

normal operations.

The total released was 6.13 Ci as Ar-41 of a maximum permitted release of 2,785 Ci which corresponded to 0.22% of the allowable release. Maximum concentration at one particular period at stack discharge was 2.54×10^{-6} $\mu\text{Ci/ml}$. This concentration is 81% of the allowable maximum concentration for this facility of 3.12×10^{-6} $\mu\text{Ci/ml}$. No average concentration was calculated due to frequent periods of time when the reactor was idle more than 50% of normal operational time (8 hours per day, 5 days a week, excluding legal and university holidays).

Filter paper air samples showed that no particulate radioactivity above naturally occurring levels could be detected in the exhaust stream.

Trace amounts of fission products from a leaking instrumented fuel element were detected during the months of September and October 1985. During this incident, the estimated average concentration of detectable fission gasses (Kr-85m, KR-87, KR-88) in the reactor room were found to be lower than the allowable maximum concentration in unrestricted areas averaged over a year, as stated in 10 CFR 20, Appendix B. Most of the fission products were confined to the reactor room and disappeared by decay. The leaking fuel element has been isolated and removed from the core. This incident was reported to the NRC Region V Office.

Solid (Dry) Waste

No solid (dry) waste was released for disposal during the year.

Personnel Radiation Exposure

Recorded radiation exposures for the year to personnel included:

8603310375 860324
PDR ADDCK 05000224
R PIR

Average dose is meaningless due to excessive influence of a few positions.

c) Routine quarterly area TLD dosimeter readings totalled 52 at 13 locations.

- maximum total dose at any location for the year - 299 mrem
- minimum total dose at any location for the year - 0 mrem

Average dose is meaningless due to excessive influence of a few positions.

Note that the period reported for quarterly film and TLD is 2/1/85 through to 1/31/86.

d) Routine weekly swipe program generated 2040 swipes of which 63 showed contamination above normally expected level.

- maximum swipe activities recorded was $8.4 \times 10^{-2} \mu\text{Ci}/100 \text{ cm}^2$ from normally contaminated surfaces. This was due to tritium not associated with reactor operations.
- minimum activities for both categories was zero.

Averages were not determined due to excessive influence of a few swipes.

Environmental Surveys

Environmental TLD measurements at 9 locations outside the facility generated 36 radiation readings.

- maximum total recorded exposure at any outside location for the year was 299 mrem.
- minimum total recorded exposure at any location for the year was 0 mrem.

Averages were not determined because the majority of locations had very low or no exposure, and only a few locations had significant readings.

Note that the period reported was 2/1/85 through to 1/31/86.

- - - - -