# 5.14 Waste Management

This section discusses the potential effects on human health and the environment from nonhazardous and hazardous waste generated at the Mariposa Energy Project (MEP). Section 5.14.1 describes project site investigations and the waste and waste streams that would be generated by the project. Section 5.14.2 provides an environmental analysis in terms of waste and waste disposal sites. Section 5.14.3 discusses potential cumulative effects. Section 5.14.4 describes mitigation measures. Section 5.14.5 presents laws, ordinances, regulations, and standards (LORS) that apply to the generated waste. Section 5.14.6 describes agencies with jurisdiction over the generated waste and gives contact information for those agencies. Section 5.14.7 describes permits required for generated waste and a schedule for obtaining those permits, and Section 5.14.8 provides the references used to prepare this section.

## 5.14.1 Affected Environment

This section discusses the condition of the MEP site, in terms of the potential need to remove or otherwise treat contaminated soil or groundwater at the site, and discusses the various nonhazardous and hazardous waste streams for MEP construction and operation. The facility will be located in northeastern Alameda County, California, on a 10-acre portion of a 158-acre parcel (known as the Lee Property) immediately south of the Pacific Gas and Electric Company (PG&E) Bethany Compressor Station and 230-kilovolt (kV) Kelso Substation.

### 5.14.1.1 Site Investigations

Investigations of the project site have been undertaken to assess whether contamination may be present. Results of a Phase I Environmental Site Assessment (ESA) are provided below.

#### 5.14.1.1.1 Phase I Environmental Site Assessment

CH2M HILL conducted a Phase I ESA in June 2008, in accordance with American Society for Testing and Materials Standard E 1527-05, Standard Practice for Environmental Site Assessments. The subject property is a 158-acre parcel located at 4901 Bruns Road near Byron, Alameda County, California. The property is located in the northwest quarter of Section 1, Township 2 South, Range 3 East. The subject property is identified by Alameda County Assessor's Parcel Number 099B-7050-001-10. Although only a portion of the subject property potentially will be used for the 10-acre power plant site, the Phase I ESA covers the entire subject property to allow for flexibility in site selection. Per the ESA, the facility is not identified on any of the federal and state environmental databases.

Historical aerial photos taken between 1940 and 1982 show that the site has remained undeveloped and agricultural in nature during this time. Between 1982 and 1993, a building development (the Byron Power Cogen Plant) appeared in the central part of the property with a dirt access road. Between 1993 and 1998, the site features remain unchanged.

The ESA report dated June 24, 2008, concluded that stained or suspect soil was not observed at the site. The ESA revealed no evidence of historical or existing recognized environmental conditions at the site, but did identify two areas of environmental concern because of

historical uses on the 158-acre parcel, neither of which are expected to affect MEP development:

- Historical, long-term use of the subject property as a power generation facility (Byron Power), potentially resulting in contamination of soil and groundwater by potential spills or releases from chemical compounds used onsite.
- Historical, long-term use of adjacent properties as stockyards, potentially resulting in contamination of soil and groundwater by nitrate from concentrated manure.

A copy of the Phase 1 ESA report is included in Appendix 5.14A.

### 5.14.1.2 Project Waste Generation

Wastewater, solid nonhazardous waste, and liquid and solid hazardous waste will be generated at the MEP site during facility construction and operation.

#### 5.14.1.2.1 Construction Phase

During construction, the primary waste generated will be solid nonhazardous waste. However, some nonhazardous liquid waste and hazardous waste (solid and liquid) will also be generated. All of the hazardous wastes will be generated at the plant site. The types of waste and their estimated quantities are described below. Typical wastes generated during construction are identified in Table 5.14-1.

**TABLE 5.14-1**
Potential Wastes Generated during Construction

| Waste | Origin | Composition | Estimated Quantity | Classification | Disposal |
|---|---|---|---|---|---|
| Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wool insulation | Construction waste | Normal refuse | 130 tons | Nonhazardous | Recycle and/or dispose of in a Class II or III landfill |
| Concrete waste | Construction | Solids | 120 tons | Nonhazardous | Recycle and/or dispose of in Class III Landfill |
| Scrap metals | Construction | Parts, wire, containers | 10 tons | Nonhazardous | Recycle and/or dispose of in a Class III landfill |
| Concrete from demolition | Demolition of existing wind turbine foundations | Solids | <1 ton | Nonhazardous | Recycle and/or dispose of in Class III Landfill |
| Metal from demolition | Disposal of on-site scrap | Solids | <1 ton | Nonhazardous | Recycle and/or dispose of in a Class III landfill |
| Sanitary waste | Portable toilet holding tanks | Water | 1,500 gallons per day | Nonhazardous liquid | Remove by contracted sanitary service |
| Empty hazardous material containers | Construction | Drums, containers, totes | 100 each | Hazardous and nonhazardous solids | Containers <5 gallons will be disposed as normal refuse. Containers >5 gallons will be returned to vendors for recycling or reconditioning. |

