

Chapter 11 - Closure Requirements (REDACTED)

11.1 Applicability

This chapter is applicable to all civil servants, contractor employees, and resident agency personnel, and NASA Research Park Partners at Ames Research Center (Ames), Moffett Federal Airfield (MFA), and Crows Landing Flight Facility who operate storage areas permitted under Santa Clara County or Stanislaus County, or hazardous waste treatment units permitted by California Tiered Permitting regulations, or any equipment that discharges to air, sanitary sewer, or storm drain, or equipment containing oil, PCBs, or other hazardous materials.

11.2 Purpose

To establish minimum closure requirements for all Ames hazardous materials storage and hazardous waste accumulation areas regulated by Santa Clara or Stanislaus County and treatment units permitted by Tiered Permitting requirements, any equipment that discharges to air, sanitary sewer, or storm drain, or equipment containing oil, PCBs, or other hazardous materials to protect human health and the environment, and comply with applicable Federal, state, and local regulations.

11.3 Policy

It is the policy of the Ames Research Center to:

1. Comply with all applicable statutory and regulatory requirements and Executive Orders related to hazardous materials and hazardous waste management. Ames recognizes and will comply with applicable Federal, state, and local regulations.
2. Consult about the best technique and methods to close hazardous materials storage facilities or hazardous waste treatment units, any equipment that discharges to air, sanitary sewer, or storm drain, or equipment containing oil, PCBs, or other hazardous materials, as appropriate, with Federal, state, and local agencies, including:
 - California Department of Toxic Substances Control
 - Santa Clara County Health Department
 - Stanislaus County Health Department
 - Local POTWs
 - Air districts
 - RWQCB
 - EPA
 - SHPO
3. Promote employee awareness of hazardous materials facilities closure requirements through training and active information dissemination.

11.4 Authority

All relevant Federal, state, and local environmental laws and regulations pertaining to closure requirements including, but not limited to:

1. Santa Clara County Hazardous Materials Storage Permit Ordinance No. NS-517.31
2. California Health and Safety Code, Chapter 6.95

3. California Health and Safety Code, Chapter 6.5, Articles 9 and 12
4. California Code of Regulations, Title 22, Sections 66264.110 through 66264.120
5. Sunnyvale Municipal Code, Chapter 12.12 Sewer Use Ordinance
6. Palo Alto Municipal Code, Chapter 16.09 Sewer Use Ordinance
7. 40 CFR 761- Polychlorinated biphenyls (PCB's) manufacturing, processing, distributing in commerce, and use prohibitions
8. Bay Area Air Quality Management District (BAAQMD) Rules and Regulations
9. 36 CFR 800.14 - Regulations Implementing Section 106 of the National Historic Preservation Act (NHPA)
10. Santa Clara County Toxic Gas Ordinance (NS-517.44)

11.5 Responsibilities

11.5.1 Permittee/User

1. Inform the Environmental Office, Code QE, at least 120 days prior to closure. One-year notice is preferred.
2. Provide information requested and access for inspections during the closure process.
3. Implement measures requested by the Environmental Office during closure operations, which may include the following:
 - Provide information regarding proposed disposition of hazardous materials.
 - Drain and containerize equipment fluids.
 - Remove and arrange for the proper disposition of hazardous materials.
 - Clean up any hazardous waste spills or stains with properly trained personnel.
 - Continue performing routine inspections of equipment that will contain hazardous materials after closure.

11.5.2 Environmental Services Office, Code QE (Environmental Office)

1. Inform the applicable regulatory agency 30 days prior to closure.
2. Prepare the closure plan and application for approval by the regulatory agencies.
3. Conduct sampling, as required, to determine if operating the equipment or handling and storing of hazardous materials or waste may have negatively impacted the environment or property. Evaluate sampling data to identify decontamination and/or mitigation options. Prepare sampling report(s) documenting the sampling effort.
4. Coordinate closure inspection by the regulatory agency.
5. Inform the operator of the investigation results. This information must be transmitted early in the closure process in order to allow for adequate time for funding decontamination and/or mitigation options.
6. Interface with the regulatory agencies.
7. Maintain copies of records indicating disposition of all hazardous materials/waste.
8. Amend the Building Emergency Action Plan (BEAP) if necessary to reflect changes due to closure.
9. Prepare Closure Report, documenting results of any inspections, decontamination, sampling, mitigation and final disposition of any hazardous materials or hazardous waste and associated equipment.

11.6 Definitions

11.6.1 Building Emergency Action Plan (BEAP)

A plan required for facilities storing, handling, or dispensing hazardous materials at the Ames Research Center; the plan describes the chemicals stored and used, their locations, building

hazards, building escape routes, and procedures for emergency response to hazardous materials spills.

