

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"