**TABLE 5.14-1**
Potential Wastes Generated during Construction

| Waste | Origin | Composition | Estimated Quantity | Classification | Disposal |
|---|---|---|---|---|---|
| Spent welding materials | Construction | Solid | 4,000 lb. | Hazardous | Disposal at a Class I landfill |
| Waste oil | Construction equipment, vehicles | Hydrocarbons | 400 gallons | Non-RCRA hazardous liquid | Dispose at a permitted TSD facility |
| Waste oil filters | Construction equipment and vehicles | Solids | 2,000 lb. | Nonhazardous | Recycle at a permitted TSD facility |
| Used and waste lube oil | CTG lube oil flushes | Hydrocarbons | 4,000 gallons | Hazardous | Recycle at a permitted TSD facility |
| Oily rags, oil sorbent excluding lube oil flushes | Cleanup of small spills | Hydrocarbons | 1,000 lb. | Hazardous | Recycle or dispose at a permitted TSD facility |
| Solvents, paint, adhesives | Maintenance | Solvents | 1,000 gallons | Hazardous | Recycle at a permitted TSD facility |
| Spent lead acid batteries | Equipment | Heavy metals | 100 lb. | Hazardous | Store no more than 10 batteries (up to 1 year) – recycle offsite. |
| Spent alkaline batteries | Equipment | Metals | 100 lb. | Universal Waste solids | Recycle or dispose offsite at an Universal Waste Destination Facility |
| Passivating and chemical cleaning fluid waste | Pipe cleaning and flushing | Water | 10,000 gallons once prior to initial start up | Hazardous or nonhazardous liquid | Sample and characterize – manage accordingly and dispose appropriately offsite |
| Hydrotest water | Testing equipment and piping integrity | Water | 150,000 gallons | Hazardous or nonhazardous liquid | Sample and characterize – manage accordingly and dispose appropriately offsite |

RCRA = Resource Conservation and Recovery Act
TSD = treatment, storage, and disposal
lb = pound(s)

### *Nonhazardous Solid Waste*

Listed below are nonhazardous waste streams that could potentially be generated from construction of the generating facility and the electric transmission line.

*Paper, Wood, Glass, and Plastics*—Approximately 130 tons of paper, wood, glass, and plastics will be generated from packing materials, waste lumber, insulation, and empty nonhazardous chemical containers during project construction. These wastes will be recycled where practical. Waste that cannot be recycled will be disposed of weekly in a Class III landfill. Onsite, the waste will be placed in dumpsters.

*Concrete*—Approximately 120 tons of excess concrete will be generated during construction of the facility. Waste concrete will be disposed of weekly in a Class III landfill or at clean fill sites, if available, or will be recycled and disposed of at a construction and demolition site.

*Metal*—Approximately 10 tons of metal, including steel from welding/cutting operations, packing materials, and empty nonhazardous chemical containers, and aluminum waste from packing materials and electrical wiring will be generated during construction. Waste will be recycled where practical, and nonrecyclable waste will be deposited in a Class III landfill.

#### *Wastewater*

Wastewater generated during construction will include sanitary waste, stormwater runoff, equipment washdown water, and water from excavation dewatering during construction (if dewatering is required). Depending on the chemical quality of these wastewaters, they could be classified as hazardous or nonhazardous. As discussed later in this section, the wastewaters would be sampled and, if they are hazardous, would be disposed of at an approved facility. Methods for disposing of nonhazardous wastewaters are identified in Section 5.14.1.2.2.

#### *Hazardous Waste*

Most of the hazardous waste generated during construction will consist of liquid waste, such as flushing and cleaning fluids, passivating fluid (to prepare pipes for use), and solvents. Some hazardous solid waste, such as welding materials and dried paint, may also be generated during construction.

Flushing and cleaning waste liquid will be generated as pipes are cleaned and flushed. The volume of flushing and cleaning liquid waste generated is estimated to be one to two times the internal volume of the pipes cleaned. The quantity of welding, solvent, and paint waste is expected to be minimal. Wastewaters generated during construction could also be considered hazardous, if demonstrated so by sampling. Methods for recycling and disposal of hazardous wastes during construction are described later in this section.

The construction contractor will be considered the generator of hazardous construction waste and will be responsible for proper handling of hazardous waste in compliance with all applicable federal, state, and local laws and regulations. This responsibility will include licensing, personnel training, accumulation limits and times, and reporting and recordkeeping. The hazardous waste will be collected in satellite accumulation containers near the points of generation. It will be moved daily to the contractor's 90-day hazardous waste storage area located at the site construction laydown area. The waste will be removed from the site by a certified hazardous waste collection company and delivered to an authorized hazardous waste management facility before expiration of the 90-day storage limit.

### 5.14.1.2.2 Operation Phase

During MEP facility operation, the primary waste generated will be nonhazardous solid waste. However, varying quantities of both solid and liquid hazardous waste will be generated periodically. The types of wastes and their estimated quantities are discussed below.

#### *Nonhazardous Solid Waste*

MEP will produce facility wastes typical of power generation facility operations and maintenance activities. These wastes will include rags, turbine air filters, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, typical

refuse generated by workers and small office operations, and other miscellaneous solid wastes. Additionally, the facility will generate trailer-mounted deionization water treatment and zero-liquid discharge (ZLD) waste water units, which will be shipped back to the vendor for regeneration and reuse. The quantity of all solid nonhazardous waste generated is estimated to be about 39 tons per year. Large metal parts will be recycled.

### *Nonhazardous Wastewater*

Water balance diagrams, Figures 2.1-5a and 2.1-5b, show the expected wastewater streams and flow rates for MEP for the annual average and summer conditions, respectively. The primary wastewater collection system for general facility drainage will consist of area washdown, sample drains, equipment leakage, and drainage from facility equipment areas. Water from these areas will be collected in a system of floor drains, hub drains, sumps, and piping, and will be routed to the facility's oil/water separator before recycling the water after ZLD unit treatment. The secondary wastewater collection system will collect sanitary wastewater from sinks, toilets, showers, and other sanitary facilities, which will be treated via an onsite septic system or pumped out and transferred via truck for offsite treatment. The wastewater collection system is further described in Section 5.15, Water Resources.

