid waste	Burtec Waste Industries, Inc. 9820 Cherry Avenue Fontana, CA 92335	Robert Kostlivy, Director	(909) 987-3717
Nonhazardous liquid waste discharged to a water surface body. Issues NPDES permit for Dewatering and Other Low Threat Discharges (Order No. 5-00-175)	Regional Water Quality Control Board; Santa Ana Region 3737 Main Street, #500 Riverside, CA 92501-3339	Jun Martirez (Senior Water Resource Control Engineer), Permitting, and Compliance and Enforcement	(951) 782-3258
Application for U.S. EPA identification generator number.	U.S. Environmental Protection Agency 55 Hawthorne Street San Francisco, CA 94105-3906	Tetra Tech EMI Attention: Notifications 135 Main Street, Suite 1800 San Francisco, CA 94105	(415) 495-8895
Hazardous solid waste.	San Bernardino County Fire Department Hazardous Materials Division 620 South E Street San Bernardino, CA 92415-0153	Peter Brierty, Fire Marshall	(909) 386-8401
All solid and liquid hazardous materials.	San Bernardino County Fire Department Hazardous Materials Division 620 South E Street San Bernardino, CA 92415-0153	Peter Brierty, Fire Marshall	(909) 386-8401

Issue	Agency/Address	Contact/Title	Telephone
Hazardous solid waste disposal	Department of Toxic Substances Control 1011 North Grandview Glendale, CA 91201-2205	Andre Amy DTSC Duty Officer	(818) 551-2830
Contact in case of spill	San Bernardino County Fire Department Hazardous Materials Division Emergency Response Program 620 South E Street San Bernardino, CA 92415-0153	Peter Brierty, Fire Marshall; Joe Ashbaker, Supervisor	(909) 356-3805
Fire Department contacts	San Bernardino County Fire Department 231 Oak Street Maxwell, CA 95955	Peter Brierty, Fire Marshall; Joe Ashbaker, Supervisor	(909) 356-3805, (909) 386-8401
NPDES = National Pollutant Discharge Elimination System U.S. EPA = U.S. Environmental Protection Agency			

### 7.13.7 Permits Required and Permit Schedule

Permits related to waste management are summarized in the following table.

Responsible Agency	Permit/Approval	Schedule
Santa Ana RWQCB	Construction Activities Stormwater General Permit; California RWQCB Water Quality Order 99-08-DWQ (Addresses stormwater during construction)	30 days prior to construction
Santa Ana RWQCB	Industrial Activities Stormwater General Permit; California RWQCB Water Quality Order 97-03-DWQ (Addresses stormwater during plant operation)	30 days prior to start of plant operations
Santa Ana RWQCB	San Bernardino County Municipal NPDES Stormwater Permit; California RWQCB Water Quality Order R8-2002-0012 (Addresses stormwater during plant operation)	30 days prior to start of plant operations
Santa Ana RWQCB	Form 200 – Application Report of Waste Discharge General Information for NPDES Permits and Waste Discharge Requirements (Addresses onsite septic system)	

### 7.13.8 References

CASQA (California Storm Water Quality Association), 2003, California Stormwater BMP Handbook for Construction, <http://www.cabmphandbooks.com>, January 2003.

URS Corporation, 2007. *Phase I Environmental Site Assessment of the Proposed San Gabriel Generating Station, Rancho Cucamonga, California*. March 13, 2007 [included as Appendix S].

U.S. EPA (U.S. Environmental Protection Agency), 1999. *Biennial RCRA Hazardous Waste Report*. U.S. Environmental Protection Agency