

NOTICE OF EXEMPTION

To: Office of Planning and Research
State Clearinghouse
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From: Department of Toxic Substances Control
N California Permitting and Corrective Action Branch
8800 Cal Center Drive
Sacramento, CA 94826

Project Title: Resource Conservation and Recovery Act (RCRA) Interim Status Draft Phase I Closure Plan (Closure Plan) for the Open Burring (OB)/Open Detonation (OD) Units, Sierra Army Depot (SIAD)

Project Location: SIAD is located near the town of Herlong in the Honey Lake Valley of Lassen County in northeast California at the base of the foothills on the eastern side of the Sierra Nevada Mountains, approximately 55 miles (89 kilometers) northwest of Reno, Nevada.

County: Lassen

Project Description: DTSC has approved the Phase I Closure Plan for the SIAD, OB/OD Treatment Units. The Closure Plan includes the steps that will be taken to permanently close the SIAD OB/OD Units. SIAD intends to conduct a risk-based closure of the OB/OD Units. This Closure Plan includes the activities for collecting information necessary to conduct the risk-based closure. The closure process for the SIAD OB/OD Units will consist of two major phases. The first phase will consist of field investigations to determine whether releases of hazardous waste (unexploded ordnance) or constituents (metals or explosives) have resulted in conditions that would require remedial actions. The second phase will consist of implementation of remedial actions. Remedial actions that may be necessary will be addressed in a separate Phase II Closure Plan decision and will undergo a separate California Environmental Quality Act (CEQA) analysis. In the case where unexploded ordnance (UXO) is located during Phase 1, treatment by detonation of munitions or explosives of concern (MEC) will necessitate obtaining an emergency permit from DTSC. This Closure Plan is required by and complies with California Code of Regulations, title 22, section 66265.112.

Site Background:

SIAD is included on the Hazardous Waste and Substances Sites List (Cortese) pursuant to Government Code section 65962.5. However, no adverse impacts are anticipated from the project activities that will serve to evaluate the site for potential hazards and make recommendations for further site action as necessary. SIAD is zoned as a U.S. Military Reservation. The entire depot comprises 37,937 acres of land divided into two sites: the Main Depot and the Upper Burning Ground (UBG) Area. Honey Lake has recently been turned over to the Honey Lake Conservation Team.

The used portion of the Depot is divided into two fenced areas:

Restricted Area - This area constitutes the bulk of the active portion of SIAD's property and covers approximately 35,300 acres. The UBG, immediately north of the Main Depot, constitutes approximately 5,350 of this 35,300-acre total. Included in the Restricted Area are facilities to support ammunition storage, maintenance, and demolition; test sites; rail classification and holding facilities; Amedee Army Airfield; open land; and the General Supply (warehouse) Area. Access to this area is restricted to employees and those persons securing permission for special entry into the area.

SIAD's current mission is to "Provide world-wide Expeditionary Logistics Support for the Defenders of our nation as strategic power projection support platform providing support in the form of long-term storage, maintenance, care of supplies in storage, reset, and container management, Center of Industrial Technical Excellence (CITE) for Reverse Osmosis Water Purification Units (ROWPUs), critical Operational Project Systems including Deployable Medical Systems, Petroleum and Water Systems, Force Provider, and other items as Directed."

Until 2001, SIAD received, stored, issued, maintained, and demilitarized munitions/explosives from both onsite and offsite military sources. Demilitarization of waste military munitions/explosives was conducted by OB in pits and pans and OD in pits. Waste military munitions/explosives are classified as hazardous waste for the reactivity characteristic under federal and state regulations. Hazardous waste treatment facilities are required to obtain a RCRA Permit. Existing facilities are subject to interim status requirements for hazardous waste treatment facilities until a permit is issued. SIAD had submitted a RCRA permit application to DTSC for operation of the OB/OD treatment facilities as permitted hazardous waste treatment units. However, SIAD withdrew the Permit Application in 2003 and will close the OB/OD Units pursuant to interim status closure requirements.

SIAD formerly operated as a military maintenance and storage facility of munitions/explosives classified as product. SIAD, within its former mission performed the following functions:

- Received and stored conventional ammunition, propellants, explosives, war reserve material, general supply items, and personal property.
- Maintained, renovated, and modified conventional ammunition and guided missiles.
- Received, inspected, classified, and maintained returned conventional ammunition.
- Packed small arms.
- Observed, inspected, tested, studied, and classified conventional ammunition/explosives and guided missiles in movement, storage, and use with respect to serviceability, hazard, and rate of deterioration.
- Demilitarized obsolete, unserviceable, and unrepairable conventional ammunition and general supplies.