### *Hazardous Waste*

Hazardous waste generated will include waste lubricating oil, used oil filters from turbine equipment, spent catalysts, and turbine water wash wastes. The catalyst units will contain heavy metals that are considered hazardous. Turbine water wash wastes will be generated from periodic cleaning of the combustion turbine generators (CTGs). These wastes may contain elevated concentrations of heavy metals and will be collected for offsite disposal.

The chemical storage and use containment area drains will collect spillage, tank overflows, effluent from maintenance operations, and liquid from area washdowns. After testing, water collected from the chemical storage containment areas will be directed to the oil/water separator for treatment and onsite recycling or shipped offsite for disposal. The quantity of this effluent is expected to be minimal.

Wastes that potentially will be generated during operations at the facility are summarized in Table 5.14-2.

**TABLE 5.14-2**
Potential Wastes Generated during Operations

| Waste | Origin | Composition | Estimated Quantity | Classification | Disposal |
|---|---|---|---|---|---|
| Lubricating oil | Small leaks and spills from the gas-turbine lubricating-oil system | Hydrocarbons | ~110 gallons/year | Hazardous | Cleaned up using sorbent and rags—disposed of by certified oil recycler |
| Lubricating oil filters | Gas-turbine lubricating-oil system | Paper, metal, and hydrocarbons | ~600 lb/year | Hazardous | Recycled or disposed of by certified oil recycler |
| SCR catalyst units | SCR system (use tends to be 5 years) | Metal and heavy metals, including vanadium | 132,000 lb every 5 years | Hazardous | Recycled by SCR manufacturer or disposed of in Class I landfill |

**TABLE 5.14-2**
Potential Wastes Generated during Operations

| Waste | Origin | Composition | Estimated Quantity | Classification | Disposal |
|---|---|---|---|---|---|
| CO catalyst units | CO catalyst (use tends to be 5 years) | Metal and heavy metals | 20,000 lb every 5 years | Hazardous | Recycled by manufacturer |
| Oily rags | Maintenance, wipe-down of equipment, etc. | Hydrocarbons, cloth | ~520 lb/year (~1,200 rags/year) | Hazardous | Recycled or disposed of by certified oil recycler |
| Oil sorbents | Cleanup of small spills | Hydrocarbons | ~100 lb/year | Hazardous | Recycled or disposed of by certified oil recycler |
| Deionization trailer unit | Water treatment process | Metal and resins | Up to 173 trailers per year of operation | Nonhazardous | Recycled by water treatment manufacturer |
| ZLD activated carbon filtration trailer unit | Oil/water separator effluent treatment | Activated carbon containing hydrocarbons | Up to 1 trailer per year of operation | Nonhazardous | Recycled by ZLD vendor |

CO = carbon monoxide
lb = pound(s)
SCR = selective catalytic reduction

## 5.14.2 Environmental Analysis

### 5.14.2.1 Significance Criteria

Under CEQA Guidelines Section 15002(g), Appendix G, a project is considered potentially significant in terms of waste management if it:

- Is located on a site that is included on a list of hazardous materials sites (Cortese List) compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment
- Has solid waste disposal needs beyond the capacity of appropriate landfills to accommodate them

The risks or hazards posed by the transportation of hazardous materials, including hazardous wastes, are described and analyzed in Section 5.5, Hazardous Materials Handling.

### 5.14.2.2 Cortese List

An examination of the California Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List compiled pursuant to Government Code Section 65962.5 (Cortese List) shows that the MEP site is not located on a Cortese-listed site. There are 68 sites currently on the Cortese List for Alameda and San Joaquin counties. Of these 68 sites, four are located within the city limits of Tracy (DTSC, 2009a).

Of the four sites near MEP, the Renown Homes (Renown) site in Tracy, on the corner of Tracy Boulevard and Beechnut Avenue, is the closest. The Renown site is approximately 9.7 miles from the MEP site. The size and past operations of the Renown site are unknown. The Renown site contained hazardous waste storage tanks/containers, and past operations resulted in soil and groundwater contamination. Groundwater contamination was discovered beneath the site. Potential contaminants of concern include arsenic, total petroleum hydrocarbons (TPH), and polyaromatic hydrocarbons (PAHs).

The MEP site is not affected by the Renown site because of the distance between the two sites.

#### 5.14.2.3 Solid Waste Disposal

Nonhazardous solid waste (often referred to as solid waste, municipal solid waste, or garbage) will be recycled or deposited in a Class III landfill. Hazardous wastes, both solid and liquid, will be delivered to a permitted offsite treatment, storage, and disposal (TSD) facility for treatment or recycling, or will be deposited in a permitted Class I landfill. The following sections describe the waste disposal sites feasible for disposal of MEP wastes.

##### 5.14.2.3.1 Nonhazardous Waste

Approximately 159 tons of solid nonhazardous waste will be generated during MEP's construction, and approximately 39 tons per year of solid waste will continue to be generated during operation of the project. Other solid wastes will be recycled to the extent possible, and what cannot be recycled will be disposed of at a permitted landfill as discussed below.

It is anticipated that all excavated soil will be used onsite for grading and leveling purposes. In the event that some of the excavated soil will not be reused onsite, classification of the soil for disposal would be made on the basis of generator knowledge and sampling, if warranted or required, once the soil is excavated and stockpiled. Soil that is determined to be nonhazardous could be suitable for reuse at a construction site or disposal at a regional disposal facility.

