

## Attachment 82001.04

### FACILITIES AND EQUIPMENT

#### 82001.04-01 INSPECTION OBJECTIVES

01.01 To verify the extent of condition of problems in EP related equipment and facilities.

01.02 To provide inspection information in support of the determination of whether the licensee EP program can meet the EP Cornerstone Performance Expectation and whether the program can operate in the licensee response band.

#### 82001.04-02 INSPECTION REQUIREMENTS

02.01 Determine the type of EP related equipment or facilities that are of concern and review the licensee developed extent of condition. Develop an inspection plan to address areas of concern and sample from other areas. Verify the licensee extent of condition has adequately identified the problem areas in equipment and facilities.

02.02 Determine whether facilities and equipment are adequately maintained, are technically adequate, meet NRC requirements, licensee commitments, and are appropriately incorporated into the emergency plan and implementing procedures. Include licensee communication circuits in this determination.

02.03 Review changes to emergency facilities, equipment, instrumentation, and supplies, review the associated 50.54(q) analyses and determine whether the changes were a decrease in effectiveness.

02.04 If the Alert and Notification System (ANS) physical design has been identified as a problem, determine whether the design has been changed since approval of the initial design. Review any approvals of the changes. If the initial physical design or changes are thought to be inadequate, or changes to the design have not been submitted, a determination of the adequacy of the system will require review by personnel qualified in the design of ANS. This effort will be conducted by FEMA. Management should be informed of the need to initiate discussions with FEMA.

02.05 Determine the effectiveness of licensee corrective actions in addressing facilities and equipment issues.

02.06 Develop inspection information on the results of the physical inspection of equipment and facilities to support the determination of whether ERO Performance supports the Cornerstone Performance Expectation.

02.07 Develop inspection information on the results of the physical inspection of equipment and facilities to support the determination of whether the EP program can operate in the licensee response band.

82001.04-03 INSPECTION GUIDANCE

This section contains both general and specific guidance, and these are not numbered to correspond with inspection requirements in Section 02.

03.01 The baseline inspection program is based on the expectation that maintenance of equipment and facilities is within the licensee response band. It is expected that a properly functioning EP program will address equipment and facilities problems through the robust drill and critique programs necessary to maintain green EP performance indicators. However, when these processes are inadequate readiness of equipment and facilities may degrade. The inspection should include a significant sample of the equipment within EP facilities and other types of equipment to verify the licensee identified extent of condition. Inspection information will be useful in determining the efficacy of licensee corrective actions and will support the determination of whether the EP program can meet the Cornerstone Performance Expectation and can operate in the green band.

03.02 Requirements for emergency facilities, equipment and supplies are found in 10 CFR 50.47(b), 10 CFR 50, Appendix E, Technical Specifications, NUREG-0737 and Supplement 1 to NUREG-0737. The Plan contains licensee commitments applicable to EP equipment and facilities. Essential emergency facilities, equipment, instrumentation, and supplies must be maintained in a state of operational readiness by the licensee. Determination of their status may be accomplished by direct inspection of emergency response facilities (ERFs), equipment, instrumentation and supplies. Acceptance guidance includes:

- a. The inspector should verify that any changes meet NRC requirements and licensee commitments, have been appropriately incorporated into the Plan and implementing procedures. Verify that changes were properly assessed under 50.54(q).
- b. ERFs should be in a state of operational readiness.
- c. Changes to facilities may affect the licensee's ability to activate them in a timely manner. Such changes may include size, location, supplies, internal arrangements, and use during normal operations. Verify that changes were properly assessed under 50.54(q).

- d. The status of emergency preparedness equipment, instrumentation and supplies that support the ERFs should be determined by direct inspection.
- e. Equipment/instrumentation (e.g., radiological survey equipment) must be technically adequate, operable, in calibration, properly maintained and present in appropriate quantities to be considered adequate.
- f. Communications systems should be adequate for ERF operations and operable. Changes made to licensee communication circuit(s) should be evaluated to ensure that they did not decrease the effectiveness of the Plan. Offsite communication circuit recovery plan(s) and onsite repair support for these circuits should be included in this review.
- g. In-plant and onsite data acquisition systems should be operable and testing records for ERF air cleaning systems should show required surveillance.

