



# Ames Procedural Requirements

APR 8800.3

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**COMPLIANCE IS MANDATORY**

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## Chapter 15 - Emergency Response

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## **15.1 Applicability**

This requirement is applicable to all civil servant and contractor employees, and tenant personnel at Ames Research Center (Ames), Moffett Federal Airfield (MFA), and Crows Landing Flight Facility.

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## **15.2 Purpose**

This chapter prescribes the roles and responsibilities for the management of emergency situations that may involve the threat of harm to persons, property, or the environment arising from an uncontrolled release of a hazardous material. This chapter applies primarily to situations defined in the Ames Emergency Services Handbook as "routine emergencies." Emergency situations that are of sufficient magnitude to result in activation of the Ames Emergency Operations Center are beyond the scope of this document but are addressed in APR 1600.4.

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## **15.3 Policy**

It is the policy of the Ames Research Center to:

1. Comply with all pertinent statutory and regulatory requirements and Executive Orders related to hazardous materials emergency response. Ames recognizes and will comply with applicable Federal, state, and local regulations.
2. Consult, as appropriate, with Federal, state, and local agencies about the best techniques and methods to manage hazardous material emergencies.
3. Promote employee awareness of the Center's emergency response capabilities and enhance preparedness through training and active information dissemination.

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## 15.4 Authority

All relevant Federal, state, and local laws and regulations pertaining to hazardous materials emergency response including, but not limited to:

1. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (42 U.S.C. 9601 et seq.), including the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.)
2. Executive Order 12088, amended by Executive Order 12580, Federal Compliance with Pollution Control Standards
3. Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and the Water Quality Act of 1987 (33 U.S.C. 1251 et seq.)
4. Public Law 101-380, Oil Pollution Act 1990
5. Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Public Resources Code Section 8574.1)
6. State and local laws and regulations related to pollution abatement, prevention, and control:
  - California Code of Regulations, Title 26, Toxics
  - California Code of Regulations, Title 19, Office of Emergency Services
  - California Health and Safety Code, Chapter 6.95
  - Santa Clara County Hazardous Material Storage Ordinance
  - Santa Clara County Toxic Gas Ordinance
7. 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health Standards
8. NASA Policy Directive 8800.16, NASA Environmental Management
9. Environmental Excellence for the Twenty-First Century, NASA Strategy Document
10. NASA Emergency Preparedness Program Plan, QS-EPP-92-001, NASA, 1992
11. Ames Management Instruction 8800.4, Ames Environmental Programs
12. Uniform Fire Code and National Fire Protection Association Standards

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## 15.5 Responsibilities

### 15.5.1 Director, Ames Research Center

[REDACTED]

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## 15.5.2 Director, Center Operations, Code J



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## 15.5.3 Environmental Services Office, Code QE (Environmental Office)

1. Identify hazardous materials release response laws and regulations to which Ames must adhere.
2. Provide consultation, services, and support.
3. Prepare environmental compliance planning documents involving releases or potential releases of hazardous materials, including the Spill Prevention Control and Countermeasures (SPCC) Plan, Facility Response Plan, Hazardous Waste Contingency Plan, hazardous materials inventories, and Building Emergency Action Plans (BEAPs).
4. Verbally report hazardous material releases to the appropriate regulatory agency within the specified timeframe and submit follow-up documentation as required.
5. Provide training to users of hazardous materials on environmental compliance aspects of emergency response to hazardous materials incidents.
6. Provide 24-hour emergency and chemical incident response support at Ames Research Center .
7. Maintain Release Reporting modules in the NETS database. Provide staff to the EOC as requested by the Center.

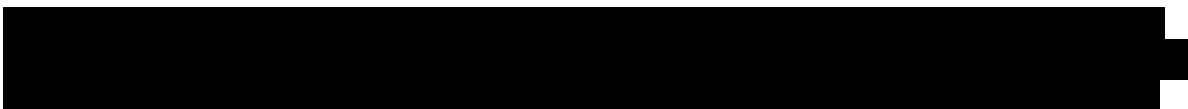
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## 15.5.4 Office of Safety, Health, and Medical Services, Code QH (Safety Office)

1. Provide emergency medical services to stabilize injured personnel prior to transport to other medical facilities.
2. Provide training to users of hazardous materials on safety and health aspects of emergency response to hazardous materials incidents.
3. Provide 24-hour emergency and chemical incident response support at Ames Research Center and MFA.
4. Provide staff and technical support for all releases of radioactive material including required regulatory reporting.
5. Conduct other reporting as required by the Ames Health and Safety Manual, Chapter 4, Mishap Reporting and Investigating.
6. Provide staff to the EOC as requested by the Center.

