

3.5 HAZARDOUS MATERIALS MANAGEMENT

This section presents a discussion of the potential impacts from storage and use of hazardous materials during construction and operation for the proposed Larkspur 3 Energy Facility (the Project) as an incremental change to the existing Larkspur Energy Facility. Design features have been incorporated into the Project regarding the use and storage of hazardous materials in order to keep potential impacts below defined thresholds. Hazardous waste generation and management are discussed in Section 3.13. The following discusses environmental baseline information, the environmental consequences of hazardous material usage and storage during construction and operation of the Project, mitigation measures, and consistency with applicable LORS.

3.5.1 Environmental Baseline

The existing Larkspur Energy Facility is a simple-cycle nominally rated 94 MW power facility that utilizes dual fueled GE LM6000 Enhanced Sprint gas turbine engine generators. The existing facility uses natural gas supplied via an on-site 500-foot long, approximately 8-inch interconnection from an SDG&E metering station to an existing 36-inch SDG&E line. The Project consists of an incremental change to the existing Larkspur Energy Facility to include an additional gas turbine engine and associated ancillary facilities as described in Section 2.0, Project Description of this Amendment as well as the temporary use of a construction laydown area.

The existing Larkspur Energy Facility and the proposed Project site are zoned as part of the Industrial Subdistrict of the Otay Mesa Development District (San Diego Municipal Code, Section 103.1103). The land surrounding the site is also designated and zoned for industrial use. The temporary construction laydown area consists of vacant land and is zoned for industrial use.

According to the Hazardous Materials Business Plan (HMBP) maintained by the existing Larkspur Energy Facility, a variety of hazardous materials are currently stored and used for power generation operations. A summary of hazardous materials used at the existing facility is provided in Table 3.5-1.

**TABLE 3.5-1
HAZARDOUS MATERIALS USAGE
AND STORAGE AT THE EXISTING LARKSPUR ENERGY FACILITY**

Material	Purpose	Maximum Stored	Storage Type
Diesel fuel oil	Back-up fuel oil for gas turbine	220,000 gal	Tank
Sulfuric Acid (50%)	pH control for cooling tower	1,100 gal	Tank
Ammonium Hydroxide [19%]	NO _x emissions control	10,000 gal	Tank
Sodium Hypochlorite (12%)	Algecide	110 gal	Tank
Sodium Hydroxide (50%)	pH control for cooling tower	300 gal	Tank
Potassium Hydroxide	Battery alkaline electrolyte	45 lbs	Batteries
Heavy Duty Motor Oil	Lubrication of equipment	165 gal	Drums
Turbine Engine Oil	Turbine lubrication	165 gal	Drums
Gas Turbine Compressor Cleaner	Cleaner for Compressor	4,800 gal	Drum, Tote Bin
Corrosion Inhibitor/Deposit Control Agent	Prevent scale and corrosion in cooling tower circulation water lines	3,500 lbs	Drum, Tote Bin
NO _x & Nitrogen	CEMS Test Gas	100 lbs	Cylinder
O ₂ & Nitrogen	CEMS Test Gas	100 lbs	Cylinder
CO & Nitrogen	CEMS Test Gas	100 lbs	Cylinder
Nitrogen	Transformer inert gas blanket	200 lbs	Cylinder
Inergen Gas	Fire protection foam agent	48,000 lbs	Fire Protection System

Notes:

cf = cubic feet

gal = gallon(s)

% = percent

lb = pound (s)

O₂ = oxygen

CO = carbon monoxide

NO_x = oxide(s) of nitrogen

A Risk Management Plan (RMP) has been prepared and implemented to manage and minimize risks associated with the storage and use of aqueous ammonia in a 10,000 gallon tank at the existing Larkspur Energy Facility. The existing facility maintains an RMP for current operations. This RMP will be updated as necessary and will continue to be used during operation of the proposed Project.

