EVALUATION OF EXERCISES AND DRILLS

PROGRAM APPLICABILITY: 2600

88051-01 INSPECTION OBJECTIVES

The objectives of this procedure are to determine whether:

01.01 The regulatee has an effective emergency response program which, as demonstrated by exercises/drills, is able to protect the health and safety of the public, plant workers, and environment.

01.02 The regulatee has developed adequate exercise/drill scenarios which can suitably test the implementation of the Emergency Plan in response to simulated emergencies.

01.03 The regulatee's measures which implement the Emergency Plan, including procedures, equipment, coordination with offsite agencies, and training, are effective at responding to simulated emergencies.

01.04 The regulatee's conduct and control of the exercise/drills and the associated critiques are adequate to ensure the expected/required emergency response.

88051-02 INSPECTION REQUIREMENTS

02.01 Review the dates of the proposed emergency preparedness exercise and previous exercise to determine whether the licensee is conducting these at the required frequency as specified by the Emergency Plan, license/certificate, and regulations.

02.02 Review the exercise scenario approximately 45 days before the exercise to determine whether the exercise will adequately test implementation of the Emergency Plan. Determine whether the exercise will use accident scenarios postulated as the most probable for the specific site.

02.03 Determine the whether the regulatee's exercise/drill scenarios were varied such that all elements of the Emergency Plan were tested during the previous two year period.

02.04 Review the regulatee's process for development of the exercise scenario and conduct of the exercise to determine the adequacy of controls to prevent the objectives and details from any prior disclosure to participants.

02.05 By discussions with regulatee management and offsite authorities, and review of relevant documentation, determine the extent to which the regulatee invited offsite response organizations to participate in the proposed exercise.

02.06 During the exercise, observe and evaluate the performance of the regulatee's emergency response personnel in the following areas as appropriate for the exercise scenario and objectives:

a. Emergency management command and control.

b. Staffing and activation of the emergency facilities and emergency teams.

c. Accident assessment, to include analysis of plant conditions, and event classification.

d. Onsite and offsite notifications and communications.

e. Decide the appropriate protective action recommendations.

f. Interaction with offsite response personnel.

g. Implementation of onsite protective actions.

h. Dispatch and coordination of emergency teams, such as operations response, radiation protection, firefighting, search and rescue, emergency medical technicians, and security.

I. Radiation surveys, offsite dose assessment, and environmental monitoring.

j. Security and personnel accountability.

k. Press releases and briefings.

l. Recovery and re-entry.

m. Critiques and other independent assessments.

88051-03 INSPECTION GUIDANCE

General Guidance

This procedure is to be used to evaluate the licensee's biennial exercise. This procedure may also be used to observe periodic drills and/or limited scope exercises to evaluate the adequacy of corrective actions identified during a previous exercise or actual event. If this procedure is used to evaluate the adequacy of corrective actions related to previously-identified emergency response deficiencies, the time expended by the inspectors shall be charged to "Regional Initiative," in the NRC's time and labor system.

The observation and evaluation of regulatee performance may be accomplished during an exercise or drill involving the Emergency Operations Center (EOC), Incident Command Post (ICP), Security Control Point, field monitoring team, assembly locations, and/or other areas as appropriate. Due to the NRC inspection team's resource constraints, the complexity of the exercise, and number of scenarios, it may not be possible to directly observe all areas of the regulatee's response. The inspectors should focus their observations on command and control, onsite communications among regulatee response organizations and with offsite organizations, protective action decision making, and problematic areas previously identified during past drills, exercises, and actual events. The areas observed may also be adjusted as a function of the type of accident postulated.

An exercise/drill is not a training tool to prepare for an emergency but rather a performance evaluation of the effectiveness of training. However, exercises/drills have an element of training as well as performance evaluation.

An effective exercise/drill program requires three critical elements:

a a credible, technically correct, and challenging scenario to test key elements of the plan, procedures, equipment, and the onsite and offsite response organizations;

b adequate facilities and resources; and

c a critical and candid assessment of the response performance using trained controllers and evaluators.

