

## 5.14 Waste Management

This section evaluates the potential effects on human health and the environment from nonhazardous and hazardous waste generated at the Lodi Energy Center (LEC). 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 presents an environmental analysis of the project 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 that have jurisdiction over the generated waste and agency contacts. Section 5.14.7 describes the 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 LEC 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 LEC construction and operation.

#### 5.14.1.1 Site Investigations

A Phase I Environmental Site Assessment was undertaken at the LEC site to determine whether contamination that would require removal or remediation is present.

In June 2008, Carlton Engineering, Inc. (Carlton) conducted a Phase I environmental site assessment (ESA) of the proposed LEC site for the Northern California Power Agency. The site consists of one parcel (approximately 2.6 acres) west of Interstate 5, approximately 1.5 miles south of the intersection with State Highway 12. The site is described as a portion of San Joaquin County Assessor's Parcel Number 055-130-16, and a part of the property addressed as 12751 North Thornton Road, Lodi, California. It is west of the City of Lodi's White Slough Water Pollution Control Facility (WPCF), within the city limits of Lodi, in San Joaquin County, California (Carlton, 2008).

At the time of the Phase I ESA, the LEC site was partially developed with paved surfaces, gas compressor, and cooling towers and the remainder of the site was undeveloped. The site was structurally undeveloped prior to the early 1990s and was used for agricultural purposes before that time (Carlton, 2008). Carlton found no evidence of existing or past recognized environmental conditions at the site. The Phase I ESA concluded that the likelihood of contamination at the site is low; however, the following conditions and recommendations regarding the potential for environmental concern at the site were noted:

- Construction materials supporting the adjoining WPCF improvement projects have been stored on the LEC site. Two automotive batteries were observed among the construction materials. The batteries should be removed to an approved disposal or recycling facility. The drums of curing compound and buckets of lubricating compound, along with the other construction materials should be removed from the site.

- Scattered surface deposits and push piles of gray silty material with waste materials characteristic of wastewater pond sludge were observed in the northern portion of the site (likely remaining from the temporary stockpiling of sediment in the 1980s and 1990s). Laboratory analysis of samples is recommended to assess if the silt contains elevated levels of any metals of potential concern, and if any special handling, disposal, or placement requirements would apply to the materials during project development. Alternatively, the materials could be removed from the site to an appropriate disposal facility, and confirmation samples of the underlying material could be collected and analyzed to verify adequate removal has taken place.
- Suspect oil staining was observed on the ground surface near the gravel road on site. It is recommended that the extent of the affected area be observed by an environmental professional during project development to determine if extensive oil staining is suspected and if soil sampling and analysis is warranted.
- There is no intent to use the shallow/perched zone groundwater at the site for domestic/drinking water purposes. Based on recent analysis of groundwater samples from the onsite monitoring well (WSM-2), if the shallow or deeper aquifer groundwater resources at the site will be used in the future, groundwater quality analysis and evaluation should be performed prior to groundwater use.

Carlton concluded that the presence of the observed site conditions fall within the category of “de minimis conditions.” De minimis conditions are defined in ASTM E 1527-05 as “conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies” (Carlton, 2008). The likelihood of hazardous materials or petroleum products impacts to the soil or groundwater at the site from onsite and offsite sources are considered to be low. However, some possibility of impacted soil and groundwater existing in areas not chemically analyzed must be recognized.

The Phase I ESA revealed no recognized environmental conditions at the site as a result of past uses by WPCF; however, the four areas of environmental concern discussed above were identified. Three of these environmental concerns (onsite construction materials, surface deposits of gray silty material, and suspected oil staining) have been removed and/or disposed of properly. The fourth environmental concern regarding the use of the shallow, perched groundwater remains outstanding; however, according to the Phase I ESA, there is no immediate need to further assess the groundwater quality because of the future intended use of the property. The proposed power plant will get its process water supply from the WPCF, and all process wastewater from the LEC site will be disposed of on site in a new Class I underground injection well (UIW). Potable water will be supplied via a new onsite well. Further information regarding the UIW can be found in Section 5.15, Water Resources, subsection 5.15.1.5. The facility will produce no reclaimable process wastewater. For these reasons, there will be no groundwater use or discharges associated with the proposed project.

