SCALES NW, INC AMMONIA AWARENESS PROGRAM

Purpose

This document summarizes how SCALES NW, INC complies with the requirements of OSHA’s PSM 29 CFR §1910.119(c) and the EPA’s 40 CFR §68.83 elements relating to Employee Participation.

Scope

The purpose of these elements is to provide for a cooperative participatory environment and ensure the necessary flow of information from management to employees and from employees to management on process safety to eliminate or mitigate the consequences of catastrophic releases of highly hazardous chemicals in the workplace. It is the goal of SCALES NW, INC’s Employee Involvement program to involve the employees who operate the process at a fundamental level. Many times this participation is referred to as consultation; to paraphrase CPL 02-02-45, “Consultation refers to a two-way dialogue between the employer and the employees and their representatives (where they exist), in which the employer elicits, and responds to, employees’ concerns and suggestions bearing upon the elements of process safety management... Consultation is therefore more than a way to inform employees about aspects of process safety; it is a process of seeking advice, criticisms, and suggestions from employees and their representatives.”

References


Overview

All employees of SCALES NW, INC affected or potentially affected by the ammonia refrigeration process are made aware of the Process Safety Management (PSM) Program being implemented. SCALES NW, INC has, and will continue to:

- Develop this written plan of action regarding the implementation of the employee participation required.
- Consult with employees on the conduct and development of process hazard analyses and on the development of other elements of the standard.

Employee awareness

New employees are made aware of the ammonia refrigeration PSM Program as a part of the initial orientation process, in conjunction with hazards communication required by 29 CFR §1910.1200. Employees acknowledge their awareness of PSM Program by signing the SCALES NW, INC Training Documentation Form or equivalent. All affected employees are given the same PSM Program orientation provided to new employees. The Responsible Person, in conjunction with the PSM team, is responsible for an annual update on the PSM Program, providing update information, such as an annual PSM Program status report for the company.

Any Major ammonia refrigeration events such as incidents, near misses, as well as PSM Program information changes are communicated to the affected employees.
Employee involvement/participation

SCALES NW, INC’s PSM team is comprised of the Responsible Person, the Safety Coordinator and at least one hourly employee from each department.

Through the PSM team and other avenues, field technicians who work in close proximity to refrigeration systems are formally included in the PSM Program development and implementation as follows:

- **Process Safety Information (PSI):** The location and accessibility of the PSI are communicated to all refrigeration operators during their initial training. P&IDs are reviewed for accuracy and thoroughness by the operators during their use.
- **Process Hazard Analysis (PHA):** As discussed in the PHA Guidelines, The Process Hazard Analysis team includes one or more hourly employees. All employees are encouraged to provide input on relevant PHA topics such as facility siting and human factors through the PSM team.
- **Operating Procedures:** Developed with input from operations, management, safety and other groups as necessary. SOPs are reviewed for accuracy and thoroughness by the operators during their use.
- **Training:** Programs and needs for refresher training are reviewed with affected employees with an annual questionnaire.
- **Pre-Startup Safety Reviews and Management of Change:** Conducted with involvement of at least one hourly employee. MOCs and PSSRs are reviewed by the PSM team. Employees are encouraged to offer their input on suggested MOCs or the MOC process through the PSM team.
- **Mechanical Integrity:** Mechanical Integrity audits are conducted with the involvement of at least one hourly employee. Recommendations and intended resolutions are reviewed by the PSM team. All audits are available for review by all affected employees. Employees are encouraged to continuously audit the performance of the Mechanical Integrity program and the adherence to the Mechanical Integrity program by other employees and contractors.
- **Incident Investigation:** Reports are reviewed with all affected employees. (An hourly employee may be asked to serve on the investigation team as appropriate.) All employees are encouraged to report issues they believe warrant an Incident Investigation.
- **Emergency Planning and Response:** Procedures are reviewed with affected employees. Training of response personnel also includes hourly personnel. The PSM team reviews the EPR plan for accuracy.
- **Compliance Audits:** At least one hourly employee is involved in the audit conducted every three years. Recommendations and intended resolutions are reviewed by the PSM team. All audits are available for review by all affected employees.
- **Clients:** Employees are encouraged to provide input on the performance of SCALES NW, INC employees who work on or near the covered process.
- **Hot Work:** Employees are encouraged to continuously audit the performance of the Hot Work program and the adherence to the Hot Work program by other employees and contractors.

All employees involved in close proximity work to refrigeration ammonia storage and process components are formally involved in all aspects of the PSM program through regular PSM meetings. Additionally, Scales NW, Inc has an Open-Door policy as an avenue for any employee with suggestions for improvements to the program.
Any employee having serious safety related concerns about any aspect of the PSM Program for ammonia refrigeration have been instructed to submit those concerns in writing to the Responsible Person. Within 30 days the employee is provided with a written response answering his/her concerns.

