



ENVIRONMENT, SAFETY & HEALTH DIVISION

Emergency Management Plan

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Executive Summary

This plan describes SLAC's emergency management program, following the format adopted by the California Office of Emergency Services (Cal OES) for a consolidated contingency plan, expanded as necessary to incorporate responses to all emergencies, as well as our responsibilities under National Fire Protection Association (NFPA) 1660, "Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery" ([NFPA 1660](#)).

The purpose of this plan is to protect persons and property at SLAC, the public health, and the environment by ensuring adequate preparedness and rapid and appropriate response to emergency situations.

The plan covers emergency planning, preparedness, response, and recovery. It describes

- How the following emergency preparedness requirements are consolidated into this plan:
 - Hazardous Materials Business Plan ([19 CCR 5030.9](#))
 - Hazardous Waste Contingency Plan ([22 CCR 66264.50–66264.56](#))
 - California Accidental Release Prevention (CalARP) Program – Risk Management Plan ([19 CCR 2745.8](#))
 - Spill Prevention, Control, and Countermeasure Plan ([40 CFR 112](#))
 - California Environmental Protection Agency, California State Water Resources Control Board. Sanitary Sewer General Order ([Order 2022-0103-DWQ](#))
 - Accidental Spill Prevention Plan (SVCW Regulations, Section 4.11)
 - Slug Discharge Plan (IW Permit 211216)
 - NFPA 1660, Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response and Recovery ([NFPA 1660](#))
- Hazards and vulnerabilities at SLAC
- Roles and responsibilities for SLAC's emergency response organization, which is comprised of SLAC's site security, emergency response team, and emergency operations center
- External public safety responders
- Resources and logistics
- Processes, from planning to initial response, recovery, and reporting

The plan applies to all persons at SLAC, including employees, users, subcontractors, and visitors. Internal groups with specific responsibilities are SLAC Site Security, the SLAC Occupational Health Center, Facilities and Operations, Chemical and Waste Management, Environmental Protection, Radiation Protection, Strategic Communications and External Affairs, and the Department of Energy SLAC Site Office; external groups are the fire departments of Menlo Park and Woodside, Cal Fire, the San Mateo County's Sheriff's Office and Environmental Health Services, and Stanford Health Care.

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Acronyms

AAR	after action report
CalARP	California Accidental Release Prevention
Cal Fire	California Department of Forestry and Fire Protection
Cal OES	California Office of Emergency Services
CCCP	consolidated chemical contingency plan
CCR	<i>California Code of Regulations</i>
CEH	Collider Experimental Hall
CERS	California Environmental Reporting System
CFR	<i>Code of Federal Regulations</i>
CHWMA	centralized hazardous waste management area
CSO	chief safety officer
CUPA	certified unified program agency
CWM	chemical and waste management
DO	duty officer
DOE	Department of Energy (United States)
EC	emergency operations center coordinator
ECC	emergency communications center
EMO	emergency management organization
EMP	emergency management plan
EMT	emergency medical technician
EOC	emergency operations center
EP	environmental protection
EPA	Environmental Protection Agency (United States)
EPHA	emergency planning hazards assessment
ERAP	emergency readiness assurance plan
ERD	emergency response directory
ERO	emergency response organization
ERT	emergency response team
ESA	End Station A
ESB	End Station B

ESH	environment, safety, and health
FEH	Far Experimental Hall
FOG	field operations guide
FSUST	former solvent underground storage tank
HazMat	hazardous materials
HCN	hydrogen cyanide
HMBP	hazardous materials business plan
HSC	<i>Health and Safety Code (California)</i>
HSS	health and safety services
IC	incident commander
ICP	integrated contingency plan
ICS	incident command system
IRG	initial response guide
JIC	joint information center
KTL	Klystron Test Laboratory
LCLS	Linac Coherent Light Source
LEL	lower explosive limit
LOS	laboratory offices and shops
LT	life-threatening
MAA	mutual aid agreement
MCI	mass casualty incident
MFD	Mechanical Fabrication Department
MOA	memorandum of agreement
MOU	memorandum of understanding
MPFPD	Menlo Park Fire Protection District
MPMWD	Menlo Park Municipal Water Department
NEH	Near Experimental Hall
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NRC	National Response Center
O	order (Department of Energy)
ODM	oxygen deficiency monitor
OHC	Occupational Health Center
ORPS	Occurrence and Reporting Processing System (Department of Energy)

OSHA	Occupational Safety and Health Administration (federal)
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric
PIO	public information officer
PPE	personal protective equipment
RMP	risk management plan
ROB	Research Office Building
RP	radiation protection
RSB	Research Support Building
RWQCB	regional water quality control board
SCP	site compliance plan
SEM	security and emergency management
SEMS	standardized emergency management system
SPCC	spill prevention control and countermeasure
SRCF	Stanford Computer Research Facility
SSO	SLAC Site Office (Department of Energy)
SSRL	Stanford Synchrotron Radiation Lightsource
TEP	toxic end-point
TPH	total petroleum hydrocarbon
UST	underground storage tank
VOC	volatile organic compound
WPC	work planning and control

Section I Plan Introduction

The objective of this emergency management plan (EMP) is to integrate multi-jurisdictional emergency planning, preparedness, response, and recovery requirements into a single document that describes how SLAC's emergency response organization provides capabilities for all emergency responders, through communication, coordination, and the effective use of resources.

SLAC has chosen to format our emergency management plan after the National Response Team's [Integrated Contingency Plan \(ICP\)](#), which is complimentary to California's Consolidated Emergency Response / Contingency Plan. The ICP "One Plan" format establishes a single all hazards plan that we have expanded as necessary to meet our responsibilities under multiple federal, state, and local regulations/codes. Table 2 shows how this plan follows that format and notes the ICP components that have been excluded as not applicable to SLAC emergency planning requirements.

Additionally, SLAC has elected to use National Fire Protection Association (NFPA) 1660, "Standard for Emergency, Continuity, and Crisis Management: Preparedness, Response, and Recovery" ([NFPA 1660](#)).

I.1 Purpose and Scope of Plan Coverage

The purpose of this plan is to protect persons and property at SLAC, the public health, and the environment by ensuring adequate preparedness and rapid and appropriate response to emergency situations.

This plan is designed to cover the types of emergencies that may affect the SLAC National Accelerator Laboratory, and applies to all persons at SLAC, including employees, users, subcontractors, and visitors. Non-SLAC personnel conducting operations or experiments in facilities managed and operated by SLAC will follow the facility-specific emergency procedures for notification of significant emergency conditions, if and when they occur.

I.1.a Emergency Management Program

The ESH Division director has overall responsibility for the SLAC emergency management program. The ESH Division director has delegated responsibility for the day-to-day management to the emergency manager as the emergency management program administrator.

SLAC's emergency manager is responsible for the development and maintenance of the emergency management program at SLAC, including the performance of periodic activities such as equipment inventories, plan/procedure reviews and updates, development and maintenance of the hazard survey and technical support documents, training, exercises and drills, and audit interface. Planning interface with off-site organizations providing support to an emergency response at SLAC will be the responsibility of either the emergency manager or an assigned individual representing a specialized discipline, such as fire protection or security. The emergency manager is responsible for coordinating these interfaces with off-site organizations to ensure that adequate response agreements are in place and maintained.

The emergency manager will periodically request assistance from SLAC site personnel in various functional areas to assist in their area of expertise. Assistance may be needed in such areas as inventory of equipment, developing

scenarios, conducting audits, testing communications, and participating in drills/exercises as controllers or evaluators.

The emergency manager is also responsible for ensuring the completion and documentation of the required periodic review of this emergency management plan and its associated implementing procedures and developing the annual emergency readiness assurance plan (ERAP). This emergency management plan and other emergency response related documents are required to be reviewed annually, while the associated notification lists are reviewed quarterly.

I.1.b Overview of Facility Operations

The SLAC site occupies 426 acres of land owned by Stanford University. The land is part of Stanford's academic reserve and is located west of the university, in an unincorporated portion of San Mateo County.

I.1.b.1 Land Use

The SLAC site is zoned in the San Mateo County General Plan as a residential estate. Approximately 34 percent of the property is developed with buildings and pavement, mostly in the core campus area.

Land use to the west is primarily residential, a biological preserve, and reserved open space. Land use to the north is mostly commercial, residential, and recreational, with a school and convalescent hospital north of the central campus. Land use to the east is residential, recreational, and educational (the Stanford campus). Land use to the south is agricultural, commercial, reserved open space, and residential.

I.1.b.2 Demographics

SLAC's internal staff average 1,800 personnel of which 20 percent are PhD scientists. Typically, 3,000 plus users, visiting scientists, and graduate students use the facility per year.

I.1.b.3 Climate

The climate in the SLAC consists of cool and moist winters, summers, which are mostly warm and dry. Daily mean temperatures are seldom below 32 degrees Fahrenheit or above 86 degrees Fahrenheit.

Rainfall averages about 22 inches per year. About 75 percent of the precipitation, including most of the major storms occurs during the four-month period from December through March. Most winter storm periods are from two days to a week in duration. The storm centers are usually characterized by relatively heavy rainfall and high winds. The combination of topography and air movement produces substantial fluctuations in intensity, which can best be characterized as a series of storm cells following one another that produce heavy precipitation for periods of five to 15 minutes with lulls in between bursts.

I.1.b.4 Topography and Geology

SLAC is located in a belt of low, rolling foothills between the alluvial plain bordering San Francisco Bay to the east and the Santa Cruz Mountains to the west. The site varies in elevation from 175 to 380 feet above sea level. The alluvial plain to the east around the bay lies less than 151 feet above sea level; the mountains to the west rise abruptly to over 2,000 feet.

The site lies between Sand Hill Road and Alpine Road, bisected by Interstate 280, on an elongated parcel roughly 2.75 miles long, running in an east-west direction. The parcel widens to about 0.65 mile at the target (east) end to

allow space for buildings and experimental facilities. Much of the western end of the parcel is bordered by Stanford University's Jasper Ridge Biological Preserve, which includes part of the San Francisquito Creek riparian channel, the last channel of its kind between San Jose and San Francisco still in its natural state.

The site is underlain by sandstone, with some basalt at the far eastern end. In general, the bedrock on which the western half of the SLAC Linac rests is the Whiskey Hill Formation (Eocene age), and the bedrock under the eastern half is the Ladera Sandstone (Miocene age). On top of this bedrock at various places along the accelerator alignment is the Santa Clara Formation (Pleistocene age), where alluvial deposits of sand and gravel are found. At the surface is a soil overburden of non-consolidated earth material averaging from 0.3 to 3 feet in depth. Figure 1, shows the general geographic and geologic setting of the area.

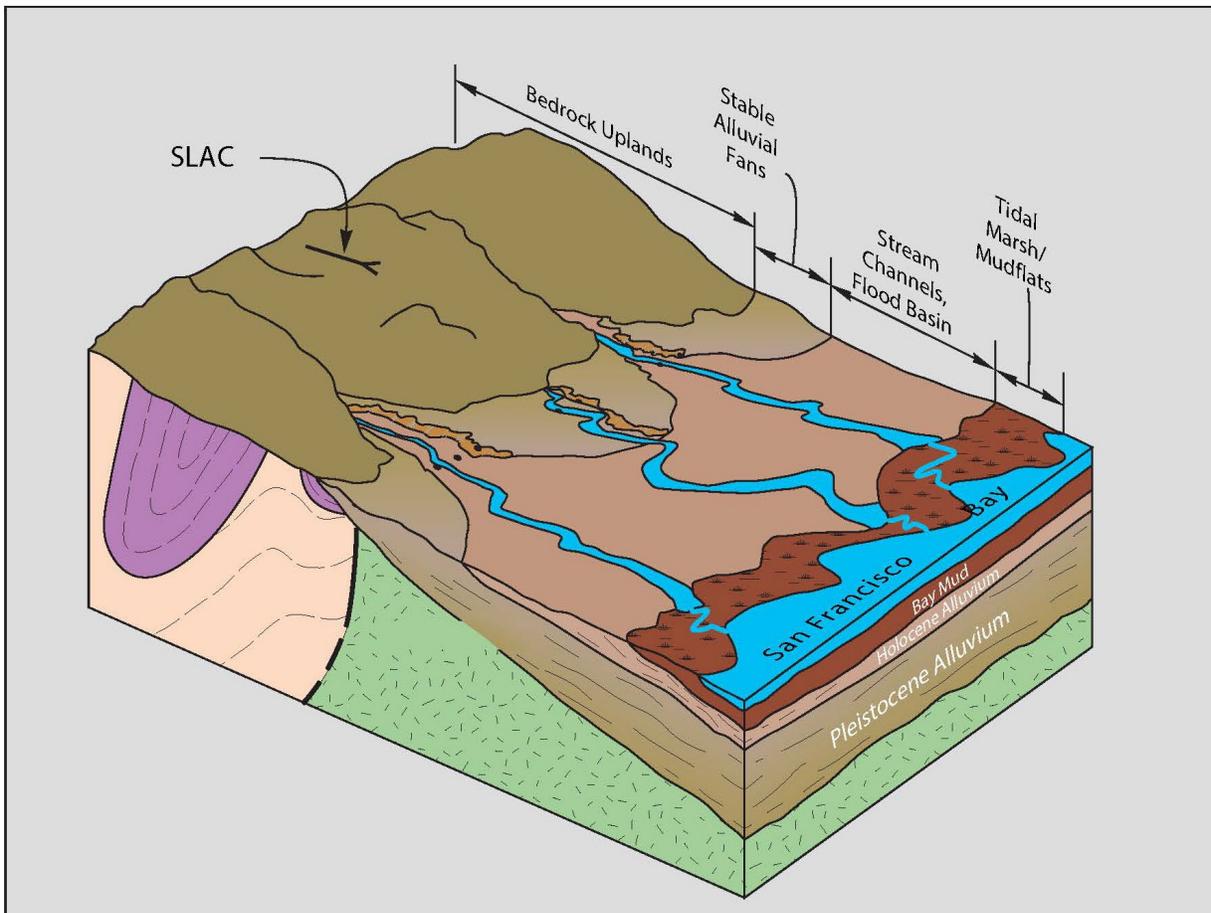


Figure 1 Site Area General Geographic and Geologic Setting

I.1.b.5 Natural Phenomena

SLAC's main campus is located approximately two miles east of the San Andreas Fault, with the far west end of the accelerator located about a quarter mile from the fault. Additionally, SLAC has significant wildland-urban fire exposure from adjacent Stanford property.

I.1.b.6 Transportation Systems

SLAC is bisected by Interstate 280 and surrounded on three sides with urban roadways. SLAC has approximately 12 miles of private roads on site.

SLAC is serviced by a commuter bus service between the campus and Stanford University, with a limited service to Caltrain's Palo Alto/University Avenue Station.

Due to SLAC's proximity to an urban area, many personnel use bicycles for daily transportation.

I.1.b.7 Utilities

I.1.b.7.a Water

Domestic water for SLAC is supplied by the Menlo Park Municipal Water Department (MPMWD). The source is the City of San Francisco-operated Hetch Hetchy aqueduct system. MPMWD maintains potable water reserves, which consists of two 2.5-million gallon underground tanks. The water from these tanks is gravity fed to SLAC. Use of water at SLAC is divided between water used to cool equipment (such as the linear accelerator) and domestic uses (such as landscape irrigation and drinking water). Drinking and process water are both transported throughout SLAC by a distribution system protected by backflow prevention devices. SLAC has no drinking water supply wells.

I.1.b.7.b Electricity

SLAC is a direct consumer of electrical power provided by the Western Area Power Authority and the Pacific Power Grid. SLAC has two major power transmission lines entering the site. SLAC's 230 kV transmission line originates on the ridge of the Santa Cruz Mountains, near Skylonda, and transverses nearly five miles of a wildland-urban corridor, which the Department of Energy (DOE) has an easement to and is maintained by SLAC. SLAC's 60 kV transmission line enters the site from the east and is part of the urban infrastructure that provides power to Palo Alto and Stanford University. SLAC requires the availability of at least the 230 kV transmission line to execute its science mission.

