

Davis Besse
Q₁ Questions

Offsite Radiological Monitoring

11.6.3 TLD will be used to measure off-site radiation levels at 18 locations. The applicant states that there are three dosimeters at each location which will be changed monthly, quarterly and annually. This implies the use of one dosimeter read out at each station for each specified time interval. The Staff's position is that 2 or 3 dosimeters should be used and read out for each station at each interval to provide more reliable data for statistical analysis.

The milk sampling frequency should be changed from monthly to weekly during the seasons that milking animals are on pasture. Also, the limits of sensitivity for ¹³¹I should be at 0.5 pCi/liter at the time of sampling, instead of 2.0 pCi/liter as indicated in Table 11-57.

As pointed out in the FES, the Environmental Monitoring Program omitted aquatic plants that are part of the food chain. The staff recommended monitoring the smartweed in marsh area and the applicant was advised of this requirement. State the reason for the omission in the FSAR.

Shielding

12.1.1(1) The applicant states that the shielding is designed to ensure that during normal operations the exposure to operations personnel will not exceed the limits of 10 CFR 20. In section 12.3.3, he also alludes to the fact that station personnel will be monitored to assure that they do not exceed the limits of 10 CFR 20. Although table 12-4A shows that the expected annual man-rem based on operating plant data will in fact be less than the limits of 10 CFR 20, the applicant should state his management policies regarding as low as practicable doses as specified in 10 CFR 20 Section 21.0(c), his methods of achieving these doses, and the persons responsible for their implementation and enforcement.

POOR ORIGINAL

8002030206

- 12.1.2.1.4 Fig. 12-11 "Isomeric at Control Room" shows a 2' concrete shield. What is the shield thickness on the roof of the control room?

Table 12-2 shows the principle nuclides in process equipment. The maximum total activity in the Miscellaneous Waste Evaporator Storage Tank is listed as greater than 5000 curies of high energy gamma radiation. A detailed description and drawings of the shielding around this compartment as well as other compartments containing high levels of high energy gamma radiation should be included in the FSAR. Fig. 12-1 is not of sufficient detail to determine the adequacy of the shielding in pertinent areas. If shield design in an area is based on access requirements in that area, state the parameters (i.e., source strength, dose rate at point of interest, occupancy time, shield material and thickness, etc.) used in the design of specific shields to achieve the desired accessibility in the area.

Area Monitoring

- 12.1.4 Recording of background dose rates allows one to note an inadvertant increase in radiation levels below the alarm point. It also provides a permanent record of radiation levels in the area of interest. Explain why there are no automatic recording functions on any of the area radiation instrumentation.

Estimates of Exposure

- 12.1.6.1 The applicant should either identify the reactors labeled A, B, C, D.... in Table 12-5A, or provide a reference for the tabulated data.

Ventilation

- 12.2.1 The applicant states that the maximum expected concentration of radioactivity on the station site will be within the limits of 10 CFR 50 Appendix I "for all areas outside the station structure but within the site boundary". Does this mean that the station will maintain ^{131}I concentration of 10^{-15} $\mu\text{Ci/cc}$ and ^{85}KR concentrations of 10^{-10} $\mu\text{Ci/cc}$ within the site boundary?

12.2.4 In their airborne radioactivity monitoring program, the Davis Besse station monitors the fuel handling and radwaste areas, and the penetration and control rooms in the ventilation system. The staff therefore requires a diagram that shows the location of the sampling heads in the ventilation system with respect to each area being monitored. Also, describe the airborne radioactivity monitoring system that will detect particulate matter and ^{131}I at levels of $1 \times 10^{-11} \mu\text{Ci/cc}$ in a background of 10 mr/hr (see table 11-50).

Provide information on frequency of sample changing of filter papers and charcoal cartridges at each sample location.

12.2.5.3 What is the frequency of collection of hi-vol grab samples for area surveillance for alpha, beta, gamma activity analysis to establish the levels of airborne contamination.

Contamination Control

12.2.5.4 Explain why tritium is not monitored on a continuous basis at Davis Besse. The applicant states that when the tritium concentration exceeds $2 \times 10^{-5} \mu\text{Ci/cc}$, supplied air masks are worn. What areas are monitored for tritium and at what frequency is it monitored? What method is used for tritium monitoring? Describe the bioassay program for tritium uptake during normal operations and anticipated operational occurrences.

Estimation of Inhalation Dose

12.2.6 A statement such as "No significant dose is expected from iodine" is ambiguous. What is a significant dose? What records will be kept on airborne radioactivity measurements including noble gases and tritium?

Health Physics

12.3 Who is responsible for writing radiation safety procedures? What level of management reviews and signs off on these procedures?

- 12.3.2.2.1 Describe the procedure for calibrating the neutron survey meters for fast neutrons.

Who maintains and calibrates the survey instruments? What is the inspection schedule of instruments insofar as preventive maintenance is concerned. Are instrument maintenance records kept and are these records auditable?

- 12.3.2.2.3 Describe the test facilities and fitting procedures for respirator equipment. What procedures will be used for decontamination of respirators after use in a contamination incident.

Technical Specifications

- 16.0 Provide the technical specifications on the Radiation and Respiratory Protection Program as required in Table 16-1, VI H of the Standard Format and Content of SAR Reports.