Aqueous ammonia is used in the Selective Catalytic Reduction (SCR) technology to control NO_x emission. The RMP includes the following:

- Accidental Release Program – Includes ammonia system design features including containment berms, unloading area mitigations, emergency shutdown procedures, alarms, training, and emergency response plans.
- Off-site Consequence Analysis (OCA) – The purpose of the OCA is to provide information to the public on the potential off-site consequences of an accidental release of aqueous ammonia.
- Standard Operating Procedures – Written operating procedures provide clear instructions for safely conducting activities associated with the aqueous ammonia process consistent with safety requirements.
- Maintenance Practices and Procedures – Includes procedures to maintain the ongoing mechanical integrity of the aqueous ammonia process equipment.
- External Event Analysis – Describes the external events that have the potential to cause an accidental release and the safety features that will reduce the environmental and health effects and the potential of an accidental release of ammonia.

3.5.2 Environmental Consequences

3.5.2.1 Construction Phase

Hazardous materials to be used during Project construction activities include such materials as gasoline, diesel fuel, oil, lubricants, solvents, adhesives, and paint materials. There are no feasible alternatives to these materials for construction or operation of construction vehicles and equipment. No acutely hazardous materials (AHMs) will be used or stored on site during Project construction.

In general, construction contractors will utilize lubricating oils, solvents, and other hazardous materials during construction activities. The contractor will be responsible for assuring that the use, storage, and handling of these materials is in compliance with all applicable federal, state, and local LORS, including licensing, personnel training, accumulation limits, reporting requirements, and recordkeeping. An HMBP which outlines hazardous materials handling, storage spill response, and reporting procedures will be prepared prior to construction activities.

Small quantities of potential spilled fuel oil, lubricating oil, or grease drippings from construction equipment may occur during construction activities. Such materials have a low relative risk to human health and the environment. If there is a spill, the spill area will be bermed or controlled as quickly as practical to minimize the footprint of the spill. Impacted soil and cleanup materials will be placed into drums for off-site disposal according to applicable regulations. If a leak or spill meets specific reportable thresholds, federal, state, and local reporting requirements will be adhered to. Material Safety Data Sheets (MSDSs) for hazardous materials will be kept on site utilizing best management practices (BMPs) consistent with hazardous materials storage, handling, emergency spill response, and reporting specified in the HMBP. As a result of the implementation of the procedures discussed above, no significant impacts associated with the use of hazardous materials are anticipated.

3.5.2.2 Operations Phase

No new impacts associated with the use of hazardous materials on site would result from the proposed Project. An incremental increase of the following hazardous materials would be used and stored on site to maintain and operate Project equipment for the Larkspur 3 Project:

- Transformer oil – 6000 gallons
- Turbine lube oil - 150 gallons
- Generator lube oil - 500 gallons
- Turbine starter reservoir oil - 40 gallons

No additional on-site storage of aqueous ammonia is proposed as part of the Project. Current aqueous ammonia annual throughput at the existing Larkspur Energy Facility is approximately 10,800 gallons for operation of the existing two CTG Units 1 and 2, operating approximately 500 hours per year. Based on 4,000 hours per year of normal Project operation, an incremental usage of 38,000 gallons of aqueous ammonia per year is expected.

With the exception of the incremental increases in lubricating oils and usage of aqueous ammonia, the existing hazardous materials currently stored and used at the existing Larkspur Energy Facility will be used to operate equipment at the proposed Larkspur 3 Energy Facility. Thus, no impacts related to use of hazardous materials are anticipated.

3.5.3 Mitigation Measures

3.5.3.1 Construction Phase

During construction, hazardous materials stored on site will be limited to small quantities of paint, coatings, adhesives, and emergency refueling containers. These materials will be stored in a locked utility shed or in a secured fenced area with secondary containment. It is anticipated that fuels, lubricants, and other various fluids needed for operation of construction equipment will be transported to the Project site on an as-needed basis by equipment service trucks. All construction workers will be trained in handling hazardous materials, and will be alerted to dangers associated with these materials. An on-site Safety Officer will be designated to implement health and safety guidelines and contact emergency response personnel and the local hospital, if necessary.