I.1.b.7.c Natural Gas

Natural gas is provided by Pacific Gas and Electric (PG&E). The feeder pipeline, running along SLAC's north perimeter is near, or under, Sand Hill Road. Natural gas is supplied to a limited number of buildings for the purpose of heating water that services the HVAC system. This natural gas pipeline was inspected (2017) and is considered to be in sound condition by PG&E at the time.

I.1.c Facility Hazards

There are two sources for specific facility hazards:

1. Chemical use maps for each building where hazardous materials are stored (see [SLAC CERS \(Chemical Inventory\) GIS](#)).
2. Area hazard analyses, available for buildings with industrial areas (see [Area Hazard Analysis eTool](#))

For additional risk analysis, see Section III.2.b.

I.1.d Nature of Hazards and of Events

This plan is based upon a hazards survey (and as appropriate subsequent required hazards assessments). These documents conform to the requirements of [NFPA 1660](#).

I.1.d.1 Hazardous Materials

Hazardous material releases are the primary emergency events addressed in this plan.

Various types of hazardous materials are present at SLAC. Based on quantities and risk, the primary hazardous materials stored and used on site to support operations are

- Cryogenics and gases, such as bulk hydrogen, helium, and liquid nitrogen
- Petroleum products, such as diesel fuel for emergency generators, gasoline for the fueling station, and oil used in equipment (klystrons, transformers, power supplies, modulators, kickers, and capacitors)
- Metal finishing chemicals, such as sulfuric acid, nitric acid, and phosphoric acid; and potassium cyanide, potassium silver cyanide, and potassium copper cyanide
- Wastewater treatment chemicals for metal finishing operations, such as sodium hydroxide, sodium hypochlorite, calcium chloride, ferric chloride, ferrous sulfate, and sulfuric acid
- Cooling tower water treatment chemicals, such as sulfuric acid, sodium hydroxide, biocides, and corrosion inhibitors

Hazardous waste streams routinely generated from SLAC operations are

- Waste from metal finishing operations, including mixed strong acids, cyanides, and filter cake
- Waste oil and oily debris
- Lead-contaminated debris
- Spent flammable and non-flammable solvents
- Waste polychlorinated biphenyl (PCB) ballasts and capacitors
- Lab packs (flammable, toxic, corrosive, reactive)

The spill or release of hazardous materials could result in various emergency situations:

- Evacuation
- Fire or explosion
- Medical

And other material releases to the environment:

- Low conductivity water
- Excess domestic water
- Sewage / sanitary overflow
- Helium

I.1.e Emergency Planning Requirements Addressed

This plan consolidates the emergency planning requirements summarized in Table 1. Other requirements, such as inventories and reporting, are covered in additional documents, for example, the California Accidental Release Prevention (CalARP) Program – Risk Management Plan.

Table 1 Emergency Planning Requirements Addressed

Emergency Plan Required	Scope	SLAC Substances Covered	Program Element	Statutory Reference	Regulatory Reference
DOE comprehensive emergency management plan (this plan)	Any emergency including hazardous materials that might affect human health or an environmental release	All hazardous materials	Public safety, environmental protection		NFPA 1660
Hazardous materials business plan (HMBP) (this plan)	Hazardous materials at SLAC exceeding reporting thresholds	Various (see hazardous materials inventory statement)	Community right-to-know	HSC, Chapter 6.95, Article 1 (HSC 25500–25519)	19 CCR 5030.9
Hazardous waste contingency plan (this plan)	Hazardous waste streams routinely generated at SLAC	Various (contact Waste Management Group)	Hazardous waste generator		22 CCR 66264.50–66264.56
Spill prevention, control, and countermeasures (SPCC) plan (SLAC Spill Prevention, Control, and Countermeasures Plan)	Aggregate aboveground oil storage of 1,320 gallons or more in all containers that are at least 55 gallons in capacity	Petroleum products and waste, such as diesel fuel, gasoline, mineral oil, and waste oil	Aboveground storage of oil	HSC, Chapter 6.67 (HSC 25270–25270.13)	40 CFR 112
Risk management plan (RMP) (California Accidental Release Prevention [CalARP] Program – Risk Management Plan)	Each stationary source with more than a threshold quantity of a regulated substance in a process	Potassium cyanide	Accidental release prevention	HSC, Chapter 6.95, Article 2 (HSC 25531–25543.3)	19 CCR 2745.8
Slug discharge plan	Any discharge to the sanitary sewer of a non-routine episodic nature, including but not limited to accidental spill or non-customary batch discharge	Any discharge to the sanitary sewer	Industrial wastewater		Condition of Permit WB 211216
Sanitary Sewer Emergency Response Plan	Any discharge from the sanitary sewer to the environment (pavement, ground, water, storm drain system)	Any discharge from the sanitary sewer outdoors	Industrial Wastewater		Condition of Sanitary Sewer General Order 2022-0103-DWQ

I.2 Emergency Planning Requirements Crosswalk

SLAC has opted to follow the Cal OES consolidated contingency plan format, based on the National Response Team’s [Integrated Contingency Plan \(ICP\)](#) format, the “One Plan”. Table 2 shows how this plan follows that format and notes the ICP components that have been excluded as not applicable to SLAC emergency planning requirements.

Table 2 ICP / EMP Crosswalk

ICP Component	Applicable to SLAC? (Yes / No)	Explanation for Exclusion from EMP
Section I – Plan Introduction		
1. Purpose and Scope of Plan Coverage	Yes	
2. Table of Contents	Yes	
3. Current Revision Date	Yes	
4. General Facility Identification Information	Yes	
Section II – Core Plan		
1. Discovery		
a. Release Detection Devices and Procedures	Yes	
2. Initial Response	Yes	
a. Procedures for Internal and External Notification	Yes	
b. Establishment of a Response Management System	Yes	
c. Procedures for Preliminary Assessment of Situation	Yes	
d. Procedures for Development of Incident Action Plan	Yes	
e. Procedures for Implementation of Tactical Plan	Yes	
f. Procedures for Mobilization of Resources	Yes	
3. Sustained Actions		
a. Prolonged Mitigation and Recovery Action Procedures	Yes	
4. Termination and Follow-up Actions		
a. Demobilization and Incident Critique Procedures	Yes	
Section III – Annexes		
1. Facility and Locality Information	Yes	
a. Facility Maps	Yes	
b. Facility Drawings	Yes	

ICP Component	Applicable to SLAC? (Yes / No)	Explanation for Exclusion from EMP
c. Facility Description / Layout	Yes	
2. Notification	Yes	
a. Internal	Yes	
b. Community	Yes	
c. Local, State, and Federal Agencies	Yes	
3. Response Management System	Yes	
a. General	Yes	
1. Emergency Response Organization Chart	Yes	
2. Response Team Job Descriptions	Yes	
3. Information Flow Description	Yes	
4. Unified Command Description	Yes	
5. Field Level and Emergency Operations Center Level Coordination	Yes	
b. Command	Yes	
1. Incident Commander and Qualified Individual	Yes	
2. Information	No	This component of the ICP is required by 14 CCR 817.02(f)(1)(B). However, SLAC is not subject to the marine plan requirements contained in 14 CCR 816 and 14 CCR 817 .
3. Safety	No	This component of the ICP is required by <ul style="list-style-type: none"> ▪ 14 CCR 817.02(f)(9). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(1)(vi) and 112.20(h)(3)(vii). SLAC is not subject to these facility response plan requirements since it does not meet the substantial harm criteria¹.
c. Operations	Yes	
1. Operational Response Objectives	No	This component of the ICP is required by 14 CCR 817.02(d)(5)(G), 817.02(d)(6), and 817.02(e)(4). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.
2. Discharge or Release Control	Yes	
3. Assessment and Monitoring	Yes	
4. Containment	Yes	
5. Recovery	No	This component of the ICP is required by

ICP Component	Applicable to SLAC? (Yes / No)	Explanation for Exclusion from EMP
		<ul style="list-style-type: none"> ▪ 14 CCR 817.02(d)(6) and 817.02(e)(4). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(3)(i). However, SLAC is not subject to these Facility Response Plan requirements since it does not meet the substantial harm criteria¹.
6. Decontamination	Yes	
7. Non-Responder Medical Needs	No	This component of the ICP is required by 14 CCR 817.02(f)(4)(B). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.
d. Planning	Yes	
1. Hazard Assessment	Yes	
a. Hazard Identification	Yes	
b. Vulnerability Analysis	Yes	
c. Prioritization of Potential Risks	Yes	
d. Planning Scenarios (credible, worst case)	Yes	
2. Protection and Mitigation Procedures	No	<p>This component of the ICP is required by</p> <ul style="list-style-type: none"> ▪ 14 CCR 817.02(e)(2) and 817.02(e)(4). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(7)(i). 40 CFR 112.20(h)(3)(i). However, SLAC is not subject to these facility response plan requirements since it does not meet the substantial harm criteria¹.
a. Administrative and Operational Controls	No	Same as Section III.3.d.2. above
b. Booming / Absorbents / Skimmers / Dispersant Use	No	Same as Section III.3.d.2. above
c. Wildlife Rehabilitation	No	Same as Section III.3.d.2. above
3. Coordination with Natural Resource Trustees	No	This component of the ICP is required by 14 CCR 817.02(i). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.
4. Waste Management	Yes	
e. Logistics	Yes	
1. Medical Needs for Responders	No	This component of the ICP is required by 14 CCR 817.02(f)(4)(B). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.
2. Site Security and Traffic Control	Yes and No	<p>Site Security</p> <p>The traffic control component of the ICP is required by</p>

ICP Component	Applicable to SLAC? (Yes / No)	Explanation for Exclusion from EMP
		<ul style="list-style-type: none"> ▪ 14 CCR 817.02(c)(5)(F), 817.02(f)(4)(C), and 817.02(f)(8). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(10). However, SLAC is not subject to this facility response plan requirement since it does not meet the substantial harm criteria¹.
3. Communications	No	<p>This component of the ICP is required by</p> <ul style="list-style-type: none"> ▪ 14 CCR 817.02(c)(4)(C) and 817.02(f)(6). However, SLAC is not subject to marine plan requirements contained in 14 CFR 816 and 817. ▪ 40 CFR 112.20(h)(3)(vi). However, SLAC is not subject to this facility response plan requirement since it does not meet the substantial harm criteria¹.
4. Transportation	No	<p>This component of the ICP is required by 14 CCR 817.02(d)(5)(E). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.</p>
5. Personnel Support	No	<p>This component of the ICP is required by</p> <ul style="list-style-type: none"> ▪ 14 CCR 817.02(b)(2)(E) and 817.02(d)(5)(F). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(1)(vi) and 112.20(h)(3)(vii). However, SLAC is not subject to these facility response plan requirements since it does not meet the substantial harm criteria¹.
6. Equipment Maintenance and Support	Yes	
f. Finance/Administration	Yes	
1. Resource List	Yes	
2. Personnel Management	No	<p>This component of the ICP is required by 14 CCR 817.02(d)(5)(C). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.</p>
3. Response Equipment	Yes	
4. Support Equipment	Yes	
5. Contracting	No	<p>This component of the ICP is required by</p> <ul style="list-style-type: none"> ▪ 14 CCR 817.02(a)(4), 817.02(d)(5)(A), and 817.02(e)(2). However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817. ▪ 40 CFR 112.20(h)(3)(ii). However, SLAC is not subject to this facility response plan requirement since it does not meet the substantial harm criteria¹.
4. Incident Documentation	Yes	
a. Post-incident Investigation	Yes	
b. Incident History	Yes	

ICP Component	Applicable to SLAC? (Yes / No)	Explanation for Exclusion from EMP
c. Recordkeeping	No	This component of the ICP is required by <ul style="list-style-type: none"> ▪ 23 CCR 2632(d)(1)(E). However, SLAC is not subject to underground storage tank (UST) requirements. ▪ 14 CCR 817.02(c)(1)(E), 817.02(c)(4)(A), 817.02(j)(4) and 817.02(k)(5). However, SLAC is not subject to this facility response plan requirement since it does not meet the substantial harm criteria¹.
5. Training and Exercises / Drills	Yes	
6. Response Critique, Plan Review, and Modification Process	Yes	
7. Prevention	Yes	
a. Drug and Alcohol Testing	No	This component of the ICP is required by 14 CCR 817.02. However, SLAC is not subject to marine plan requirements contained in 14 CCR 816 and 817.
8. Regulatory Compliance and Cross-references Matrix	Yes	
a. Certifications	Yes	
1. Owner / Operator / Management's Approval	Yes	
2. Registered Professional Engineer's Approval (SPCC)	Yes	
3. Qualified Person's Completion Review (RMP)	Yes	
b. Regulatory Cross-references	Yes	
1. A facility meets the substantial harm criteria if it		
1. Transfers oil over water to or from vessels and the facility have a total oil storage capacity greater than or equal to 42,000 gallons, or		
2. Has a total oil storage capacity greater than or equal to 1 million gallons and lacks secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area, or		
3. Has a total oil storage capacity greater than or equal to 1 million gallons and is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments, or		
4. Have a total oil storage capacity greater than or equal to 1 million gallons and is located at a distance such that a discharge from the facility would shut down a public drinking water intake, or		
5. Has a total oil storage capacity greater than or equal to 1 million gallons and has experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last five years.		

I.3 Current Revision Date

This plan was last revised 31 March 2025 (see "Publication Data").

I.3.a Distribution of Copies

This plan is available from the ESH website (see “Publication Data”). Plan updates will be communicated to the following:

- Appropriate SLAC management, including
 - Chief Operations Officer
 - Chief Safety Officer
 - Directorate ESH coordinators
 - Head, Chemical and Waste Management Department
 - Head, Environmental Protection Department
 - Head, Radiation Protection Department
 - Department of Energy SLAC Site Office
 - San Mateo County Environmental Health Services / CUPA
 - Emergency manager, Stanford University
 - Operations chief, Menlo Park Fire Protection District

I.4 General Facility Information

To facilitate rapid identification of key administrative information, a brief profile of SLAC’s facility information and key personnel is provided in Table 3.

Table 3 Facility Identification Information

Item	Identification Information
Facility name	SLAC National Accelerator Laboratory
Owner / operator / agent	Owner: US Department of Energy Operator: Stanford University
Physical address	2575 Sand Hill Road Menlo Park, CA 94025-7015 San Mateo County Latitude: 37°25'12" N, Longitude: -122°12'15" W / 37.420, -122.204
Mailing address	2575 Sand Hill Road Menlo Park, CA 94025-7015
Other identifying information	Facility start-up date: 1962 Environmental Protection Agency (EPA) ID number: CA8890016126 California Board of Equalization number: HG-STF 36-03680
Key contact for plan development and maintenance	Assistant fire marshal / emergency manager
Key contact phone number	1-650-926-2997

Item	Identification Information
Facility phone number	Phone directory: 1-650-926-2551 Emergency contact / SLAC Site Security: 1-650-926-5555 Public Affairs / Communications: 1-650-926-8703
Facility fax number	1-650-926-3030

Section II Core Plan

II.1 Discovery

This section addresses the initial actions person(s) discovering an incident will take to assess the problem at hand and access the response system.

II.1.a Release Detection Devices and Procedures

Various detection devices and monitoring procedures have been established at SLAC to monitor for potential hazardous materials, including hazardous waste, releases. Release detection devices typically are used at SLAC for areas or operations that are more vulnerable to potential hazardous materials incidents, which are summarized in Table 4.