The City of Tracy has contracts with the Tracy Delta Solid Waste Management, Inc. (TDSWM) to handle the services of trash collection and recycling. Although MEP is outside the Tracy city limits, solid waste disposal services will be provided by TDSWM. The waste will be taken to the Tracy Material Recovery and Transfer Facility at 30703 S. MacArthur Drive, Tracy, California, and then will be separated and sent to the Foothill Landfill located in Linden, California (TDSWM, 2009). The most likely alternatives to the Foothill Landfill are the Vasco Road Landfill and the Altamont Landfill in Livermore.

As shown in Table 5.14-3, adequate landfill capacity exists; therefore, disposal of solid nonhazardous waste will not be a constraint on MEP development.

**TABLE 5.14-3**
Solid Waste Disposal Facilities in the Vicinity of MEP

| Landfill/MRF/ Transfer Station | Location | Class | Permitted Capacity* (Cubic Yards) | Remaining Capacity* (Cubic Yards) | Permitted Throughput* (Tons per Day) | Estimated Closure Date* | Violation of Minimum State Standards Noted* |
|---|---|---|---|---|---|---|---|
| Tracy Material Recovery and Transfer Facility | Tracy | Transfer Station | 1,000 tons/day | NA | 1,000 | NA | Areas of concern noted during 3/2009 inspection. Violation in 12/2007 for load checking. |
| Foothill Sanitary Landfill | Linden | III | 102,000,000 | 97,900,000 | 1,500 | 1/1/2054 | Area of concern noted for gas monitoring and control in 2/2009 inspection. No violations since 6/2007. |
| Vasco Road Landfill | Livermore | II and III | 31,942,205 | 9,870,704 | 2,250 | 1/1/2015 | Area of concern noted for litter control in 4/2009 inspection. No violations noted since 7/2007. |
| Altamont Landfill | Livermore | II and III | 62,000,000 | 45,720,000 | 11,500 | 1/1/2029 | Area of concern noted for reporting excessive gas control in 3/2009 inspection. No violations noted in 1/2008. |

* Based on California Integrated Waste Management Board (CIWMB) Solid Waste Information System Database (CIWMB, 2009a).

MRF = materials recovery facility

#### 5.14.2.3.2 Hazardous Waste

Hazardous waste generated at MEP will be stored at the facility for less than 90 days. The waste will then be transported to a TSD facility by a permitted hazardous waste transporter. These facilities vary considerably in what they can do with the hazardous waste they receive. Some can only store waste, some can treat the waste to recover usable products, and others can dispose of the waste by incineration, deep-well injection, or landfilling. (Incineration and deep-well injection of these materials are not permitted in California.)

According to DTSC, there are 61 facilities in California that can accept hazardous waste for treatment and recycling (DTSC, 2009b). For ultimate disposal, California has the three hazardous waste (Class I) landfills. The closest commercial hazardous waste disposal facility is the Waste Management Kettleman Hills Landfill in Kings County, California.

#### *Clean Harbors Buttonwillow Landfill*

This landfill is permitted at 14.3 million cubic yards (CIWMB, 2009a; Buoni, 2009) and has approximately 9.2 million cubic yards of remaining capacity as of April 2009 (Buoni, 2009). At the current deposit rate, the landfill is permitted to accept waste until 2040 (CIWMB, 2009a). Buttonwillow has been permitted to accept all hazardous wastes except flammables, polychlorinated biphenyls (PCBs) with a concentration greater than 50 parts per million, medical waste, explosives, and radioactive waste with radioactivity greater than 1,800 picocuries (Buoni, 2009).

#### *Clean Harbors Westmoreland Landfill*

This facility is not currently open and accepting waste because the Buttonwillow facility can accommodate the current hazardous waste generation rate. The facility is, however, available in reserve and could be reopened if necessary. The landfill's conditional use permit prohibits the acceptance of some types of waste, including radioactive (except geothermal) waste, flammables, biological hazard waste (medical), PCB, dioxins, air- and water-reactive wastes, and strong oxidizers.

#### *Waste Management Kettleman Hills Landfill*

This facility accepts Class I and II waste. The B-18 Landfill is permitted for and will accept all hazardous wastes except radioactive, medical, and unexploded ordinance; this landfill has permitted capacity of 10 million cubic yards with a remaining capacity of approximately 800,000 cubic yards as of April 2009 (Turek, 2009). The life expectancy remaining for Landfill B-18 is about 1 year, although expansion of the facility is anticipated. Expansion of the facility would change the closure date to 2036 (Turek, 2009).

#### *Additional Facilities*

In addition to hazardous waste landfills, there are numerous offsite commercial liquid hazardous waste treatment and recycling facilities in California. Some of the closest facilities include Clean Harbors, Noranda Recycling, Inc., and WIT Refining in San Jose; AERC.COM Inc., in Hayward; J&B Enterprises in Santa Clara; and Safety Kleen Corp in Sacramento (DTSC, 2009b).

### 5.14.2.4 Waste Disposal Summary

MEP will generate nonhazardous solid waste that will add to the total waste generated in Alameda County and in California. However, there is adequate recycling and landfill capacity in California to recycle and dispose of the waste generated by MEP. It is estimated that MEP will generate approximately 159 tons of solid waste during construction and about 39 tons a year from operations. Considering that 1,790,756 tons of solid waste were landfilled in Alameda County in the year 2008, MEP's contribution will likely represent a fraction of the county's total waste generation (CIWMB, 2009b). Therefore, the impact of the project on solid waste recycling and disposal capacity will not be significant.