Construction contractors for the proposed Project will be required to develop standard operating procedures for servicing and fueling construction equipment. These procedures will, at a minimum, include the following:

- **HAZMAT-1** The following measures will be implemented related to fueling and maintenance of vehicles and equipment:
 - No smoking, open flames, or welding will be allowed in the fueling/services areas
 - Servicing and fueling of vehicles and equipment will occur only in designated areas
 - Fueling service and maintenance will be conducted only by authorized, trained personnel

- Refueling will be conducted only with approved pumps, hoses, and nozzles
- All disconnected hoses will be handled in a manner to prevent residual fuel and fluids from being released into the environment
- Catchpans will be placed under equipment/hose connections to catch potential spills during fueling and servicing
- Service trucks will be provided with fire extinguishers and spill containment equipment, such as absorbents, shovels, and containers
- Service trucks will not remain on the job site after fueling and service are complete
- **HAZMAT-2** Spills that occur during vehicle maintenance will be cleaned up immediately, and contaminated soil will be containerized and sent for subsequent evaluation and off-site disposal. A log of all spills and cleanup actions will be maintained.
- **HAZMAT-3** Emergency telephone numbers will be available on site for the fire department, police, local hospitals, ambulance service(s), and environmental regulatory agencies.
- **HAZMAT-4** Containers used to store hazardous materials will be properly labeled and kept in good condition.

It is anticipated that these standard operating procedures will minimize the potential for incidents involving hazardous materials during construction.

3.5.3.2 Operational Phase

- **HAZMAT-5** Hazardous Materials Management - Plans and Procedures. Several programs are in place to address hazardous materials storage locations: emergency response procedures, employee training requirements, hazard recognition fire safety, first-aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communication training, personal protective equipment (PPE), training, and release reporting requirements. These programs include the HMBP, RMP, workers safety program, fire response program, plant safety program, and facility standard operating procedures. These programs will be updated to include Project equipment and the incremental increase of on-site hazardous materials required for operation of the proposed Larkspur 3 Energy Facility.

3.5.4 Consistency with LORS

Construction and operation of the proposed Project will be in accordance with all applicable LORS pertaining to hazardous materials. Applicable laws and regulations address the use and storage of hazardous materials to protect the environment from contamination, and facility workers and the surrounding community from exposure to hazardous and acutely hazardous materials. The applicable LORS related to hazardous materials handling are summarized in Table 3.5-2 below.

**TABLE 3.5-2
LORS APPLICABLE TO HAZARDOUS MATERIALS HANDLING**

LORS	Applicability
Federal	
CAA (40 CFR 68)	Requires an RMP if listed hazardous materials are stored above TQ
SARA Title III, Section 302	Requires certain planning activities when hazardous materials are present in excess of TQ
SARA Title III, Section 304	Requires notification if there is a release of hazardous materials in excess of TQ
SARA Title III, Section 311	MSDSs to be kept on site for each hazardous material
SARA Title III, Section 313	Requires annual reporting of releases of hazardous materials
29 CFR, Section 1910.120, OSHA; Cal/OSHA	Describes worker safety and health procedures and safe handling of hazardous materials and wastes
U.S. DOT Regulations, 49 CFR 171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles
State	
Health and Safety Code Section 25500, <i>et seq.</i> (Waters Bill)	Requires preparation of an HMBP if hazardous materials are handled or stored in excess of TQ
Health and Safety Code Section 25531, <i>et seq.</i> (La Follette Bill)	Requires registration of the facility with local authorities and preparation of an RMP if hazardous materials stored or handled in excess of TQ
CCR, Title 8, Section 5189	Facility owners are required to implement safety management plans to ensure safe handling of hazardous materials
California Uniform Building Code	Requirements regarding the storage and handling of hazardous materials
California Government Code Section 65850.2	Restricts issuance of COD until the facility has submitted an RMP
Local	
The County of San Diego Department of Environmental Health (DEH), Hazardous Materials Division (HMD)	Requires new/modified businesses to complete a hazardous materials business, and RMP prior to final plan/permit approval
Industry Standards	
Uniform Fire Code, (Articles 79 and 80)	Requirements for secondary containment, monitoring, etc., for extremely hazardous materials