The inspectors should determine whether there is any undue interference by observers with the the players or controllers. The controllers should not prompt, coach, or otherwise interfere with the performance of the players. The inspectors likewise should attempt not to interfere or interpose with the players or controllers. NRC inspectors may, however, seek clarifications from the controllers regarding details of the exercise/drill or the scenario(s). The inspectors should evaluate the controllers' activities during the exercise/drill to determine their adherence to the scripted scenario(s), as well as their guidance during any unexpected players' responses. This evaluation will aid the inspectors in determining the overall adequacy of exercise/drill planning. During the exit meeting, the NRC inspectors should discuss with the regulatee any problems identified with the above topics.

The specific requirements for each regulatee are defined in that regulatee's Emergency Plan and associated procedures. Because this Inspection Procedure is to be used by NRC inspectors at a variety of fuel cycle regulatees, certain items listed below may not be applicable to a specific regulatee.

Specific Guidance

03.01 Scenario Review

The requirements for emergency preparedness exercises are found in 10 CFR 70.22(i)(3)(xii), 10 CFR 76.91(l), 10 CFR 40.31(j)(3)(xii), and the regulatee's approved Emergency Plan. If during review of the scenario, the inspector determines that the scenario might not be a sufficient test of the Emergency Plan, notify the regulatee to discuss and assure an adequate scenario.

03.02 Emergency Management Command and Control

a. Are actions taken to ensure adequate resources are available to respond to the event?

b. Are actions performed in accordance with appropriate procedures for mitigating the event?

c. Based on the available information (plant-specific indicators, instrument readings, safety analysis details, control room alarms, visual observations, etc.), do plant operators or management recognize in a timely manner that events were progressing abnormally and initiate actions to return the plant to a safe condition?

d. Based on the actual plant conditions or projected accident sequence found in the Integrated Safety Analysis (ISA), do personnel assigned the responsibility for accident detection properly recognize the event, and initiate timely mitigating conditions?

e. Determine whether a key decision maker, such as the Plant Manager or Emergency Director, is designated and in charge of the emergency response from the initial emergency activation to the recovery phase of the exercise.

f. Determine whether excessive noise levels and other unnecessary distractions are minimized both inside the EOC and at the ICP.

03.03 Emergency Team Staffing and Activation of Emergency Facilities

a. Determine whether the emergency team and facility staffing is consistent with the Emergency Plan or implementing procedures requirements.

b. Determine whether the EOC is staffed and considered operational in accordance with time commitments in the Emergency Plan or implementing procedures. If there is no timeliness commitment in the Emergency Plan or procedures, a

general guideline is that off-hours activation should be completed within approximately one hour after the emergency was declared. Exceptions would be in the event of inclement weather or other extenuating circumstances.

c. Determine whether the regulatee designates an offsite liaison for interfacing with response personnel from the various offsite agencies.

d. Determine whether IC operations are established in a timely manner upwind of the event or potential chemical or radiological release pathway.

03.04 Accident Assessment and Event Classification

a. Determine whether decisions regarding accident assessment include input from plant operations, and the various safety disciplines (operational safety, radiation protection, fire protection, nuclear criticality safety) to facilitate an accurate description of plant conditions.

b. Determine whether personnel assigned responsibility for the emergency classification clearly understand the initiating conditions for declaring the emergency.

c. Determine whether the emergency classification is made in a timely manner following verification of the plant initiating conditions meeting the emergency action levels (EALs) for emergency classification. A general guideline is within approximately 15 minutes after identification of the appropriate plant conditions.

d. Determine whether personnel assigned responsibility for emergency classification periodically re-evaluate conditions and review EALs to determine if the EAL should be upgraded or downgraded.

e. Following the emergency classification, determine whether the appropriate emergency procedures are implemented in response to the classification.

f. Determine whether the Security Contingency Plan is implemented per timeliness and other procedural requirements if conditions indicate a security event.