A copy of the Final Phase I ESA 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 LEC 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 and demolition are identified in Table 5.14-1.

TABLE 5.14-1  
Wastes Generated during Construction

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Scrap wood, steel, glass, plastic, paper, calcium silicate insulation, mineral wool insulation	Construction Activities	Normal refuse	200 tons	Nonhazardous	Recycle and/or dispose of in a Class II or III landfill
Scrap Metals	Construction Activities	Parts, containers	<2 tons	Nonhazardous	Recycle and/or dispose of in a Class III landfill
Empty hazardous material containers*	Operations and maintenance of plant	Drums, containers, totes	<1 ton	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.
Spent welding materials	Construction Activities	Solid	1,500 lb	Hazardous	Disposal at a Class I landfill
Waste oil filters	Construction equipment and vehicles	Solids	500 lb	Nonhazardous	Recycle at a permitted TSD facility
Used and waste lube oil	Turbine lube oil flushes	Hydrocarbons	5,000 gallons	Hazardous	Recycle at a permitted TSD facility
Oily rags, oil sorbent excluding lube oil flushes	Cleanup of small spills	Hydro-carbons	100 ft <sup>3</sup>	Hazardous	Recycle or dispose at a permitted TSD facility
Solvents, paint, adhesives	Maintenance	Solids and Liquids	200 gallons	Hazardous	Recycle at a permitted TSD facility
Spent lead acid batteries	Construction Machinery	Heavy metals	10	Hazardous	Store no more than 10 batteries (up to 1 year) – recycle offsite

TABLE 5.14-1  
Wastes Generated during Construction

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Spent alkaline batteries	Equipment	Metals	50 lb	Universal Waste solids	Recycle or dispose off site at an Universal Waste Destination Facility
Waste oil	Equipment, vehicles	Hydro-carbons	500 gallons	Non-RCRA Hazardous Liquid	Dispose at a permitted TSD facility
Sanitary waste	Portable toilet holding tanks	Solids and Liquids	200,000 gallons	Nonhazardous Liquid	Remove by contracted sanitary service
Stormwater	Rainfall	Water	2,000 gal/yr	Nonhazardous Liquid	Discharge to stormwater drain to WPCF
Fluorescent, mercury vapor lamps	Lighting	Metals and PCBs	20 lb	Universal Waste solids	Recycle or dispose off site at an Universal Waste Destination Facility
Passivating and chemical cleaning fluid waste	HRSG, pipe cleaning and flushing	Liquids	100,000 gallons	Hazardous or nonhazardous liquid	Sample and characterize – if clean, dispose of in sanitary sewer; otherwise, manage appropriately off site
Hydrotest water	Testing equipment and piping integrity	Water	5,000,000 gallons	Hazardous or nonhazardous liquid	Sample and characterize – if clean, dispose of in storm drain; otherwise, manage appropriately off site

\* Containers include <5-gallon containers and 55-gallon drums or totes

PCBs = polychlorinated biphenyls

RCRA = Resource Conservation and Recovery Act

TSD = treatment, storage, and disposal

### *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 200 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. On site, the waste will be placed in dumpsters.

**Metal** – Approximately 2 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 in a later section, wastewater would be sampled and if found hazardous would be disposed of. 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 water from excavation dewatering (if it contains contaminants), 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. Wastewater 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 in a Section 5.14.2.3.

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

#### *Nonhazardous Solid Waste*

The LEC will produce facility wastes, typical of power generation facility operations and maintenance activities. These will include rags, turbine air filters, broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, the typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. The quantity of all solid nonhazardous waste generated is estimated to be approximately 39 tons per year. Large metal parts will be recycled.

### *Nonhazardous Wastewater*

The water balance diagram, provided in Figure 2.1-4, illustrates the expected liquid waste streams and flow rates for the LEC. The wastewater collection system will collect sanitary wastewater from sinks, toilets, and other sanitary facilities to be discharged to the WPCF.

