Model Safety Program

DATE: ____________

SUBJECT: Hazardous Waste Operations and Emergency Response Program (HAZWOPER)

REGULATORY STATUTE: OSHA - 29 CFR 1910.120

RESPONSIBILITY: The company Safety Officer is __________________. He/she is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Officer will develop written detailed instructions covering each of the basic elements in this program, and is the sole person authorized to amend these instructions. The Safety Officer has authority to halt any operation where there is danger of serious personal injury. This policy includes respiratory hazards.

Contents of the (YOUR COMPANY) HAZWOPER Program

1. Written Program.
2. Purpose.
3. Safety and Health Program.
4. Site Excavation.
5. Contractors and Sub-Contractors.
6. Program Availability.
7. Organizational Structure Part of a Site Program.
8. Comprehensive Workplan Part of a Site Program.
9. Site-Specific Safety and Health Plan.
10. Site Characterization and Analysis.
11. Training.
12. Medical Surveillance.
1. **Written program.** (YOUR COMPANY) will review and evaluate this standard practice instruction on an annual basis, or when changes occur to 29 CFR 1910.120 that prompt revision of this document, or when facility or site operational changes occur that require a revision of this document. Effective implementation of this program requires support from all levels of management within this company. This written program will be communicated to all personnel that are affected by it. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals, and objectives.

*Decision Point  29 CFR 1910.120 delineates certain types of operations covered under the standard. From the below choices after "2. Purpose." select the type of operation closest to yours. Delete the other types of operations that are not applicable. Expand upon the text to further detail the operation you are writing a HAZWOPER program for. (delete this paragraph after use)*

2. **Purpose.** This company will maintain a HAZWOPER program because it has been determined that there is a reasonable possibility for employee exposure to safety or health hazards associated with hazardous waste. This standard practice instruction will provide an operational framework for

- Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained).

- Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.).

- Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites.

- Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations.

- Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

3. **Safety and health program.** This employer shall develop and implement a written safety and health program for employees involved in hazardous waste operations. The program shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency
response for hazardous waste operations. The written safety and health program shall incorporate as a minimum the following:

3.1 An organizational structure.

3.2 A comprehensive workplan.

3.3 A site-specific safety and health plan, which need not repeat standard practice instructions developed elsewhere.

3.4 A safety and health training program.

3.5 A medical surveillance program.

3.6 This employer's standard practice instructions for safety and health.

3.7 Any necessary interface between general program and site specific activities.

4. **Site excavation.** Site excavations created during initial site preparation or during hazardous waste operations shall be shored or sloped as appropriate to prevent accidental collapse in accordance with subpart P of 29 CFR part 1926.

5. **Contractors and sub-contractors.** Should this employer retain contractor or sub-contractor services for work in hazardous waste operations this company shall inform those contractors, sub-contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified by this employer, including those identified in this employer's information program.

6. **Program availability.** The company written safety and health program shall be made available to:

6.1 Contractor or subcontractor or their representative who will be involved with the hazardous waste operation.

6.2 All associated employees and their designated representatives.

6.3 OSHA personnel.

6.4 Authorized personnel of other Federal, state, or local agencies with regulatory authority over the site.

7. **Organizational structure part of a site program.**
7.1 The organizational structure part of the program shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall include, at a minimum, the following elements:

7.1.1 _________________ as general supervisor will have responsibility and authority to direct all hazardous waste operations.

7.1.2 _________________ as site safety and health supervisor will have the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

7.1.3 All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

7.1.4 The lines of authority, responsibility, and communication.

7.2 The organizational structure shall be reviewed and updated as necessary to reflect the current status of waste site operations.

8. Comprehensive workplan part of a site program. This employer will develop a comprehensive workplan that shall address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives. The workplan shall:

8.1 Address anticipated clean-up activities as well as normal operating procedures which need not repeat this employer's procedures available elsewhere.

8.2 Define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

8.3 Establish personnel requirements for implementing the plan.

8.4 The workplan shall provide for the implementation of the training required by worker involved in site activities.

8.5 The workplan shall provide for the implementation of the required informational programs required workers involved in site activities.

8.6 The workplan shall provide for the implementation of a medical surveillance program required workers involved in site activities.