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## 15.5.5 Protective Services Office, Code JP



[REDACTED]

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### **15.5.6 Plant Engineering Branch, Code JFP**

[REDACTED]

[REDACTED]

[REDACTED]

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### **15.5.7 Moffett Dispatch Office, Code JP**

[REDACTED]

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### **15.5.8 Moffett Field Fire Department, Code JPE**

[REDACTED]

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### **15.5.9 Line Management, Contracting Officers Technical Representatives, and Contractors**

[REDACTED]

[REDACTED]

[REDACTED]

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### **15.5.10 Facility Services Manager**

[REDACTED]

[REDACTED]

[REDACTED]

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### **15.5.11 Users of Hazardous Materials**

1. Conduct operations in compliance with all applicable regulations, permit conditions, BEAP, and SPCC Plan, as applicable.
2. Attend training, as required.

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### **15.5.12 All Personnel**

1. Call [REDACTED] if you observe a hazardous material release or potential emergency, unless you have received specific training to respond to the incident and can mitigate the incident without assistance.
2. Obey instructions from security and/or fire department personnel or other individuals with authority for direction of response actions at the scene of an emergency.
3. Report to the Health Unit immediately during work hours (or the next day if on a second or third shift) if exposure or injury results from a hazardous materials incident.

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## **15.6 Definitions**

### **15.6.1 Acutely Hazardous Material**

A substance or combination of substances which, if human exposure should occur, may likely result in death, disabling personal injury, or serious illness caused by the substance or combination of substances because of its quantity, concentration, or chemical characteristics. A substance that is listed on the Environmental Protection Agency's List of Extremely Hazardous Substances, 40 CFR, Part 355, Appendix A.

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### **15.6.2 Building Emergency Action Plan (BEAP)**

A plan required for facilities storing, handling, or dispensing hazardous materials at the Ames Research Center that describes the chemicals stored and used, their locations, building hazards, building escape routes, and procedures to respond to hazardous materials releases.

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### **15.6.3 Extremely Hazardous Material**

A substance or combination of substances which, if human exposure should occur, may likely

result in death, disabling personal injury, or serious illness caused by the substance or combination of substances because of its quantity, concentration, or chemical characteristics. A list of these substances can be found in 40 CFR, Part 355, Appendix A, included as Appendix A to Chapter 3, Hazardous Materials Management. This list of chemicals has been adopted by both the state and the county as their list of acutely hazardous or extremely hazardous materials.

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#### **15.6.4 Facility Response Plan (FRP)**

A plan stating specific procedures to be followed in response to a petroleum fuel or oil spill. Please refer to Chapter 13, Spill Prevention Control and Countermeasures and Facility Response Plan, for more information.

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#### **15.6.5 Hazardous Material**

As defined in Section 25501 of Chapter 6.95 of the California Health and Safety Code, any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment.

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#### **15.6.6 Hazardous Materials Inventory Statement (HMIS)**

An annual report filed with Santa Clara County that delineates the type, quantity, and location of hazardous materials stored or handled at the center.

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#### **15.6.7 Hazardous Waste Contingency Plan**

A plan that outlines the facility's plan for dealing with emergencies that is implemented immediately whenever there is a fire, explosion, or release of hazardous materials which could threaten human health, property, and/or the environment.

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#### **15.6.8 Material Safety Data Sheet (MSDS)**

Documentation prepared by the manufacturer or distributor of a hazardous material that describes the product and its use; identifies and describes any hazardous ingredients; describes the physical and chemical characteristics of the material; explains any special hazards (such as fire, explosion, polymerization), health hazards, the reactivity of the product, precautions for safe handling and use, and any necessary control measures to minimize exposure. Please refer to the Ames Health and Safety Manual, Chapter 24, Chemical Hazard Communication Plan, for more information.

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### **15.6.9 Personal Protective Equipment (PPE)**

Appropriate spill response equipment that must be available wherever hazardous materials are used or stored. Please refer to the Ames Health and Safety Manual, Chapter 33, Personal Protective Equipment (PPE) Hazard Assessment and Selection, for more information.

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### **15.6.10 Secondary Containment**

An impermeable, chemically compatible container (e.g., bermed pad, tray, or overpack drum) used to contain spills and leaks from primary containers. The secondary container must be equal to or greater in volume than 110 percent of a single container; or 10 percent of the aggregate volume of multiple containers stored therein; or 150 percent of the largest container. It must be able to contain a 20-minute fire sprinkler release, if open to such a system, and accommodate a 24-hour rainfall as determined by a 100-year storm, if open to rainfall.

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### **15.6.11 Spill Prevention Control and Countermeasures Plan (SPCC)**

The Spill Prevention Control and Countermeasures Plan (SPCC) focuses on procedures to prevent and control spills of petroleum products from aboveground tanks and outdoor drum storage areas. Please refer to Chapter 13, Spill Prevention Control and Countermeasures and Facility Response Plan, for more information.