Hazardous waste generated will consist of waste oil, filters, SCR and oxidation catalysts, and fluids used to clean piping. The waste oil, catalysts, and both the deionization and ZLD

trailer units will be recycled. Hazardous waste treatment and disposal capacity in California is more than adequate. Therefore, MEP's effect on hazardous waste recycling, treatment, and disposal capability will not be significant.

## 5.14.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Pub. Resources Code § 21083; California Code of Regulations., title 14, §§ 15064(h), 15065(c), 15130, and 15355).

Additional projects near the MEP site include the following:

- Mountain House community build out
- East Altamont Energy Center
- Green Volts Utility Scale Solar Field, located on Kelso Road, across from the Tracy Substation
- Altamont Motorpark Sports Rezoning
- Midway Power, LLC Project
- Jess Ranch Organics Composting Facility, located south of I-580/Grant Line Road.

Because the MEP site would not result in significant adverse impacts, impacts from MEP would not likely combine with those from the projects listed above to result in cumulatively considerable impacts.

The quantities of nonhazardous and hazardous wastes that will be generated during construction and operation of MEP will be relatively low, at an estimated 159 tons of solid waste during construction and approximately 39 tons per year during operation. Recycling efforts will be prioritized wherever practical, and capacity is available in a variety of treatment and disposal facilities. There is sufficient landfill capacity available in the project area. Therefore, these added waste quantities generated by MEP will not result in significant cumulative waste management impacts.

## 5.14.4 Mitigation and Waste Management Methods

The handling and management of waste generated by MEP will follow the hierarchical approach of source reduction, recycling, treatment, and disposal. The first priority will be to reduce the quantity of waste generated through pollution prevention methods (e.g., high-efficiency cleaning methods). The next level of waste management will involve reusing or recycling wastes (e.g., used oil recycling). For wastes that cannot be recycled, treatment will be used, if possible, to make the waste nonhazardous (e.g., neutralization). Finally, offsite disposal will be used to dispose of residual wastes that cannot be reused, recycled, or treated.

The following sections present methods for managing both nonhazardous and hazardous waste generated by MEP.

### 5.14.4.1 Construction Phase

Requirements and mitigation measures for the handling of wastes during construction are described in the following sections.

#### 5.14.4.1.1 Nonhazardous Wastes

Nonhazardous solid waste generated during construction will be collected in onsite dumpsters and picked up periodically by TDSWM. The waste will then be taken to the Tracy Material Recovery and Transfer Facility. Recyclable materials can be segregated and transported by construction contractors or other private haulers to an area recycling facility.

Wastewater generated during construction will include sanitary waste and could include excavation dewatering water, equipment washwater, and stormwater runoff. Sanitary waste will be collected in an onsite septic tank. Excavation dewatering water will be contained in portable tanks and sampled prior to disposal offsite. Equipment washwater will be contained at designated wash areas and will be disposed of offsite. Stormwater runoff will be managed in accordance with an approved stormwater pollution prevention plan (SWPPP), which will be developed prior to the start of construction. The generation of nonhazardous wastewater will be minimized through water conservation and reuse measures.

#### 5.14.4.1.2 Hazardous Wastes

Most of the hazardous waste generated during construction will consist of liquid waste, such as flushing and cleaning fluids, passivating fluids, and solvents. Some solid waste, in the form of welding materials and dried paint, may also be generated. Nonhazardous materials will be used whenever possible to minimize the quantity of hazardous waste generated. The construction contractor will be the generator of hazardous construction waste and will be responsible for proper handling in compliance with all applicable federal, state, and local laws and regulations, including licensing, training of personnel, accumulation limits and times, and reporting and recordkeeping. The hazardous waste will be collected in satellite accumulation containers near the points of generation. This waste will be moved daily to the contractor's 90-day hazardous waste storage area, located at the plant construction laydown area. The waste will be delivered to an authorized hazardous waste management facility, before expiration of the 90-day storage limit.

### 5.14.4.2 Operation Phase

The primary waste generated during the operation phase will be nonhazardous wastewater. Other nonhazardous solid waste and varying quantities of liquid and solid hazardous waste also will be generated. Handling requirements and mitigation measures for the handling of wastes during operation are described in the following sections.

#### 5.14.4.2.1 Nonhazardous Wastes

Wastewater from facility sinks, toilets, and showers will be handled through on onsite septic tank and leach field system, or pumped out and removed via truck for offsite treatment. Nonhazardous plant wastewater will be routed to an onsite oil/water separator before being recycled for onsite use after treatment by the trailer-mounted activated carbon filtration ZLD system.

Nonhazardous solid waste or refuse will be collected and deposited in a local landfill. Whenever practical, recycling will be implemented throughout the facility to minimize the quantity of nonhazardous waste that must be disposed of in a landfill.

Spent deionization water treatment and ZLD wastewater treatment trailer units will be recycled by the respective suppliers.