Table 4 Release Detection Devices and Monitoring Procedures

Vulnerable Hazardous Materials Areas or Operations	Release Detection Devices	Monitoring Procedures
Areas where hazardous materials are stored	<ul style="list-style-type: none"> See emergency pre-plans for applicable buildings and/or operations 	<ul style="list-style-type: none"> Monthly documented visual inspections of areas, containers, and secondary containment
Designated centralized hazardous waste management area (CHWMA) and waste accumulation areas	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Weekly documented inspection of CHWMA Weekly documented inspections of waste accumulation areas
Metal finishing pre-treatment facility (B038)	<ul style="list-style-type: none"> pH probes High level alarms for tanks 	<ul style="list-style-type: none"> Periodic tank integrity testing Documented daily inspections using Daily Check Sheet/Normal Operations Procedures form Twice daily monitoring of treated wastewater from clarifiers Semi-annual self-monitoring of effluent by SLAC Annual monitoring by Silicon Valley Clean Water
<p>Aboveground storage tanks, portable containers, or oil-filled equipment with capacities of 55 gallons or greater (see SPCC Plan for detailed inventory), including the following:</p> <ul style="list-style-type: none"> Aboveground storage tanks (including fixed generators) of diesel, gasoline, mineral oil, castor oil, etc. Portable containers such as 55-gallon drums, mobile transfer tanks, and portable generators Oil-filled equipment such as transformers, compressors, and klystrons 	<p>Secondary containment is provided for aboveground storage tanks and portable containers, as required by the SPCC regulation (40 CFR 112).</p> <ul style="list-style-type: none"> Aboveground storage tanks are either double-walled with leak detection or have cinder block or poured containment basin surrounding tank base. Secondary containment provided for oil-filled equipment is designed to address the typical failure mode and to contain the volume of oil most likely to be discharged as determined according to good engineering practice. 	<ul style="list-style-type: none"> Monthly visual inspection of aboveground storage tanks and portable containers, including tank/shell and secondary containment condition Oil-filled equipment is periodically inspected for mechanical integrity and leaks. Oil-filled equipment is maintained and inspected per area operating procedures
Cyanide room (Plating shop, B025)	<ul style="list-style-type: none"> Alarmed hydrogen cyanide air monitoring in cyanide room and on air scrubber (note set points on alarm are more stringent than OSHA standards) 	<ul style="list-style-type: none"> Documented daily inspection of area Monitors are calibrated and maintained per manufacturer's specifications
<p>Cooling towers</p> <ul style="list-style-type: none"> 101 404 905 1201 1202 1701 	<ul style="list-style-type: none"> Failsafe on chemical feed that stops pumps if they run more than a preset time. Typically set at 30 minutes to 1 hour. Chemical pump rates vary between 0.5 and 1 gallon per hour. Chlorine gas detectors are installed at CT 101, 905, 1201, 1202 and 1701. 	<ul style="list-style-type: none"> Cooling tower routine maintenance performed per manufacturer's specifications Daily visual inspections of chemical containments

Vulnerable Hazardous Materials Areas or Operations	Release Detection Devices	Monitoring Procedures
Groundwater treatment systems for removal of chlorinated solvents from former solvent underground storage tank (FSUST) at B035, plating shop area, and former hazardous waste storage area at B015	<ul style="list-style-type: none"> ▪ Liquid leak monitoring device for breaches or leaks detected in interstitial space between primary conveyance and secondary containment piping ▪ Alarm system for liquid leaks or pressure in pumps out of normal range (FSUST only) ▪ Automatic system shutoff device 	<ul style="list-style-type: none"> ▪ Weekly sampling and analysis for chlorine (FSUST only) ▪ Quarterly analysis of treatment system effluent for volatile organic compounds (VOCs), semi-VOCs, total petroleum hydrocarbon (TPH)
Hydrogen furnace operations B025a B044	<p>Each furnace area equipped with gas monitoring system consisting of</p> <ul style="list-style-type: none"> ▪ Hydrogen gas sensors that relay hydrogen information to combustible gas monitors ▪ Combustible gas monitors provide continuous visual display of % lower explosive limit (LEL) and are set to trigger alarms at 10% and 40% of LEL for hydrogen ▪ Alarm panel in B025 is a “master panel” that receives signals from the gas monitors for B025A furnace area ▪ B044 gas sensors are in the ceiling above and trenches below furnace area. “Master panel” for klystron that triggers the evacuation alarms is located in B044 lobby. 	<ul style="list-style-type: none"> ▪ Regular maintenance and periodic testing of gas monitoring system components ▪ Regular calibration of monitoring system ▪ Annual building evacuation drills ▪ Specific emergency response procedures are located in SLAC’s pre-incident plans (soft and hard copies) and they are posted in a safe location near the hazard.
Cryogenic and oxygen deficiency hazard areas ¹ <ul style="list-style-type: none"> ▪ See Pre-incident plans / Pre-plans 	<ul style="list-style-type: none"> ▪ Installed oxygen deficiency monitors (ODM) at all lab areas where an oxygen deficiency could be found 	<ul style="list-style-type: none"> ▪ Regular maintenance and periodic testing of gas monitoring system components ▪ Regular calibration of monitoring system ▪ Annual building evacuation drills ▪ Identified cryogenic and oxygen deficiency hazard areas are posted with warning signs based on their hazard rating (ODH 0, ODH 1, ODH 2)

1. Details can be found in the ESH Manual, [Chapter 36, “Cryogenic and Oxygen Deficiency Hazard Safety”](#).
2. ODH 0: posted notice requiring that before entry all personnel must complete oxygen deficiency hazard training
3. ODH 1: posted caution sign requiring that before entry all personnel must complete oxygen deficiency hazard training
4. ODH 2: posted caution sign requiring that before entry all personnel must complete oxygen deficiency hazard training and carry a personal oxygen monitor

II.1.a.1 Monitoring, Inspections, Recognition, Basic Assessment, Source Control

Monitoring and inspections of areas that are more vulnerable to the occurrence of hazardous materials events are summarized in Table 4. Typically, personnel with appropriate training and experience carry out monitoring procedures and inspections, which include recognition and basic assessment of the incident. If the source of the hazardous materials incident can be controlled, appropriately trained personnel are permitted to control it only if safe to do so.

II.1.a.2 Initial Notification and Assessment

Based on the classification of the incident, initial notification is to be provided by personnel discovering the release as indicated in Table 5. If there is an immediate threat to human life (for example, fire), the affected area must be evacuated.

Table 5 Contact Information for Initial Notification

Release Type	Contact
Non-emergency	SLAC Site Security (ext. 5555, 1-650-926-5555 from a cell phone)
Emergency	Call 911 Then SLAC Site Security (ext. 5555, 1-650-926-5555 from a cell phone)

The discoverer should provide the following information:

- Location of the incident (building, floor, room, area)
- Number and types of injuries
- Identity or type and estimated amount of spilled material
- Source of spill (tank, container)
- Behavior of spilled material (reactions, leak, spill, fire)
- Anticipated movement of spill (storm drain, sanitary sewer, ground, pavement) and actions being taken
- Potential environmental hazards impacted by incident (on-site or off-site population, storm drain system)

Based on these factors above, the severity of the hazardous materials incident should be classified as one of the following:

- **Emergency spill.** A spill is an emergency when it poses a serious threat to human health or the environment. Emergency spills must be handled by appropriately trained and certified emergency hazardous materials responders.
- **Non-emergency spill.** A spill is a non-emergency when it is not life threatening and will not result in serious environmental damage.

For more detail on spill response, see ESH Manual, [Chapter 16, “Spills”](#).

II.2 Initial Response

II.2.a Procedures for Internal and External Notification

Anyone discovering an emergency situation, or release, should begin the notification process by contacting SLAC Site Security (ext. 5555 or 1-650-926-5555 from a cell phone) or 911 first if there is a life-threatening condition or serious threat of environmental damage (see ESH Manual, [Chapter 37, “Emergency Management”](#)).

SLAC Site Security then contacts the following:

- SLAC duty officer
- Security manager
- Fire marshal / assistant fire marshal, as required
- Area / building manager
- Program managers (subject matter experts)

The duty officer assess incident for notification escalation. If the incident warrants the duty officer will contact, or use a proxy to contact the following:

- Senior leadership (the laboratory director or deputy), who is responsible for communicating to Human Resources, Legal, senior management, and the science directorates
- Chief Safety Officer (CSO), who is communicating regarding safety issues, investigations, and timely DOE notification
- Communications director, who is responsible for communicating to SLAC employees, subcontractors, and the public
- DOE SSO duty officer, who is responsible for determining the DOE incident categorization and classification with the SLAC incident commander (IC), CSO, and SLAC senior leadership and for contacting DOE headquarters

The first member of the SLAC emergency response organization (ERO) to arrive at an incident will establish the SLAC incident command. If external agencies are responding, then a unified command will be established. The SLAC IC responsibilities may be assumed by a more experienced SLAC ERO member after a transfer of command. SLAC's IC will contact the following, as required:

- Chemical and Waste Management
 - A spill reaches a storm drain or sanitary sewer
 - Airborne release of hazardous materials
 - The suspected creation of toxic vapors
 - Runoff of an unknown substance that may be hazardous
 - Discovery of unknown substance suspected of being hazardous
- Environmental Protection Department (Spills Group)
 - A release to the environment
 - A spill that reaches a storm drain or sanitary sewer

- Runoff of an unknown substance that may be hazardous
- Radiation Protection Department (including the radiation safety officer)
 - If the emergency involves the possibility of an activated material
- Occupational Health Center (including the medical director)
 - If this incident is OSHA or DOE recordable
 - If there is medical related investigation
 - If a person is transported to the hospital
 - If there is a fatality
- Additional safety officers
- Affected area and building managers
- Affected associate laboratory director
- Contractor Assurance and Contract Management manager
- Other subject matter experts, for example in
 - Facilities
 - Accelerator Control Center
 - Stanford Synchrotron Radiation Lightsource (SSRL)
 - Linac Coherent Light Source (LCLS)
 - Cryoplant

The SLAC [Emergency Response Directory \(ERD\)](#) lists contact information for the members of its emergency organization. The information in this database is accessible to SLAC's emergency personnel and can also be accessed through SLAC Site Security. As required, verbal notification to government agencies and emergency planning committees will be executed (for example, if spilled material is of a reportable quantity). Where verbal notification is given, a confirming written report will be sent to the same entity. The report will include, at a minimum, the following information:

- Date, time, and location of release
- Name and telephone number of person reporting
- Type and quantity of released material
- Injuries, if any
- Measures taken or plans to abate, contain, and clean up the release
- Local agencies on the scene or notified
- Source of release
- Cause of release
- Corrective measures taken to prevent recurrence of the release

II.2.a.1 Emergency On-site and Off-site Notifications

Notifications will be made to off-site agencies to keep them informed of the emergency and to prepare them in the event that their assistance is needed. Notification will be based on regulatory and DOE requirements and the need for additional support. To the extent possible, information will be provided using a standardized message format.

When the emergency operations center (EOC) is activated, the deputy incident commander is responsible for making status update notifications to off-site agencies. If the deputy incident commander is not available, the scribe makes these notifications. SSO and DOE headquarters will be notified within 30 minutes of declaration of an operational emergency. Stanford University will be notified for all emergency declarations. The City of Menlo Park and State of California will be notified as needed in accordance with standing memoranda of understanding (MOU) and laws and regulations. In addition, for an emergency that involves a security threat, SLAC will notify the San Mateo County Sheriff’s Office and/or the local office of the Federal Bureau of Investigation to request assistance as soon as possible.

SLAC workers are notified of on-site emergencies via building fire alarms or the site-wide emergency notification system ([SLAC911](#)). SLAC employees are also registered in Stanford’s [AlertSU](#) system.

Table 6 specifies the circumstances under which notifications are required.

Table 6 Emergency Response Organization Activation Triggers (Examples)

Automatic activation	Activation based on circumstance		
Event		ERT	EOC
"General emergency"¹ (declared by Senior Mgmt Team/Duty Officer)			
AED alarm			
Bomb threat			
Building evacuation			
Chemical spill – large			
Chemical spill – small			
Environmental exposure			
Fire alarm, smoke detector alarm (except B-002 LINAC), pager alarm			
Fire alarm, smoke detector alarm from B-002 LINAC			
Fire, large (confirmed structure fire)			
Fire, small (trash can, microwave)			
Fire, wildland (affecting site)			
Flooding – exterior			
Flooding – interior			
Loss of utilities including IT (< 4 hours)			
Loss of utilities including IT (> 4 hours)			
Media issue			
Medical, non-ambulatory			
Medical, 2 or more employees hurt			
Medical, death of an employee			
Natural disaster (e.g., earthquake)			
Odor investigation			
Radiological incident			
Security incident			
Smoke investigation (smell of smoke)			
Smoke investigation (visible smoke)			
Strike/labor action			
Threats to employees at distance			

Event	ERT	EOC
Tier 1 visitors ²		
Workplace violence		

- ¹ **General Emergency:** Actual or imminent catastrophic reduction of facility safety or security systems with potential for release of large quantities of hazardous material (radiological or non-radiological) to the environment. The radiation dose from any release of radioactive material or a concentration in air from any release of other hazardous material is expected to exceed the applicable protective action guide or emergency response planning guideline at or beyond the site boundary; this requires immediate (15 minute) notification of DOE headquarters.
- ² **Tier 1 Visitor:** Any high-profile statesman or dignitary that is escorted by significant security protection and is participating in high visibility activities (e.g., presidential visit, foreign heads of state, secretary of energy); Strategic Communications and External Affairs determines tier rating.

II.2.a.2 Off-site Agency Notification

As SLAC has integrated our emergency response organization with external response agencies the requirement to immediately notify external responders of incidents that could be categorized as a DOE operational emergency is fulfilled.

SSO, in conjunction SLAC’s incident commander, is responsible for initial and follow-up notifications to DOE headquarters. Additional notifications will be provided to DOE headquarters on an hourly basis (from the initial notification), or whenever there are significant emergency event changes, protective actions are revised, or the emergency has been terminated.

The Environmental Protection Department is typically responsible for notifying appropriate agencies of hazardous materials incidents. Guidelines for notifications of appropriate agencies are provided in Table 7.

Table 7 External Agencies to Be Potentially Notified

Type of Hazardous Material Release	Federal / State / Local		Agency / Authority	Emergency Phone	When
Air / liquid / solid	Local		Fire Department/ Police Department / County Sheriff Department/ Emergency Medical Services	911	Notified when lives or property may be adversely affected by a hazardous material incident
Air / liquid / solid	Local		San Mateo County Environmental Health Services / CUPA	1-650-372-6200	Notified in situations where the public and/or environmental health is threatened; has the authority to take any preventive measure that may be necessary to protect and preserve the public from any health hazard and may coordinate local emergency medical services
Liquid	Local		Silicon Valley Clean Water West Bay Sanitary District	1-650-832-6235 1-650-321-0384	Notified when a hazardous materials incident may affect wastewater discharged to POTWs.

Type of Hazardous Material Release	Federal / State / Local	Agency / Authority	Emergency Phone	When
Air	Local	Bay Area Air Quality Management District	1-415-771-6000	Immediate verbal notification for hazardous materials incidents that threaten to adversely affect air quality
Air / liquid / solid	State	Office of Emergency Services (OES)	1-800-852-7550	Immediate verbal notification of a release of hazardous material above the reportable quantity
Air / liquid / solid	Federal	Occupational Safety and Health Administration (OSHA), DOE Occurrence Reporting and Processing System (ORPS)	1-800-321-OSHA (6742)	Immediate telephone notification is required for employers when there is an exposure to a regulated carcinogen or serious injury, illness, or death of an employee during any work activity, including those associated with hazardous materials incidents (an OSHA-reportable case)
Air / liquid / solid	Federal	National Response Center (NRC)	1-800-852-7550 CA OES notifies the NRC	Notified if a hazardous materials release is greater than or equal to the reportable quantity

II.2.b Communications

Reliable and redundant communications systems provide SLAC the means to notify on-site, federal, state, and local response agencies and provide direction and control of the ERO.

Table 8 Communications Media and Methods

Name	Phone Number / URL	Description	Type
SLAC Emergency Notification System (SLAC911)	https://slac.sharepoint.com/sites/ESH/emp/SitePages/SLACAlerts.aspx	The SLAC911 system rapidly alerts SLAC staff in emergencies via voicemail, e-mail, and text messaging. SLAC office phone numbers and e-mail addresses are automatically included in the database; in addition, SLAC staff can add personal cell phone and e-mail addresses to the system.	Push
Stanford University Emergency Notification System (AlertSU)	https://police.stanford.edu/alertsu.html	SLAC staff are also registered in Stanford's AlertSU system, which comprises a mass notification system, an outdoor warning system, emergency website, and emergency information hotline. The mass notification system delivers notifications via voicemail, e-mail, and text messaging to members of the Stanford community.	Push
SLAC Emergency Information	https://emergency.slac.stanford.edu/	This is an off-site website that contains up-to-date information for SLAC employees and the public.	Pull
SLAC Emergency Information Hotline	1-877-477-SLAC	This toll-free emergency phone number is used to communicate timely information to SLAC staff and the public.	Pull
"All Hands" e-mails		This e-mail list encompasses all SLAC staff.	Push

II.2.b.1 Secure Communications

SLAC does not perform any security-classified work, and the SLAC EOC does not require or possess capability for secure communications.