SIAD used several techniques for the demilitarization of hazardous waste munitions/explosives at the OB/OD Units. Following is a list of these treatment techniques:

- OB of propellants in pans
- OD of munitions/explosives in pits
- OB of rocket motors in pits

OB in pans took place in the OB Unit. OD and OB of large rocket motors both took place in the OD pits. A discussion of the design and dimensions of each treatment unit is contained below.

No munitions or explosives that were to be treated were stored at the (OB/OD) Units. All munitions and explosives were stored on the Main Depot. Munitions and explosives were transported primarily via government trucks directly from the storage units to the OB/OD area. Only the amount scheduled for treatment for one day was transported to the OB/OD Units. The number of truckloads of material delivered to each of the operations per day ranged from 1 to 30 depending upon the nature and quantity of the material scheduled for treatment.

1. OB in Pans

OB operations took place from the 1950s until 2001. The materials that were burned generally consisted of solid propellants. Initially, the OB operations took place directly on the ground surface. During the 1980s treatment directly on the ground surface was stopped and all further OB operations took place in containment devices.

OB operations were conducted in containment devices (pans) structurally adequate to withstand temperature extremes and collect ash/residue. Typically, solid propellant was poured into the containment pan to a depth of a few inches, primed, and then initiated with a time fuse and igniters. The burn pan dimensions ranged from 4 to 8 feet wide and 15 to 18 feet long. The pans' thickness was 1/4-inch thick or thicker steel, which was able to withstand the high temperature burns. Pans were supported by 1/4-inch thick or thicker steel I-beams spaced 4 feet apart. The support beams raised the containment pan bottom approximately 6 to 8 inches above the ground surface. Metal covers were placed over the pans when they were not in use to keep precipitation and dirt from depositing in the pan. Covers were equipped for removal by material handling equipment (MHE) (i.e. forklifts), and were designed with edges to maintain a secure seal. There was no lining within the pans or below the pans on the ground surface (graded dirt surface) due to the potential for damage while burning. However, the areas surrounding the pan were inspected for ejected material after each OB operation.

Burn durations were relatively short-lasting and typically completed in less than two minutes. The ash generated from the treatment of wastes was managed under generator requirements in accordance with regulatory requirements. No ash material remains in pans at the OB Unit. The open burn pans have been removed from service at SIAD.

2. OD in Pits

The OD Unit consists of 14 pits dug into the foothills of the Amedee Mountains. The net explosive weight (NEW) limits for the pits ranged from 5,000 pounds to 10,000 pounds per pit. The OD Unit spans an area of about 35 acres. The pits are dug with sides ranging from a few feet to more than 30 feet (9 meters) at the pit back wall. The pits are sloped inward from the entrance toward the back of the pits to control run-on/runoff. No liners or structures were used in the pits.

3. OB of Large Rocket Motors in Pits

The OD pits were also used to treat large rocket motors by OB. One to 14 pits were used, depending upon the number and size of the rocket motors being treated. The rocket motors were placed into one or more detonation pits using material handling equipment (e.g., rough terrain forklift, rough terrain lift, crane, bulldozer, etc.). The NEW of the rockets being treated ranged from a few hundred to 140,000 pounds. Crack and burn techniques were the primary method used to treat the rocket motors. Explosive charges were placed along the length of the rocket motor, and then were detonated

to split open the casing and initiate the subsequent burn along the entire length of the propellant contained within the casing. After each rocket motor treatment event, residues (casing and non-combustible rocket motor components) were collected and placed into roll off boxes for disposal as a solid waste. All residual materials were inspected and certified as explosive-free prior to transportation from the OD pits. No trays, pads, nor liners were used because they would have been damaged by the high temperatures of the OB process and because of the size of the rocket motors. Rocket motor propellant was not placed directly the ground surface and all of the propellant was contained within the casing.

Closure and Corrective Actions Requirements

The OB and OD units are directly subject to RCRA closure requirements for interim status facilities. Releases beyond the unit boundary (e.g. UXO, waste constituents, and waste residues) are subject to RCRA Corrective Action requirements. A Federal Facility Site Remediation Agreement (FFSRA) is in effect between the state of California and SIAD for the investigation and possible remedial/corrective action at solid waste management units (SWMUs). The FFSRA was signed between the Army; the State of California Environmental Protection Agency (CALEPA Department of Toxic Substances Control (DTSC), and CALEPA Regional Water Quality Control Board (CRWQCB). The FFSRA outlines the overall investigation and remediation process for units subject to corrective action. The Closure Plan addresses both the RCRA Unit (hazardous waste management unit) and releases beyond the boundary of the RCRA Units.