#### 5.14.4.2.2 Hazardous Wastes

To avoid potential effects on human health and the environment from handling and disposing of hazardous wastes, procedures will be developed to ensure proper labeling, storage, packaging, recordkeeping, and disposal of all hazardous wastes. The following general procedures will be employed:

- MEP will be classified as a hazardous waste generator and will obtain a site-specific U.S. Environmental Protection Agency (EPA) identification number that will be used to manifest hazardous waste from the MEP facility. Hazardous waste from MEP will be stored onsite for less than 90 days before offsite disposal, treatment, or recycling.
- Hazardous wastes will be accumulated at the generating facility according to the California Code of Regulations Title 22 requirements for hazardous waste generators.
- Hazardous wastes will be stored in appropriately segregated storage areas surrounded by berms to contain leaks and spills. The bermed areas will be sized to hold the full contents of the largest single container and, if not roofed, sized for an additional 20 percent to allow for rainfall. These areas will be inspected daily.
- Hazardous wastes will be collected by a licensed hazardous waste hauler, using a hazardous waste manifest. Wastes will be shipped only to authorized hazardous waste management facilities. Biannual hazardous waste generator reports will be prepared and submitted to the DTSC. Copies of manifests, reports, waste analyses, and other documents will be kept onsite and will remain accessible for inspection for at least 3 years.
- Employees will be trained in hazardous waste procedures, spill contingencies, and waste minimization.
- Procedures will be developed to reduce the quantity of hazardous waste generated. Nonhazardous materials will be used instead of hazardous materials whenever practical, and wastes will be recycled whenever practical.

Specifically, hazardous waste handling will include the following practices. Handling of hazardous wastes in this way will minimize the quantity of waste deposited to landfills:

- Waste lubricating oil will be recovered and recycled by a waste oil recycling contractor.
- Spent oil filters and oily rags will be recycled.
- Spent SCR and oxidation catalysts will be recycled by the supplier, if possible, or disposed of in a Class I landfill.
- Turbine wash water wastes, which are subject to elevated metal concentrations, will be stored temporarily onsite in portable tanks and disposed of offsite in accordance with applicable regulatory requirements.

### 5.14.4.3 Facility Closure

When MEP is closed, nonhazardous and hazardous wastes must be handled properly. Closure can be temporary or permanent. Temporary closure would be for a period of time greater than the time required for normal maintenance, including overhaul or replacement of the combustion turbines. Causes for temporary closure could be a disruption in the

supply of natural gas; flooding of the site; or damage to the plant from earthquake, fire, storm, or other natural causes. Permanent closure would consist of a cessation in operations with no intent to restart operations and could result from the age of the plant, damage to the plant beyond repair, economic conditions, or other unforeseen reasons. The following sections address waste handling of wastes for these two types of closure.

#### 5.14.4.3.1 Temporary Closure

For a temporary closure, where there is no release of hazardous materials, facility security will be deployed on a 24-hour basis, and the California Energy Commission will be notified. Depending on the length of shutdown necessary, a contingency plan for the temporary cessation of operations will be implemented. This plan will be prepared as described in the plant closure section. The plan will be developed to ensure conformance with all applicable LORS and the protection of public health and safety and the environment. The plan, depending on the expected duration of the shutdown, could include draining all chemicals from storage tanks and other equipment and the safe shutdown of all equipment. All wastes will be disposed of according to applicable LORS, as discussed in Section 5.14.5.

Where the temporary closure is in response to facility damage, or where there is a release or threatened release of hazardous waste or materials into the environment, procedures will be followed as set forth in an Emergency Response Plan (ERP). Procedures include methods to control releases, notification of applicable authorities and the public, emergency response, and training for generating facility personnel in responding to and controlling releases of hazardous materials and hazardous waste. Once the immediate problem of hazardous waste and materials release is contained and cleaned up, temporary closure will proceed as described for a closure where there is no release of hazardous materials or waste.

#### 5.14.4.3.2 Permanent Closure

The planned life of the generation facility is 40 years, although operation could be longer. When the facility is permanently closed, the handling of nonhazardous and hazardous waste and hazardous materials will be part of a general closure plan that will attempt to maximize the recycling of facility components. Unused chemicals will be sold back to the suppliers or other purchasers or users. All equipment containing chemicals will be drained and shut down to protect public health and safety and the environment. All nonhazardous wastes will be collected and disposed of in appropriate landfills or waste-collection facilities. All hazardous wastes will be disposed of according to applicable LORS. The site will be secured 24 hours per day during decommissioning activities.

#### 5.14.4.3.3 Monitoring

Monitoring programs will be implemented during temporary or permanent closure based on the potential risk of releases to the environment. Following the removal of all materials and wastes from the facility, no additional monitoring would be required.

## 5.14.5 Laws, Ordinances, Regulations, and Standards

Nonhazardous and hazardous waste handling at MEP will be governed by federal, state, and local laws. Applicable laws and regulations address proper waste handling, storage, and disposal practices to protect the environment from contamination and to protect facility workers and the surrounding community from exposure to nonhazardous and hazardous

waste. Table 5.14-4 presents a summary of the LORS applicable to waste handling at the MEP facility.