03.05 Notification and Communication Onsite and Offsite

a. Determine whether onsite personnel are notified as needed regarding the following:

1. Emergency conditions;

2. Emergency Team activations;

3. Protective actions and areas potentially impacted or to avoid;

4. Control of site access and egress; and

5. Status updates regarding changing conditions.

b. Determine whether offsite officials are promptly notified in accordance with the Emergency Plan or implementing procedure requirements. A general guideline is that State and local response organizations should be notified within approximately 15 minutes after the event is recognized. The NRC should be notified as soon as possible after that, but no later than one hour after the event is recognized. The notifications should include the following information:

1. Plant prognosis and emergency classification;

2. Status of radioactive or chemical releases and the quantity or concentration if known at the time of reporting;

3. If a release is occurring: the type of release such as ground or elevated, the chemical/physical form of released material, and the potentially affected areas;

4. Recommended protective actions, if necessary;

5. Mitigation and corrective actions being taken;

6. Safety systems affected and safety-significance of the event; and

7. Estimated duration of any radiological or chemical releases.

c. Determine if the communications between the regulatee staff and offsite officials are at an appropriate frequency, based on the significance of the event.

d. Determine whether primary communications links are established and maintained between the EOC, ICP, and other emergency response teams.

03.06 Protective Action Decisions

a. If event conditions change, determine whether the regulatee re-evaluates the protective action recommendations (PARs) for continuing adequacy.

b. Determine whether the following activities are reviewed by the plant emergency response organization:

1. PARs implementation status;

2. Habitability of the regulatee's personnel assembly locations and the EOC;

3. Personnel accountability status;

4. Plume tracking to determine potential area of impact from release;

5. Field monitoring team data compared with plume tracking model results to refine the potential areas of plume impact; and

6. In the event of a fire, NCS experts evaluate the potential introduction of water or other moderators as extinguishing agents, and provide appropriate guidance to response personnel.

c. In response to chemical releases, determine whether the proper detection devices are selected by monitoring personnel.

d. Determine whether tools and equipment potentially contaminated during the response remain in the hot zone to prevent the spread of contamination.

03.07 Interaction With Offsite Response Personnel

a. In the event PARs are provided to offsite authorities during the initial notification, determine whether the regulatee conducts followup discussion as additional information is available from accident assessment and environmental survey results.

b. Determine whether security provides adequate assistance to offsite response agencies in gaining access to the EOC, ICP, incident scene, and other locations as necessary.

c. Determine whether in the event an injured contaminated victim requires transport to an offsite hospital, the hospital is informed in advance of the victim's arrival regarding the presence of contamination.

d. Determine whether upon arrival, offsite responders are briefed by site emergency response personnel regarding conditions, hazards, emergency classification, significance of event and mitigating actions taken or planned.

e. In the event offsite monitoring and sampling of environmental media is conducted, determine whether the regulatee's staff interfaces with any offsite agencies' teams performing similar functions.

03.08 Implementation of Onsite Protective Actions

a. After the completion of personnel accountability reporting, determine that search and rescue teams are formed to locate any unaccounted for personnel.

b. In the event of a security incident, determine whether protective actions are adequate and in accordance with procedures.

c. Determine whether initial protective actions are re-evaluated based on environmental survey results.

d. Determine whether contamination zones are clearly established.

e. In the event a decontamination station is established, determine whether appropriate barriers are in place to prevent run-off from decontamination operations.

03.09 Dispatch and Control of Emergency Teams

a. In the event of a radiation accident, determine whether personnel entering radiation areas are provided with appropriate dosimetry, survey instruments, and communications equipment.

b. In the event of chemical releases, determine whether personnel are provided with the appropriate selection of chemical sampling equipment to determine the hazards.

c. Determine whether personnel are briefed on the potential hazards, accident status, appropriate personal protective equipment, and the access routes to avoid unnecessary exposures.

d. Determine whether personnel check the operability of equipment prior to deployment.

e. Determine whether personnel are assigned the responsibility for tracking Emergency Team exposures.