SIAD requested DTSC concurrence of the OB and OD Units' boundary designations in a letter that was dated November 6, 2004. DTSC responded in a letter dated February 11, 2005 that they agreed to the boundary designations subject to the following conditions:

- SIAD must fully delineate the unit boundaries in the revised Closure Plan by using the Global Positioning System (GPS) coordinates;
- SIAD must include in the revised Closure Plan scaled maps of sufficient size to clearly show the OB/OD UNITS;
- Any contamination found outside the OB/OD unit boundaries that has resulted from or emanated from operation of the OB/OD units will be subject to the Corrective Action process required for the OB/OD units, instead of being addressed under the Federal Facility site Remediation Agreement; and
- It is necessary for SIAD to use the OB/OD units for emergency treatment purposes, and any resulting contamination in or outside the unit boundaries will be subject to the corrective action process required for the OB/OD units, instead of being addressed under the FFSRA.

The areas beyond the RCRA unit boundaries have been deemed eligible for the Munitions Response Program (MMRP). Under authority of the Closure Plan investigation and remediation of releases beyond the boundaries of the RCRA units will be conducted as part of the MMRP. However, RCRA corrective action requirements must be met and DTSC oversight will ensure compliance. In the event that any elements of the MMRP fail to meet RCRA corrective action requirements, DTSC may issue a corrective action order for compliance.

No environmental investigations to determine the nature and extent of contamination resulting from the OB/OD treatment operations outside the OB/OD Units have taken place at the UBG. Previous investigations were conducted within the OD for waste classification and within the OB Unit to determine the nature and extent of contamination. However, these investigations were incomplete for purposes of closure.

Project Activities

The environmental investigations sampling will take place in two or more rounds. During the first round, samples will be collected from locations which are expected to have the highest contaminant and hazardous waste concentrations to determine which media may be contaminated. The results of the first round will then be used to determine which media should be sampled in subsequent rounds as well as to select the locations where samples should be collected to further determine the extent of contamination identified during the first sampling round.

As mentioned above, the closure process for the SIAD OB/OD Units will take place in two phases. The initial phase, investigation, will consist of one or more rounds of field investigations. The latter phase will consist of remedial actions in a separate Phase II Closure Plan. It is anticipated that the closure investigation and remedial process as authorized by the Closure Plan will be completed first for the lower portions of the UBG near the OB Unit because data is available from environmental investigations which have already taken place within the unit and, unlike the OD Unit, unexploded ordnance (UXO) was not ejected from the OB Unit. Sampling plans for surface water/sediment, soil, and groundwater sampling/investigation, respectively, is included in the Phase I Closure Plan. Additional investigative work plans will be developed, as each round of investigation is completed, to describe the actions to be taken in the subsequent investigation round or until the Phase I investigation is sufficient to develop the Phase II Closure Plan and the final closure activities are determined.

Specific activities included in the Phase I Closure Plan include the following:

1. Investigation, characterization, and sampling fieldwork to provide sufficient data for determining specific clean up goals as part of the Phase II Closure Plan.
2. Investigation, characterization, and sampling fieldwork to provide sufficient data for determining a quantitative human health risk assessment as part of the Phase II Closure Plan.
3. Investigation, characterization, and sampling fieldwork to provide sufficient data for determining a quantitative ecological risk assessment as part of the Phase II Closure Plan.
4. Investigation, characterization, and sampling fieldwork to provide sufficient data for determining potential and/or recommended remediation as part of the Phase II Closure Plan.
5. Investigation, characterization, and sampling fieldwork to provide sufficient data for determining areas which may be considered for No Further Action (NFA) as part of the Phase II Closure Plan.

The goal of the Phase I Closure Plan investigation is to obtain environmental data for use in making the following decisions:

1. Determine whether munitions constituents (MC) are present within the study area in quantities or concentrations that present excess risk to human receptors,
2. Determine whether MC are present within the study area in quantities or concentrations that present excess risk to ecological receptors,
3. Determine whether MC or MEC are present within the study area in quantities or concentrations that require land use controls (LUCS),
4. Delineation of the study boundary, i.e. the lateral and vertical extent of contamination, and
5. Collect information to improve the cost-to-complete (CTC) estimate.

The Phase I Closure Plan includes a sampling and analysis plan for collecting the MC data and the plan for collection of data on surface MEC. A MC-Background Comparison will be made. The purpose of the background comparison is to determine which metallic munitions constituents detected in soils or groundwater (OB Unit only) are present at concentrations that represent contamination due to OB/OD treatment activities. This will be done by comparing concentrations of metals to background data representative of local conditions unaffected by site-related activities. Metals present at concentrations elevated with respect to background well or soil concentrations, will be retained for evaluation as a chemical of potential concern (COPC) for the health and ecological risk assessments. Separate background evaluations will be conducted for the OB unit and the OD unit. The major constituents that were present were explosives and metals.