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. If needed, water from this sump will be sampled and analyzed at an approved lab. If contamination is present, the water will be trucked off site for disposal at an approved wastewater disposal facility. If sampling results show no contamination, the water will be discharged to the onsite cooling towers, and the oily sludge will be shipped to an appropriate disposal facility.

### *Hazardous Waste*

Hazardous waste generated will include waste lubricating oil, used oil filters from turbine equipment, spent catalyst, and chemical cleaning wastes. The catalyst units will contain heavy metals that are considered hazardous. Chemical cleaning wastes, consisting of alkaline and acidic cleaning solutions, will be generated from periodic cleaning of the piping. These wastes may contain high concentrations of heavy metals and will be collected for offsite disposal.

The chemical feed area drains will collect spillage, tank overflows, effluent from maintenance operations, and liquid from area washdowns. Water collected will be sampled and, if it is not contaminated, will be released to the WPCF. 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  
Hazardous Wastes Generated During Operations

<b>Waste</b>	<b>Origin</b>	<b>Composition</b>	<b>Estimated Quantity</b>	<b>Classification</b>	<b>Disposal</b>
Cooling tower sludge	Cooling tower	Dirt from air	2,000 lb/yr	Hazardous/nonhazardous*	TSDf facility if hazardous. if nonhazardous to landfill
Lubricating oil	Small leaks and spills from the gas turbine lubricating oil system	Hydrocarbons	300 lb/yr	Hazardous	Cleaned up using sorbent and rags – disposed of by certified oil recycler
Batteries	Equipment	Metals	50 lb/yr	Hazardous	Recycled by certified recycler
Lubricating oil filters	Gas turbine lubricating oil system	Paper, metal, and hydrocarbons	600 lb/yr	Hazardous	Recycled by certified oil recycler

TABLE 5.14-2  
Hazardous Wastes Generated During Operations

Waste	Origin	Composition	Estimated Quantity	Classification	Disposal
Laboratory analysis waste	Water treatment	Various agents and reagents	400 gal/yr	Hazardous	Recycled by certified recycler
HRSG/CO catalyst units	HRSG (Use tends to be 3 to 5 years)	Metal and heavy metals, including vanadium	420,000 gallons (every 10 years)	Hazardous	Recycled by manufacturer
Oily rags	Maintenance, wipe down of equipment, etc.	Hydrocarbons, cloth	One 55-gallon container (monthly)	Hazardous	Recycled by certified oil recycler
Oil sorbents	Cleanup of small spills	Hydrocarbons	150 lb/yr	Hazardous	Recycled or disposed of by certified oil recycler
Turbine washwater	Turbine cleaning	Water and biodegradable detergent possibly heavy metals	1,000 gallons (biannually)	Hazardous/nonhazardous*	TSDf facility is hazardous, if nonhazardous to NPCF

\* = Generally, nonhazardous will be sampled prior to disposal.  
CO = carbon monoxide  
HRSG = heat recovery steam generator

## 5.14.2 Environmental Analysis

### 5.14.2.1 Significance Criteria

According to California Environmental Quality Act Guidelines Section 15002(g), Appendix G, The project could have a significant effect on the environment in terms of waste management if it would do the following:

- Be located on a site which 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
- Have 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 (Cortese List) shows seven of the 43 sites currently on the list for San Joaquin County compiled pursuant to Government Code Section 65962.5 are located within the city limits of Lodi (DTSC, 2008a).

Of the seven sites within Lodi city limits, the site located in Lodi, California at 17 South Church Street is the closest to the LEC project site. The site is known as Guild Cleaners and is located on 0.5 acre. A dry cleaning operation has been located on this site since 1959 and perchloroethylene (PCE) had been used as a solvent for dry cleaning. PCE was detected in the groundwater in Municipal Well #3, located 0.25 miles from Guild Cleaners. The Regional Water Quality Control Board (RWQCB) has performed two soil gas surveys and sampled the sewer. The U.S. Environmental Protection Agency (EPA) completed a preliminary assessment of the site in July 1991 and recommended closing two wells due to PCE and trichloroethylene (TCE) contamination. RWQCB was no longer actively working on the site as of June 30, 1992.

