

3.9 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential environmental effects of the proposed project related to the storage, handling, use, and transport of hazardous materials, as well as the potential for safety hazards during project construction and wind turbine generator (WTG) operation and the potential for interference with air navigation. Hazards related to the potential for wildfire are addressed in Section 3.13, “Fire Protection Services and Wildfire Hazards.”

3.9.1 ENVIRONMENTAL SETTING

TERMINOLOGY

For purposes of this section, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. Federal regulations (Title 49, Section 171.8 of the Code of Federal Regulations [49 CFR 171.8]) define a “hazardous material” as “a substance or material that...is capable of posing an unreasonable risk to health, safety, and property when transported in commerce” and has been designated as hazardous under Section 5103 of the federal hazardous materials transportation law (Title 49, Section 5103 of the U.S. Code). Section 25501 of the California Health and Safety Code defines a hazardous material as follows:

Hazardous material means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous wastes are defined in California Health and Safety Code Section 25141(b) as wastes that:

because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [, or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

RESULTS OF RECORDS SEARCH FOR HAZARDOUS MATERIALS

According to the State Water Resources Control Board (SWRCB) Geotracker Database, the project area contains one listed hazardous materials site. The Mount Pierce Radio Relay Annex is located 5 miles southwest of Scotia on Monument Road. The site was a former U.S. Department of Defense radio station that was flagged in a 1991 inventory project report as a site with a potential underground storage tank. In 2007, the California Department of Toxic Substances Control (DTSC) recommended that the site be investigated and monitored. A 2005 Tetra Tech survey of the facility found no evidence of underground storage tanks and a No Further Action status was issued in April 2010 (DTSC 2019). DTSC reserves the right to address any additional concerns should additional information become available in the future.

Several closed listings are located near the project site. Table 3.9-1 lists the contamination sites that are close to the project construction site, but have been closed by a regulatory agency and are no longer considered a threat to the environment.

Table 3.9-1. Closed Contamination Sites

Site Name (DTSC Number)	Contaminants of Concern	Site Location	Date Closed
Pacific Lumber Company, Bertains Laundry (T0602300179)	Diesel, Gasoline, Waste Oil/Motor/Hydraulic/Lubricating	125 Main Street, Scotia, CA 95565	4/29/2013
Pacific Lumber Company, Bertains Laundry (T0602300179)	Diesel	848 Williams Street, Scotia, CA 95565	12/31/1998
Pacific Lumber Settling Pond (SL0602304051)	Other Spill, Petroleum–Other	125 Main Street, Scotia, CA 95565	12/11/2006
Pacific Lumber Company Carrier Shop (T0602300206)		Main Street, Scotia, CA 95565	6/15/2000
Pacific Lumber Company (T0602300141)	Diesel	Round House, Main Street, Scotia, CA 95565	3/14/1991
Bridgeville General Store (T0602300150)	Unknown—Leaking Underground Storage Tank Site	24880 Highway 36, Bridgeville, CA 95526	3/8/2000
Bruner Property (T0602392524)	Diesel	Highway 36, Bridgeville, CA 95526	12/6/2006
CDOT Bridgeville Maintenance (T0602393101)	Gasoline	Highway 36, MP 26.3, Bridgeville, CA 95526	7/15/1996
Bridgeville School (T0602300359)	Diesel	38717 Kneeland Road, Bridgeville, CA 95526	2/24/1994
HCDPW Bridgeville Maintenance Station (T0602300080)	Gasoline	Highway 36 at Kneeland, Bridgeville, CA 95526	3/27/2009
CDF Bridgeville (T0602300370)	Gasoline	38738 Kneeland Road, Bridgeville, CA 95526	3/14/2002
Notes: CDF = California Department of Forestry and Fire Protection; CDOT = California Department of Transportation; DTSC = California Department of Toxic Substances Control; HCDPW = Humboldt County Department of Public Works; MP = Mile Post Source: Data compiled by AECOM in 2018			

In addition, a leaking underground storage tank is located at Palco Ademars Scotia Chevron/Company Garage, at 121 Main Street in Scotia. The gasoline leak has the potential to affect an aquifer used for drinking water and currently requires semiannual monitoring. Monitoring activities consist of the use of eight monitoring wells, generally located near Pond Avenue, between Main Street and Palco Log Pond.