II.2.b.2 Communications Readiness

Each communications system or network is maintained in a state of readiness through regularly scheduled operational tests. These tests and their periodicity, as well as communications issues identified during tests, drills, and exercises, are documented in after action reports and tracked to resolution.

II.2.b.3 External Notification – Public

During normal operations, SLAC's Strategic Communications and External Affairs is responsible for interfacing with community organizations and the media for speaker activities, demonstrations, and tours. Communications maintains a list of local media contacts, including newspapers and television and radio stations in the area that may be notified of information relating to an incident at SLAC.

The public information officer is responsible for providing timely and accurate information to the community, news media, and SLAC employees and workforce on matters concerning health, safety, and operations during and following an operational emergency. During an emergency, Communication acts as the single point of contact for the news media, and as a principal source of information for laboratory staff and community officials.

Communications personnel will be advised of the situation and kept informed of the event status by the SLAC incident commander or through the EOC to ensure consistency, coordination, and approval of information being released. All news releases will be coordinated, as reasonable, between SLAC and the DOE SSO. Typically, a news release will be issued within one hour of Communications learning of the declaration of an operational emergency.

II.2.b.4 SLAC Media Center Operation

Emergency public information operations may be conducted from one of several locations based on the level of media interest and the number of news reporters that arrive on site. The on-site media center will only be open to the press and other agencies' public information officers in possession of proper credentials. The Strategic Communications and External Affairs has developed an [Emergency Communications Plan](#) that includes both strategic and tactical communication information.

If the need arises to open an off-site media center, SLAC's joint information center (JIC) will be established in cooperation with Stanford University and the DOE, on Stanford's main campus. Stanford University has several optimal locations depending on the circumstances of the event.

For all declared operational emergencies, the public information officer (PIO) will determine the extent of media interaction that will be initiated. As a minimum, a press release will be prepared and issued. The distribution will include SLAC workers and the media.

During an emergency situation at SLAC, the PIO is the official spokesperson for SLAC. The PIO will issue an initial press release with the approval of the incident commander and the DOE SSO representative. The incident commander and the DOE SSO representative must approve all follow-up press releases before release. The PIO may divide time between a media center and the EOC; however, in his/her absence from the EOC, a deputy PIO will be assigned in the EOC to collect information and draft press releases. This division of responsibilities may be necessary if media center activities prevent the PIO from being able to interface routinely with the incident commander. During an emergency situation, the incident commander will be kept informed of the media interest and activities at the media center. The PIO is responsible for determining if the release must be given immediately to the news media and public officials, based on the nature of the emergency.

Additional personnel may be assigned to the media center to assist in clarifying information that has been released to representatives of the media. In addition, the PIO will monitor the press accounts of the emergency situation to identify any rumors or misinformation so that incorrect information may be corrected in future press releases.

Official spokespersons from Menlo Park, San Mateo County, State of California, Stanford University, and DOE SSO will be provided an opportunity to issue information to the media at the media center. In addition, if requested, the PIO will provide these spokespersons with logistical support and work areas. Before a press briefing, the PIO will meet with the various spokespersons to review the information to be presented to preclude the release of conflicting information. Each spokesperson will discuss or respond to questions concerning his or her organization's role in the emergency response. If representatives from the various responding organizations are not present at the media center the content of the press releases will be communicated to those organizations when feasible.

If conditions preclude the operation of an on-site media center and media interest is sufficient to warrant the need for a media facility, the EOC will request the use of a Stanford University facility to serve as a media center.

II.2.c Emergency Response Organization

II.2.c.1 Overview

The emergency response organization (ERO) at SLAC is based on the standardized emergency management system (SEMS) developed by the California Office of Emergency Services (Cal OES). SEMS is a management system that provides an umbrella under which response agencies at all levels may function together effectively. The use of SEMS facilitates

- Coordination between agencies responding to emergencies and SLAC
- Flow of information and resources between involved parties
- Rapid mobilization and deployment
- Use and tracking of resources

The overall SLAC ERO consists of three components for responding to operational emergencies. This entails an initial field responders comprised of SLAC site security, the emergency response team, followed by, if appropriate, the activation of the emergency operations center (EOC).



The composition of the emergency response organization differs based on the classification of the emergency event:

- Non-life-threatening events generally do not require activation of SLAC's response management system. Impacted personnel or departments coordinate directly with SLAC Site Security, ESH, MPFPD, or Facilities to resolve the situation.
- Life-threatening events consist of a single or multiple events that disrupt sizable portions of the SLAC site. These types of emergencies may require assistance from external emergency response organizations. These emergencies may escalate and threaten serious consequences for mission critical functions or may threaten life, safety, or the environment.
- A disaster involves the entire SLAC site and surrounding community. Normal operations are suspended. The effects of a disaster are wide-ranging and complex. Resolution of disaster conditions requires a coordinated effort on the part of all SLAC employees. Extensive coordination with Stanford University, DOE, and other external jurisdictions will be needed.

Emergency response team job descriptions are detailed in the [ERT Field Operation Guides](#).

Based on the classification of the emergency, emergency responders typically involved include

- SLAC Site Security, which provides 24/7 on-site emergency response which includes certified emergency medical technicians (EMTs)
- Menlo Park Fire Protection District (MPFPD), located off site, which would typically assume the incident command for major or life-threatening events until a unified command could be established

- SLAC Emergency Response Team (SLAC ERT), which provides emergency response assistance for minor or non-life-threatening events. The first arriving member of this group would typically assume the SLAC incident commander role.
- Facilities and Operations, which controls all of SLAC’s internal structural infrastructure and utilities
- SLAC Waste Management, which oversees responses to hazardous material releases, including but not limited to intelligence, response planning (unified) cleanup, documentation, disposal and liaison with third-party emergency response subcontractor for assistance in cleanup efforts for the hazardous materials response
- Environmental Protection, which provides notifications to regulatory agencies as necessary
- Radiation Protection, which supports emergency response efforts in the event of an event involving radioactive materials

A general description of SLAC’s response management system is provided in Section III.2.

Detailed information on SLAC’s emergency response organization and specific roles and responsibilities is provided in SLAC’s [field operations guides \(FOGs\)](#) SLAC’s [Initial Response Guide \(IRG\)](#) lists specific emergency response guidelines.

II.2.c.2 Emergency Direction and Control

Upon discovery of an emergency

- 911 is contacted (life threatening or the possibly of a major environmental release).
- Emergency responders (MPFPD, SLAC Site Security EMT, and SLAC ERT are notified).
- First arriving emergency responder establishes initial field (incident) command, provides a report on conditions to responders, and sets incident objectives.
- The SLAC incident commander (IC) is initially responsible for requesting SLAC-specific resources (for example, hazardous materials team, security, emergency medical, health and safety, subject matter experts, and facility engineers).
- MPFPD responders provide emergency response operations and are initially responsible for requesting public resources (for example, fire, hazmat, search and rescue, medical transport, mutual aid) and is expected to form a unified command with SLAC to manage emergency events.
- MPFPD and the SLAC IC establish a command that jointly initiates a set of pre-planned response actions appropriate to the severity of the emergency.
- The SLAC duty officer and the SLAC IC communicate and determine the severity of the emergency using a standardized list of priorities, including
 - Life safety
 - Evidence preservation
 - Environmental conservation
 - Property
 - Business resumption
 - DOE operational emergency classification
- The SLAC IC performs initial emergency management decision-making, including categorization and protective actions.

- SLAC IC initiates appropriate notifications by communicating necessary information for the initial notification message to DOE. In the event the SLAC IC determines that an operational emergency is in progress, the duty officer, in conference with DOE SSO and the SLAC IC, with input from SLAC senior leadership, categorizes and declares the operational emergency to DOE headquarters.

II.2.c.3 Activation of the Emergency Response Organization and Response Facilities

In the event of a declared operational emergency, the first SLAC ERT member on scene assumes control of the emergency event as stated above. The EOC staff is activated at the EOC in accordance with their own procedure for all emergencies.

II.2.c.4 Promulgation / Delegation of Authority

During emergency situations, SLAC follows the standards set forth in the National Incident Management System (NIMS) and the Incident Command System (ICS). Responsibility of risk management and response rests with SLAC's laboratory director, who in turn may delegate it to the emergency operations center commander (EC) during an emergency.

II.2.c.5 Succession of Authority

During emergencies, the responsibility for the welfare of the site (staff, infrastructure, and environment) has been delegated, by SLAC's laboratory director, to the responding incident commander (Field IC) and can be transferred to the arriving duty officer after a full briefing.

SLAC's incident commanders are encouraged to form a unified command with incoming exterior responders and to co-plan response activities. When an event requires activation of the EOC, the first EOC member will begin preparing the room. The EC will receive a report on conditions from the SLAC Field IC and begin strategic incident support operations.

II.2.d Procedures for Preliminary Assessment of Situation

SLAC's IC will take the following factors into consideration when assessing the nature and extent of a hazardous materials release:

- Health hazards of the spilled material
- Quantity of spilled material
- Flammability of spilled material
- Toxicity, corrosiveness, or reactivity of spilled material
- Presence of secondary containment
- Potential for the spill to enter surface or domestic water systems via storm drains or sanitary sewer
- Proximity to the site boundary
- Potential for human health impact
- Potential for environmental and/or property damage

Based on this information, the event will be classified as one of the following:

- Non-life-threatening: not life-threatening and will not result in serious environmental damage

- Life-threatening: includes area-wide disasters such as an earthquake or a localized situation such as a medical emergency, smoke, fire, explosion, or large hazardous material release
- Disaster (breaches in hazardous materials systems that will affect surrounding community)

II.2.d.1 DOE Emergency Categorization

Operational emergencies are defined by the DOE as unplanned, significant events or conditions representing a potential or actual degradation in the level of safety or security that may require time-urgent response from outside the immediate affected site, facility, or area of the incident. Such emergencies are caused by, involve, or affect SLAC facilities or activities and may involve degradation of personnel health and safety, the environment, security and safeguards, or the release or loss of control of hazardous materials. Such emergencies represent, cause, or have the potential to cause, the events or conditions described as those requiring classification and those not requiring further classification.

II.2.d.2 Operational Emergency Categories

Each DOE site/facility is required to produce a hazards survey to identify the generic emergency events and conditions to be addressed by its emergency management program. This survey is then used to further define those events and conditions that should be categorized as operational emergencies.

Based on its hazard survey, SLAC has identified facilities and activities that currently have quantities of hazardous materials that triggered the need to do additional hazard assessment. Two SLAC facilities (plating shop and hazardous waste storage area) were identified as needing a [DOE O 151.1D](#) emergency planning hazards assessment (EPHA). Based upon the controls employed, the EPHA determined there were no reasonable scenarios with the potential for off-site consequences.

For the various emergency categories associated with operational emergencies, events and situations have been postulated and evaluated to assist the SLAC ERO in making the correct categorization. The specific initial actions to be taken by emergency response personnel are described in the SLAC [Initial Response Guide \(IRG\)](#).

II.2.e Procedures for Development of Incident Action Plan

Based on the preliminary assessment of the event, the incident commander will develop and deploy an incident action plan, as necessary. Factors to be considered in establishing the plan include availability of emergency equipment, SLAC's emergency and evacuation procedures, and the need for emergency medical assistance.

SLACs' [Initial Response Guide \(IRG\)](#) provides detailed initial response information in addition to specific instructions and checklists for emergency response personnel to use in developing the incident action plan.

The SLAC [field operations guides \(FOGs\)](#) provide systematic guidance for the emergency management organization (EMO). The [EOC Operational Guide](#) provides specific guidance for each of the assigned positions in the emergency organization. The personnel in those assigned positions will be able to make an effective response to any incident by following the checklists and by using their professional knowledge of SLAC and its facilities.



II.2.e.1 Consequence Assessment

Consequence assessment is the process used to evaluate the impacts of an incident. Consequence assessment is an ongoing process that begins with recognizing that an incident has occurred, continues through various phases of response to the incident, and concludes with cleanup and remediation. As such, the process includes performing timely initial assessments necessary to support initial decisions and the continuous process of refining those initial assessments as more information and resources become available.

II.2.e.2 Consequence Determination

Upon notification of an emergency the duty officer is responsible for evaluating an emergency condition, making the initial emergency categorization, if warranted, and directing the immediate initiation of the ERO.

SLAC's incident commander will support the assessment of the actual or potential consequences of the emergency, calling for additional qualified emergency SLAC personnel and equipment to assist in determination of the appropriate assessment and protective action decisions.

In the event of a classified operational emergency involving a hazardous plume release, the incident commander will also request appropriate monitors and evaluators for the specific indicators necessary to assess continually the consequence of emergency events and to monitor safety, health, environmental, and security conditions that may affect or intensify the emergency.

The initial consequence assessment capabilities will be determined by the accident sequences and potential consequences of the releases. Initially, consequence assessment will be relatively simple, providing timely information for initial protective action decision making. Modeling of plumes may not be immediately available to support the incident commanders / unified command or the incident commander in issuing initial protective actions.

For slow-developing incidents, the initial consequence assessment capability may be required to provide the basis for a protective action decision such as sheltering-in-place or evacuation. Fast-breaking incidents will require a rapid initial response and prompt notification and warning.

As the emergency escalates, consequence assessment will provide for continuing, timely assessments of the effects of the release during the emergency. Backup equipment and personnel are available and may be necessary to permit continuing consequence assessments. Detailed communications must exist between all personnel involved in lengthy consequence assessment.

The post-emergency assessment provides the basis for decisions about re-entry, recovery, and return to normal operations. The post-assessment is helpful for the analysis of actual incident conditions for the purposes of critique and lessons learned. Collection and retention of data compiled during the emergency provides valuable assessment of the decisions and actions taken.

II.2.e.3 Protective Actions and Re-entry

This section provides an overview of the protective action process, including criteria for protective actions, determining pre-planned protective actions, implementing and/or recommending protective actions during an emergency, and a discussion of the re-entry process.

II.2.e.3.a Protective Action Criteria, Emergency Planning Zones, and Emergency Action Levels

Protective action criteria are levels of hazardous material that, if observed or predicted, indicate action is needed to prevent or limit exposure to the hazard. SLAC's protective action criteria, emergency planning zones, and emergency action levels can be found in SLAC's [Initial Response Guide \(IRG\)](#).

II.2.e.3.b Protective Actions

The process begins with development of pre-planned protective actions based on the results from the hazard survey and hazard assessments, followed by identification of notification requirements, development of plans and procedures for protective actions, and identification of personnel who will be responsible for determining, recommending, and implementing protective actions.

The SLAC IC will direct protective actions for affected on-site personnel based on the initial assessment of the emergency. Typically, these recommendations will be to

- Stand-by for further information
- Shelter SLAC personnel in predetermined areas
- Evacuate SLAC personnel to predetermined locations

Shelter-in-Place

Sheltering may be ordered for serious incidents where an evacuation could not be completed before the arrival of a plume that would expose evacuating personnel. Personnel will be given a sheltering order via emergency mass notification (SLAC911). Personnel will be told to remain indoors. Building ventilation systems will be shut down where possible.

Building Evacuation

Building evacuations may be necessary in the event of fires or incidents involving hazardous materials. Evacuations are normally initiated by activation of the building fire alarm.

If an entry into a known hazardous area is necessary, responding personnel from the MPFPD or San Mateo County Hazmat team will make it. The SLAC ERT and external emergency responders will also assist persons who have special mobility needs during an evacuation.