Minutes of PSM Program consultations with hourly employees are prepared. Minutes reflect the input and opinions of the hourly employees.

A record is kept of all employee recommendations. Affected employees are informed of the disposition of all recommendations. Copies of all PSM documentation are made available to all affected employees.

Training

Ammonia storage is common throughout the agricultural industry. Technicians will find themselves working in close proximity to large ammonia storage tanks that contain hazardous amounts of ammonia. Scales NW, Inc employees are subject to exposure from the following sources:

- Fertilizer manufacturers and resale operations
- Food processors where refrigeration is used
- Chemical manufacturers
- Gold refining operations

Ammonia is the second most widely used chemical in industry and can be found in most dyes, fibers and plastics, explosives, polymers, and for gold extraction from ore.

Ammonia is a colorless gas with pungent odor that has a suffocating effect when inhaled.

Ammonia poses the following health hazards

- Inhalation of ammonia is very toxic and can cause severe respiratory damage and death. Can cause life-threatening accumulation of fluid in the lungs. Symptoms may develop hours after exposure and be long-term
- Ammonia is corrosive and can irritate the skin, permanently damaging or scarring can result. Direct contact with the liquefied gas can freeze the skin and cause tissue damage, infection, and blistering.
- The corrosive nature of ammonia can cause severe eye damage and blindness.

First aid measures:

- Inhalation: Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Move victim to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema may be delayed. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital.
- Skin Contact:
  - Gas: flush with lukewarm, gently flowing water for 5 minutes. If irritation or pain persists, see a doctor.
  - Liquefied gas: quickly remove victim from source of contamination. DO NOT attempt to rewarm the affected area on site. DO NOT rub area or apply direct heat. Gently remove clothing or jewelry that may restrict circulation. Carefully cut around clothing that sticks to the skin and remove the rest of the
garment. Loosely cover the affected area with a sterile dressing. DO NOT allow victim to drink alcohol or smoke. Immediately call a Poison Centre or doctor. Treatment is urgently required. Transport to a hospital.

- **Eye Contact:**
  - Gas: immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If irritation or pain persists, see a doctor.
  - Liquefied gas: move victim to fresh air. Immediately and briefly flush with lukewarm, gently flowing water. DO NOT attempt to rewarm. Cover both eyes with a sterile dressing. DO NOT allow victim to drink alcohol or smoke.
  - Ingestion: Not applicable (gas).

### Some of the first aid procedures recommended here require advanced first aid training. All first aid procedures should be periodically reviewed by a doctor familiar with the chemical and its conditions of use in the workplace.

#### Stability and flammability

- Ammonia is a flammable gas and high concentrations pose a significant explosion hazard especially in a confined space.
- Extinguishing media can be carbon dioxide, dry chemical powder, appropriate foam, water spray, or fog.
- Normally stable except when exposed to strong acids, peroxides, and chlorines

#### PPE

- Wear chemical safety goggles or a full face shield with safety goggles
- Chemical protective gloves, apron, and boots
- NIOSH approved Self-Contained Breathing Apparatus (SCBA) must be carried when working on ammonia storage containers and transfer equipment.

### Emergency procedures

- It is the responsibility of the Scales NW, Inc site supervisor to obtain a copy of or develop a site specific emergency action plan.
- The site supervisor will brief the affected employees on the plan
- The site supervisor will ensure all employees of Scales NW, Inc are equipped with appropriate and serviceable PPE
- The employees of contracted service providers will be required to adhere to the PPE requirements and the emergency procedures contained in the emergency action plan.

### Employee access to information

The Responsible Person is responsible for controlling access to PSM Program information. All employees are provided access to ammonia refrigeration PSM Program files and information, but access is governed by the following limitations:

- Approval is needed to remove any original documents from the file.
- Original copies of documents are not removed from the file area.
- Requests for copies of materials are honored within 10 working days of the request.
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- No markings are made on original documents.
- Previously unfiled documents are not added without the proper authorization.

SCALES NW, INC provides access to process hazard analyses, and all other information required to be developed under the PSM Program, to employees of contractors whose work is covered under the PSM Program. SCALES NW, INC informs contract employees of their right to obtain information, and the means for doing so.

Recordkeeping

Scales NW, Inc Ammonia Awareness training shall be documented and kept in the employee’s record of training.

PSM Program Employee Communications such as bulletin board announcements or employee newsletter articles relating to ammonia refrigeration PSM should be filed by the Safety Department and should be retained for a minimum of five years.

Any written statements of safety concerns employees and responses from management or the safety department should be filed by the Safety Department and should be retained for a minimum of five years.

Employee meetings and consultations involving or concerning SCALES NW, INC employees shall be maintained in a file of PSM Program meeting minutes. Minutes include a complete list of attendees and instructor information.