

# NRC INSPECTION MANUAL

DRAFT June 28, 2005 - INSPECTION PROCEDURE 88010

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## OPERATOR TRAINING/RETRAINING

PROGRAM APPLICABILITY: 2600

**NOTE: REFERENCES IN THIS PROCEDURE TO 10 CFR PART 70.61 THROUGH 70.76 (IROFS) DO NOT APPLY TO 10 CFR PART 40 and 76 LICENSEES/CERTIFICATEES. SEE 10 CFR PART 70.1 (d),(e), and PART 70.60.**

### 88010-01 INSPECTION OBJECTIVES

To determine whether the regulatee is complying with regulations and license or certificate requirements related to the training of regulatee employees and other personnel and is implementing an adequate training program.

### 88010-02 INSPECTION REQUIREMENTS

02.01 Determine compliance with 10 CFR 19.12, "Instructions to Workers."

02.02 Determine compliance with license or certificate conditions relating to implementation of training programs for operators for:

- a. Ensuring that each administrative control to limit the risk of each credible high consequence and intermediate consequence event (10 CFR 70.61(b) and (c)) will be available and reliable to perform its intended function (10 CFR 70.61(e)).
- b. Fire, chemical, and nuclear criticality safety for operators (content of the nuclear criticality course is reviewed by headquarters in IP88015; professional training for criticality safety staff is also reviewed by headquarters).
- c. Radiation protection topics, such as general employee training or radworker training).

02.03 Review changes to the regulatee's training program to determine whether the regulatee has established written procedures for:

- a. Identification of training requirements.
- b. Identification of training material.
- c. Selection and qualification of instructors.

- d. Maintenance of employee training records.
  - e. Ensuring adequate frequency of refresher or requalification training.
  - f. Contractor/visitor training.
- 02.04 Review changes to the regulatee's training program to determine whether the regulatee has in place a mechanism to update the facility's training program through the incorporation of management-approved recommendations coming out of changes to items relied on for safety (IROFS) and other radiological. criticality safety, emergency preparedness, and nuclear chemical process safety program elements (e.g., hazard identification and assessment; management of change; incident investigation and audits), pertaining to employee training.
- 02.05 Discuss training with selected staff in a variety of positions, such as operators, maintenance mechanics, instrument and control technicians, etc. to determine whether the training is adequate. Discuss procedural expectations with these selected staff to determine whether the staff can effectively implement procedures.
- 02.06 Examine the changes to selected tests given under the training program to determine that tests required by the program were administered, and scores or results achieved satisfied program criteria.

### 88010-03 INSPECTION GUIDANCE

#### 03.01 §19.12 Instruction to workers:

- a. All individuals who in the course of employment are likely to receive in a year an occupational dose in excess of 100 mrem (1 mSv) shall be:
  - 1. Kept informed of the storage, transfer, or use of radiation and/or radioactive material.
  - 2. Instructed in the health protection problems associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed.
  - 3. Instructed in, and required to observe, to the extent within the workers control, the applicable provisions of Commission regulations and licenses for the protection of personnel from exposure to radiation and/or radioactive material.
  - 4. Instructed of their responsibility to report promptly to the licensee any condition which may lead to or cause a violation of Commission regulations and licenses or unnecessary exposure to radiation and/or

- radioactive material.
  - 5. Instructed in the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material.
  - 6. Advised as to the radiation exposure reports which workers may request pursuant to §19.13.
- b. In determining those individuals subject to the requirements of paragraph (a) of this section, licensees must take into consideration assigned activities during normal and abnormal situations involving exposure to radiation and/or radioactive material which can reasonably be expected to occur during the life of a licensed facility. The extent of these instructions must be commensurate with potential radiological health protection problems present in the work place.

### 03.02 General:

Specific regulatory requirements related to the regulatee's training program will be contained in license or certificate conditions. In addition, training for administrative controls that are IROFS is required for 10 CFR 70.62(d) to assure the IROFS are available and reliable. The license or certificate may require the regulatee to implement a training program described in the application.

- a. In determining the implementation of the approved or required program, pay attention to completion of requirements related to: initial training, periodic retraining, on-the-job training, and tests and examination of trainees.
- b. Examine five or more records of initial training for new employees for a variety of workers including tests or exams (if tests are required by the program).
- c. Examine five or more records of retraining for experienced employees for a variety of workers including tests or exams (if tests are required by the program).
- d. Discuss the training program with one or more supervisors and one or more operators or technicians, selected at random, to determine their participation in the training program as indicated by their training records.
- e. Discuss the program with the regulatee's representative charged with the responsibility for training; discuss any changes made since the last inspection and determine that substantive changes were reviewed and approved by management and, if required, by the NRC; review and discuss the regulatee's evaluation of the overall effectiveness of the training program. The inspection should be directed at assessing the sufficiency of the training program in addressing the radiological, fire, criticality safety and chemical safety aspects of hazards that can affect operations with special nuclear material (SNM) at the facility. The principal objective of the training program is to ensure that employees have been adequately prepared to perform their job tasks in a safe and effective manner.