Each building has an assigned emergency assembly area. The emergency assembly area locations are posted in the building evacuation maps. Building managers are responsible for controlling personnel in each building's emergency assembly area. SLAC ERT is responsible for controlling re-entry of evacuated areas. Evacuated personnel are questioned concerning knowledge of the event that initiated the emergency and any missing persons. This information is then given to the SLAC ERT or SLAC Site Security.

Area Evacuation

Personnel in assembly areas near an emergency situation may be moved to buildings or areas farther away from the scene to provide an additional measure of safety and protection.

Site Evacuation

The decision to evacuate the site is made by the incident commander and implemented by SLAC Site Security. SLAC's EOC will direct personnel to use personal vehicles to evacuate the site and direct those personnel without vehicles to ride with other employees. If required, the head of SLAC Site Security has the authority to order the use of all on-site SLAC-owned vehicles to support a site evacuation.

The primary site emergency evacuation routes for SLAC are through the front gate on Sand Hill Road and the Alpine Gate.

Personnel Decontamination

Personnel potentially contaminated with radiological and toxic materials are field decontaminated and transported to Stanford Health Care where they will be further decontaminated and admitted. Supplies such as soap, towels, and paper coveralls are available for use in the decontamination effort.

II.2.e.3.c Evacuation Accountability

The majority of SLAC facilities are considered low-hazard facilities. On notification of an evacuation, if safe to do so the SLAC ERT will sweep the building/area to ensure that all occupants have left. The result is reported to the SLAC IC. If the personnel sweep indicates trapped, injured, or missing individuals, the SLAC IC, in conjunction with the MPFPD IC, will evaluate the risk of conducting a search and rescue for the individuals.

II.2.e.3.d Shutdown of Operations

Facility-specific procedures describe orderly shutdown of operations following the declaration of an emergency, including actions to be taken or directed by on-shift personnel to prevent escalation of the event, and stabilization and restoration of the facility to an orderly shutdown or continued operations, as appropriate. SLAC policy is to assess the emergency conditions, ensure personnel safety, secure facility and critical equipment to minimize damage, if time or conditions allow, and optimize restart after re-entry and recovery.

II.2.e.3.e Re-entry

Re-entry is a planned activity to accomplish a specific objective set by the ERO, conducted before termination of emergency response, which involves re-entering a facility or affected area that has been evacuated or closed to personnel access during the course of the emergency. Re-entry activities are time-urgent actions performed during emergency response, such as search and rescue, mitigation, damage control, and accident assessment. Only the SLAC IC has the authority to initiate SLAC re-entry into an affected facility or area that has experienced an event resulting in the declaration of an operational emergency.

II.2.f Procedures for Implementation of Tactical Plan

The unified command, in coordination with appropriate functions of the SLAC ERO, will develop, communicate, and implement a tactical plan for the response effort, based on gathered information and the incident action plan. This tactical plan will help ensure that response efforts are coordinated and carried out effectively (see the SLAC [Initial Response Guide \[IRG\]](#)).

As new risks / hazards are recognized, new emergency response guides are added to the Initial Response Guide.

II.2.g Procedures for Mobilization of Resources

Resources to be mobilized depend on the information gathered by the unified command from assessment of the event. SLAC maintains an emergency resources database, which lists emergency organization personnel for support during emergencies. For each position in the emergency organization, the database lists the SLAC personnel designated for that position in order of succession.

As necessary, mobilization, evacuation, or shelter-in-place procedures that involve the surrounding community or areas of the facility other than the immediate vicinity of the incident will be developed, communicated, and implemented by the unified command as necessary, in coordination with emergency personnel.

II.3 Sustained Actions

II.3.a Prolonged Mitigation and Recovery Action Procedures

The EOC will determine when the response phase ends and when the recovery phase begins. The response phase ends when all immediately hazardous situations are under control and there is no further threat to personnel, the environment, or facilities. Recovery includes the restoration of utilities, information systems, and facilities to serviceability. When the event has been stabilized, emergency response personnel transition into recovery mode.

For hazardous material spills, if it is decided that cleanup is beyond SLAC's emergency organization's capabilities, the pre-selected cleanup subcontractor will be contacted. Cleanup methods selected will depend on the characteristics of the hazardous material, size and location of the release, the characteristics of the area, and the potential impacts.

Depending on the nature of the spill, functions involved in the response efforts may be required by the SLAC IC to prepare and submit within 10 working days following the incident an after-action report (AAR) describing their participation in the response. The report will contain the following information:

- Executive Summary – description of the incident and the response activities
- Major Strengths – best practices, notable actions
- Primary Areas for Improvement – table of follow-up elements, corrective actions, owners, and timelines

II.4 Termination and Follow-up Actions

II.4.a Demobilization and Incident Critique Procedures

The unified command, in coordination with SLAC and/or federal, state, or local emergency responders, will decide when to terminate the response efforts and will ensure orderly demobilization of response resources.

Following the response, the SLAC IC will convene with emergency response personnel to review internal reports and evaluate response operations. During this review, improvements to response team operations will be identified, needs for additional training and/or equipment will be determined, and any additional lessons the incident can provide will be discussed and documented. This plan will be modified as necessary to incorporate information gathered from the incident critique affecting its use.

II.4.b Recovery

Recovery is the period beginning just before termination of the emergency until the facility is returned to operational status. Termination of the emergency initiates transitioning from the emergency phase to the recovery phase. Once the decision has been made to enter the recovery phase, response personnel will be informed of this transition. The incident commander will assign an individual to serve as recovery manager with full authority to direct the recovery effort. Once the emergency has been terminated, responsibility for recovery and cleanup is transferred from the incident commander to the recovery manager.

II.4.c Response Critique

When an actual or simulated response occurs, a post-incident critique will be conducted. At the conclusion of the response, the incident commander will assemble appropriate personnel for a debriefing.

II.4.d Plan Review and Modification

The emergency manager will review and approve this and all emergency management related documents. The ESH Division director will review and approve major substantive changes to this plan.

This plan and its contents are maintained by the emergency manager and will be reviewed annually and immediately revised, if necessary, whenever:

- The plan fails in an emergency
- The facility changes in design, construction, operation, maintenance, or other circumstances that increase potential for hazardous materials or hazardous waste emergency incidents to occur
- Emergency planning procedures change
- Emergency personnel responsibilities change

Any amendment made to this EMP will be recorded as a change in the revision record of this document (see “Publication Data”).

II.4.e Self-assessment – Emergency Readiness Assurance Plan

SLAC has established requirements for self-assessment for laboratory activities. Annual self-assessments of the emergency management program are conducted to verify compliance with DOE orders and regulations and to document the readiness of SLAC facilities and activities. SLAC program managers utilize the self-assessment process to determine the status of the emergency management program related to their assigned responsibilities.

The annual emergency readiness assurance plan (ERAP) provides documentation of the emergency planning and preparedness activities for SLAC. A format provided by DOE SSO summarizes emergency preparedness program activities for the preceding fiscal year and projections for activities for three years ahead. Once the ESH Division director has approved the ERAP, it is delivered to DOE SSO.

Section III Annexes

III.1 Facility Maps

The following maps illustrate the site and surrounding area.

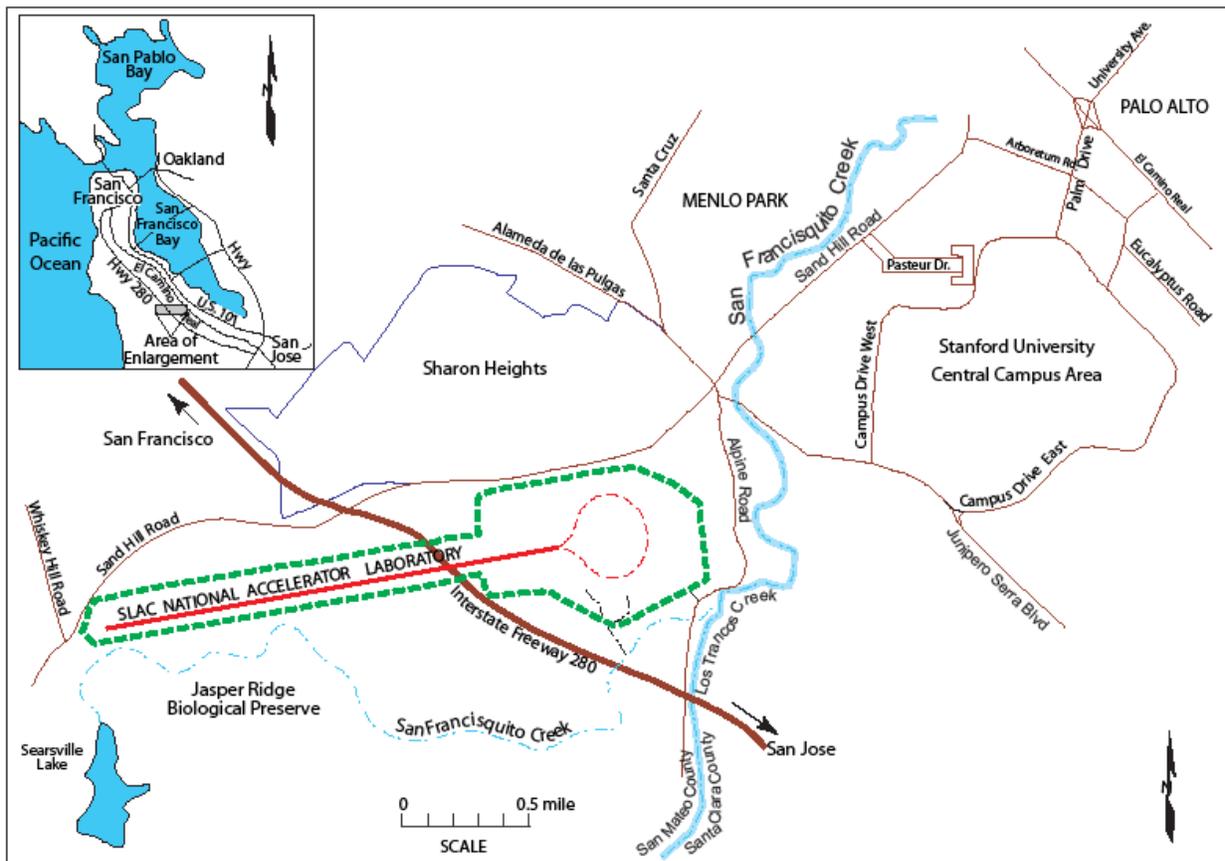
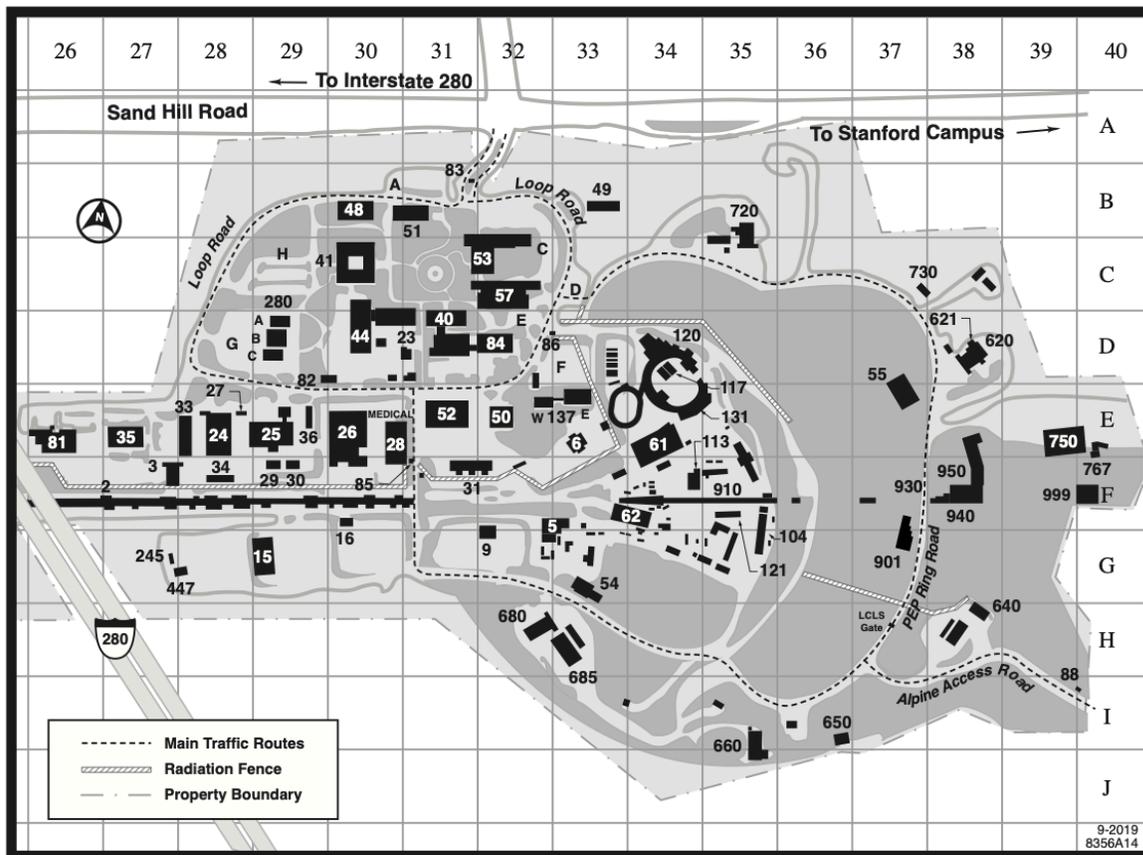


Figure 2 SLAC Site Location Map



SLAC Area Map

	Building Number	Grid Number		Building Number	Grid Number
Administration and Engineering Building (A&E)	41	30-C	Main Control Center (MCC)	52	31-E
Alpine Gate Entrance (automated gate badge required)	88	40-I	Main Gate (Information Booth)	83	31-B
Arrillaga Recreation Center	55	37-D	Master Substation	16	30-F
Arrillaga Science Center	57	32-C	Medical (room 11)	28	30-E
Auxiliary Control Building	3	27-F	Metal Stores Shelter	29	29-F
Beam Switch Yard Access	9	32-G	Orientation Theater	53	32-C
Central Hazardous Waste Management Area	245	27-G	Operations Support Building	28	30-E
Central Laboratory	40	31-D	Panofsky Auditorium	53	32-C
Central Laboratory Annex	84	32-D	Parking Lots	A and C to H	
Central Utility Building	23	31-D	PEP Beam Facility/SSRL	650	36-I
Chemical Storage Building	36	29-E	PEP Beam Facility/SSRL	730	37-C
Cleaning Facility Building	30	29-F	PEP Control Room	685	33-H
Collider Experimental Hall (CEH)	750	39-E	PEP Interaction Region 2 (IR-2)	620	38-D
Communications Office	53	32-C	PEP Interaction Region 4 (IR-4)	640	38-H
Computer Building (SCS)	50	32-E	PEP Interaction Region 6 (IR-6)	660	35-I
Controls Building	34	28-F	PEP Interaction Region 8 (IR-8)	680	32-H
Cryogenics Laboratory	6	33-E	PEP Interaction Region 12 (IR-12)	720	35-B
End Station A (ESA)	61	34-E	Physics and Engineering Building	280	29-D
End Station B (ESB)	62	34-F	Plant Maintenance and Utilities	35	27-E
Environmental Safety and Health (ES&H)	24	28-E	Power Conversion	15	29-G
Experimental Facilities Department Shops (EFD)	104	35-F	Research Office Building (ROB)	48	30-B
Gate 17 (automated gate badge required)	86	33-D	Research Support Building	52	31-E
General Services Building (Shipping & Receiving)	81	26-E	Science User Support Building (SUSB)	53	32-C
Hazardous Waste Storage Area	447	28-G	Sector 30 Guard House (automated gate badge required)	85	31-F
Heavy Fabrication Building	26	30-E	Security	53	32-C
International Services Office	53	32-C	SLAC Café	53	32-C
Kavli Building	51	31-B	Smart Grid Lab	27	28-E
Klystron Gallery (Visitors Alcove, Sector 27)	2	27-F	SPEAR Control Room	117	34-D
Laboratory Offices and Shops (LOS)	137	33-E	Stanford Guest House	49	33-B
LCLS Beam Transport Hall	910	33/34/35-F	Stanford Research Computing Facility	54	33-G
LCLS Far Experimental Hall	999	40-F	Stanford Synchrotron Radiation Lab (SSRL)	120	34-D
LCLS Far Experimental Hall Tunnel Entrance	767	40-E	Stanford Synchrotron Radiation Lab (SSRL)	131	34-E
LCLS Gate		37-H	Test Beam Facility	121	35-F
LCLS Near Experimental Hall	930/940/950	37/38-F	Test Laboratory	44	30-D
LCLS Office Building	901	37-G	User Support	53	32-C
Light Assembly Building	33	28-E	Vacuum Assembly Building	31	31-F
Light Fabrication Building	25	29-E	Visitor, User, Employee Center (VUE)	53	32-C

Figure 3 SLAC Area Map

III.1.a Facility Drawings

Maps showing hazards, emergency equipment, and evacuation routes are available in the [pre-plans](#) prepared for certain buildings (see Section III.2.b.3); there are also chemical use maps for each building where hazardous materials are in use (see [SLAC CERS \(Chemical Inventory\) GIS](#)).