ELECTRIC AND MAGNETIC FIELDS

Electric and magnetic fields (EMFs) are invisible energy fields that surround any electrical device, including electrical transmission lines. Electric fields may be shielded or weakened by materials that conduct electricity, such as trees, buildings, and human skin. However, magnetic fields are more difficult to shield because they pass through most materials. Both electric and magnetic fields decrease rapidly as the distance from the source increases. The frequency of the electrical field is usually expressed in terms of a unit called a hertz (Hz), while the strength of the magnetic field is often expressed in terms of a unit called a gauss (G). A milligauss (mG) is 1/1,000 of a gauss. Different forms of EMFs are produced by different sources, including electrical energy

facilities such as substations and power transmission lines, as well as common household appliances and office equipment.

Most public attention and scientific research has focused on EMFs generated by electric energy transmission facilities, partially because some studies have reported an increased cancer risk associated with exposure to these types of magnetic fields. These facilities generate power frequencies in the range of 50–60 Hz (referred to as “extremely low frequency”), and may generate magnetic fields that range from 0.2 mG to 86 mG, depending on the type of power line and the distance from the line.

In 2006, the California Public Utilities Commission (CPUC) published a decision to affirm a “low cost/no-cost” policy to mitigate EMF exposure for new utility transmissions and substation projects (CPUC 2006). These policies are discussed below in Section 3.9.2, “Regulatory Setting.” CPUC made this determination based on its 1991 study that was unable to “determine whether there is a significant scientifically verifiable relationship between EMP exposure and negative health consequences.” A list of applicable studies is available online.

SCHOOLS

Because children are considered sensitive receptors for hazardous materials, CEQA requires special consideration for projects located near existing or proposed schools (State CEQA Guidelines, Section 15186). No schools are located within one-quarter mile of a project feature. However, the transportation route from Fields Landing to the town of Scotia passes less than one-quarter mile from several schools in Fortuna, Rio Dell, and Scotia.

AIRPORTS AND AIR HAZARDS

The project boundary is not located within an airport land use plan, or within 2 miles of a public airport, public use airport, or private airstrip. The nearest airports to the project site are Rohnerville Airport, approximately 5 miles north of the town of Scotia, and Dinsmore Airport, approximately 10 miles from the city of Bridgeville.

USE OF HAZARDOUS MATERIALS AND EXPLOSIVES

Project construction activities would involve using potentially hazardous materials such as fuels (gasoline and diesel), oils and lubricants, batteries, and cleaners (e.g., solvents, soaps, and detergents). General maintenance of the WTGs would require that hazardous materials, such as oils and lubricants, be routinely used and stored on-site. Hazardous materials used in transportation, construction, and operation of the project site are identified in Table 2-3, “Typical Hazardous Materials Associated with Wind Energy Projects,” in Chapter 2, “Project Description.” In addition, explosives may be used in creating foundations for the WTGs. In some locations, large boulders and shallow bedrock may require that 2-pound packets of explosives be placed in boreholes and detonated.

3.9.2 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Handling

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous substances is the U.S. Environmental Protection Agency (EPA), under the authority of the Resource Conservation and Recovery Act (RCRA). The RCRA established an all-encompassing federal regulatory program for hazardous substances that is administered by EPA. Under the RCRA, EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. The RCRA was amended in 1984 by the Hazardous and Solid Waste Amendments of 1984, which specifically prohibit the use of certain techniques for the disposal of various hazardous substances. The federal Emergency Planning and Community Right-to-Know Act of 1986 imposes hazardous-materials planning requirements to help protect local communities in the event of accidental release of hazardous substances. EPA has delegated many of the RCRA requirements to DTSC.

Use and safety considerations related to blasting activities are regulated by the U.S. Occupational Safety and Health Administration (OSHA) under the Construction Safety and Health Outreach Program. Storage of explosives and blasting agents is regulated by the U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives (18 CFR 1102, Chapter 40, *Importation, Manufacture, Distribution and Storage of Explosive Materials* and 27 CFR Part 55, *Commerce in Explosives*).