9. Site-specific safety and health plan. This employer will develop a site safety and health plan, which will be kept on site. The plan will address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The site safety and health plan, as a minimum, shall address the following:
9.1 A safety and health risk or hazard analysis for each site task and operation found in the workplan.

9.2 Employee training assignments to assure compliance with the training section of this instruction.

9.3 Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program.

9.4 Medical surveillance requirements.

9.5 Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

9.6 Site control measures.

9.7 Decontamination procedures.

9.8 Emergency response plan meeting the requirements for safe and effective responses to emergencies, including the necessary PPE and other equipment.

9.9 Confined space entry procedures.

9.10 Spill containment requirements.

9.11 Pre-entry briefing. The site specific safety and health plan will provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis will be used to prepare and update the site safety and health plan.

9.12 Effectiveness of site safety and health plan. Inspections shall be conducted by the site safety and health supervisor or, in his/her absence, the __________________ who is knowledgeable in occupational safety and health, acting on behalf of this employer as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by this employer.

10. Site characterization and analysis. The site shall be evaluated in accordance with this standard practice instruction to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards. The following requirements apply:

10.1 Preliminary evaluation. A preliminary evaluation of a site's characteristics shall be performed prior to site entry in order to aid in the selection of appropriate employee protection
Prior to site entry, a more detailed evaluation of the site's specific characteristics shall be performed in order to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.

10.2 Hazard identification. All suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH), or other conditions that may cause death or serious harm, shall be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to:

10.2.1 Confined space entry.

10.2.2 Explosive or flammable situations

10.2.3 Visible vapor clouds.

10.2.4 Areas where biological or environmental indicators such as dead animals or vegetation are located.

10.3 Required information. The following information to the extent available shall be obtained by this employer prior to allowing employees to enter a site:

10.3.1 Location and approximate size of the site.

10.3.2 Description of the response activity and/or the job task to be performed.

10.3.3 Duration of the planned employee activity.

10.3.4 Site topography and how accessible.

10.3.5 Safety/health hazards expected at the site.

10.3.6 Pathways for hazardous substance dispersion.

10.3.7 Present status and capabilities of emergency response teams that would provide assistance to hazardous waste clean-up site employees at the time of an emergency.

10.3.8 Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.

10.4 Personal protective equipment. Personal protective equipment (PPE) shall be provided and used during initial site entry in accordance with the following requirements:

10.4.1 Based upon the results of the preliminary site evaluation, an ensemble of PPE shall be selected and used during initial site entry which will provide protection to a level of
exposure below permissible exposure limits and published exposure levels for known or suspected
hazardous substances and health hazards, and which will provide protection against other known
and suspected hazards identified during the preliminary site evaluation. If there is no permissible
exposure limit or published exposure level, this employer may use other published studies and
information as a guide to appropriate personal protective equipment.

10.4.2 If positive-pressure self-contained breathing apparatus is not used as part
of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified
during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five
minute's duration shall be carried by employees during initial site entry.

10.4.3 If the preliminary site evaluation does not produce sufficient information
to identify the hazards or suspected hazards of the site, an ensemble providing protection
equivalent to Level B PPE shall be provided as minimum protection, and direct reading
instruments shall be used as appropriate for identifying IDLH conditions.

10.4.4 Once the hazards of the site have been identified, the appropriate PPE
shall be selected and used in accordance with the engineering controls, work practices, and PPE
for employee protection section of this instruction.

10.5 Monitoring. The following monitoring shall be conducted during initial site entry
when the site evaluation produces information that shows the potential for ionizing radiation or
IDLH conditions, or when the site information is not sufficient reasonably to eliminate these
possible conditions:

10.5.1 Monitoring with direct reading instruments for hazardous levels of
ionizing radiation.

10.5.2 Monitoring the air with appropriate direct reading test equipment (i.e.,
combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or
serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).

10.5.3 Visually observing for signs of actual or potential IDLH or other
dangerous conditions.

10.6 Air monitoring program. An ongoing air monitoring program will be implemented
after site characterization has determined the site is safe for the start-up of operations.

10.7 Risk identification. Once the presence and concentrations of specific hazardous
substances and health hazards have been established, the risks associated with these substances
shall be identified. Employees who will be working on the site shall be informed of any risks that
have been identified. In situations covered by the Hazard Communication Standard, 29 CFR
1910.1200, training required by that standard will not be duplicated. Risks to be considered
include, but are not limited to:
10.7.1 Exposures exceeding the permissible exposure limits and published exposure levels.