III.2 Response Management System

III.2.a Operations

SLAC's [Initial Response Guide \(IRG\)](#) provides detailed initial response information in addition to specific instructions and checklists for emergency response personnel to use in developing the incident action plan.

The SLAC [field operations guides \(FOGs\)](#) provide systematic guidance for the emergency management organization (EMO). The [ERT FOG](#) provides specific guidance for each of the assigned positions in the emergency organization. The personnel in those assigned positions will be able to make an effective response to any incident by following the checklists and by using their professional knowledge of SLAC and its facilities.

III.2.b Planning

III.2.b.1 Hazard Assessment

A comprehensive hazard assessment and business interruption analysis were conducted for SLAC, considering all potential hazards present at the facility and analysis of potential vulnerable receptors (for example, both workers and the general public, environmentally sensitive areas, etc.). The results of the assessment, which also prioritizes these potential risks, are depicted in Table 9. Based on these results, hazardous materials incidents are second in priority for primary consideration in emergency planning.

Table 9 SLAC Hazard Vulnerability Assessment Results

HAZARD VULNERABILITY (THREAT) ASSESSMENT									
Type of Hazard <i>Weighting</i>	Probability of Occurrence	Consequences				Mitigations/Response Capability			Total Risk Score
		Human Impact	Environ. Impact	Property Impact	Business Impact	Mitigation Activities	Internal Resources	External Resources	
<i>Weighting</i>	2	2	1	1	1	2	1	1	11
Natural disasters									
Disease (pandemic)	3	5	1	1	4	2	2	4	7.8
Drought (with severe water restrictions)	3	1	1	1	5	1	1	1	4.5
Earthquake / 5-6.9M	4	3	1	3	3	4	3	2	8.3
Earthquake / 7+M	3	4	2	4	4	4	2	1	8.8
Extreme Weather / Cold	3	1	1	3	4	2	2	2	4.7
Extreme Weather / Heat (several days >100 deg)	4	2	1	1	3	1	1	1	6.2
Extreme Weather / Rain (flooding)	3	1	1	4	4	4	3	2	4.8
Extreme Weather / Wind	4	1	1	2	3	4	4	3	4.5
Landslides or Subsidence (major)	3	1	1	3	4	3	2	2	4.5
Wildland fire (major)/Origin off site-->SLAC	3	2	1	3	3	3	3	5	4.7
Wildland fire (major)/Origin on site-->off-site	2	4	1	5	5	4	2	3	5.7
Wildland fire / On site only	5	1	1	3	3	4	3	5	6.7
Man Made disasters									
Civil Disturbance (Strike, riot)	3	1	1	1	4	4	3	4	3.0
Pressure system failure	5	5	1	3	3	3	4	4	14.2
Cryo release, Major/Interior (non-seismic)	3	3	1	2	4	5	5	3	5.5
Cyber-crime	5	1	1	3	5	5	4	2	8.5
Flooding, interior	4	1	2	3	2	2	3	3	5.6
HazMat - Large liquid spill into storm water system	2	1	3	2	2	5	4	3	1.7
HazMat - Offsite affecting SLAC	3	2	2	2	2	3	4	5	4.1
HazMat - Large airborne plume	2	4	4	2	2	3	3	4	4.6
HazMat - Large liquid spill onto the soil	3	1	4	3	2	3	3	4	4.8
Loss of DOE Funding	2	1	1	1	5	5	5	4	1.5
Loss of utilities / Compressed air	4	1	1	3	2	3	5	5	4.4
Loss of utilities / Processes gases	3	1	1	3	4	3	5	4	4.1
Loss of utilities / LCW	5	1	1	1	2	3	5	5	4.0
Loss of utilities / Electricity (> 4 hours)	4	1	2	4	4	3	3	1	7.8
Loss of utilities / Gas	3	1	1	1	2	2	2	1	2.6
Loss of utilities / Internet	4	1	1	1	3	4	4	1	3.9
Loss of utilities / Phone service	4	1	1	2	3	2	2	1	5.2
Loss of utilities / Water	3	1	1	3	3	2	1	1	4.4
Mass Casualty Incident (not otherwise specified)	2	5	1	1	2	5	4	5	3.4
National Security Event	3	1	1	1	2	1	2	1	2.8
Negative media event	3	1	1	1	2	3	3	2	2.3
Radiological event	2	4	4	1	3	5	5	4	4.1
Structure Fire, Major	3	3	2	4	3	3	4	5	6.8
Terrorist Acts / WMD	2	5	3	4	4	3	3	4	6.5
Work Place Violence (WPV)	4	5	1	1	2	3	4	5	8.8

Historical Occurrence: Based on number of occurrences in the last 20 years: 0 = no historical occurrence

Occurrence probability:

- 1 if less than 1%
- 2 if less than 5%
- 3 if less than 10%
- 4 if less than 20%
- 5 if greater than 20%

SLAC is also following California Building and Fire codes to assess highly hazardous materials (NFPA health rated 3 or 4) exposure risks and developing emergency pre-plans protecting the site and the surrounding community (see Section III.2.b.3).

III.2.b.2 Planning Scenarios (Credible, Worst Case)

For emergency planning purposes, SLAC has identified potential release scenarios for the regulated substances of oil (from various aboveground oil and waste storage containers and tanks), high-hazard pieces of equipment, and

chemical processes (in particular, potassium cyanide from metal finishing operations), as required and summarized briefly below.

III.2.b.2.a Aboveground Oil and Waste Storage

Under a worst-case scenario, a remote possibility exists that a catastrophic failure of a storage unit, as well as its secondary containment, could potentially result in a discharge of harmful quantities of oil into navigable waters such as the San Francisco Bay. All of the containers of oil 55 gallons or greater (including oil-filled equipment) at SLAC are currently provided with secondary containment.

The most likely breach of the secondary containment would be from a severe earthquake. Predictions of the maximum spill quantity and the presumed direction of flow for each aboveground storage tank are presented in the SPCC Plan. SLAC has eliminated most potential sources of oil spills by constructing or upgrading oil storage areas (see [SLAC Spill Prevention, Control, and Countermeasures Plan](#), Section 4, “Spill Potential”).

III.2.b.2.b High-hazard Equipment and Chemical Processes

The amount of potassium cyanide used at SLAC was determined to exceed the CalARP threshold of 100 pounds. Based on the criteria in 19 CCR 2735.4, the distance to specified toxic endpoint for the worst-case accidental release scenario that could result from the use and storage of potassium cyanide in the SLAC Plating Shop (Building 25) and in the Centralized Hazardous Waste Management Area (Building 447) is less than the distance to the nearest public receptor. No additional measures are necessary to prevent off-site impacts from accidental releases. However, in the event of an emergency, entry within the distance to the specified endpoints may pose a danger to emergency responders. Therefore, emergency responders should not enter this area except as arranged with the emergency contact indicated in the RMP.

The worst-case release scenario assumed a complete spill of a 110-pound container of powdered potassium cyanide at the Building 25 loading dock, with an estimated one-hour release of 0.9 pounds of potassium cyanide from the spill through wind erosion. The distance to the potassium cyanide toxic endpoint (TEP) of 0.0025 milligrams/liter (as cyanide) is estimated to be less than 200 feet (60 meters), using the United States Environmental Protection Agency’s methods for estimating particulate emissions and the SCREEN3 air dispersion model. (See Section 3, “Offsite Consequence Analysis”, of the California Accidental Release Prevention [CalARP] Program – Risk Management Plan.)

Chemical hazard analyses and risk assessments are prepared for high-hazard pieces of equipment and/or chemical processes at SLAC. Two studies have been documented in the following report:

- B025 Cyanide Room Report on HCN Gas Survey (SLAC-I-730-2A09H-001)

A hydrogen cyanide (HCN) gas survey report was done to answer the question of what would happen in the event of electrical power loss in the electroplating shop’s cyanide room and determine corrective measures.

Finally, there are emergency planning hazard assessments (EPHAs) for two SLAC facilities, the plating shop and hazardous waste storage area.

III.2.b.3 Emergency Pre-incident plans

Emergency pre-incident plans, “pre-plans”, are being developed for each SLAC building with a large occupancy load, a program critical operation or device, or a high hazard. Table 10 identifies the buildings and/or operations at SLAC for which [pre-plans](#) are being developed. Each pre-plan is building-, occupational-, or risk-specific. They describe

- Key building contact information
- General information about the building(s)
- Hazards present
- Building alarms and utility and system shutoff locations
- Emergency procedures
- Emergency equipment inventory and locations

Table 10 Buildings / Complexes with [Emergency Pre-incident Plans](#)

Building Number	Building Name	Reason for Pre-incident Plan		
		Number of Occupants	Chemical Inventory	High Risk
000	Utility Tunnel			X
001	LINAC			X
002	Klystron Gallery			X
016	Master Substation			X
025, 030, 036, 038	Light Fabrication Building		X	
026, 460	Heavy Fabrication Building			X
036	Chemical Storage Building		X	
040	Central Laboratory	X		
040A	Central Laboratory Annex	X	X	
041	Administration and Engineering	X		
044	Klystron Test Laboratory (KTL)			X
048	Research Office Building (ROB)	X		
049	Guest House	X		
050	Computer Building			X
051	Kavli Building	X		
052	Research Support Building (RSB)	X		
054	Stanford Computer Research Facility (SRCF)			X
057	Arrillaga Science Center	x	x	
061	End Station A (ESA)			X
062	End Station B (ESB)			X
084	Central Laboratory Annex			X
120, 121, 130, 131	Stanford Synchrotron Radiation Lightsource (SSRL)		X	X
137E, 137W	Laboratory Offices and Shops (LOS)	X		
447	Hazardous Waste Storage Area		X	
750	Collider Experimental Hall (CEH)			X
751	Linac Coherent Light Source (LCLS) Offices	X		

Building Number	Building Name	Reason for Pre-incident Plan		
		Number of Occupants	Chemical Inventory	High Risk
901	LCLS Office Building	X		
905	Cryoplat		X	X
950	LCLS Near Hall 950 (NEH)			X
999	Far Experimental Hall (FEH)			X

III.2.c Logistics

III.2.c.1 Emergency Management Operations and Personnel

III.2.c.1.a Field Responders

This section briefly describes the roles and responsibilities of on-site emergency responders.

- **Security.** SLAC Site Security is staffed by a team of people who are trained to observe and report. Our site does not include an armed response element. For issues that need to be escalated beyond SLAC Site Security’s capability, San Mateo County sheriffs would be requested. SLAC Site Security is primarily responsible for initial event response, including becoming the initial IC and for scene security (perimeter, crowd, and traffic control). SLAC Site Security also include certified emergency medical technicians.
- **Facilities.** “Facilities” is a broad term that includes all of the employees and contractors who provide the maintenance of SLAC’s infrastructure. Facilities duties during an emergency include the design and care of HVAC systems, plumbing, building systems, electrical systems, cryogenic gases, and experimental equipment. Facilities is incorporated into emergency response process via standardize ICS protocols.
- **SLAC Emergency Response Team (ERT).** The SLAC ERT is a group of employee volunteers who are trained to respond to wide variety of events. Their responsibilities can include the care and comfort of affected persons, building damage assessment, communications, first aid, hazardous materials isolation, and facilities support.
- **Subject matter experts.** Due to the experimental nature of the work at SLAC and the unusual equipment and hazards, subject matter experts play a pivotal role in safely stabilizing events. Although they are not first responders it is recommended that they be requested to help the planning of offensive actions.
- **Medical.** The SLAC Occupational Health Center (OHC) is operated under contract and has one physician and support staff. During normal weekday working hours, OHC staff, site security and the MPFPD respond to any on-site medical emergencies. During nights, weekends, and holidays, site security and the MPFPD covers SLAC emergency response duties and treats patients in addition to arranging medical transporting for them.

In the event of an earthquake occurring during working hours that results in mass casualties, SLAC Site Security, with support from Occupational Health Center staff, will activate and operate the triage area at the southeast corner of Building 41 in conjunction with SLAC ERT members. Since emergency transportation services may be delayed, injured persons who are ambulatory should go this location so that first aid can be carried out and arrangement for available transport can be made. Triage supplies may also be activated following a non-earthquake mass casualty incident at the request of the incident commander.

Paramedics are most likely to transport patients to Stanford Health Care (300 Pasteur Drive, adjacent to the Stanford University campus), which is approximately three miles from SLAC, unless another medical center is more appropriate for the injury type.

For more detailed information please refer to the SLAC Emergency Response Team Field Operations Guide ([ERT FOG](#)).

III.2.c.1.b Emergency Operations Center

The emergency operations center (EOC) is located in Building 53 (Trinity conference rooms). The EOC is fully staffed during emergency conditions. Information maintained on the status boards will include a chronology of key events, corrective actions underway, including priority tasks, weather conditions, and protective actions for on site. Access to the building is controlled. Personnel not on the emergency response organization activation list must obtain the permission of the scribe or deputy incident commander to enter the EOC.

Alternate Emergency Operations Center

A backup EOC can be established in the Building 48 (Research Office Building) conference room. This is not a dedicated facility and would be used if the primary EOC is not habitable, or as directed by the incident commander. The backup EOC is equipped with telephones, video projectors and data links, and other equipment necessary to function as an EOC.

In general, the emergency operations center (EOC) consists of representatives from SLAC and DOE.

EOC Staff

EOC staff consists of four main functional areas: the incident commander and staff (including public information staff), Operations, Facilities, and ESH. Field and support teams include the SLAC IC, on-site media center, radiological, environmental, and industrial hygiene teams, OHC, Facilities, and SLAC Site Security. (See [SLAC Emergency Operation Center Operations Guide](#))

III.2.c.2 Off-site Response Interfaces

In the event of an emergency at the SLAC, a number of resources are available for mitigation, re-entry, and recovery activities associated with the response. It is the purpose of this section to briefly describe those federal, state, local, and private agencies that may be involved in a response. Interface with State, local, and other Federal agencies during an emergency is an EOC function.

III.2.c.2.a Mutual Aid Agreements, Memoranda of Agreement, and Memoranda of Understanding

Numerous memoranda of understanding (MOU), memoranda of agreement (MOA), and mutual aid agreements (MAA) exist with Stanford University, DOE, and external agencies. SLAC uses the resources provided by these agreements in directing aid to the mitigation of emergencies.

San Mateo County / Menlo Park Fire Protection District

The Menlo Park Fire Protection District (MPFPD) is the lead off-site emergency response agency, representing San Mateo County, for all emergency incidents including medical aids, structure fires, special rescues, and situations involving a radioactive or hazardous material releases. All incidents are managed under a unified command with external responders and SLAC's incident commander.

Stanford Health Care

Stanford Health Care is a level one trauma center located approximately three miles from SLAC and is the primary medical support facility for SLAC. This hospital has the capability to respond to multi-patient events and radiological medical emergencies. Medical transportation to this facility is provided either by American Medical Response or the Woodside Fire Department under the direction of San Mateo Emergency Medical Services.