The LEC site is not located on a Cortese-listed site and is not affected by the Guild Cleaners site due to 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 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 LEC wastes.

#### **5.14.2.3.1 Nonhazardous Waste**

Approximately 203 tons of nonhazardous solid waste will be generated during construction of the LEC, and 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.

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 sampling completed once the soil is excavated and stockpiled. Soil that is determined to be nonhazardous on the basis of the sampling conducted could be suitable for reuse at a construction site or disposal at a regional disposal facility, depending on the chemical quality.

Through San Joaquin County, the City of Lodi contracts with Central Valley Waste Services (CVWS) to provide local service for residential, commercial, and industrial solid waste hauling, as well as the collection of recyclable materials. CVWS operates a transfer and processing facility at 1333 East Turner Road in Lodi, approximately 12 miles northeast of the LEC project site. The CVWS Transfer and Processing Facility encompasses 16 acres and is permitted to receive 1,700 tons of waste per day.

The primary disposal facility is the county owned and operated North County Recycling Center and Sanitary Landfill located in Victor, approximately 20 miles from the LEC site. The North County Recycling Center and Sanitary Landfill has adequate capacity to handle and dispose of solid waste generated by the LEC facility, as shown in Table 5.14-3. The other landfills included in this table, Foothill Sanitary Landfill and Lovelace Materials Recovery Facility and Transfer Station, are alternatives to the North County Recycling Center and Sanitary Landfill.

TABLE 5.14-3  
Solid Waste Disposal Facilities in the Vicinity of the LEC Project

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*
North County Recycling Center and Sanitary Landfill	Victor, CA	III	17,300,000 (prior to new module)	17,600,000	825	1/1/2035	Yes (03/08)
Foothill Sanitary Landfill	Linden, CA	III	102,000,000	97,900,000	1,500	1/1/2054	Yes (2/08)
Lovelace Materials Recovery Facility and Transfer Station	Manteca, CA	Not Listed	1,959 tons/day	Not Applicable	1,300	Not Listed	Yes (9/07)
CVWS Transfer and Processing Facility	Lodi, CA	Not Listed	2,914,286	Not Listed	1,700	Not Listed	No

\*Based on CIWMB Solid Waste Information System Database (CIWMB, 2008a).

North County Recycling Center and Sanitary Landfill opened on November 1, 1991. North County is located at 17720 East Harney Lane, 8 miles east of Lodi, and approximately 20 miles east of the LEC project site. Encompassing 320 acres, this site receives an average of 496 tons of waste daily with a permitted quantity of 825 tons. During 2004, North County received 178,634 tons of waste. A new 16-acre module constructed during the summer of 2003 is now operational. During April 2002, diverted materials totaled 1,601 tons. The closure date for this facility is expected in 2035.

Foothill Sanitary Landfill has been owned by San Joaquin County since 1991, and operated by Foothill, Inc. since 1965. Foothill, Inc. is under an agreement with San Joaquin County. Foothill Sanitary Landfill is at 6484 North Waverly Road, approximately 30 miles east of the LEC project site, near Linden. Foothill encompasses 800 acres and receives an average of 791 tons of waste daily with a permitted quantity of 1,500 tons. Annual waste received for 2004 was 284,903 tons. A new 34-acre module constructed during the summer of 2003 is now operational. Closure of the old module, which reached its capacity in 2003, and installation of a landfill gas system was completed in 2005. The closure date for the Foothill Sanitary Landfill is expected in 2054.

Lovelace Materials Recovery Facility (MRF) and Transfer Station is owned and operated by San Joaquin County. The facility was purchased on July 1, 1977 and remodeled during 1994 and 1995. Lovelace MRF is at 2323 East Lovelace Road, in Manteca, approximately 22 miles south of the LEC project site. It encompasses 15 acres. This site receives an average of 499 tons of waste daily, which is transported to Foothill Sanitary Landfill on county-owned

transfer trucks carrying loads of up to 20 tons per truck. During 2004, Lovelace MRF received 179,734 tons of waste.

