

Basis. If argon-41 is continuously discharged at  $4 \times 10^{-6} \mu\text{Ci/ml}$ , calculations using the current guidance show that the maximum annual average ground concentration of argon-41 in unrestricted areas would be only 3% of the applicable effluent concentration value of  $1 \times 10^{-8} \mu\text{Ci/ml}$  found in 10 CFR 20. Consequently, the annual total effective dose equivalent to an individual exposed to this concentration would be less than 3 mrem. This is significantly less than the annual public dose limit of 100 mrem. Similarly, if argon-41 is discharged at  $4 \times 10^{-6} \mu\text{Ci/ml}$  under the worst-case short-term weather conditions, the maximum total effective dose equivalent rate would be less than 0.02 mrem/h. Therefore, a person exposed under these conditions would receive a dose much less than the public limit of 2 mrem in one hour.

### 3.7 ENGINEERED SAFETY FEATURES

#### 3.7.1 Ventilation System

Applicability. This specification applies to the operation of the facility ventilation system.

Objective. The objective is to assure that the ventilation system is in operation to mitigate the consequences of possible releases of radioactive materials resulting from reactor operation.

Specification. The reactor shall not be operated unless the facility ventilation system is operating. In the event of a substantial release of airborne radioactivity, the ventilation system will be secured automatically.

Basis. During normal operation of the ventilation system, the annual average ground concentration of argon-41 in unrestricted areas is well below the applicable effluent concentration limit in 10 CFR 20. In addition, the worst-case maximum total effective dose equivalent rate is well below the limit for individual members of the public. In the event of a substantial release of airborne radioactive material, the ventilation system will be secured automatically. Therefore, limiting the operation of the reactor to only those times when the ventilation system is operating ensures the maximum designed control over releases of airborne radioactive material.

#### 3.7.2 Reactor Pool Water.

Applicability. This specification applies to the level and bulk water temperature of the reactor pool.

Objective. The objective is to assure that there is an adequate amount of water in the reactor tank for fuel cooling and shielding purposes, and that the bulk temperature of the reactor pool water remains sufficiently low to guarantee reactor tank integrity.

Specification. The reactor shall not be operated if:

- a. The pool water level is less than 14 feet above the core.
- b. The bulk pool water temperature exceeds 120°F (49°C).