10.7.2 IDLH concentrations.

10.7.3 Potential skin absorption and irritation sources.

10.7.4 Potential eye irritation sources.

10.7.5 Explosion sensitivity and flammability ranges.

10.7.6 Oxygen deficiency.

10.8 Employee notification. Any information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site that is available to this employer and relevant to the duties an employee is expected to perform shall be made available to the affected employees prior to the commencement of their work activities. This employer may elect to utilize information developed for the hazard communication standard for this purpose.

10.9 Site control. Appropriate site control procedures will be implemented to control employee exposure to hazardous substances before clean-up work begins.

10.10 Site control program. A site control program for protecting employees which is part of this employer's site safety and health program will be developed during the planning stages of a hazardous waste clean-up operation and modified as necessary as new information becomes available.

10.11 Elements of the site control program. Where these requirements are covered elsewhere they will not be repeated with just cause. The site control program will, as a minimum, include:

10.11.1 A site map.

10.11.2 Site work zones.

10.11.3 The use of a "buddy system".

10.11.4 Site communications including alerting means for emergencies.

10.11.5 The standard practice instructions or safe work practices.

10.11.6 Identification of the nearest medical assistance.
11. Training. All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site shall receive training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they shall receive review training as specified in this paragraph. Employees shall not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility. Elements to be covered include the following:

11.1 Names of personnel and alternates responsible for site safety and health.

11.2 Safety, health and other hazards present on the site.

11.3 Use of personal protective equipment.

11.4 Work practices by which the employee can minimize risks from hazards.

11.5 Safe use of engineering controls and equipment on the site.

11.6 Medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards.

11.7 The contents of the site safety and health plan.

11.8 Initial training requirements for hazardous waste clean-up sites.

Staff

<table>
<thead>
<tr>
<th>Role</th>
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<tr>
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<td>Routine site employees (Minimal exposure)</td>
<td>24 hours initial</td>
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<tr>
<td>Non-routine site employees</td>
<td>24 hours initial</td>
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<td>8 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>field</td>
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</tr>
<tr>
<td>Supervisors/Managers of Routine site employees</td>
<td>40 hours initial</td>
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<td>field</td>
<td>HAZWASTE Mgmt.</td>
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</tbody>
</table>
8 hours annual refresher

| Routine site employees                      | 24 hours initial | 8 hours field | 8 hours HAZWASTE Mgmt. | 8 hours annual refresher |
| Routine site employees (minimal exposure)  |                 |               |                       |                          |

| Non-routine site employees                 | 24 hours initial | 8 hours field | 8 hours HAZWASTE Mgmt. | 8 hours annual refresher |
| Non-routine site employees                |                 |               |                       |                          |

11.9 Initial training requirements for treatment, storage, and disposal sites.

**Staff**

| General site employees          | 24 hours initial or equiv. | 8 hours annual refresher |
| General site employees          |                            |                          |

| Emergency Response personnel   | Trained to a level of competency | Annual refresher |
| Emergency Response personnel  |                             |                        |

11.10 Initial training requirements for emergency response staff.

| Level 1 - First responder       | Sufficient training or proven experience in specific competencies, annual refresher |
| Level 1 - First responder       |                             |                          |

| Level 2 - First responder       | Level 1 competency and 8 hours initial or proven experience in specific competencies annual refresher |
| Level 2 - First responder       |                             |                          |

| Level 3 - HAZMAT technician     | 24 hours of level 2 and proven experience in specific competencies, annual refresher |
| Level 3 - HAZMAT technician     |                             |                          |

| Level 4 - HAZMAT specialist     | 24 hours of level 3 and proven experience in specific competencies, annual refresher |
| Level 4 - HAZMAT specialist     |                             |                          |

| Level 5 - On scene commander   | 24 hours of level 2 and additional competencies, annual refresher |
| Level 5 - On scene commander   |                             |                          |
Definitions

Level 1 - First responder. Witnesses or discovers a release of hazardous materials and who are trained to notify the proper authorities.

Level 2 - First responder. Responds to releases of hazardous substances in a defensive manner, without trying to stop the releases.

