

Activity: Dose Calculation/Prediction

1.0 Purpose: This guideline provides a method to evaluate the processes and procedures that assess consequences caused by a radiological release.

2.0 Scope: This guideline has been developed for the reviewing and evaluating of the activities associated with dose assessment activities conducted during drills and exercises.

3.0 References:

3.1 10CFR50.47(b)(g) Emergency Plans

3.2 NUREG-0654, Section 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"

3.3 INPO Good Practice 86-008 "Dose Assessment Plans"

3.4 NRC I&E Procedure 82207, "Dose Calculation and Assessment"

4.0 Guidelines:

4.1 In preparation for and during the conduct of this surveillance:

E Obtain and review implementing procedures, instructions and drawings governing this activity.

E Prepare a guide or checklist using the selected items from this guideline.

E Review past surveys, audits, surveillances and other evaluations/ assessments.

- E Ensure that checklists include, where applicable, actual observations of performance, general plant conditions, radiological work practices, housekeeping, work document controls and use, and safety practices.

NOTE: Refer to Guideline A.1, "General Quality Surveillance Guidance," for specific details on the attributes listed above.

- 4.2 Using controlled plant procedures, prepare a checklist which delineates the relevant requirements to be examined to evaluate program implementation. As a minimum, the checklist should include:

- A. Are the assessment procedures consistent with the approved dose assessment model and are they capable of calculating doses under the following release conditions:
1. Ground level and elevated releases.
 2. Monitored and unmonitored pathways, including:
 - Plant stack.
 - Turbine/auxiliary building vents.
 - Containment leakage.
 - Steam Release.
- B. Does the dose assessment procedure contain provisions to include feedback from field monitoring teams which can be incorporated into code projection corrections?
- C. In the model used for dose assessment consistent with models used by off-site authorities?

- D. Are the results of off-site dose assessments incorporated into off-site protective action recommendations in a timely manner?
- E. Are equipment and decisional aids available as determined by the emergency plan or procedures?
- F. For situations where a computerized dose projection is used:
 - Computer programs have been verified and validated for the application.
 - There are persons on every shift who can operate the system.
 - There is a backup manual system using (for example), tables, nomographs, or plastic overlays.
 - There is a person on each shift who can get results in the required time frame using such a system.

5.0 Other Guidelines for Consideration:

5.1 A.1, "General Quality Surveillance Guidance"