03.03 Safety Training Program: The regulatee should have available a training outline that defines requirements, needs, material, and testing.

- a. In-house training programs for each position shall cover initial orientation, as well as specific process training (both classroom and on-the-job) and refresher training. Procedures should be available for trainee evaluation and final qualification/certification as an operator.
- b. Training material addressing at least the following topics should be available:
  - 1. IROFS, process safety information elements (such as safety and health hazards, relevant material safety data sheets (MSDSs), personal protective equipment, etc.).
  - 2. Safe work practices (such as confined space entry, lockout/tagout procedures, opening process equipment, hot work, control of entry into hazardous areas, etc.).
  - 3. Process technology (as required).
  - 4. Operating procedures for all phases of operation.
  - 5. Emergency procedures (such as HAZWOPER).
  - 6. Reporting unusual events or non-routine operations.

Note: On-the-job training should, as a minimum, include: equipment familiarization, completing log sheets, equipment startup/shutdown activities, limiting operating conditions, control of process variables, and applying operating procedures in the field.
- c. The inspector should determine that the trainer adequately demonstrates competence regarding both training skills and course curriculum, by interviewing both the trainers and the trainees.
- d. Documentation of all training, evaluations, and qualification/certification activities for all employees should be verified. Training records should be accessible and easily referenced. Information should include at least name of employee, date of training, name of trainer, and means used to determine that training was understood.
- e. Refresher training should be provided at least every 2 years, or as specified in the facility license or certificate. Content of material to be covered should include at least the following: safety and health hazards, relevant MSDSs, job-specific chemical hazards, safe work practices, emergency procedures, and standard operating procedures. Employee participation/feedback in deciding course content is highly recommended. The inspector should interview trainers and trainees to determine that refresher training is actually conducted according to the schedule.

NOTE: Refresher training is different from training provided because of

deficiencies that other nuclear chemical process safety program elements have identified in the training program.

- f. The training program for contractors, maintenance personnel, and visitors should be appropriate, given the hazards in the area they will be working in or visiting. Every person who enters the facility should go through a site-specific general orientation covering safety and health hazards, emergency procedures, and alarms. In addition, maintenance employees and contractors (if relevant) should undergo training in safe work practices, process hazards, etc., as relevant to the work they will be performing.

03.04 Changes to the Training Program: The regulatee must have in place a mechanism for ensuring that recommendations from other process safety program elements (hazard identification and assessment, incident investigation, management of change, and audit programs), pertaining to employee training are incorporated into the training program. As a minimum the following should be addressed in updating the regulatee's training 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 hazard identification and assessment element.
- b. Management-approved findings, from incident investigations or audit programs, that highlight deficiencies in the training 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 the incident investigation and audit elements.
- c. Training actions activated by management of change procedures should be addressed before the change is implemented. All personnel affected by the change should undergo training - this should be verified by the pre-startup safety checklist.

03.05 Observations of Managers, Supervisors, Operators - Determine by discussion, document review, and observation that the training program ensures that each individual receives performance-based IROFS and/or safety control training (knowledge and skills) to understand his or her personal and organizational authority and responsibility for safety. Shutdown authority when IROFS and/or safety control is in doubt and restart authority should be covered.

03.06 Changes in Examinations - Examine five or more records of required exams that were modified from the last inspection. Verify that the scores were adequate and the exam adequately tests the material and modifications to the operation.

#### 88010-04 RESOURCE ESTIMATE

An inspection performed using this inspection procedure is estimated to require 16 hours of inspector resources. This estimate is only for the direct inspection effort and does not include preparation for and documentation of the inspection.

## 88010-05 REFERENCES

Center for Chemical Process Safety, *Guidelines for the Technical Management of Chemical Process Safety*, American Institute of Chemical Engineers, New York, 1989, Chapter 10, pp. 105 - 110.

OSHA, *Process Safety Management of Highly Hazardous Chemicals*, 29 CFR 1910.119 (g), "Training."

Chemical Manufacturers Association, *Process Safety Code of Management Practices*, Washington, 1990, Practices 17, 18, 19, 20.

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