INSPECTION PROCEDURE 88064

EMERGENCY RESPONSE PROCEDURES

PROGRAM APPLICABILITY: 2603

88064-01 INSPECTION OBJECTIVES

This inspection procedure specifically addresses chemical emergencies that have the potential to affect the facility's operations with Special Nuclear Material (SNM). The inspection will not address isolated chemical emergency situations that can in no way compromise the safety of operations with SNM at the facility.

01.01 To ensure that the licensee has a system in place to develop and maintain written emergency response procedures for chemical hazards that might affect operations with SNM at the facility.

01.02 To ensure that the licensee's emergency procedures are adequate to maintain emergency readiness for chemical hazards. This should include applicable facilities, equipment, and procedures.

01.03 To ensure that plant personnel have been adequately trained in emergency response procedures.

01.04 To ensure that the licensee has adequate emergency equipment (including spill kits) readily available to handle chemical emergencies that might affect operations with SNM at the facility.

01.05 To ensure that the licensee conducts drills and exercises for chemical emergencies, to verify the effectiveness of the facility's emergency plan.

01.06 To ensure that the licensee coordinates chemical emergency response efforts with offsite support agencies (local, State and Federal) in accordance with the facility's emergency plan.

88064-02 INSPECTION REQUIREMENTS

02.01 Review the licensee's emergency response program to ensure that all elements identified in the regulations and regulatory guides (10 CFR 40.31(j)(3), 10 CFR 70.22(i)(3), and Regulatory Guide 3.67), pertaining to chemical hazards that have the potential to affect operations with SNM at the facility, are adequately addressed. The inspector should verify that all conditions identified in the license and the site Emergency Plan pertaining to chemical hazards are actually implemented.

02.02 Review the licensee's summary of the portion of the emergency plan addressing chemical hazards to ensure that all major emergencies involving chemical hazards have been adequately dealt with. The licensee should have readily available methods for counteracting potential releases.

02.03 Review the licensee's emergency response program to determine whether the licensee has a mechanism in place to update the facility's emergency response program through the incorporation of management-approved recommendations coming out of the Nuclear Chemical Process Safety Program (NCPSP) examination elements (such as Hazard Investigation and Assessment (HIA), Incident Investigation (II), and Audit and Inspections (A&I) programs) pertaining to emergency response.

88064-03 INSPECTION GUIDANCE

General Guidance

The inspection should focus on the sufficiency of the emergency response program to respond to incidents or near-misses involving chemical hazards that can affect operations with SNM at the facility. The inspector should cross-check generic emergency preparedness and response features (e.g., the system for preparing a written emergency plan in accordance with the facility's Emergency Preparedness program). Additional information should be provided on emergency response procedures for chemical emergencies (e.g., safely shutting down a chemical processing unit, or precautions to be taken in responding to a chemical emergency (such as personal protective equipment, chemical spill kits, self-contained breathing apparatus, etc.)).

Specific Guidance

Specific guidance is provided for each of the inspection requirements listed in Section 88064-02, to help the inspector determine whether the licensee's program for Emergency Planning is adequate.

03.01

a. The licensee should have available a current copy of the facility's Emergency Plan and the procedures that implement the plan.

b. The facility's emergency plan should clearly indicate its state of emergency preparedness. To ensure that the facility's preplanning efforts adequately address mitigation activities associated with potential chemical emergencies, the emergency plan should as a minimum:

    1. Include clearly assigned responsibilities to employees.

    2. Establish a clear command structure. The supervisor in charge should be authorized to initiate evacuation alarms and/or emergency shutdown, based on his experience and

training. In his absence, the operator in charge should be authorized to activate evacuation alarms and/or emergency shutdowns. This is to ensure that valuable time is not wasted first in trying to decide whether the situation is an emergency and then in trying to get authorization from the management representative.

3. Establish an incident command center from where emergency response activities can be directed; information on communication protocol should be available there.
4. Identify local, State and Federal agencies for emergency response support.

5. Identify available resources - both emergency equipment (e.g., spill kits) and personnel (e.g., trained responders).

6. Develop specific response plans for each type of incident.

7. Clearly define reporting relationships with the State emergency planning commission, the local emergency planning committee (required by SARA Title III and the Emergency Planning and Community Right-to-Know Act), employees, and the community. Contact phone numbers are required for all reporting groups.

8. Identify any safe havens or shelter-in-place locations at the facility.

b. The emergency response plan should be based on credible scenarios and their consequences. Response activities should, as a minimum:

1. Address the selection process for response team members.

2. Discuss responsibilities and duties for each response team member.

3. Have a process to replace transferred members.

4. Clearly define the incident command structure.

5. Define functional communications systems.

6. Discuss a clearly understood alarm system to initiate emergency shutdown procedures and commence personnel evacuation, including each person's responsibilities and duties during emergency operations.