Hazardous Materials Transport

The U.S. Department of Transportation regulates transportation of hazardous materials between states. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous-waste haulers for transportation of hazardous waste on public roads, including explosives that may be used for blasting.

The Federal Railroad Administration enforces the Hazardous Materials Regulations, which are promulgated by the Pipeline and Hazardous Materials Safety Administration for rail transportation. These regulations require railroads, other transporters of hazardous materials, and shippers to develop and adhere to security plans and train employees who offer, accept, or transport hazardous materials regarding both safety and security matters.

Worker Safety Requirements

OSHA is responsible at the federal level for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for the handling of hazardous substances (and other hazards). OSHA also establishes criteria by which each state can implement its own health and safety program.

Federal Aviation Administration Regulations Part 77—Objections Affecting Navigable Airspace

The Federal Aviation Administration (FAA) has established standards for determining what constitutes an obstruction for navigable airspace. The FAA standards for determining obstructions (14 CFR 77.23) are as follows:

- (a) An existing object, including a mobile object, is, and a future object would be an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:
- (1) A height of 500 feet above ground level at the site of the object.
 - (2) A height that is 200 feet above ground level or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more the 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 500 feet.
 - (3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.
 - (4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.
 - (5) The surface of a takeoff and landing area of an airport or any imaginary surface established under Section 77.25, Section 77.28, or Section 77.29. However, no part of the take-off or landing area itself will be considered an obstruction.

STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Hazardous Materials Handling

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of hazardous materials business plans and disclosure of hazardous-materials inventories. A business plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State of California. Local agencies, including the Humboldt County (County) Department of Health and Human Services, Division of Environmental Health, administer these laws and regulations.

Explosives operations regulations are listed in California Code of Regulations [CCR] Title 8, Section 5329, and enforced by the California Department of Industrial Regulations and local law enforcement officers.

Worker Safety Requirements

The California Occupational Safety and Health Administration (Cal-OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal-OSHA regulations pertaining to the use of hazardous materials in the workplace (CCR Title 8) include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal-OSHA enforces hazard communication program

regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances; communicating hazard information related to hazardous substances and their handling; and preparing health and safety plans to protect workers and employees at hazardous-waste sites. The hazard communication program requires employers to make material safety data sheets available to employees and document employee information and training programs.

Emergency Response to Hazardous Materials Incidents

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous-material incidents is one part of this plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies, including the California Environmental Protection Agency, the CHP, California Department of Fish and Wildlife, and the North Coast Regional Water Quality Control Board.

Government Code Section 65962.5 (Cortese List)

The provisions of Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the legislator who authored the bill that enacted it). The Cortese List is a planning document used by state and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop an updated Cortese List annually, at minimum. DTSC is responsible for a portion of the information contained in the Cortese List. Other California state and local government agencies are required to provide additional information about hazardous material releases for the Cortese List.

Multi-Hazard Mitigation Plan

The Federal Emergency Management Agency approved the *State of California Multi-Hazard Mitigation Plan* in September 2010. The overall intent of this plan is to reduce or prevent injury and damage from natural hazards in California, such as earthquakes, wildfires, and flooding. The plan identifies past and present hazard mitigation activities; current policies and programs; and mitigation goals, objectives, and strategies for the future (Cal OES 2010).

Electromagnetic Fields

CPUC's *Opinion on Commission Policies Addressing Electromagnetic Fields Emanating from Regulated Utility Facilities* (Rulemaking 04-08-020) was released in 2006 to update policies and procedures related to electromagnetic fields emanating from regulated utility facilities. This opinion included 22 findings of fact, among them the following:

- ▶ A direct link between exposure to EMFs and human health effects has not been proven.
- ▶ Low-cost/no-cost policies should be used as mitigation.
- ▶ Low-cost measures are defined as mitigation measures that cost 4 percent or less of the total project cost.
- ▶ The measures adopted should reduce exposure of EMFs by 15 percent.