State of California

The state's assistance is activated by and under the direction of the San Mateo County Office of Emergency Services and/or the San Mateo County Office of Emergency Services via the Menlo Park Fire Protection District. The California Office of Emergency Services (OES) will be the lead state agency in any response to assist San Mateo and is capable of making state resources available. The California Department of Health Services and neighboring DOE research laboratories would provide trained personnel who are capable of assisting with personnel monitoring and decontamination, the evaluation of the extent of any contamination, and ingestion pathway monitoring.

Department of Energy / Office of Science

The Department of Energy (DOE) is the cognizant federal agency for an emergency situation at SLAC. The resources available from the DOE are extensive and include all of the federal agencies that are part of the Federal Radiological Monitoring and Assessment Plan. The DOE SLAC Site Office (SSO) is the responsible office for SLAC operations. Through the SSO, the resources of the Radiological Assistance Program may be requested. The SSO representative performs the functions of the DOE liaison in the EOC to coordinate response activities between SSO and SLAC. SSO can request federal personnel to assist with evaluations of the extent of radioactive contamination on site, the extent of any radioactive materials released to the environment, and the impact to the population from plume exposure and ingestion pathway exposure, as well as with any cleanup efforts required to return the SLAC facility to normal operation.

Requests for federal assistance will require the authorization of the incident commander through the SSO emergency manager.

III.2.c.3 Site Security

The SLAC site is surrounded by fencing, gates, and 24-hour manned Main Gate guard post. The site has large areas where public access is restricted. Entrance to the site is controlled at the SLAC Main Gate. Beyond the guard gate, an open campus area and support buildings area are accessible to visitors and SLAC personnel. Within the facility, beyond the campus and support area, a fenced-in area is referred to as the Accelerator Area. All employees and visitors inside the Accelerator Area fence are required to have a SLAC-issued identification badge and must stop at access control gates. These areas are accessible through control gates at Sector 30, Sector 17, SSRL rear gate, LCLS gate (near 901) and the Alpine Road gates. Two personnel gates are also on site, one east of Building 3, and one east of Building 137. (See ESH Manual, [Chapter 55, "Site Access Control"](#), for details of site access policies into posted areas.)

For emergency events, SLAC Site Security is responsible for traffic control, emergency scene security, and acting as a liaison with off-site law enforcement agencies.

III.2.c.4 Equipment Maintenance and Support

The locations of emergency equipment and supplies to be used for hazardous materials releases are identified in Section III.2.c.4.c). SLAC's Waste Management Group is responsible for ensuring these supplies are maintained and

available in the event of a hazardous materials release requiring their use. An inventory of building-specific emergency equipment and supplies are identified in each facility pre-plan (see Section III.2.b.3). ESH will ensure that emergency equipment is periodically inspected, maintained, and replaced as necessary to ensure their adequacy and availability for use.

III.2.c.4.a Emergency Response Facilities and Equipment

Emergency response facilities and equipment, such as decontamination supplies, medical supplies, and radios, are maintained to support the ERO.

Disaster Cache

SLAC's disaster cache is in Building 3, with supplies needed to begin providing emergency response logistics for people who are sheltering at SLAC after a natural disaster or other site-wide emergency. Stored in this building is food (2,000 meals), first-aid kits, back-boards, triage equipment, portable toilets, lighting, incident command post infrastructure and light search and rescue tools (shovels, pry bars, hammer, response PPE, and a few small portable generators).

Incident Support Trailer

SLAC's incident support trailer (IST) has been designed to be a multi-purpose assist to be deployed during major events (planned and unplanned). During an incident the IST becomes SLAC's mobile command center with radios, computers, generators, and lights. Additionally, the trailer is designed to support activities including a mass casualty incident (MCI), earthquake, major fire and earthquake. Inside the trailer is light rescue equipment, MCI support equipment, and rehab supplies.

III.2.c.4.b Occupational Health Center

SLAC's Occupational Health Center (OHC) is in Building 28 and is staffed during normal work hours by a physician and/or a nurse practitioner. The OHC is considered a basic life support resource for most emergencies.

III.2.c.4.c Spill Response Equipment

[Spill response equipment](#) is designed for the unique hazards in the specific hazard area.

III.2.c.5 Emergency Communication System

The emergency communications system includes telephone, limited local paging, hand-held and amateur radio, alarm systems, a satellite phone and people who deliver messages by foot or vehicle (runners).

See Section III.2 for information on public information and notification requirements.

III.2.c.5.a SLAC Site Security

The SLAC Main Gate is the SLAC Site Security communications center. The main gate is staffed 24 hours a day by SLAC Site Security personnel. The Security Office (Building 53) is the alternate communications center if the main gate becomes non-operational.

III.2.c.5.b San Mateo County Emergency Communications Center

Emergency calls (911) go directly to the San Mateo Emergency Communications Center (ECC), where information is analyzed and appropriate emergency responders are dispatched. SLAC Site Security stationed at the main gate can also track 911 calls. San Mateo County ECC dispatches MPFPD units such as the engine at the MPFPD Station 4 to incidents involving fire and medical emergencies. For incidents involving law enforcement at SLAC, the center notifies the San Mateo County Sheriff's Office.

The center also immediately notifies SLAC Site Security via telephone any time there is an incident or emergency on site.

The San Mateo County Emergency Communications Center can be reached by dialing 911 from SLAC or cell phones.

III.2.d Finance / Administration

The SLAC Office of the Chief Financial Officer operates the finance and administration section of SLAC's emergency response organization. The finance and administration section is responsible for the financial elements of the emergency response, monitoring incident-related costs and administering any necessary procurement contracts. The incident action plan developed for a given emergency will include specific information on necessary resources, including subcontractors, response equipment and support equipment needed to mitigate the emergency. Finance and administration will provide assistance in procuring these resources. Key senior management personnel are also authorized to use SLAC purchase cards for emergency response purchases.

III.3 Incident Documentation

III.3.a Post-incident Investigation

SLAC has developed an incident investigation program to provide a framework for investigating incidents, including those that result in, or could reasonably cause or result in, a release of hazardous materials. (See [Incident Reporting and Investigation Process](#).)

This process is also supported by SLAC's [Lessons Learned](#) program.

III.3.b Incident History

The Environmental Protection Department retains the original copies of completed hazardous materials spill report forms and maintains a log of these incidents. These forms include relevant information, such as cause, amount released, resources impacted, injuries and response actions. A history of incidents involving oil spills and releases is contained in SLAC's [SPCC Plan](#). Copies of written correspondences with outside agencies to notify them of hazardous material incidents are also maintained by the Environmental Protection Department. These written reports are sent and copies are kept as a record that SLAC has met its legal notification requirements with respect to each incident.

All incidents that affect the community, personnel, property or the environment are evaluated as part of the Occurrence Reporting and Processing System (ORPS).

The ORPS program is driven by Department of Energy Order 232.2, “Occurrence Reporting and Processing of Operations Information” ([DOE O 232.2 SCP](#)), which calls for a formal system of “occurrence” reporting using specific criteria.

III.4 Training and Exercises

III.4.a Training Overview

The goal of the SLAC emergency response and recovery training and drill program is to ensure the general employees and members of the emergency response organization know their roles and are prepared to carry out emergency response functions during an operational emergency.

The program is designed to meet the following goals:

- Provide general instructions to the on-site population regarding potential hazards, methods of alerting, and protective actions that may be ordered
- Provide training to members of the ERO
- Provide problem-solving drills to the members of the ERO to enhance their skills
- Continually improve emergency management/emergency response training incorporating new ideas and lessons learned
- Provide appropriate off-site agencies the opportunity to participate in selected SLAC training

III.4.a.1 Training

Various types of ESH training are provided to SLAC personnel with responsibilities involving hazardous materials and hazardous waste. Required training is dependent on the responsibilities of each position. A list of emergency response classes offered at SLAC can be found on the [SLAC Training](#) website.

Training requirements associated with hazardous materials (including hazardous waste) emergencies are provided in appropriate chapters of the [SLAC ESH Manual](#).

III.4.a.2 Training Requirements

III.4.a.2.a General Employee Training

All SLAC employees are provided with fundamental information regarding their actions during an emergency. Employees and contractors receive emergency preparedness training annually and newly hired SLAC employees receive emergency preparedness training during new hire ESH orientation. This training includes emergency reporting processes, methods of notification, and protective actions. SLAC Training staff maintains training records.

III.4.a.2.b ERO Training

The actual functions performed and responsibility levels of the ERO position are used as the basis for an individual’s required training courses. All personnel assigned to the SLAC ERO must receive position-specific training before their assignment to the organization. Retraining is provided annually thereafter. ERO personnel are required to participate in annual training and participation in at least one drill or exercise to maintain their response status.

Training is presented in two phases. The first phase is formal instruction, which may take the form of classroom instruction, group discussions or self-study. Self-study is an alternative that may be appropriate for emergency responders whose work schedules preclude their attendance of the classroom instruction. The second phase consists of table-top drills and exercises.

Training sessions are developed to instruct emergency responders on their roles, responsibilities, and proper response actions during a declared emergency. All positions receive emergency response overview training and training in their specific emergency response position. Annual retraining will consist of a review of each position's specific training session and changes that have occurred since the last training cycle. The emergency management coordinator reviews and maintains lesson plans to ensure their content reflects emergency management responsibilities.

External Emergency Responders Training

SLAC hosts a major multi-agency/ multi-discipline exercise every three years and smaller focused exercises every year. The exercises include site access procedures, site hazards and familiarity, and pre-established Homeland Security Exercise and Evaluations Program training objectives.

Exercises

SLAC emergency personnel participate in table-top, functional, and full-scale exercises on a regular basis. These exercises are typically designed, planned, and coordinated by SLAC's emergency manager, taking into consideration past incidents and potential emergency scenarios.

A table-top drill is an activity in which selected members of the emergency response organization are presented with simulated emergencies without time constraints. Table-top drills are informal, held in a conference room environment, and designed to elicit constructive conversation by the participants. The purpose is for participants to evaluate plans and procedures and to resolve questions of coordination and assignment of responsibilities in a non-threatening format with minimum stress. Individuals are encouraged to discuss decisions in depth and emphasis is on slow-paced problem solving, rather than rapid, spontaneous decision making.

The functional exercise is an activity designed to test or evaluate the capability of an individual function or complex activity within the emergency management organization. It is applicable where the activity is capable of being evaluated in isolation from other emergency management activities.

A full-scale exercise is intended to evaluate the operational capability of an emergency management function in an interactive manner over a substantial period. It involves a major portion of the basic elements existing within the emergency management plans and organizations in a stressful environment. This type of exercise involves the mobilization of personnel and resources and the actual movement of emergency workers, equipment and resources required to demonstrate coordination and response.

III.5 Prevention

Some regulations that address prevention of incidents also include elements that relate to contingency planning. For SLAC, these regulations include the Hazardous Materials Business Plan (HMBP) Program, California Accidental Release Prevention Program (CalARP) regulations and federal EPA's Spill Prevention Control and Countermeasure (SPCC) regulations. For information on prevention-based requirements, such as maintenance, testing, inspections, release detection and site security, see the following SLAC documents:

- California Accidental Release Prevention (CalARP) Program – Risk Management Plan

- Safety Information
- Hazard Review
- Operating Procedures
- Training
- Maintenance
- Compliance Audits
- Incident Investigation
- [SLAC Spill Prevention, Control, and Countermeasures \(SPCC\) Plan](#)
 - Discharge prevention measures including routine handling of oil products
 - Discharge or drainage controls
 - Prediction of direction, rate of flow and total quantity of oil discharged from reasonable potential of equipment failure scenario(s)
 - Appropriate containment and/or diversionary structures to prevent a discharge
 - Inspections, tests, and records
 - Personnel, annual training, and discharge prevention procedures
 - Security
 - Monitoring and testing equipment to avoid discharges

III.6 Regulatory Compliance and Cross-references

III.6.a Certifications

III.6.a.1 Owner / Operator / Management Approval of Plan

This emergency management plan has been reviewed and approved by the undersigned SLAC National Accelerator Laboratory representative who retains the authority to commit the resources necessary for implementing the plan. The program and procedures outlined in this plan will be implemented, periodically reviewed, and updated in accordance with applicable requirements. In the event of a hazardous materials related emergency, the necessary manpower, equipment, and materials will be made available to expeditiously control potential impacts to human health and the environment.

Ian Evans

[Ian Evans \(Mar 31, 2025 14:57 PDT\)](#)

Ian Evans, ESH Division Director / Chief Safety Officer

Date

III.6.a.2 Certification of SPCC Plan Emergency Elements

Spill Prevention, Control, and Countermeasure (SPCC) Plan
SLAC National Accelerator Laboratory

Professional Engineer Review and Certification

The undersigned Registered Professional Engineer is familiar with the requirements of Part 112 of Title 40 of the Code of Federal Regulations (40 CFR Part 112) and has visited and examined the facility or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR Part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility [40 CFR Part 112.3(d)].

In accordance with 40 CFR Part 112.3(d)(2), this certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR Part 112. This Plan is valid only to the extent that the facility owner or operator maintains, tests, and inspects equipment, containment, and other devices as prescribed in this Plan.

Name of Professional Engineer: Wendy Sanders
Registration Number: C59211
Issuing State: California




Signature

1/14/2025
Date

III.6.a.3 RMP Certification

CALARP PROGRAM – RISK MANAGEMENT PLAN

PROGRAM 1 CERTIFICATION

Based on the criteria in Section 2735.4 of Title 19 of CCR, the distance to the specified endpoint for the worst-case accidental release scenario for the following process is less than the distance to the nearest public receptor: the use and storage of potassium cyanide in the SLAC Plating Shop (Building 25). Within the past five years, the process has had no accidental release that caused offsite impacts provided in the risk management program Section 2735.4 (c)(1). No additional measures are necessary to prevent offsite impacts from accidental releases. In the event of fire, explosion, or a release of a regulated substance from the process, entry within the distance to the specified endpoints may pose a danger to public emergency responders. Therefore, public emergency responders should not enter this area except as arranged with the emergency contact indicated in the RMP.

The undersigned certifies that, to the best of my knowledge, information, and belief, formed after reasonable inquiry, the information submitted is true, accurate, and complete.