Notes:

CCA = Clean Air Act

CCR = California Code of Regulations

CFR = Code of Federal Regulations

COD = Commercial Operating Date

DOT = Department of Transportation

3.5.4.1 Federal

The Superfund Amendments and Reauthorization Act (SARA) of 1968 Title III (Sections 302, 304, 311, and 313) and regulations pursuant to the Clean Air Act (CAA) of 1990 (40 CFR 68) established a nationwide emergency planning and response program, and imposed reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials. The Acts require the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility (see 40 CFR, Section 68.115). The requirements of these Acts are reflected in the California Health and Safety Code (CHSC), Section 25531 *et seq.* The proposed Project will comply with these requirements as discussed below in Section 3.5.4.2.

Title 49, CFR, Parts 171-177, govern the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.

3.5.4.2 State

The CHSC, Section 25500, requires companies that handle hazardous materials in sufficient quantities to develop an HMBP. The HMBP includes basic information on the location, type, quantity, and health risks of hazardous materials handled, stored, used, or disposed of that could be accidentally released into the environment. It also includes a plan for training new personnel, and for annual training of all personnel in safety procedures to follow in the event of a release of hazardous materials. It also includes an emergency response plan and identifies the business representative able to assist emergency personnel in the event of a release.

The HMBP will be updated prior to construction and operation of proposed Project.

The CHSC, Section 25531, directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop an RMP and submit it to appropriate local authorities, EPA, and the designated local Administering Agency for review and approval. The RMP includes: an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any pre-existing evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This recently developed program supersedes the California Risk Management and Prevention Plan and is known as the CalARP.

The existing Larkspur Energy Facility has developed, submitted, and implemented an RMP for the existing facility. This RMP will be updated as necessary and will continue to be used during operation of the proposed Project.

The California Code of Regulations (CCR), Title 8, Section 5189, requires facility owners to develop and implement effective Safety Management Plans to ensure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.

California Government Code Section 65850.2, states that a city or county shall not issue a final certificate of occupancy unless there is verification that the Applicant has met the applicable requirements of Health

and Safety Code, Section 25531 and requirements, if any, for a permit from the air pollution control district.

The Uniform Building Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit.

3.5.4.3 Local

The designated certified unified program agency for the existing Larkspur Energy Facility site is the County of San Diego Department of Environmental Health (DEH), Hazardous Materials Division (HMD) and is responsible for (1) the implementation of the HMBP and emergency response plan, and (2) the storage of hazardous materials in underground storage tanks and cleanup of petroleum releases.

The HMD will be contacted in the event of a release of hazardous wastes or materials to the environment.

3.5.4.4 Industry Standards

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. Article 80 was extensively revised in the latest edition (1994). These articles contain requirements that are generally similar to those contained in the California Health and Safety Code Section 25531 *et seq.* The UFC does, however, contain unique requirements for secondary containment, monitoring, and treatment of toxic gases emitted through emergency venting. These unique requirements are generally restricted to extremely hazardous materials.

3.5.5 References Cited

California Energy Commission. 2001. Larkspur Energy Facility Conditions of Certification. Located at http://www.energy.ca.gov/sitingcases/peakers/larkspur/documents/01_Larkspur_SA.PDF

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Wildflower Energy, Application for Certification Pursuant to the 21-Day Emergency Permitting Process Larkspur Energy Facility San Diego, California, March 7, 2001

Wildflower Energy, Hazardous Materials Business Plan, February 24, 2005

Wildflower Energy, Risk Management Plan, February 24, 2005

3.5.6 Conditions of Certification

This Amendment does not require changes to the conditions identified in the Hazardous Materials Management section of the 2001 AFC Conditions of Certification (CEC 2001).