The findings state that Pacific Gas and Electric Company (PG&E), Southern California Edison, and San Diego Gas and Electric Company have set their own design guidelines for applying EMF mitigation measures to electric

transmission, distribution, and substation facilities (CPUC 2006). The PG&E EMF Policy is implemented as follows:

- ▶ Establish procedures to explicitly consider electric and magnetic field, EMF, exposure in the design of, planning for, and communications about new and upgraded facilities.
- ▶ Take reasonable steps to reduce EMF exposure in the design of new and upgraded facilities.
- ▶ Encourage a multi-industry effort to share responsibility for effectively addressing public concern about EMF exposure, while increasing overall energy efficiency.
- ▶ Work closely with employees and union leadership to continue review and implementation of EMF policies and procedures and provide employees with up-to-date information.
- ▶ Provide customers with up-to-date information of EMF and conduct measurements on request.
- ▶ Fund and actively participate in EMF research and work closely with government officials to resolve EMF issues.

Because the proposed project would comply with CPUC policies, including those concerning EMF exposure reduction, EMF exposure is not discussed further in this EIR.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Humboldt County General Plan, Safety Element

The following policies and standards in the Safety Element of the *Humboldt County General Plan* (Humboldt County 2017) are relevant to the proposed project.

General

- ▶ **Policy S-P3: Hazard Education.** Encourage the education of the community regarding the nature and extent of hazards and community disaster preparation and response.
- ▶ **Policy S-P4: Disaster Response Plans.** The County shall prepare and maintain current disaster response plans. The County shall support and participate in the preparation of disaster response plans by community organizations, companies, cities, and state and federal agencies.
- ▶ **Policy S-P5: Hazard Mitigation.** The County shall actively seek opportunities to reduce the impacts of disasters through hazard mitigation planning.

Industrial Hazards

- ▶ **Policy S-P32: Hazardous Industrial Development.** Hazardous industrial development may be permitted when:
 - a) It includes mitigation measures sufficient to offset increased risks to adjacent human populations and the environment; and

- b) Increased risks to adjacent human populations and the environment have been adequately mitigated by approved disaster response plans. (See definition of "hazardous industrial development" in Standard S-S16, Hazardous Materials Handling and Emergency Response).
- ▶ **Policy S-P33: Hazardous Waste.** Eliminate the use of toxic materials within Humboldt County, where feasible, and require the reduction, recycling, and reuse of such materials, to the greatest extent possible, where complete elimination of their use is not feasible. Require new development which may generate significant quantities of hazardous wastes to be consistent with all the goals and policies of the Hazardous Waste Management Plan (Appendix H).
 - **Standard S-S16: Hazardous Materials Handling and Emergency Response.** The County shall condition new development that handles toxic, flammable, or explosive materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development to conform to the applicable state or federal materials handling and emergency response plans.

Emergency Management

- ▶ **Policy S-P34: Pre-disaster Planning and Mitigation.** The County shall proactively reduce known hazards through pre-disaster planning and mitigation efforts.
- ▶ **Policy S-P35: Hazard Mitigation Plan.** The County incorporates by reference into this Safety Element the Humboldt Operational Area Hazard Mitigation Plan for unincorporated areas (Volume I and the Humboldt County Annex and the Appendices of Volume II) as adopted and amended by the Board of Supervisors, in accordance with the Federal Disaster Mitigation Act of 2000 and California Government Code, Section 65302.6.
- ▶ **Policy S-P36: Emergency Operations Capability.** The County shall maintain the ability to implement the nationwide National Incident Management System (NIMS), statewide Standardized Emergency Management System (SEMS), activate the Operational Area Emergency Operations Center (EOC), coordinate responders, and implement other tactical response measures as required. Emergency operations shall conform to the Humboldt County Operational Area Emergency Operations Plan.
- ▶ **Policy S-P37: Tsunami Ready Program.** The County shall support efforts of low-lying coastal communities to attain TsunamiReady™ status, as developed by the National Weather Service.
 - **Standard S-S18: Humboldt County Operational Area Office of Emergency Services (OES).** Local emergency management and response operations shall be consistent with Humboldt County Operational Area Emergency Operations Plan and Humboldt County Ordinance 2203.
 - **Standard S-S19: Consistency with State and Federal Framework.** County emergency response efforts shall be consistent with the California Emergency Services Act (California Government Code, Section 8550 et seq.) and the federal National Response Framework (effective March 2008, as amended) and the National Incident Management System (NIMS).