7. Include procedures for responders' duties and responsibilities.

8. Include procedures for non-responders.

9. Identify at least two readily accessible, reliable, independent means of communication.

10. Include procedures for recovery after an incident (e.g., reentry, clean-up, etc.). Sufficient resources should be allocated for the clean-up effort.

d. The facility should have clearly marked, sensible evacuation routes, with assembly points clearly identified. A head count should be done to account for all persons at the facility at the time of the incident.

e. The licensee's training program[1] should be documented and should adequately cover at least the following aspects of emergency response:

1. Training on evacuation routes; if shelter-in-place is the preferred alternative to evacuation, then it should be clearly stated during training and should be understood by all employees.

2. Special training should be provided to responders.

3. Frequency of refresher training should be outlined.

4. Training should be provided for local responders (e.g., fire departments and mutual aid groups).

5. First-aid training should be provided for responders.

f. The licensee's emergency plan should clearly identify onsite and other readily available equipment to be used during emergencies, to mitigate the consequences of the emergency. As a minimum the following features should be addressed:

1. Develop a list of onsite and other readily available equipment for first response. This list should be reasonable, given the hazards identified at the facility (e.g., given the presence of UF_6 cylinders, the licensee should have some means for detecting the presence of HF formed by the reaction of UF_6 with atmospheric moisture, as well as an adequate supply of calcium gluconate or equivalent chemical first aid supplies to treat HF burns).

2. Personnel should be trained to operate all identified onsite equipment.

3. Each piece of emergency equipment should have documented operations, maintenance, and inspection procedures, with equipment checklists.

4. Personal protective equipment for responders should be readily available.

5. A description of all mitigation devices in place to help reduce the severity of effects of a hazardous release

[1]Check the requirements listed for the Training Element of NCPSP.

(e.g., the use of a water curtain/spray to limit human exposure by absorbing escaping HF (formed by the reaction of UF_6 with atmospheric water vapor)).

6. The proper first-aid and emergency medical treatment necessary to treat accidental human exposure should be documented for each hazardous substance identified by the licensee.

g. Regular drills and exercises should be conducted by the licensee to test the essential needs of the response scenarios, and objective critiques should be carried out and the results used to improve response planning. As a minimum the following should be addressed:

1. Drills and exercises should be well-planned and should be realistic simulations of actual incidents.

2. Drills and exercises should test out various chemical release scenarios.

3. Drills and exercises should involve plant personnel at all levels.

4. External evaluators should evaluate and critique drills and exercises. These critiques should identify and address shortcomings, as well as include recommendations for improvement.

03.02 The licensee's Emergency Plan summary should include an overview of the facility's emergency planning logic, incorporating graded chemical emergency classifications of increasing severity and their relationship to the participating status of onsite and offsite personnel and agencies. In addition, the inspector should verify that potential emergency situations involving chemical hazards that can affect operations with SNM at the facility have been adequately addressed.

03.03 The facility should have a mechanism in place for ensuring that recommendations pertaining to emergency response (from inspection programs such as HIA, II, Audits, and critiques of drills) are incorporated into the emergency response program. As a minimum, the following should be addressed in updating the facility's emergency response program:

a. A tracking system to ensure that each recommendation is addressed on a timely basis. The inspector should cross-check with the features of the tracking system identified in the HIA element.

b. Findings from II or A&I programs that highlight deficiencies in the emergency response program should be addressed in a timely manner, to ensure that chemical hazards at the facility are covered sufficiently. The inspector should

cross-check with findings from the II and A&I elements of the NCPSP.

c. Plant management should use drills and exercises as audit mechanisms. There should be a process in place to ensure that recommendations from the drill evaluation and critique are incorporated into the emergency response procedures.

88064-04 RESOURCE ESTIMATE

An inspection performed using this inspection procedure is estimated to require 8 hours of inspector resources. This estimate is only for the direct inspection effort and does not include preparation for and documentation of the inspection.

88064-05 REFERENCES

OSHA, *Process Safety Management of Highly Hazardous Chemicals*, 29 CFR 1910.119 (n), "Emergency Planning and Response."

EPA, *Risk Management Programs for Chemical Accident Release Prevention*, 40 CFR Part 68, Section 68.45, "Emergency Response Program."

Chemical Manufacturers Association, *Responsible Care®, Process Safety Code of Management Practices*, Washington, 1990.

Nuclear Regulatory Commission, *Inspection Procedure 88050*, "Emergency Preparedness", Latest Revision.

Center for Chemical Process Safety, *Guidelines for Vapor Release Mitigation*, American Institute of Chemical Engineers, 1988.

Center for Chemical Process Safety, *Guidelines for the Safe Storage and Handling of High Toxic Hazard Materials*, American Institute of Chemical Engineers, 1988.

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