11.6.2 Closure

Closure is when a facility will no longer use or store hazardous materials in its operations at a specific location. Two possible scenarios follow:

1. When a facility holding hazardous materials storage permit(s) terminates its operations, a closure plan and application must be prepared and submitted to the local regulatory agency to show that steps have been taken to protect human health and the environment against the hazardous materials used at the facility. The facility will show that the hazardous materials have been removed and that there is no residual contamination remaining that may impact persons or the environment.
2. When a facility that has not been issued a hazardous materials permit but uses equipment containing hazardous materials terminates its operations, a closure plan is prepared and addresses all aspects of the facility operations that may impact human health and the environment. For example, the closure of a wind tunnel may leave lubricating oils in place to protect the equipment for potential future use. In this case, routine inspections of the facility will be performed to ensure that the lubricating oils are not leaking.

11.6.3 Closure Plan

A written plan outlining procedures to be followed to minimize present and future health and environmental hazards; a closure plan is prepared when a hazardous materials storage facility or operational unit discharging to the environment or storing oil, PCBs, or other hazardous materials or tiered permitting unit is to be closed.

11.6.4 Closure Report

A written report documenting the closure procedures that were actually implemented, including any analytical results, hazardous waste manifests, or other supporting documentation.

11.6.5 County

Santa Clara or Stanislaus County Hazardous Materials Compliance Division.

11.6.6 Permittee

Organization to whom the hazardous materials storage permit or hazardous waste treatment authorization air, industrial wastewater, or storm water permit is issued and any authorized representative, agent, or designee of such person, firm, or corporation.

11.6.7 State

California Department of Toxic Substances Control.

11.7 Affected Operations

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11.8 General Management Requirements

11.8.1 Facility Closure Notification

It is the responsibility of the organization closing the facility, handling or storage areas, or pieces of equipment to notify the Environmental Office of its intent to cease operations at least 120 days prior to closure. Any facility that has been issued a hazardous materials permit, air permit, industrial wastewater discharge permit, has equipment containing oil, PCBs, or other hazardous materials, hazardous waste treatment authorization, or stores or utilizes hazardous materials must contact the Office of its closure intent. The Environmental Office will prepare the required

closure plan and application and report documents, and submit the closure documents to the appropriate regulatory agencies.

11.8.2 Equipment Closed in Place

Some facilities may leave large equipment in place (i.e., wind tunnels, pumps, motors, etc.). Equipment to be left in place will require routine inspections to ensure that hazardous materials are not leaking from the equipment. All inspections must be documented. In the event of equipment leakages, personnel must contact the Environmental Office to discuss the remedial measures that must be taken to ensure that the leakage(s) have been mitigated and will not occur in the future.

11.9 Specific Management Requirements

11.9.1 Permit Closures

The Environmental Office must be contacted when a facility storing or utilizing hazardous materials and/or wastes plans to close operations. Facilities holding a hazardous materials storage permit or a Tiered Permit authorization for treating hazardous wastes must inform the Environmental Office 120 days prior to closure. The Environmental Office will notify the regulatory agencies and provide the required paperwork to the agencies.

11.9.2 Closing Facility Equipment/Operations

To properly close a facility, all hazardous materials must be removed from the facility. In some cases, equipment may be closed in place. Please refer to Section 11.8.2 for more information. The Environmental Office and the regulatory agency will inspect the facility to determine if leakage has occurred and for potential impact to the ground surface beneath the building. In the event that leakage has occurred, samples will be collected for analysis by the Environmental Office.

11.9.3 Closing Contaminated Sites

In the event that measurable concentrations of contaminants are identified, the Environmental Office will develop and implement a sampling plan and a removal action work plan. The removal action plan is included in the closure plan and submitted to the county and/or state for approval and oversight.

11.10 Metrics

- a. Percent compliance with local requirement to submit closure applications 30 days prior to closure of hazardous materials storage or hazardous materials related equipment. Goal: 100% compliance
- b. Percent of BEAPs updated within 30 days from closure of hazardous materials storage or equipment. Goal: 100% BEAPs updated within 30 days of closure
- c. Percent of HMIS updated within 30 days from closure of hazardous materials storage or equipment. Goal: 100% HMIS updated within 30 days of closure.

11.11 Sources of Additional Information or Assistance

1. Building Emergency Action Plans (BEAPs)
2. Environmental Office (Code QE, REDACTED)
3. Environmental Office (WWW home page at <http://dq.arc.nasa.gov/qe>)