According to the California Integrated Waste Management Board (CIWMB), North County Recycling Center and Sanitary Landfill has a maximum permitted capacity of 17.3 million cubic yards of refuse and the estimated remaining capacity as of September 1, 2004 was 17.6 million cubic yards, with the opening of the new module. According to the CIWMB, there was one violation against the North County Recycling Center and Sanitary Landfill in the last 12 months. The violation was reported for dust control on a March 21, 2008 inspection and no enforcement actions were reported (CIWMB, 2008a).

Adequate landfill capacity exists; therefore, disposal of solid nonhazardous waste will not be a constraint on LEC development.

#### **5.14.2.3.2 Hazardous Waste**

Hazardous waste generated at the LEC facility 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. However, 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, 2008b). For ultimate disposal, California has the three hazardous waste (Class I) landfills (described below). The closest commercial hazardous waste disposal facility is the Waste Management Kettleman Hills Landfill.

##### ***Waste Management Kettleman Hills Landfill***

This facility accepts Class I and II waste. Currently the landfill, identified as B-18 Landfill, is permitted for and will accept all hazardous wastes except radioactive, medical, and unexploded ordnance; this landfill has permitted capacity of 10 million cubic yards with a remaining capacity of approximately 2.6 million cubic yards as of June 2007 (Luibel, 2007). The life expectancy remaining for Landfill B-18 is about 3 years; however, expansion of the facility is anticipated (Luibel, 2007). Expansion of the facility would change the closure date to 2036 (Yarbrough, 2005).

##### ***Clean Harbors Buttonwillow Landfill***

This landfill is permitted at 14.3 million cubic yards (CIWMB, 2008a and Buoni, 2007) and has approximately 9.2 million cubic yards of remaining capacity as of February 2006 (Buoni, 2007). At the current deposit rate, the landfill is permitted to accept waste until 2040 (CIWMB, 2008a). Buttonwillow has been permitted to accept all hazardous wastes except flammables, PCBs with a concentration greater than 50 parts per million, medical waste, explosives, and radioactive waste with radioactivity greater than 1,800 picocuries (Buoni, 2007).

##### ***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, medical waste, PCB, dioxins, air- and water-reactive wastes, and strong oxidizers.

### *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, LLC in San Jose; Evergreen Environmental Services in Davis; Evergreen Oil Company in Newark; Ramos Environmental Services in West Sacramento; and Veoliaes (Onyx) Environmental Services in Richmond (DTSC, 2008b).

#### **5.14.2.4 Waste Disposal Summary**

The LEC facility will generate nonhazardous solid waste that will add to the total waste generated in San Joaquin County and in California. However, there is adequate recycling and landfill capacity in California to recycle and dispose of the waste generated by the LEC. It is estimated that the LEC will generate approximately 205 tons of solid waste during construction (including approximately 2 tons of solid hazardous waste) and about 42 tons a year from operations (including approximately 3 tons of solid hazardous waste). Considering that 1,782,980 tons of solid waste were landfilled in San Joaquin County in the year 2007, LEC's contribution will likely represent less than one percent of the county's total waste generation (CIWMB, 2008b). 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, selective catalytic reduction (SCR) and oxidation catalysts, and fluids used to clean piping. The waste oil, and catalysts will be recycled. Hazardous waste treatment and disposal capacity in California is more than adequate. Therefore, the effect of LEC 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 (Public Resources Code § 21083; California Code of Regulations, title 14, § 15064(h), 15065(c), 15130, and 15355).

In July 2008, 21 projects were in various stages of progress with the City of Lodi. Most of these projects are zoned residential, with a few office, mixed use, institutional, commercial, and industrial projects proposed. All of these projects are more than 4 miles from the proposed project, except for the improvements at the White Slough WPCF (Draft EIR issued March 28, 2008), which is adjacent to the project site (Bereket, 2008; City of Lodi, 2008).