Towns of Scotia and Bridgeville

The Towns of Scotia and Bridgeville are unincorporated and have no general plans.

Disaster Planning and Hazardous Materials

The Humboldt County Sheriff's Department operates the County Office of Emergency Services (County OES). Humboldt County Ordinance 2203 established the Humboldt Operational Area and identified the Sheriff as Director of Emergency Services for the County. The County OES mobilizes County and other local government assets to respond to emergencies in the county as needed. Where local resources are not sufficient to respond, the County OES seeks help from the California Emergency Management Agency. The County OES response uses the National Incident Management System, the Standardized Emergency Management System, and the Incident Command System to facilitate a coordinated response from all levels of government.

The County OES uses the *Humboldt County Emergency Operations Plan* as a guide to disaster response. This plan identifies existing conditions and infrastructure, identifies threats and hazards, and then describes the process and roles for response and recovery actions (Humboldt County 2015).

The Humboldt County Department of Health and Human Services, Division of Environmental Health, is the Certified Uniform Program Agency for Humboldt County. The County Division of Environmental Health regulates the storage, use, and disposal of hazardous materials in Humboldt County by issuing permits, monitoring regulatory compliance, and investigating complaints. The Division of Environmental Health also serves as a local oversight program for the SWRCB, overseeing cleanup of sites where underground storage tanks have leaked, and ensuring that corrective action requirements are met.

The City of Rio Dell prepared an emergency operations plan in April 2001. The plan addresses a variety of emergency response issues, including fires and incidents involving hazardous materials. The City of Rio Dell Chief of Police is responsible for implementing the planning, organization, and response to policies and procedures outlined in the emergency operations plan (Humboldt LAFCO 2010).

3.9.3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following thresholds of significance are based on the environmental checklist in Appendix G of the State CEQA Guidelines, as amended. Implementing the proposed project would result in a significant impact related to hazards and hazardous materials if it would:

- ▶ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ▶ create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- ▶ emit hazardous emissions or involve the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- ▶ be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

- ▶ for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area; or
- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Hazards related to wildland fires are addressed in Section 3.13, “Fire Protection Services and Wildfire Hazards.”

ANALYSIS METHODOLOGY

This analysis of impacts of the proposed project related to hazardous materials is based on review of regulatory databases, a site visit, the reports and other information sources cited in this section, Google Maps, and aerial photographs.

ISSUES NOT DISCUSSED FURTHER

Safety hazards associated with projects located within an airport land use plan, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip—The project site is not located within an airport land use plan, or within 2 miles of a public airport, public use airport, or private airstrip. The nearest airports are the Rohnerville Airport, approximately 5 miles north of the town of Scotia, and the Dinsmore Airport, approximately 10 miles from Bridgeville.

Impairment of implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan due to transportation during construction—This topic is related to potential impediments to emergency access caused by an increase in truck traffic along haul routes during construction, and the temporary closure of U.S. Highway 101 (U.S. 101) required to accommodate the large size and low maneuverability of heavy trucks hauling project components. These impacts are discussed in Section 3.12, “Transportation and Traffic.”

IMPACTS AND MITIGATION MEASURES

<p>IMPACT 3.9-1</p>	<p>Accidental Spills of Hazardous Materials from Routine Transport, Use, or Disposal of Hazardous Materials. <i>Construction and operation activities for the proposed project may create opportunities for accidental spills of hazardous materials at and around the project site during routine transport, use, or disposal activities. This impact would be less than significant.</i></p>
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Project construction activities would involve using potentially hazardous materials, such as fuels (gasoline and diesel), oils and lubricants, and cleaners (e.g., solvents, soaps, and detergents). General maintenance of the proposed WTGs would require using hazardous materials, such as oils and lubricants. As a result, construction, operations, and maintenance activities would increase the amount of hazardous materials transported through the project site and along delivery routes.