Level 3 - HAZMAT Technician. Responds aggressively to stop releases of hazardous substances.

Level 4 - HAZMAT Specialist. Responds with and in support of HAZMAT technicians, but who have specific knowledge of various hazardous substances.

Level 5 - On-scene Commander. Assumes control of the incident scene beyond the first-responder awareness level.

11.11 Qualifications for trainers. Trainers used by this company shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

11.12 Training certification. Employees and supervisors that have received and successfully completed the training and field experience shall be certified by their instructor or the head instructor and trained supervisor as having successfully completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements for entering the site shall be prohibited from engaging in hazardous waste operations.

11.13 Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

11.14 Refresher training. Employees, managers and supervisors will receive eight hours of refresher training annually (any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics).

11.15 Equivalent training. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience. Employee's who can show by documentation or certification that their work experience and/or training has resulted in training equivalent to that training required for a 40 hour course will not be required attend formal training. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site.
12. **Medical surveillance.** The employer when engaged in hazardous waste operations specified section 2 of this standard practice instruction will institute a medical surveillance program in accordance with this section.

12.1 Employees covered. The medical surveillance program shall be instituted by this employer for the following employees:

12.1.1 All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year.

12.1.2 All employees who wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134.

12.1.3 All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation.

12.1.4 Members of HAZMAT teams.

12.2 Frequency of medical examinations and consultations. Medical examinations and consultations shall be made available by this employer to each employee authorized on the following schedules:

12.2.1 Prior to assignment.

12.2.2 At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate.

12.2.3 At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.

12.2.4 As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation.

12.2.5 At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

12.3 For authorized employees who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous
substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

12.3.1 As soon as possible following the emergency incident or development of signs or symptoms.

12.3.2 At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

12.4 Content of medical examinations and consultations.

12.4.1 Medical examinations will include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

12.4.2 The content of medical examinations or consultations made available to employees will be determined by the attending physician. (The guidelines in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities should be consulted).

12.5 Examination by a physician and costs. All medical examinations and procedures performed by or contracted through this employer will be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

12.6 Information provided to the physician. This employer will provide one copy of 29 CFR 1910.120 any appendices to the attending physician, and in addition the following for each employee:

12.6.1 A description of the employee's duties as they relate to the employee's exposures.

12.6.2 The employee's exposure levels or anticipated exposure levels.

12.6.3 A description of any personal protective equipment used or to be used.

12.6.4 Information from previous medical examinations of the employee which is not readily available to the examining physician.


12.7 Physician's written opinion. This employer shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:
12.7.1 The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

12.7.2 The physician's recommended limitations upon the employee's assigned work.

12.7.3 The results of the medical examination and tests if requested by the employee.

12.7.4 A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

12.7.5 The written opinion obtained by this employer shall not reveal specific findings or diagnoses unrelated to occupational exposures.

12.8 Recordkeeping. An accurate record of the medical surveillance shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20. The record will include at least the following information:

12.8.1 The name and social security number of the employee.

12.8.2 Physician's written opinions, recommended limitations, and results of examinations and tests.

12.8.3 Any employee medical complaints related to exposure to hazardous substances.

12.8.4 A copy of the information provided to the examining physician by this employer, with the exception of 29 CFR 1910.120 and any appendices.

13. Engineering controls, work practices, and personal protective equipment for employee protection. This company will ensure that engineering controls, work practices, personal protective equipment, or a combination of these will be implemented in accordance with 29 CFR 1910, subparts G and Z. Engineering controls and work practices will be instituted to reduce and maintain employee exposure to or below the permissible exposure limits, except to the extent that such controls and practices are not feasible.

*DECISION POINT Section 14 and 15 will address spill and leak prevention and response. The types of issues that you will need to address are totally dependent on the type of facility and operation you have. The following procedures are an example of spill control procedures that could be applied to a manufacturing facility. If the format is suitable, the following can be used as
an aid to develop detailed procedures for your facility. It is important to address the "threat" and the "countermeasure(s)" that you will apply to a given situation.


14.1 Cutting oils and coolants: All machines using cutting, drilling or machining oils and coolants are equipped with steel sumps capable of holding the full content of the machine plus 10% freeboard. These fluids are listed as non-hazardous.