03.03 If a review of ANS design is performed it may be necessary to review the system design documents and FEMA approvals. If there is reason to believe that changes to the system (or the original design itself) have resulted in inadequate coverage, it is appropriate to notify FEMA. Approval of the ANS is provided by FEMA. If NRC becomes aware of such problems, it may be appropriate to notify FEMA soon after details are clear.

03.04 A review of dose assessment hardware and software documentation supporting the licensee radiological assessment program should include a review of Plan commitments in this area. Several elements that may be reviewed are provided:

- a. Review the licensee program for maintenance of dose assessment software models. This would include the Validation and Verification Report, configuration control documents, revision approval chain, and model documentation. Review changes to the model and code for compliance with licensee programs. Review any internal audits of the code and revisions.
- b. Determine whether the licensee has a backup capability to obtain meteorological data, to estimate the source term, and to assess offsite doses, and that this capability is operational and maintained. This may take the form of redundant computers and data links or a hand calculation method.
- c. Review the licensee basis for the source term estimates. The licensee will base estimates on data from:
  - 1. on line monitoring instrumentation,
  - 2. containment leak rates,
  - 3. post-accident sampling results,
  - 4. in-plant radiological monitoring,

5. offsite radiological monitoring,
6. high range containment monitors,
7. effluent process radiation monitors,
8. atmospheric dump vent,
9. post-accident sampling system,
10. grab samples from the primary coolant system,
11. grab samples from containment air, plant vents and stack,

If precalculated relationships of parameters from the above indicators are used to determine the source term and release rates, their technical bases and accuracy should be verified and documented by the licensee.

- d. The licensee should have methods to determine the magnitude of unmonitored releases. The method may include estimates of containment leakage and source term estimates or may be back-calculated using data from field monitoring teams.
- e. The licensee should have methods to determine atmospheric dispersion of radioactive releases. Sufficient and reliable meteorological information should be available in the control room from onsite and offsite sources for current and forecasted conditions. The licensee should be able to demonstrate that sufficient meteorological data can be collected and transmitted to the appropriate centers in a timely manner.
- f. The adequacy of atmospheric transport and dispersion modeling may be determined by reviewing documentation. The inspector may determine whether the meteorological variables and calculational methods are adequate to characterize conditions to about 10 miles from the site for ground and elevated releases. Significant meteorological and topographical features, such as canyons, deep valleys, hills, mountain ranges, and lake or ocean shorelines. Liquid release dilution factors and release pathways for surface waters should be accounted for in the licensee's model.
- g. The exposure pathways should be consistent with the guidance in the U.S. Environmental Protection Agency (EPA) "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."
- h. The licensee's dose assessment model should have the capability to receive different inputs for different radionuclide mixes based on accident progression (e.g., gap release and core melt) and the capability to receive input from field monitoring, grab sample, and PASS data.
- i. The model used by the licensee should be consistent with models used by offsite authorities. Determine whether the licensee has compared dose models with those of offsite authorities. Where there are significant differences, confirm that the licensee understands the differences and has

informed the offsite authorities and the NRC Regional Response Staff of the differences. (Differences in dose calculations in an emergency will have to be explained to offsite decision makers and the press.) A factor of ten difference in the results, or a plume location difference of 30 degrees should not be regarded as a major difference, if the reasons for the differences are understood.

- j. The control room normally provides reliable indication of the meteorological variables (specified in Regulatory Guide 1.97) for site meteorology. Verification can be achieved by reviewing the meteorological system maintenance records. Additionally, the inspector may review letters of agreement with the National Weather Service or other service that can provide 24-hour backup information. The relevant procedures should contain the current telephone number for contacting the backup service.

03.05 Inspection information on the ability of the program to meet the Cornerstone Performance Expectation should be based on the adequacy of equipment and facilities.

82001.04-04            RESOURCE ESTIMATE

It is estimated that conduct of this attachment will take 40 hours.

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