The CHP and Caltrans regulate transportation of hazardous materials on area roadways, and DTSC regulates the use of these materials, as outlined in CCR Title 22. The project applicant would be required to obtain permits for

hazardous materials use, and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. Construction contractors would be required to use, store, and transport hazardous materials in compliance with federal, state, and local regulations during project construction.

Compliance with applicable regulations would reduce the potential for accidental release of hazardous materials during their transport and during project construction and operation activities. A Hazardous Materials Business Plan would be prepared in accordance with the California Health and Safety Code and County regulations, and the project applicant would submit the plan to the Humboldt County Public Health Services Department for review and approval. The Hazardous Materials Business Plan would delineate hazardous material and hazardous waste storage areas; describe proper handling, storage, and disposal techniques; describe methods to be used to avoid spills and minimize impacts in the event of a spill; describe procedures for handling and disposing of unanticipated hazardous materials encountered during construction; and establish public and agency notification procedures for spills and other emergencies, including fires.

Consequently, the risk of significant hazards associated with the transport, use, and disposal of these materials is low. This impact would be **less than significant**.

The expansion of the Bridgeville Substation would involve minimal use of hazardous materials, for which the storage and transport are regulated. Therefore, this impact of substation expansion would be **less than significant**.

<p>IMPACT 3.9-2</p>	<p>Exposure to Hazardous Materials Existing at the Project Site or Location of the Project on a Site Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5. <i>Project activities would not result in new exposure to hazardous materials at the project site. However, DTSC reserves the right to require additional surveys and tests of the land in the event that construction work would disturb the soil. Therefore, this impact would be potentially significant.</i></p>
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As described above in Section 3.9.1, “Environmental Setting,” agency database searches of the project site contained one potential hazardous waste site, the Mount Pierce Radio Relay Annex, which is included on the Cortese List of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Radio Relay Annex is located along the proposed generation path on Monument Road. DTSC flagged the site as a site with a potential underground storage tank. A visual analysis of the site could not determine a source of contamination; thus, DTSC Issued a No Defense Action Indicated. Based on the inability to identify markers of underground storage tanks, construction workers and residents would not likely be exposed to existing hazardous materials during construction activities. However, DTSC reserves the right to require additional surveys and tests of the land in the event that construction work would disturb the soil. Therefore, this impact would be **potentially significant**.

Mitigation Measure 3.9-1: Investigate Known Hazard along the Project Alignment.

The project applicant shall retain a licensed professional to conduct soil sampling and testing along the segment of the project alignment routed near the Mount Pierce Relay Annex. A report shall be prepared to summarize the findings of lab tests and make recommendations for project design and construction to protect human health. Available measures may include remedial actions to remove the contaminated soils or routing of the alignment to avoid the contaminated area. The report shall be submitted to the County

for review and recommendations shall be enforced by reviewing engineering plans during inspection and confirming implementation while in the field.

Implementing this mitigation measure would reduce the potential impact related to exposure to hazardous materials existing at the project site to **less than significant**.

The expansion of the Bridgeville Substation would not result in new exposure to hazardous materials at the project site because no disturbance of a contaminated site would occur. Therefore, **no impact** related to exposure to hazardous materials existing at the project site, or to location of the project on a site included on a list of hazardous materials sites, would result from substation expansion.

IMPACT 3.9-3	Potential Safety Hazards Associated with Project Construction. <i>Construction and operation of the project may include the use of explosives. Using explosives has the potential to create a significant hazard to the public and structures. This impact would be potentially significant.</i>
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Installing the WTG foundations could require blasting to reach an adequate depth for structural stability and safety. Installation of transmission line poles and roadway improvements may also include blasting in some locations. Blasting entails placing explosive materials into a borehole, which is then ignited. The subsequent explosion generates air blasts and seismic waves that fracture the surrounding rock. Generally, explosives used for construction purposes consist of ammonium nitrate and fuel oil (DOC 2004). Reasonably foreseeable accidents associated with blasting include accidental discharge and expulsion of materials beyond the expected distance (i.e., flyrock).