If background values are not exceeded for any munitions constituent and UXO is not of concern, soil at the OB/OD units will be considered to be clean, and no further evaluation will be conducted. If background values are exceeded, a quantitative risk analysis using site-specific sampling results will be conducted as part of the Phase II Closure Plan.

Because organics (explosives) are not naturally occurring, any positive detections will be considered to be above background.

Human Health Risk Assessment: The de minimus threshold for cancer risk is 1×10^{-6} . Any risk above 1×10^{-6} will be considered on a risk management basis. In the event that the cancer risk estimates summed for all carcinogenic chemicals detected above background in an environmental medium do not exceed 1×10^{-6} , no further analysis will be considered necessary for that environmental medium. If the cancer risk exceeds 10^{-6} , the media will be considered potentially contaminated. The extent of contamination will be determined, and the need for a corrective measures study will be evaluated.

In the event that the cumulative hazard index (HI) summed for all chemicals detected above background in an environmental medium does not exceed 1.0, no further analysis of potential systemic toxicants will be conducted, and NFA will be considered for that environmental medium. If the HI does exceed 1.0, additional analysis will be completed to determine the HI based on the toxicity endpoints of the potential chemicals of concern (COC). Under these circumstances, it is likely that several cumulative Hazard Indices for chemicals with similar endpoints will be determined. If cumulative HIs based on toxicity endpoints do not exceed 1.0, no further analysis will be considered for an environmental medium. Otherwise, the extent of contamination will be determined, and the need for corrective measures study will be evaluated.

Ecological Risk Assessment: The ecological risk assessment will be conducted (as part of Phase II Closure Plan) in accordance with the CAL/EPA guidance titled "Guidance for Ecological Risk Assessment at Hazardous Waste Sites and Permitted Facilities" dated July 4, 1996 and updates.

Initially, a scoping-level assessment will be conducted. This will consist of a chemical, physical, and biological characterization of the OB unit and OD unit, and an evaluation of the potential for complete exposure pathways. The

purpose of this investigation is to determine the potential for contact between ecological receptors and COC. Soils will be evaluated to a depth of two to six feet. The results of this qualitative assessment will be used to determine the need for and the extent of further assessments. If no organic chemicals (explosives) of ecological concern are present or concentrations of inorganic elements are at or below "background" concentrations, the OB unit, OD unit, or portion of the unit will exit from the ecological risk assessment process. A minimal scoping assessment report detailing these findings, the areas to which they apply, and conclusions will be prepared and submitted to DTSC. If potential MC-contaminated media are identified at concentrations which may adversely impact wildlife or their habitats, the Scoping Assessment Report will recommend that a Phase 1 predictive assessment be conducted. If remediation is required to address any human health risks, the Scoping Assessment Report will include an evaluation of the potential impacts on biota or habitat. Following is a discussion of key elements of the ecological scoping assessment and how each element will be addressed. Separate ecological scoping assessments will be conducted for the OB unit and OD unit.

The Phase I Closure Plan implementation is expected to commence in October 2007. The initial round of Phase I investigations is estimated to be completed by September 2008. It is unknown how many subsequent rounds of investigation may be necessary; if two additional rounds are necessary the Phase I Closure Plan completion may extend into 2010.

Name of Public Agency Approving Project: Department of Toxic Substances Control

Name of Person or Agency Carrying Out Project: Sierra Army Depot (SIAD)

Exemption Status: (check one)

- Ministerial [PRC, Sec. 21080(b)(1); CCR, Sec. 15268]
- Declared Emergency [PRC, Sec. 21080(b)(3); CCR, Sec.15269(a)]
- Emergency Project [PRC, Sec. 21080(b)(4); CCR, Sec.15269(b)(c)]
- Categorical Exemption: [State type and section number]
- Statutory Exemptions: [State code section number]
- General Rule [CCR, Sec. 15061(b)(3)]

Exemption Title: With certainty, no possibility of a significant effect on the environment.

Reasons Why Project is Exempt:

1. The project is in a controlled-access area and activities will be conducted under a Site Health and Safety Plan; therefore, there will be no impact to humans.
2. The project is not within a known cultural or historical area.
3. The project is for investigative sampling activities and will not result in significant soil disturbance.
4. The project requires a permit for emergency blow-in-place detonations that may be necessary for safety.
5. The project is at least five (5) miles from the nearest habitat area.

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