**TABLE 5.14-4**
Laws, Ordinances, Regulations, and Standards for Waste Management

| LORS | Requirements/Applicability | Administering Agency | Application for Certification Section Explaining Conformance |
|---|---|---|---|
| **Federal** | | | |
| RCRA Subtitle D | Regulates design and operation of solid waste landfills. MEP solid waste will be collected and disposed of by a collection company in conformance with Subtitle D. | CIWMB | Sections 5.14.5.1, 5.14.4.1, 5.14.4.2.1, and 5.14.1.2.2 |
| RCRA Subtitle C | Controls storage, treatment, and disposal of hazardous waste. Hazardous waste will be handled by contractors in conformance with Subtitle C. | DTSC | Sections 5.14.5.1, 5.14.4.1.2, 5.14.4.2.2, and 5.14.1.2.2 |
| Clean Water Act | Controls discharge of wastewater to the surface waters of the United States. MEP will discharge plant wastewater to an onsite tank for disposal offsite. Sanitary wastewater will be stored onsite. | Regional Water Quality Control Board | Sections 5.14.5.1, 5.14.4.1.1, and 5.14.4.2.1 |
| **State** | | | |
| California Integrated Waste Management Act (CIWMA) | Controls solid waste collectors, recyclers, and depositors. MEP solid waste will be collected and disposed of by a collection company in conformance with the CIWMA. | CIWMB | Sections 5.14.5.2, 5.14.4.1, 5.14.4.2.1, and 5.14.1.2.2 |
| Hazardous Waste Control Law (HWCL) | Controls storage, treatment, and disposal of hazardous waste. Hazardous waste will be handled by contractors in conformance with the HWCL. | DTSC | Sections 5.14.5.2, 5.14.4.1.2, 5.14.4.2.2, and 5.14.1.2.2 |
| Porter-Cologne Water Quality Control Act | Controls discharge of wastewater to surface waters and groundwaters of California. MEP will discharge plant wastewater to an onsite tank for disposal offsite. Sanitary wastewater will be stored onsite. | Regional Water Quality Control Board | Sections 5.14.5.2, 5.14.4.1.1, and 5.14.4.2.1 |
| California Fire Code | Controls storage of hazardous materials and wastes and the use and storage of flammable/combustible liquids. Wastes will be accumulated and stored in accordance with Fire Code requirements. Permits for storage containers will be obtained, as needed, from the City of Tracy Fire Department. | Alameda County and City of Tracy Fire Departments | Sections 5.14.7, 5.14.5.4, and 5.14.4.2.2 |

**TABLE 5.14-4**
Laws, Ordinances, Regulations, and Standards for Waste Management

| LORS | Requirements/Applicability | Administering Agency | Application for Certification Section Explaining Conformance |
|---|---|---|---|
| **Local** | | | |
| East County Area Plan, Policies 247, 248, 249, and 250 | Provides guidance to ensure the safe and efficient disposal or recycling of wastes. MEP will comply with the county's requirements as detailed in Special Services Facilities, pages 62-63, of the Area Plan. | Alameda County Department of Environmental Health, Hazardous Material Division | Sections 5.14.7, 5.14.5.3, and 5.14.4.2.2 |
| Alameda County Integrated Waste Management Plan | Provides guidance for local management of solid waste and household hazardous waste (incorporates the county's Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste). Waste will be recycled in a manner consistent with applicable LORS. | Alameda County Solid Waste Management Program | Sections 5.14.6, 5.14.5.3, and 5.14.4.1.2 |
| Alameda County Department of Environmental Health, Hazardous Material Division (HMD) various programs | HMD is the Certified Unified Program Agency (CUPA) for Alameda County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. HMD programs include assistance with oversight on property redevelopment (i.e., brownfields); and voluntary or private oversight cleanup assistance. MEP will comply with HMD requirements concerning storage and handling of hazardous materials and wastes and will also cooperate with HMD on resolution of environmental issues at the site. | Alameda County Department of Environmental Health, HMD | Sections 5.14.6, 5.14.7, 5.14.5.3, and 5.14.4.2.2 |

RCRA = Resource Conservation and Recovery Act

### 5.14.5.1 Federal LORS

The EPA regulates wastewater under the Clean Water Act (CWA). The federal statute that controls both nonhazardous and hazardous waste is the Resource Conservation and Recovery Act (RCRA) 42 USC 6901, et seq. RCRA's implementing regulations are found at 40 Code of Federal Regulations 260, et seq. Subtitle D assigns responsibility for the regulation of nonhazardous waste to the states; federal involvement is limited to establishing minimum criteria that prescribe the best practicable controls and monitoring requirements for solid waste disposal facilities. Subtitle C controls the generation, transportation, treatment, storage, and disposal of hazardous waste through a comprehensive cradle-to-grave system of hazardous waste management techniques and requirements. It applies to all states and to all hazardous waste generators (above certain levels of waste produced). MEP will conform to this law in its generation, storage, transport,

and disposal of any hazardous waste generated at the facility. The EPA has delegated its authority for implementing the law to the State of California.

### 5.14.5.2 State LORS

Wastewater is regulated by the State and Regional Water Quality Control Boards under the Porter-Cologne Water Quality Control Act. Nonhazardous solid waste is regulated by the California Integrated Waste Management Act (CIWMA) of 1989, found in Public Resources Code Section 40000, et seq. This law provides an integrated statewide system of solid waste management by coordinating state and local efforts in source reduction, recycling, and land disposal safety. Counties are required to submit Integrated Waste Management Plans to the state. This law directly affects Alameda County and the solid waste hauler and disposer that will collect MEP solid waste. It also affects MEP to the extent that hazardous wastes are not to be disposed of along with solid waste.

RCRA allows states to develop their own programs to regulate hazardous waste. The programs must be at least as stringent as RCRA. California has developed its own program in the California Hazardous Waste Control Law (HWCL) (Health and Safety Code Section 25100, et seq.). Because California has elected to develop its own program, the HWCL performs essentially the same regulatory functions as RCRA and is the law that will regulate hazardous waste at MEP. However, the HWCL includes hazardous wastes that are not classified as hazardous waste under RCRA. Because hazardous wastes will be generated at MEP during construction and operation, the HWCL will require the applicant to adhere to storage, recordkeeping, reporting, and training requirements for these wastes.