In July 2008, 72 projects<sup>1</sup> were in progress with the San Joaquin County Building Department. These projects were located in Acampo, Escalon, Farmington, French Camp, Linden, Lodi, Lockeford, Manteca, Ripon, Stockton, and Tracy. The types of projects included residential projects such as new residences, additions and remodels to existing

<sup>1</sup> For the purposes of this discussion, San Joaquin County sorted its projects by project cost, and provided a list of the projects costing \$25,000 or more.

residences, mobile home renovations, and pool construction; commercial projects such as administration buildings, barns, and a riding arena; light industrial projects such as storage buildings, spray booths, and warehouses; office projects such as building conversions and tenant improvements; and institutional projects such as classroom relocation and facilities to house animals (Raborn, 2008).

The quantities of nonhazardous and hazardous wastes that would be generated during construction and operation of the LEC, furthermore, would be relatively low, at an estimated 205 tons of solid waste during construction and approximately 42 tons per year during operation. Recycling efforts would be prioritized wherever practical, and capacity is available in a variety of treatment and disposal facilities. There is currently sufficient landfill capacity available in the project area. Therefore, these added waste quantities generated by the LEC would not result in significant cumulative waste management impacts.

#### **5.14.4 Mitigation Measures and Waste Management Methods**

The handling and management of waste generated by the LEC 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 LEC.

##### **5.14.4.1 Construction Phase**

Handling 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 CVWS. The waste will then be taken to the North County Recycling Center and Sanitary Landfill or another local landfill. Recyclable materials will be segregated and transported by construction contractors or other private haulers to an area recycling facility. CVWS can provide drop boxes or debris boxes for large quantities of recyclables.

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 portable, self-contained toilets. Excavation dewatering water will be contained in portable tanks and sampled prior to offsite disposal. Equipment washwater will be contained at designated wash areas and will be disposed of off site. Stormwater runoff will be managed in accordance with a stormwater management permit, which will be obtained 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 excavation dewatering water, 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

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 disposed of using the WPCF. 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.

##### 5.14.4.2.2 Hazardous Wastes

To avoid the 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:

- The LEC will be classified as a hazardous waste generator and will obtain a site-specific EPA identification number that will be used to manifest hazardous waste from the LEC facility. Hazardous waste from the LEC facility will be stored on site 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 satellite accumulation.
- 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 only be shipped 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.

#### 5.14.4.3 Facility Closure

When the LEC is closed, both 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. Handling of wastes for these two types of closure are discussed below.

##### 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 a risk management plan. 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 30 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 the LEC decommissioning activities.

#### 5.14.4.3.3 Monitoring

Because the environmental impacts caused by construction and operation of the facility are expected to be minimal, extensive monitoring programs will not be required. Generated waste, both nonhazardous and hazardous, will be monitored during project construction and operation in accordance with the monitoring and reporting requirements mandated by the regulatory permits to be obtained for construction and operation.

### 5.14.5 Laws, Ordinances, Regulations, and Standards

Nonhazardous and hazardous waste handling at LEC 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 LEC facility.

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

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
<b>Federal</b>			
RCRA Subtitle D	Regulates design and operation of solid waste landfills. LEC 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, 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, 5.14.1.2.2
Clean Water Act (CWA)	Controls discharge of wastewater to the surface waters of the U.S. Industrial and sanitary wastewater will be discharged to the WPCF.	Regional Water Quality Control Board	Sections 5.14.5.1, 5.14.4.1.1, 5.14.4.2.1
<b>State</b>			
California Integrated Waste Management Act	Controls solid waste collectors, recyclers, and depositors. LEC 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, 5.14.1.2.2