14.1.1 Countermeasure. In the event of a failure of one of these sumps, the contents would be contained using "Oil-Dry".

14.1.2 Countermeasure. There are a few floor drains in the vicinity of these machining operations. All drains have a 5" guard around them. In the event of a spill in quantities exceeding the 5" protection, operators would plug these drains to prevent migration to the environment.

14.2 Dipping tanks: There are 97 tanks containing various plating, coating and cleaning solutions composed of various materials.

14.2.1 Countermeasure. Each of these tanks is connected via a complete closed loop system of weirs and dams to a series of treatment pits. Any leakage, or even rupture of any of these tanks would transfer immediately to the treatment pits, which are capable of containing the entire volume of these process tanks. Thus, there is minimum potential for release to the environment. A complete plan of the tank system is contained in Section __________, Exhibit __________. The following countermeasure actions would be used to mitigate injury and damage from a release.

14.3 Nitrogen tank: An above ground nitrogen storage tank is located ________________. This tank holds approximately _____ lbs of nitrogen. Because nitrogen is an inert relatively harmless gas, there would be no significant affect on the environmental or public health in the event of a total release of this gas.

14.4 Propane tank: (YOUR COMPANY) maintains propane in an above ground storage tank as a back-up fuel supply in the event of an interruption or curtailment of the natural gas used for heating and process operations. The tank holds approximately _____ lbs and is located ______________. The entire perimeter is well protected by a chain link/barbed wire fence allowing total access control. Security monitors this location constantly via Closed Circuit Television (CCTV). A rupture in this tank entails a potentially devastating explosion presenting a severe threat to human health and the environment, although the probability of this occurring is low. The following countermeasure actions would be used to mitigate injury and damage from a release.
14.4.1 Countermeasure. The tank is inspected by _______ on a(n) ____________ basis to ensure adherence to gas safety regulations. The following countermeasure actions would be used to mitigate injury and damage from a release.

14.5 Ammonium tank: The tank holds approximately _______ lbs and is located ______________. The tank is well protected from accidental damage and closely monitored to assure that all valves, fittings, connections and gauges are in good condition and proper operational order.

14.5.1 Countermeasure. A release of ammonia from this tank would immediately result in a cessation of plant operations due to the acutely hazardous effects of this substance. While there is potential for environmental damage upon such release, the overall probability for such an occurrence is low. The following countermeasure actions would be used to mitigate injury and damage from a release.

14.6 Chemical stores:

14.6.1 Some unused chemicals are stored at the point of use in the ______________ Department(s). In the event of a spill, the following countermeasure actions would be used to mitigate injury and damage from a release.

14.6.2 General chemical stores. The remaining chemicals used at (YOUR COMPANY) are stored in 30 gallon carboys, 55 gallon drums, ____________, ____________, in a separate building dedicated to this purpose. Strict access control to this building is maintained. There are no drains in the area and the building is entirely capable of containing the volume of materials stored within in the event of a spill. In the event of a spill, the following countermeasure actions would be used to mitigate injury and damage from a release.

14.7 Hazardous and non-hazardous waste storage.

14.7.1 Hazardous waste. Hazardous waste is stored in the ____________ designated as the "Hazardous Waste Storage Area". Segregated areas are maintained for storage of flammables, caustics, toxic waste. All drums are stored in an upright condition with sealed lids and bung caps securely in place. All drums are inspected weekly and the results documented on the Record of Waste in Yard form no. _______. All hazardous waste is removed for off-site treatment/disposal within 90 days. In the event of a spill or release the following countermeasure actions would be used to mitigate injury and damage from a release.

14.7.2 Non-hazardous waste. Residual waste oils are collected in ____________.

14.8 General spill procedure.

14.8.1 In the event of a spill the following general steps are to be taken:
1. Determine source and nature of spill.

2. Based on chemical information available from personal knowledge, technical data or MSD Sheets, don protective equipment. IF YOU ARE UNSURE OF THE PROPER PROCEDURES, EQUIPMENT OR GENERAL SAFETY ACTIONS, DO NOT ATTEMPT TO REMEDIATE THE SPILL. NEVER PLACE YOURSELF OR OTHERS IN DANGER DURING AN EMERGENCY SITUATION.