03.10 Radiation Surveys, Offsite Dose Assessment, and Environmental Monitoring

a. Determine whether radiological trends are established and monitored by the EOC.

b. Determine whether dose assessment personnel are familiar with offsite dose assessment procedures, including programs used for projecting chemical releases.

c. Determine whether offsite dose assessment uses current or instantaneous meteorology.

d. Determine whether radiation survey instrumentation is appropriate for the type of material released, is calibrated, and operated per procedures.

e. Determine whether radiation protection technicians demonstrate proper survey techniques and sample collection.

03.11 Security and Accountability

a. Determine whether site security promptly establishes access control to incident area.

b. Determine whether site security is able to grant access to offsite emergency responders in an expeditious manner.

c. Determine whether site security personnel deploy to the Unified Command Post.

d. Determine the adequacy and timeliness of the regulatee's personnel accountability activities, including responses to unaccounted for personnel.

03.12 Press Release and Briefings

a. Determine whether there is timely development of a press release for approval by the lead official for emergency response (Emergency Director, Crisis Manager, etc.).

b. In the event other offsite agencies are involved, determine whether the press release is properly coordinated with other agencies before release to the public. Determine whether key technical staff reviews the press release for accuracy of information.

c. Determine whether press releases are updated periodically irregardless of changes in plant conditions. In the event plant conditions deteriorate or significant changes occur, determine whether the press release is updated promptly.

d. Determine whether frequent briefings are held by the EOC to keep personnel aware of incident conditions.

03.13 Recovery and Re-entry Planning

a. Determine whether appropriate response coordinators, such as operational safety, radiation protection, fire protection, and NCS, provide recommendations on the adequacy of conditions for event termination and restart of normal operations.

b. Determine whether procedures are available and provide adequate guidance for recovery and re-entry activities.

03.14 Critique

a. Determine whether evaluators, controllers, and players participate in critiques immediately after the exercise while the details are fresh.

b. Determine whether comments are detailed and provide a critical assessment of the response including areas for improvement.

c. Determine whether the critique evaluates the effectiveness of the mitigation strategies, emergency procedures, facilities, equipment, training, and overall effectiveness of the response.

88051-04 RESOURCES

For planning purposes, the estimated time to complete this inspection effort is 36 hours biennially, including reviewing the scenario prior to arrival onsite, and direct observations of the exercise and critiques.

88051-05 REFERENCES

10 CFR 70.22(i)(3), Emergency planning for Part 70 licensees.

10 CFR 40.31(j)(1) and (3), Emergency planning for Part 40 licensees.

10 CFR 70.22(g)(I), Footnote Reference - Section IV, "Content of Emergency Plans," Appendix E, 10 CFR 50.

10 CFR 76.91 Emergency Planning for Gaseous Diffusion Plants.

Reg. Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facility," Rev. 0, January 1992.

NUREG-1140, "A Regulatory Analysis of Emergency Preparedness for Fuel Cycle and Other Radioactive Material Licensees," reprinted 1987.

NUREG-1320, "Nuclear Fuel Cycle Accident Analysis Handbook," 1988.

NUREG-1520, Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility.

NRC Information Notice No. 89-46, "Confidentiality of Exercise Scenarios."

NRC Memorandum from R. M. Bernero and E. L. Jordan to J. M. Taylor, "Lessons Learned Review of the Sequoyah Fuels Corporation Event of November 17, 1992," dated October 27, 1994.

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.

NRC Letter from E. J. McAlpine to Region II licensees,"Submittal of Exercise Objectives and Scenario Details," dated November 20,1996.

NRC Policy and Guidance Directive FC 84-14, "Standard Review Plan For Emergency Plans For Fuel Cycle and Material Licensee's, Rev. 1, March 1994.

END