Explosive materials are ignited from sources of energy. During construction-related blasting activities, materials are ignited from the controlled use of electricity. Accidental discharge of explosive materials can also occur from extraneous sources of electricity. Sources of electricity within the project site include power lines, radio transmitters, and electrical storms. Depending on the amount of material and method of storage, the size and extent of an accidental discharge could cause extensive destruction. Injuries and fatalities could result from the initial explosion and/or secondary effects such as fires and flyrock.

Flyrock is a potential hazard from blasting that could occur under accidental and planned ignition. Flyrock is defined as mud, water, or fragments of rock that accidentally travel outside of the expected blast area. Creation of flyrock can result from many factors, including anomalies in the geology and rock structure, poor communication, and incorrect blasthole layout and loading (DOC 2004). Blasting-induced flyrock can travel up to one-half mile at a rate of 400 miles per hour (recorded at 200 feet from the blast site) (DOC 2008). There are numerous documented cases of flyrock causing bodily harm to construction workers and the general public, sometimes leading to fatalities (DOC 2004).

Sections 12101–12103 of the California Health and Safety Code describe permit requirements for manufacturing, possession, transportation, and use of explosives, which would apply to blasting activities on the project site. These permits must be issued or endorsed by the jurisdiction in which blasting would take place. In addition, OSHA’s Construction Safety and Health Outreach Program sets standards for blaster qualifications, transportation, storage, and loading, execution, and post-explosion requirements.

Some public access across portions of the generation area may be allowed by private property owners. However, during construction of specific project elements (blasting, tower erection, transmission interconnect line stringing, roadway improvements), public access to certain portions of the generation area, transmission routes, or roadway improvement areas would be temporarily restricted for safety purposes. Authorized users may continue to have access during the construction period, but would be subject to safety measures negotiated between the project applicant and the landowners.

Direct and indirect impacts associated with blasting activities would be **potentially significant**.

Mitigation Measure 3.9-2: Prepare and Implement a Blasting Plan to Minimize Potential for Blasting-Related Safety Incidents.

Before the issuance of grading or building permits, if blasting is required, the project applicant shall contract with a blasting contractor with experience conducting blasting activities. The contractor shall be licensed to use Class A explosives, and licensed as a contractor in the State of California. The blasting contractor shall prepare a blasting plan for the proposed blasting activities to avoid endangering worker safety. The blasting plan shall be submitted for review to the Humboldt County Planning Department, in consultation with the County Environmental Health Services Department, the State Fire Marshal, and the North Coast Unified Air Pollution Control District.

The blasting plan shall:

- describe procedures to be implemented to protect workers during blasting, such as using a signaling system to alert workers of an impending blast and using blasting mats to prevent or reduce the number of rock particles thrown into the air;
- provide procedures for preventing employee or public entry into any area subject to blasting;
- describe procedures for proper storage and transportation of explosive materials, including protecting explosives from wildfires;
- prohibit blasting during extreme fire danger periods; and
- comply with the guidelines established by the U.S. Bureau of Mines and the U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement, for minimizing damage to structures from blasting.

Implementing this mitigation measure would reduce the potential impact from blasting construction activities to **less than significant**.

The expansion of the Bridgeville Substation would not involve the use of explosives. Therefore, **no impact** related to potential safety hazards from blasting would result from substation expansion.

<p>IMPACT 3.9-4</p>	<p>Potential Hazards Associated with Operation of Wind Turbine Generators. <i>Implementation of the proposed project could cause reasonably foreseeable upset and accident conditions during operation of the wind turbine generators. This impact would be less than significant.</i></p>
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Wind turbine generators pose unique public health and safety concerns. Potential safety hazards associated with WTG operation may include blade throw, ice throw or shedding, and tower collapse, as discussed below.

- ▶ **Blade Throw.** Blade throw is the event in which a blade or portion of a blade detaches from a WTG. WTG operation relies on centripetal, gravitational, and aerodynamic forces to function as expected. These forces—mass, shape, orientation of object when released, and speed of the object—determine the trajectory of a detached or blade piece (i.e., force = mass x acceleration).
- ▶ **Ice Throw/Shedding.** Generally, WTGs shut down as a result of cold weather, and when temperatures increase, ice present on the blades will fall to the ground (i.e., ice shedding). However, if a WTG does not shut down automatically or manually, accumulated ice can be thrown from the turbine (i.e., ice throw).
- ▶ **Tower Collapse.** WTGs can collapse under conditions such as blade strikes, rotor overspeed, extreme or cyclonic winds, and inadequate maintenance. Similar to discussions above related to blade throw, various factors related to the mass, shape, and speed contribute to the trajectory of objects.