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## **15.7 Affected Operations**

Any operation causing or having the potential to cause an uncontrolled release of a hazardous material is subject to the requirements of this chapter. Emergency response organizations that must equip and train staff to respond properly to hazardous material incidents are also affected by this chapter. Examples of some hazardous materials include lead, copper, mercury, zinc, oils, paints, and solvents. Hazardous materials become hazardous waste when they are spilled or released. Refer to Chapter 4.0, Hazardous Waste Management, for detailed definitions of hazardous waste and descriptions of hazardous waste management requirements.

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## **15.8 Emergency Identification and Initial Response Actions**

Hazardous materials spills shall be cleaned up only by personnel familiar with the hazards of the material and trained in chemical incident emergency response. Any spill or release of an extremely or acutely hazardous material, or any spill large enough to take 2 people more than 30 minutes to control and clean up, should be handled by the Environmental Office.

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## **15.9 Response Initiated by 9-1-1 Calls**



### 15.9.1 General

1. Currently, capabilities to perform hazardous materials response reside in four areas: the Fire Department, the Environmental Office, the Safety Office, and the Disaster Assistance and Rescue Team (DART) HazMat team. Each group has developed different hazardous materials specialties to provide services for hazardous materials emergencies, depending on their daily roles and responsibilities. The level of response initiated by calls to 9-1-1 may vary, depending on the potential consequences of the emergency situation. Four response levels are defined in the NASA Ames Emergency Services Handbook, as follows:
  - **Level 4 - Routine.** Response by first responder field elements in nonemergency mode.
  - **Level 3 - Limited Emergency.** Response by first-responder field elements only. EOC Director notified. EOC may be activated or EOC staff may be put on standby, depending on the situation.
  - **Level 2 - Full Emergency.** Designated EOC Director will activate the EOC. First-responder field elements will be fully deployed with logistic and administrative backup support from EOC. Additional support from outside elements may be necessary. Center elements that are not directly involved in emergency response may continue with normal business.
  - **Level 1 - Disaster Response.** All first-responder field elements will be fully deployed. Normal business activities will be suspended.
2. Most chemical spills, e.g., a 1-gallon spill of jet fuel onto pavement, are handled as routine responses. A gas leak, munitions explosion, or radiological accident may be regarded as a limited emergency, depending on its location and severity. A structure fire or structure collapse may be regarded as a full emergency or as a disaster if a very large structure is involved.
3. For Level 4 hazardous material incidents, the Moffett Field Fire Department will respond in the role of incident commander. At higher level emergency situations, if the EOC is activated, incident command for hazardous materials incidents may be assigned to the DART team. In either case, the Environmental Office hazardous material emergency response team will respond in a support capacity to the designated incident commander.
4. The response to be expected in the event of specific emergency types is described in the following paragraphs.

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### 15.9.2 Fire

In the event of a fire, the Moffett Field Fire Department will respond. All individuals in the building where a fire alarm is activated must immediately leave the building in accordance with the evacuation plan documented in the BEAP. The building should not be reentered until reentry is authorized by the fire official at the scene.

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### 15.9.3 Chemical Spills

Small spills, which are defined as those involving discharges of less than 1 ounce by weight that can be cleaned up within 15 minutes, and in which the primary container has not deteriorated should be handled by the user of the material. No special reporting is required. Larger spills may be recordable or reportable, depending on the circumstances. Any actual or threatened release

of a hazardous material entering the environment is a reportable discharge. This release may involve one or more of the following:

1. A spill enters a storm drain, ditch, sanitary sewer, or the soil.
2. A spill contacts asphalt (particularly in the case of solvents).
3. A release of a gaseous material that injures someone.
4. A release of a gas, mist, or fume that impacts soil, water, or biota.
5. Spills or leaks that pose a significant hazard to human health or the environment.
6. Spills that require more than 8 hours to clean up (even if they are in secondary containment or outside a secondary containment area and don't affect the environment).
7. Spills that escape secondary containment.

Spills that may be reportable are handled by the Fire Department, the Environmental Office, the Safety Office, and/or DART HazMat response teams. In all cases, notifications to external agencies are made only by the Environmental Office, except incidents involving radioactive materials or injuries which are reported by the Safety Office.

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#### **15.9.4 Leaking Tank Alarms**

Underground storage tanks are equipped with sensors and alarms to alert NASA to the potential leakage into the environment beneath the tank. The Environmental Office responds to these alarms to evaluate the cause of each alarm and initiate appropriate notifications and remedial action.

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#### **15.9.5 Radioactive Material**

The following procedure shall be followed in the event of an uncontained spill of radioactive material greater than 1.0 microCurie:

All persons leave the room immediately and wait in a restricted area until they can be surveyed before leaving the area.

Notify the Radiation Safety Officer, day or night, by calling [REDACTED] from an Ames phone.