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

<b>LORS</b>	<b>Requirements/Applicability</b>	<b>Administering Agency</b>	<b>AFC Section Explaining Conformance</b>
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, 5.14.1.2.2
Porter-Cologne Water Quality Control Act	Controls discharge of wastewater to surface waters and groundwaters of California. Sanitary wastewater will be discharged to the WPCF. Industrial process wastewater will be discharged to an onsite injection well.	RWQCB	Sections 5.14.5.2, 5.14.4.1.1, 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 Woodbridge Fire Protection District.	Woodbridge Fire Protection District	Section 5.14.7, 5.14.5.4, 5.14.4.2.2
<b>Local</b>			
San Joaquin County Certified Unified Program Agency (CUPA) Program (Health and Safety Code Section 25180; San Joaquin County Board of Supervisors Resolution R-95-760)	To consolidate, coordinate and make consistent the administrative requirements, permitting, inspection activities, enforcement activities and fees for hazardous waste and hazardous materials programs in each jurisdiction.	San Joaquin County Environmental Health Department	Sections 5.14.7, 5.14.5.3, 5.14.4.2.2
San Joaquin County Hazardous Waste Generator Program (Health and Safety Code Section 25200 et seq.; California Code of Regulations Title 22, Section 66001 et seq.)	To protect public health and the environment from exposure to hazardous wastes by regulation of the businesses and industries that generate hazardous waste through a comprehensive program of inspection, chemical emergency response, surveillance, complaint investigation, and assistance to industry, enforcement and public education.	San Joaquin County Environmental Health Department	Sections 5.14.7, 5.14.5.3, 5.14.4.2.2
San Joaquin County Board of Supervisors R-92-112; Ordinance Code of San Joaquin County, Sections 5-2100 through 5-2900 et seq.; California Public Resources Code Section 43101	To protect the public health and the environment from the effects of improper storage, collection, transportation and disposal of solid waste. The San Joaquin County Environmental Health Department is certified by the State as the Local Enforcement Agency (LEA) for enforcement of solid waste laws and regulations within the unincorporated area of San Joaquin County and all of the incorporated cities except the City of Stockton. Waste will be recycled in a manner consistent with applicable LORS.	San Joaquin County Environmental Health Department	Section 5.14.6, 5.14.5.3, 5.14.4.1.2

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

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
San Joaquin County Hazardous Waste Tiered Permitting Program (Health and Safety Code Sections 25200.3, 25201.5; California Code of Regulations Title 22, Section 67450.2 et seq.)	To ensure that hazardous wastes treated on site prior to reuse or disposal are stored, handled and disposed of in compliance with state and federal laws and regulations. Inspection, surveillance and permitting is required as part of the county Unified Program.	San Joaquin County Environmental Health Department	Sections 5.14.7, 5.14.5.3, 5.14.4.2.2
San Joaquin County Environmental Health Emergency Response Program (California Health and Safety Code Sections 25200 et seq. and 101040)	Interagency emergency response team guidelines for incidents involving hazardous material spills or releases, including health assessments to evaluate actual or potential environmental contamination and/or human exposure, recommendations for short and long-term cleanup, and oversight of the cleanup activities performed by the responsible parties or environmental assessment firms.	San Joaquin County Environmental Health Department	Sections 5.14.7, 5.14.5.3, 5.14.4.2.2
San Joaquin County Environmental Health Department various programs	San Joaquin County Environmental Health Department is the CUPA for San Joaquin County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. San Joaquin County Environmental Health Department programs include assistance with oversight on property re-development (i.e., brownfields); and voluntary or private oversight cleanup assistance. LEC will comply with San Joaquin County Environmental Health Department requirements concerning storage and handling of hazardous materials and wastes and will also cooperate with San Joaquin County Environmental Health Department on resolution of environmental issues at the site.	San Joaquin County Environmental Health Department	Section 5.14.6, 5.14.7, 5.14.5.3, 5.14.4.2.2