### 5.14.5.3 Local LORS

The Alameda County Solid Waste Management Program is certified by the CIWMB as the Local Enforcement Agency for solid waste facilities in Alameda County and will be responsible for administering and enforcing the CIWMA for solid, nonhazardous waste for MEP.

For hazardous waste, local regulation consists primarily of the administration and enforcement of the HWCL. Alameda County Department of Environmental Health HMD is the local entity responsible for inspecting hazardous waste generators and reviewing their procedures for storage, treatment, and disposal of hazardous wastes and for environmental contamination issues and site redevelopment (i.e., brownfields development)

The City of Tracy manages waste generation, recycling, and disposal programs through their Office of Conservation and Environment. In this regard, the city provides assistance to businesses in achieving their overall goal of maximizing recycling and minimizing waste that gets landfilled. The East County Area Plan (Alameda County, 2000) also provides guidance for remediation of contaminated sites and for siting and management of facilities that store, collect, treat, dispose, or transfer hazardous waste.

For emergency spills, Alameda County Fire Department (ACFD) has a countywide hazardous materials (hazmat) team consisting of firefighters who have completed formal training in hazardous materials incident response. The hazmat team will identify the type and source of the hazardous material, oversee evacuation of people, and confine the spilled material, if possible. Cleanup of the material is the responsibility of the facility causing the

spill. ACFD firefighters are the first responders to any hazardous materials emergencies. Three hazmat teams are located in Alameda County, based at Stations 4, 12, and 20. The closest, and first responding team to MEP, is from Station 20, located at 7000 East Avenue in Livermore. This team consists of nine staff—two trained to a specialist level, six technicians, and a battalion chief who acts as incident commander. All equipment and personal are trained at a Level A/Type I level.

### 5.14.5.4 Codes

The design, engineering, and construction of hazardous waste storage and handling systems will be in accordance with all applicable codes and standards, including:

- The Uniform Fire Code
- The Uniform Building Code
- The Uniform Plumbing Code
- California Building Code
- California Fire Code

## 5.14.6 Agencies and Agency Contacts

Several agencies, including EPA at the federal level and the DTSC and California Environmental Protection Agency at the state level, regulate nonhazardous and hazardous waste and will be involved in the regulation of the waste generated by MEP. The regulations, however, are administered and enforced primarily through the Alameda County Department of Environmental Health HMD, which is the designated CUPA. The persons to contact for nonhazardous and hazardous waste management are listed in Table 5.14-5.

**TABLE 5.14-5**
Agency Contacts for Waste Management

| Issue | Agency | Contact |
|---|---|---|
| **Nonhazardous Waste** | | |
| Solid Waste | Alameda County<br>Office of Solid/Medical Waste Management | Karen Moroz<br>Supervising Environmental Health Specialist<br>Solid & Medical Waste Program<br>1131 Harbor Bay Parkway, Suite 226<br>Alameda, CA 94502-6577<br>Telephone (510) 567-6790 |
| **Hazardous Waste** | | |
| Hazardous Waste Compliance and Inspections | Alameda County<br>Department of Environmental Health,<br>Hazardous Materials Division | Rosana Garcia<br>Hazardous Materials Duty Specialist<br>1131 Harbor Bay Parkway<br>Alameda, CA 94502<br>(510) 777-2149 |

## 5.14.7 Permits Required and Permit Schedule

The temporary storage of hazardous wastes at MEP will be included in the Hazardous Materials Business Plan submitted to the Alameda County Department of Environmental Health HMD as described in Section 5.5, Hazardous Materials. Additionally, the Department of Environmental Health requires the permit listed in Table 5.14-6.

**TABLE 5.14-6**
Permits and Permit Schedule for Waste Management

| Permit | Agency Contact | Schedule |
|---|---|---|
| Unified Program Facility Permit | Alameda County<br>Department of Environmental Health<br>Hazardous Materials Division<br>1131 Harbor Bay Parkway<br>Alameda, CA 94502<br>(510) 567-6700 | Before storing regulated hazardous materials or wastes at the site. |

## 5.14.8 References

Alameda County. 2000. East County Area Plan. November.

Buoni, Marianna. 2009. Clean Harbor's Buttonwillow Landfill. Personal communication with Megan Sebra/CH2M HILL. April 2.

California Integrated Waste Management Board (CIWMB). 2009a. Solid Waste Information System (SWIS) Database.

California Integrated Waste Management Board (CIWMB). 2009b. *2008 Landfill Summary Tonnage Report*. http://www.ciwmb.ca.gov/Landfills/Tonnages/. April 1.

CH2M HILL, Inc (CH2M HILL). 2008. *Phase I Environmental Site Assessment, Lee Property, Alameda County, California.* Submitted to Diamond Generating Company, June 20, 2008.

Department of Toxic Substance Control (DTSC). 2009a. DTSC's Hazardous Waste and Substances Site List (Cortese List), Alameda, San Joaquin, and Contra Costa Counties, date March 30, 2009. http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm

Department of Toxic Substance Control (DTSC). 2009b. *California Commercial Offsite Hazardous Waste Management Facilities*. Date April 3.

Tracy Delta Solid Waste Management Inc. (TDSWM). 2009. Telephone conversation with TDSWM and Megan Sebra/CH2M HILL. April.

Turek, Paul. 2009. Waste Management Kettleman Hills Landfill. Personal communication with Megan Sebra/CH2M HILL. April 2.