If the room is to be left unattended, make certain that the door is locked and the room is posted "NO ENTRY."

Please refer to the Ames Health and Safety Manual, Chapter 7, Radiation Safety, for more information.

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#### **15.9.6 Biohazardous Material**

All work surfaces that come into contact with blood, body fluids, and any infectious agent or

material must be disinfected. Spills within work areas are to be cleaned up by laboratory or research personnel in accordance with procedures in the Ames Health and Safety Manual, Chapter 32, Bloodborne Pathogens.

Spills of potentially infectious material in other areas are handled by the Environmental Office emergency response personnel who have had appropriate training on blood-borne pathogens.

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### **15.9.7 Toxic Gas Alarms**

Some highly toxic gases, such as hydrogen fluoride, chlorine, and ammonia, are regulated by Santa Clara County and must be used in gas cabinets or enclosures equipped with alarms. Toxic gas alarms are installed in buildings [REDACTED] to monitor for several toxic gases that may be used. When these alarms are activated, response by trained emergency response personnel and alarm technicians is required. Personnel without the training specified in the Santa Clara County Toxic Gas Ordinance should leave the immediate area of the alarm.

Each of these alarms may give one of three signals: Low-Level Alarm, High-Level Alarm, and Trouble Alarm. The following actions by room occupants are required:

1. In the event of a Low-Level Alarm, the occupant/user evacuates the room and calls the Moffett Dispatch Office by dialing [REDACTED]. The Moffett Dispatch Office calls the Environmental Office, the Environmental Office hazardous materials contractor, the DART HazMat Team, and the alarm technicians. The low-level alarm signals the presence of the monitored toxic gas at levels that do not exceed occupational exposure limits.
2. The High-Level Alarm is wired directly to the Moffett Dispatch Office and requires a full response. The Moffett Dispatch Office may receive a confirmation call from the room occupants. The Moffett Dispatch Office calls the Moffett Fire Department, the Field Security Police, the Environmental Office, the Environmental Office hazardous materials contractor, the DART HazMat Team, and the alarm technicians.
3. In the event of a Trouble Alarm, the Moffett Dispatch Office calls the alarm technicians and the Environmental Office hazardous materials contractor.

For additional information, refer to Chapter 23, Toxic Gas Management Procedures.

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### **15.9.8 Explosives**

All explosives shall be stored, transported, handled, and used at Ames Research Center and Moffett Federal Airfield in accordance with the guidance in the Ames Health and Safety Manual, Chapter 12, Explosives Safety.

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## **15.10 Plant Engineering Haz Mat Team**

The Plant Engineering HazMat Team provides all resources necessary to respond to Hazmat emergencies. This team provides 24/7 coverage for clean-up and recovery to emergencies

involving releases to the environment.

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## 15.11 Disaster Assistance and Rescue Team

1. DART was organized to provide Ames with emergency response capability during and immediately after a natural disaster or an industrial or technological incident. DART was organized for the following purposes:
  - To minimize death or injury to Ames personnel.
  - To accomplish emergency utility shutdown and assist in the evacuation of Ames, as required.
  - To minimize the loss of or damage to Ames property.
2. During a Center emergency, DART reports directly to the senior onsite manager, as identified in the Incident Command System.
3. When it does not affect the Ames mission or DART's primary responsibility, and after proper authorization, DART provides support to local communities in heavy rescue and other disaster-related services, including support for local and Federal training exercises.

For more information, please refer to the DART WWW home page at <http://www.emergency-services.arc.nasa.gov>.

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## 15.12 Postemergency Actions

1. After a major disaster, restoring normal business operations will be carried out as specified in the Ames Emergency Services Handbook.
2. Follow-up actions after a hazardous material incident, such as notifications and reports to Federal, state, and local agencies, will be accomplished by the Environmental Office.
3. Prior to restarting operations using hazardous materials, spill response supplies and PPE must be replenished.
4. Accident investigations following an emergency incident, if required, will be performed in accordance with Ames Health and Safety Manual, Chapter 4, Mishap Reporting and Investigating.

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## 15.13 Metrics

- % Respond to all emergency responses within 15 minutes during work hours and within 90 minutes during off hours.  
Goal: 100%
- % Completion of regulatory documentation within 1 week.  
Goal: 100%
- % Reporting of all spills, if required, according to regulatory guidelines.  
Goal: 100%

- % Maintain all required training to respond to ER incidents.  
Goal: 100%

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## **15.14 Sources of Additional Information or Assistance**

1. Building Emergency Action Plans (BEAPs)
2. Environmental Office [REDACTED]
3. Environmental Office (WWW home page at <http://dq.arc.nasa.gov>)
4. AHB 1700.1 Ames Safety Manual
5. SPCC Plan and FRP (incorporated as part of the SPCC) at the Ames Library

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