Carole Fried
Carole Fried (Apr 12, 2022 11:09 PDT)

 Carole Fried
 Director
 Environment, Safety and Health Division
 SLAC National Accelerator Laboratory

Apr 12, 2022

 Date

III.6.b Regulatory Cross-references

Table 11 Regulatory Cross-references

Plan Elements	Hazardous Materials Business Plan (19 CCR 5030.1-5030.10)	Hazardous Waste Contingency Plan (22 CCR 66264.50-66264.56)	CalARP Risk Management Plan (19 CCR 2745.8)	Spill Prevention, Control, and Countermeasure Plan (40 CFR 112)	Standard for Emergency, Continuity, and Crisis Management (NFPA 1660)
I. Plan Introduction					
I.1 Purpose and scope	5030.1	66264.51		112.20(h)	1.1 1.2 1.3
I.2 Table of contents		66264.52			Table of Contents
I.3 Current revision date		66264.54	2745.8(a)(5)		10.1.5
I.4 Facility information	5030.6			112.20(h)(2)	19.1 18.3.1
II. Core Plan					
II.1 Discovery		66264.56(d)		112.7(e)(8) 112.20(h)(6)	
II.2 Initial response	5030.9				7.2 7.3.2
a. Procedures for internal and external notifications	5030.9	66264.52(e) 66264.52(f) 66264.56(d)		112.20(h)(1)(iii) 112.20(h)(3)(iii) 112.20(h)(3)(iv)	6.7 6.9.1
b. Establishment of a response management structure		66264.52(c) 66264.52(d) 66264.55		112.20(h)(1)(v) 112.20(h)(3)(v)	6.8
c. Preliminary assessment of the situation		66264.56(b),(c)		112.20(h)(3)(ix) 112.20(h)(4)	7.1
d. Response resources and mitigating actions, including implementation of tactical plan and mobilization of resources		66264.52(e)	2745	112.20(h)(1)(iv) 112.20(h)(1)(vii) 112.20(h)(3)(vi) 112.20(h)(3)(ix) 112.20(h)(7)(i) 112.20(h)(7)(ii)	7.3
II.3 Sustained actions		66264.56(e),(f)		112.20(h)(7)(i)	7.5.1
II.4 Termination and follow-up actions		66264.56(g),(h) 66264.56(i),(j)		112.20(h)(7)(iii)	7.7 7.8 6.10.2

Plan Elements	Hazardous Materials Business Plan (19 CCR 5030.1-5030.10)	Hazardous Waste Contingency Plan (22 CCR 66264.50-66264.56)	CalARP Risk Management Plan (19 CCR 2745.8)	Spill Prevention, Control, and Countermeasure Plan (40 CFR 112)	Standard for Emergency, Continuity, and Crisis Management (NFPA 1660)
III Annexes					
III.1 Facility and locality information				112.20(h)(2)	18.3
a. Facility maps	5030.8 Appendix B			112.4(a)(6) 112.20(h)(1)(viii)	17.5
b. Facility drawings	5030.8 Appendix B	66264.52(e)		112.4(a)(6) 112.20(h)(3)(viii) 112.20(h)(9)	17.5
c. Areas of vulnerability			2745.6(e) 2745.7(e)	112.7(b) 112.20(h)(4)	5.2
III.2 Notification Information				112.20(h)(1)(iii) 112.20(h)(3)(iv)	6.7
a. Internal	5030.9 (d)	66264.56(a)		112.20(h)(3)(iii)	6.7
b. Local agency	5030.9 (a) (1)	66264.56(a)		112.20(h)(3)(iii)	6.7
c. Federal and state agencies	5030.9 (a) (2)	66264.56(a)		112.20(h)(3)(iii)	6.7
III.3 Response management system					
a. General		66264.52(d)	2745.3(a) 2745.3(f)	112.20(h)(1)(ii) 112.20(h)(1)(v) 112.20(h)(3)(v)	7..0 6.8.6 6.7
b. Command					6.8.1
(1) Facility incident commander and qualified individual		66264.55		112.7(e)(10)(ii) 112.20(h)(1)(i) 112.20(h)(3)(ix)	6.8.1
(2) Information					
(3) Safety				112.20(h)(1)(vi) 112.20(h)(3)(vii)	6.1.1 6.7.3
c. Operations					6.7
(1) Response objectives					6.8.6 6.9.1
(2) Discharge or release control		66264.56(e)		112.20(h)(1)(vii) 112.20(h)(3)(i) 112.20(h)(7)(iv)	6.10.2.2
(3) Assessment / monitoring		66264.56(c)		112.7(c)	6.8.5(5)

Plan Elements	Hazardous Materials Business Plan (19 CCR 5030.1-5030.10)	Hazardous Waste Contingency Plan (22 CCR 66264.50-66264.56)	CalARP Risk Management Plan (19 CCR 2745.8)	Spill Prevention, Control, and Countermeasure Plan (40 CFR 112)	Standard for Emergency, Continuity, and Crisis Management (NFPA 1660)
		66264.56(f)		112.20(h)(3)(i) 112.20(h)(7)(iv)	6.10.2.2
(4) Containment		66264.56(e)			6.7
(5) Recovery				112.20(h)(3)(i)	6.7. 7.7 7.8
(6) Decontamination		66264.56(h)(2)			6.10 7.5.3
(7) Non-responder medical needs					6.1 6.7.3
d. Planning					
(1) Hazard assessment			2750	112.20(h)(4) 112.20(h)(5)	5.2 21.1 21.2
(2) Protection				112.20(h)(7)(i)	6.1.1 6.7.3
(3) Coordination with natural resources trustees					5.4.5
(4) Waste management		66264.56(g) 66264.56(h)(1)		112.20(h)(7)(iii)	
e. Logistics					
(1) Medical needs					6.1.1 6.7.3
(2) Site security				112.7(e)(9) 112.20(h)(10)	18.5
(3) Communications				112.20(h)(3)(vi)	6.5 6.6
(4) Transportation					
(5) Personnel support				112.20(h)(1)(vi) 112.20(h)(3)(vii)	5.4.2
(6) Equipment maintenance and support				112.7(e)(10)(i)	5.4.4
f. Finance / procurement / administration					4.8

Plan Elements	Hazardous Materials Business Plan (19 CCR 5030.1-5030.10)	Hazardous Waste Contingency Plan (22 CCR 66264.50-66264.56)	CalARP Risk Management Plan (19 CCR 2745.8)	Spill Prevention, Control, and Countermeasure Plan (40 CFR 112)	Standard for Emergency, Continuity, and Crisis Management (NFPA 1660)
(1) Resource list		66264.52(e)		112.20(h)(1)(iv) 112.20(h)(3)(i) 112.20(h)(3)(iii)	5.4.4
(2) Personnel					
(3) Response equipment		66264.52(e)		112.20(h)(7)(ii)	5.4
(4) Support equipment		66264.52(e)			7.5.3
(5) Contracting				112.20(h)(3)(ii)	7.5.3
III.4 Incident documentation					7.6
a. Post-accident investigation			2745.6(j) 2745.7(l)		7.6 10.1
b. Incident history			2745.5	112.7(a)	7.6
c. Record keeping					7.6
III.5 Training, exercise, and drills	5030.10		2745.6(g) 2745.7(g) 2745.8(a)(6)	112.7(e)(10)(i) 112.7(e)(10)(iii) 112.20(h)(8) 112.21	8 9
III.6 Response critique, plan, review, and process modification		66264.54	2745.8(a)(5) 2745.10(a) 2745.10(b) 2745.10(d) 2745.11	112.20(g)	9.4.1
III.7 Prevention	5030.9 (c)		2745.6 2745.7	112.7(e)	4.6.2
(1) Drug and alcohol testing					
III.8 Regulatory compliance					4.7
a. Certifications			2745.9	112.3(d)	
b. Regulatory cross references			2745.8(c)		

III.7 References

The following are documents referred to by or related to this plan. Always locate and use the latest version, either online from the addresses below or from the originating group.

Table 12 Related Documents

Title	Document Number	Originating Unit	URL (access restriction may apply)
Hazard Assessment			
Area Hazard Analysis eTool		WPC	https://www-internal.slac.stanford.edu/wpc/tools/AHA.asp (available for all buildings with industrial areas)
B025 Cyanide Room Report on HCN Gas Survey	SLAC-I-730-2A09H-001		
Emergency Management			
Initial Response Guide (IRG)		SEM	https://slac.sharepoint.com/sites/ESH/ert/erodocs/
Field operations guides (FOGs)		SEM	https://slac.sharepoint.com/sites/ESH/ert/erodocs/
SLAC Emergency Operations Center (EOC) Guide		SEM	https://slac.sharepoint.com/sites/esh/ero/
SLAC Emergency Response Team Field Operations Guide (ERT FOG)		SEM	https://slac.sharepoint.com/sites/ESH/ert/erodocs/
Emergency Communications Plan		Communications	https://slac.sharepoint.com/sites/esh/ero/
SLAC Pre-incident GIS (pre-plans)		SEM	https://gis03.win.slac.stanford.edu/preincident/
Emergency Resource Directory (ERD)		SEM	https://slac.sharepoint.com/sites/esh/ero/
SLAC Emergency Information		SEM	https://emergency.slac.stanford.edu/
SLAC Emergency Alert System (SLAC911)		SEM	https://slac.sharepoint.com/sites/ESH/emp/SitePages/SLACAlerts.aspx
Stanford University Emergency Notification System (AlertSU)		Stanford University	https://police.stanford.edu/alertsu.html
Facility-specific Response Procedures			
SLAC CERS (Chemical Inventory) GIS		CWM	https://gis03.win.slac.stanford.edu/CERS/ (includes maps for each building where hazardous materials are stored)
Related Hazardous Material / Waste Plans / Programs			
California Accidental Release Prevention (CalARP) Program – Risk Management Plan	SLAC-I-750-0A14M-001	EP	

Title	Document Number	Originating Unit	URL (access restriction may apply)
SLAC Spill Prevention, Control, and Countermeasures Plan	SLAC-I-750-0A16M-001	EP	https://slac.sharepoint.com/sites/ESH/ep/spcc/SPCCplans/SLAC_SPCC_Plan.pdf
Training			
SLAC Training		HR	https://slactraining.slac.stanford.edu/
Incident Documentation			
Incident Reporting and Investigation Process	SLAC-I-701-003-006-00	Contractor Assurance and Contract Management	https://slac.sharepoint.com/sites/pub/Publications/701-003-006-00_IMReport_Investigation.pdf
Lessons Learned		Contractor Assurance and Contract Management	https://slac.sharepoint.com/sites/CACM/SitePages/Lessons-Learned.aspx
Occurrence Reporting and Processing System (ORPS)		Contractor Assurance and Contract Management	
Environment, Safety, and Health Manual Chapters			
Chapter 16, "Spills"	SLAC-I-720-0A29Z-001	EP	https://esh.slac.stanford.edu/environment/spills/
Chapter 17, "Hazardous Waste"	SLAC-I-720-0A29Z-001	CWM	https://esh.slac.stanford.edu/environment/hazardous_waste/
Chapter 26, "Stormwater"	SLAC-I-720-0A29Z-001	EP	https://esh.slac.stanford.edu/environment/stormwater/
Chapter 36, "Cryogenic and Oxygen Deficiency Hazard Safety"	SLAC-I-720-0A29Z-001	HSS	https://esh.slac.stanford.edu/hazardous_substances/cryogenic/
Chapter 37, "Emergency Management"	SLAC-I-720-0A29Z-001	SEM	https://esh.slac.stanford.edu/emergency/chapter/
Chapter 40, "Chemical Lifecycle Management"	SLAC-I-720-0A29Z-001	CWM	https://esh.slac.stanford.edu/hazardous_substances/chemmanage/
Chapter 52, "Hazardous Material and Waste Transportation"	SLAC-I-720-0A29Z-001	CWM	https://esh.slac.stanford.edu/hazardous_substances/hazmattransport/
Chapter 53, "Chemical Safety"	SLAC-I-720-0A29Z-001	HSS	https://esh.slac.stanford.edu/hazardous_substances/chemsafety/
Chapter 55, "Site Access Control"	SLAC-I-720-0A29Z-001	SEM	https://esh.slac.stanford.edu/general/siteAccess/
Chapter 58, "Laboratory Safety"	SLAC-I-720-0A29Z-001	HSS	https://esh.slac.stanford.edu/hazardous_substances/labsafety/
External Requirements			
National Fire Protection Association (NFPA) 1660, "Standard for Emergency, Continuity, and Crisis"	NFPA 1660	NFPA	https://slacprod.servicenowservices.com/kb_view.do?sysparm_article=KB0011928

Title	Document Number	Originating Unit	URL (access restriction may apply)
Management: Preparedness, Response, and Recovery”			
Department of Energy Order 151.1E, "Comprehensive Emergency Management System"	DOE O 151.1E	DOE	https://www.directives.doe.gov/directives-documents/100-series/0151.1-border-e
Site Compliance Plan for Department of Energy Order 232.2A, "Occurrence Reporting and Processing of Operations Information"	DOE O 232.2A SCP	SLAC	https://legal.slac.stanford.edu/doesu-contract
Title 40, <i>Code of Federal Regulations</i> , "Protection of the Environment", Chapter 1, "Environmental Protection Agency", Subchapter D, "Water Programs", Part 112, "Oil Pollution Prevention"	40 CFR 112	United States	https://www.ecfr.gov/current/title-40/chapter-I/subchapter-D/part-112
<i>California Health and Safety Code</i> , Division 20, "Miscellaneous Health and Safety Provisions", Chapter 6.95, "Hazardous Materials Release Response Plans and Inventory", Article 1, "Business and Area Plans"	HSC 25500–25519	California	https://leginfo.legislature.ca.gov/faces/code_s_displayText.xhtml?division=20.&chapter=6.95.&lawCode=HSC&article=1
<i>California Health and Safety Code</i> , Division 20, "Miscellaneous Health and Safety Provisions", Chapter 6.95, "Hazardous Materials Release Response Plans and Inventory", Article 2, "Hazardous Materials Management"	HSC 25531–25543.3	California	https://leginfo.legislature.ca.gov/faces/code_s_displayText.xhtml?division=20.&chapter=6.95.&lawCode=HSC&article=2
<i>California Health and Safety Code</i> , Division 20, "Miscellaneous Health and Safety Provisions", Chapter 6.67, "Aboveground Storage of Petroleum"	HSC 25270–25270.13	California	https://leginfo.legislature.ca.gov/faces/code_s_displayText.xhtml?lawCode=HSC&division=20.&title=&part=&chapter=6.67.&article
Title 19, <i>California Code of Regulations</i> , "Public Safety", Division 5, "California Environmental Protection Agency", Chapter 1, "Hazardous Material Inventory and Response Plans", Article 3, "Minimum Standards for Business Plans"	19 CCR 5030.1–5030.10	California	https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=IF0402240E0C811EE84A4A8DC53E0E4C3
Title 19, <i>California Code of Regulations</i> , "Public Safety", Division 2, "California Emergency Management Agency", Chapter 4.5, "California Accidental Release Prevention (CalARP) Program Detailed Analysis"	19 CCR 2735–2785	California	https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I2980FB845BE511EC98C8000D3A7C4BC3
Title 19, <i>California Code of Regulations</i> , "Public Safety", Division 2, "California Emergency Management Agency", Chapter 4.5, "California Accidental Release Prevention (CalARP) Program Detailed Analysis", Article 3, "Risk Management Plan Components and Submission Requirements", Section 2745.8, "RMP Emergency Response Program Component"	19 CCR 2745.8	California	https://govt.westlaw.com/calregs/Document/I2A5F4DA15BE511EC98C8000D3A7C4BC3
Title 22, <i>California Code of Regulations</i> , "Social Security", Division 4.5, "Environmental Health Standards for the Management of Hazardous	22 CCR 66264.50–66264.56	California	https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulation

Title	Document Number	Originating Unit	URL (access restriction may apply)
Waste", Chapter 14, "Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities", Article 4, "Contingency Plan and Emergency Procedures"			s?guid=I88284AA05B6111EC9451000D3A7C4BC3
Title 14, <i>California Code of Regulations</i> , "Natural Resources", Division 1, "Fish and Game Commission-Department of Fish and Game", Subdivision 4, "Office of Spill Prevention and Response", Chapter 3, "Oil Spill Prevention and Response Planning", Subchapter 3, "Oil Spill Contingency Plans", Section 816, "Plan Submittal, Review and Approval"	14 CCR 816	California	https://govt.westlaw.com/calregs/Document/I220A91185B4D11EC976B000D3A7C4BC3 Does not apply at SLAC
Title 14, <i>California Code of Regulations</i> , "Natural Resources", Division 1, "Fish and Game Commission-Department of Fish and Game", Subdivision 4, "Office of Spill Prevention and Response", Chapter 3, "Oil Spill Prevention and Response Planning", Subchapter 3, "Oil Spill Contingency Plans", Section 817, "Marine Facility Contingency Plans"	14 CCR 817	California	https://govt.westlaw.com/calregs/Document/I228B59D45B4D11EC976B000D3A7C4BC3 Does not apply at SLAC
Title 23, <i>California Code of Regulations</i> , "Waters", Division 3, "State Water Resources Control Board and Regional Water Quality Control Boards", Chapter 16, "Underground Tank Regulations", Article 3, "New Underground Storage Tank Design, Construction, and Monitoring Requirements", Section 2632, "Monitoring and Response Plan Requirements for New Underground Storage Tanks Constructed Pursuant to Section 2631"	23 CCR 2632	California	https://govt.westlaw.com/calregs/Document/ICB4CA21C5B6E11EC9451000D3A7C4BC3 Does not apply at SLAC
California Environmental Protection Agency, California State Water Resources Control Board. Sanitary Sewer General Order	Order 2022-0103-DWQ	California WRCB	https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0103-dwq.pdf
External Guidelines			
The National Response Team's Integrated Contingency Plan Guidance; Notice	61:28641–28664	Environmental Protection Agency	https://www.osha.gov/laws-regs/federalregister/1996-06-05-0
Guidance Document for the California Consolidated Contingency Plan		Cal OES	