In addition to operational failures, WTG damage could occur through failure of the fiberglass rotor skin, resulting in flying fragments (i.e., rotor delamination), or if a failed rotor blade strikes the tubular tower (i.e., blade-tower strike). Earthquakes and extreme weather could also result in any of the above-mentioned failure mechanisms.

However, as discussed in Section 2.4.1, “Operations and Maintenance Plan,” in Chapter 2 of this EIR, monitoring operations would be conducted from computers located in the base of each WTG tower and technicians would test and maintain the wind power facilities on a daily basis. In addition, an operations and maintenance program would be prepared per the requirements of the equipment specification and good industry practices. The plan would include:

- ▶ administration and training,
- ▶ performance monitoring,
- ▶ environmental monitoring,
- ▶ scheduled maintenance of WTGs,
- ▶ scheduled maintenance and balance of plant,
- ▶ environmental monitoring,
- ▶ unscheduled maintenance of WTGs, and
- ▶ unscheduled maintenance and balance of plant.

Finally, the WTGs would be located on private lands, and public access to the immediate WTG sites would be restricted.

Because the project applicant must prepare an operation and maintenance program that would substantially reduce opportunities for facility failure that could be a danger to people, and because access to the wind energy

generation facilities would be restricted, this direct impact would be **less than significant**. No indirect impacts would occur.

The Bridgeville Substation would not be affected by operation of the WTGs. Therefore, **no impact** related to hazards from operating WTGs would result from substation expansion.

<p>IMPACT 3.9-5</p>	<p>Interference with Air Navigation. <i>Project implementation would include installation of meteorological towers and wind turbine generators that could interfere with air navigation. However, this impact would be less than significant.</i></p>
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The proposed project includes construction and operation of WTGs and meteorological towers. Although no airports are located within 2 miles of the proposed WTG locations, meteorological towers would be up to 394 feet tall and the WTGs would be up to 600 feet tall. Structures extending more than 200 feet above the ground surface have the potential to interfere with air navigation.

Construction of the WTGs would follow the recommendations provided in FAA Technical Note *Development of Obstruction Lighting Standards for Wind Turbine Farms* (DOT/FAA/AR-TN05/50). Design considerations would include appropriate paint and lighting that would increase visibility to pilots, thereby reducing potential aircraft accidents. In addition, by following requirements under Advisory Circular 70/7460-1K, *Obstruction Marking and Lighting*, meteorological towers and transmission poles would comply with FAA lighting regulations. Furthermore, 14 CFR Part 77.13 requires that construction of proposed objects exceeding 200 feet above ground level, or when requested by the FAA, be made known to the FAA Administrator.

Because the proposed project would comply with existing laws, regulations, and appropriate recommendations, this direct impact would be **less than significant**. No indirect impacts would occur.

The expansion of the Bridgeville Substation would not create new structures that would interfere with air navigation because all improvements would be lower than the adjacent hills. Therefore, **no impact** related to interference with air navigation would result from substation expansion.

<p>IMPACT 3.9-6</p>	<p>Release and Handling of Hazardous Materials within One-Quarter Mile of Existing Schools. <i>Schools are located within one-quarter mile of the transportation route. However, this impact would be less than significant.</i></p>
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The transportation route for materials on U.S. 101 would pass within one-quarter mile of a school. However, neither the generation area nor the transmission interconnect lines, nor proposed road construction on U.S. 101 or smaller roads, are planned to pass within one-quarter mile of a school. Therefore, this impact would be **less than significant**.

The Bridgeville Substation is not within one-quarter mile of a school and would not interfere with potential traffic on State Route 36. Thus, **no impact** related to release and handling of hazardous materials within one-quarter mile of existing schools would result from substation expansion.

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