### 5.14.5.1 Federal LORS

EPA regulates wastewater under the CWA. The federal statute that controls both nonhazardous and hazardous waste is the RCRA 42 USC 6901, et seq. RCRA's implementing regulations are found at 40 CFR 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). LEC will conform to this law in its generation, storage, transport, and disposal of any hazardous waste generated at the facility. 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 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 San Joaquin County and the solid waste hauler and disposer that will collect LEC solid waste. It also affects the LEC 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 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 the LEC. However, the HWCL includes hazardous wastes that are not classified as hazardous waste under RCRA. Because hazardous wastes will be generated at the LEC facility 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 San Joaquin County Environmental Health Department is certified by CIWMB as the LEA for solid waste facilities within the unincorporated area of San Joaquin County and all of the incorporated cities except the City of Stockton. The San Joaquin County Environmental Health Department will be responsible for administering and enforcing the CIWMA for solid, nonhazardous waste for the LEC. The purpose of this program is to protect the public health and the environment from the effects of improper storage, collection, transportation, and disposal of solid waste. Activities include monthly inspections of landfill sites and transfer stations. Annual inspections are performed on refuse vehicles, cannery waste disposal, animal feeding, and other permitted solid waste sites.

The San Joaquin County Environmental Health Department was approved by the State as the CUPA for San Joaquin County in January 1997. The San Joaquin County Environmental Health Department administers the Hazardous Waste Generator, Hazardous Waste Onsite Treatment (Tiered Permitting) and Underground Storage Tank programs. The San Joaquin County Office of Emergency Services is a Participating Agency (PA) assisting the CUPA and administering the Hazardous Material Release Response Plan and Inventories and the California Accidental Release Program (CalARP) programs (Foley, 2008).

For hazardous waste, local regulation consists primarily of the administration and enforcement of the HWCL. The San Joaquin County Environmental Health Department 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 re-development (Foley, 2008).

San Joaquin County manages waste generation, recycling, and disposal programs through their Public Works Department. Through the county, the City of Lodi contracts with CVWS to provide local service for residential, commercial, and industrial solid waste hauling, as well as the collection of recyclable materials. In this regard, the county and the city provide assistance to businesses in achieving their overall goal of maximizing recycling and minimizing waste that gets landfilled.

In the event of a chemical emergency, plant personnel will defer to the San Joaquin County Environmental Health Department and the San Joaquin County Office of Emergency Services. Woodbridge Fire Protection District Station No. 4 would be the first on site.

For emergency spills and hazardous materials, the Woodbridge Fire Protection District and the City of Stockton and City of Lodi fire departments have firefighters who have completed formal training in hazardous materials incident response. These firefighters are members of a countywide hazardous materials (Haz Mat) team, managed by the San Joaquin County Office of Emergency Services. The Haz Mat 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. Woodbridge Station No. 4, at 6365 W. Capitol Avenue, Lodi, California 95242, is the nearest fire station to the proposed project site. The station is approximately 1.8 miles north of the LEC and response time would be approximately 7 to 10 minutes. Mutual aid and additional resources will be requested from the other Woodbridge stations and the City of Stockton and the City of Lodi fire departments. Stockton Station No. 10 is approximately 10 miles from the project site, at 2903 W. March Lane, Stockton, California 95219.

#### 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
- San Joaquin County codes and ordinances

#### 5.14.6 Agencies and Agency Contacts

Several agencies, including EPA at the federal level, and DTSC and the 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 the LEC. The regulations, however, are administered and enforced primarily through the San Joaquin

County Environmental Health Department, 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
<b>Nonhazardous Waste</b>		
Solid Waste and Recycling	San Joaquin County Environmental Health Department 600 E. Main Street Stockton, CA 92505	Robert McClellon Program Coordinator (209) 468-0332 RMcClellon@sjcehd.com
<b>Hazardous Waste</b>		
Hazardous Waste Compliance and Inspections	San Joaquin County Environmental Health Department 600 E. Main Street Stockton, CA 92505	Kasey Foley Program Coordinator (209) 468-3451 KFoley@sjcehd.com

### 5.14.7 Permits and Permit Schedule

The temporary storage of hazardous wastes at the LEC will be included in the existing Hazardous Materials Business Plan (HMBP) for the STIG facility. The revised HMBP will include both the LEC and STIG facility and will be submitted to the San Joaquin County Environmental Health Department as described in Section 5.5, Hazardous Materials. No additional permits are required.

### 5.14.8 References

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