3. Try to stop the spill at the source.

4. Contain the spill with absorbent material (e.g. booms) if possible.

5. Notify your immediate supervisor.

6. Your supervisor will notify ____________.

7. A Spill Report must be completed.

*DECISION POINT The following spill containment procedures are very general nature, they are provided to give you a starting point to address specific materials that could be released at your facility.

15. Containment for specific materials.

15.1 **CAUSTIC SPILL PROCEDURE**

*** SOLID ***

Caustic Beads

Spill Response:

1. Don protective equipment: Gloves, Goggles, Respirator.

2. Stop leak or spill and prevent from mixing with other chemicals.

3. If spill is less than 5 lbs., sweep up and return to storage if it has not been contaminated with other chemicals.

4. If spill is larger than 5 lbs., notify Emergency Coordinator then use Procedure #3 above.

**COMPLETE SPILL REPORT AND FORWARD TO YOUR SUPERVISOR**

15.2 **CAUSTIC SPILL PROCEDURE**
*** LIQUID ***

Sodium Hydroxide  
Boiler Control Chemicals

Spill Response:
1. Don protective equipment: Gloves, Goggles, Face Shield, Boots, Respirator.
2. Stop leak or spill and contain with absorbent materials.
3. If spill is less than 1 gallon, dilute it with water, then neutralize with diluted sulfuric acid, mop up and send to wastewater treatment.
4. If spill is larger than 1 gallon, notify Emergency Coordinator, then use Procedure #3 above.

COMPLETE SPILL REPORT AND FORWARD TO YOUR SUPERVISOR

15.3 OXIDIZER SPILL PROCEDURE

*** LIQUID ***

Names of Chemicals Using this Procedure:

- Hydrofluoric Acid
- Nitric Acid

Spill Response:
1. Don protective equipment: Gloves, Goggles, Respirator.
2. Stop leak or spill and prevent from mixing with other chemicals.
3. Extinguish all sources of sparks, flame and heat.
4. Contain Spill if it can be safely done.
5. Notify Primary Emergency Coordinator before any clean-up is attempted.
15.4 **SOLVENT SPILL PROCEDURE**

*** LIQUID ***

1,1,1, Trichloroethane  
Methyl Ethyl Ketone  
Toluene  
Mineral Spirits

Spill Response:

1. Don protective equipment: Gloves, Goggles, Boots, Apron, Respirator or self-contained breathing apparatus (Scott Air Pack). Test explosive limit and oxygen content of air with a meter. Do not go into enclosed area without first testing the air!

2. KEEP ALL SOURCES OF FLAME, HEAT OR SPARK AWAY!!

3. Stop leak or spill and contain it if possible. Do not Take unnecessary risks.

4. Notify Primary Emergency Coordinator. The Primary Emergency Coordinator will handle delegation of responsibility for spill clean up.

**COMPLETE SPILL REPORT AND FORWARD TO YOUR SUPERVISOR**


- Buddy system means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

- Clean-up operation means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

- Decontamination means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.
- Emergency response corresponding to emergencies means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

- Facility means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

- Hazardous materials response (HAZMAT) team means an organized group of employees, designated by this employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

- Hazardous substance means any substance designated or listed under paragraphs (A) through (D) of this definition, exposure to which results or may result in adverse affects on the health or safety of employees:

  A. Any substance defined under section 101(14) of CERCLA.

  B. Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring.

  C. Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices.

  D. Hazardous waste as herein defined.

- Hazardous waste means--

  A. Waste or combination, as defined in 40 CFR 261.3.
B. Substances defined as hazardous wastes in 49 CFR 171.8.

- Hazardous waste operation means any operation conducted within the scope of 29 CFR 1910.120.

- Hazardous waste site or Site means any facility or location within the scope of 29 CFR 1910.120 at which hazardous waste operations take place.

- Health hazard means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in appendix A to 29 CFR 1910.1200.

- IDLH or Immediately dangerous to life or health means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

- Oxygen deficiency means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

- Permissible exposure limit means the exposure, inhalation or dermal permissible exposure limit specified in 29 CFR part 1910, subparts G and Z.

- Published exposure level means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986 incorporated by reference, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987 incorporated by reference.

- Post emergency response means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response.
- Qualified person means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

- Site safety and health supervisor (or official) means the individual located on a hazardous waste site who is responsible to this employer and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

- Small quantity generator means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

- Uncontrolled hazardous waste site, means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.