3.7 LIMITING CONDITIONS FOR OPERATION

c. Reactor operation may continue for fifteen (15) days provided that at least one position alarm circuit for each vacuum breaker is operable and each suppression chamber - drywell vacuum breaker is physically verified to be closed immediately and daily thereafter.

7. If Specifications 3.7.A.1 through 3.7.A.6 cannot be met, an orderly shutdown shall be initiated immediately and the reactor shall be in a cold shutdown condition within 24 hours.

8. Oxygen Concentration

a. The primary containment atmosphere shall be reduced to less than 4 percent oxygen with nitrogen gas when in Run mode except as specified in Specification 3.7.A.8.b and 3.7.A.8.c.

b. Within the 24-hour period after placing the reactor in the Run mode, the containment atmosphere oxygen concentration shall be reduced to less than 4 percent and maintained in this condition. Deinerting may commence 24 hours prior to shifting the mode switch out of the Run mode.

4.7 SURVEILLANCE REQUIREMENTS

(4) A drywell to suppression chamber leak rate test shall demonstrate that with an initial differential pressure of not less than 1.0 psi, the differential pressure decay rate shall not exceed the equivalent of the leakage rate through a 1-inch orifice.

8. Oxygen Concentration

The primary containment oxygen concentration shall be measured and recorded on a weekly basis.

3.7 LIMITING CONDITIONS FOR OPERATION

c. The containment atmosphere oxygen concentration (as noted in 3.7.A.8.a) may be increased to greater than 4 percent oxygen for the purposes of containment inspection and minor maintenance, provided that the conditions required by Specification 3.7.A.8.a are re-established within 24 hours.

9. Drywell/Suppression Chamber d/p

a. Differential pressure between the drywell and suppression chamber shall be maintained $\geq$ 1.7 psi except as specified in 3.7.A.9.b and 3.7.A.9.c below.

b. The $\geq$ 1.7 psi differential pressure shall be established within 24 hours subsequent to placing the reactor in the Run mode. The differential pressure may be reduced to $<$ 1.7 psi 24 hours prior to commencing a cold shutdown.

c. The differential pressure may be reduced to $<$ 1.7 psi for a maximum of four (4) hours (period to begin when the ΔP is reduced to $<$ 1.7) during required operability testing of the HPCI system pump, the RCIC system pump, the drywell-suppression chamber vacuum breakers, and the suppression chamber-reactor building vacuum breakers and SBGTS testing. The differential pressure may be reduced to $<$ 1.7 psi for a maximum of 24 hours for the purposes of containment inspection and minor maintenance per Specification 3.7.A.8.c.

4.7 SURVEILLANCE REQUIREMENTS

9. Drywell/Suppression Chamber d/p

a. The differential pressure between the drywell and suppression chamber shall be recorded once per shift.

b. The operability of the low differential pressure alarm shall be verified once per week.

3.7 LIMITING CONDITIONS FOR OPERATION

10. If the specification of 3.7.A.8 or 3.7.A.9 cannot be met, and the required conditions cannot be restored within the subsequent six (6) hour period, an orderly shutdown shall be initiated and the reactor shall be in a Hot Shutdown condition in six (6) hours and a Cold Shutdown condition in six (6) hours and a Cold Shutdown condition in the following eighteen (18) hours.

4.7 SURVEILLANCE REQUIREMENTS

Basis

3.7.A. (cont'd)

The requirement to inert the containment is based on the requirement of 10CFR50.44 on the recommendation of the Advisory Committee on Reactor Safeguards. This recommendation, in turn, is based on the assumption that several percent of the zirconium in the core will undergo a reaction with steam during the loss-of-coolant accident. This reaction would release sufficient hydrogen to result in a flammable concentration in the primary containment building. The oxygen concentration is, therefore, kept below 4% (except for minor maintenance/inspection) to minimize the possibility of hydrogen combustions.

Deinerting Primary Containment for on-line containment entries is permitted for up to 24 hours for emergency maintenance/inspections based on the following:

1. On-line containment entries are short in duration and few in number. Therefore, hydrogen protection, provided by inerting, is insignificantly affected by these entries.

2. Brief on-line containment entries for minor repairs and inspection, typically enhance reactor safety and performance.

General Electric has estimated that less than 0.1% of the zirconium would react with steam following a loss-of-coolant due to operation of emergency core cooling equipment. This quantity of zirconium would not liberate enough hydrogen to form a combustible mixture.

c. Standby Gas Treatment System and Secondary Containment System

The secondary containment is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation, when the drywell is sealed and in service; the reactor building provides primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the complete containment system, secondary containment is required at all times that primary containment is required except, however, for initial fuel loading and low power physics testing.

The Standby Gas Treatment System is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions, with a minimum release of radioactive materials from the reactor building to the environs. To ensure that the Standby Gas Treatment System will be effective in removing radioactive contaminants from the reactor building air, the system is tested periodically to meet the intent of ANSI N510-1975. Both standby gas treatment fans are designed to automatically start upon containment isolation and to maintain the reactor building pressure to approximately a negative 0.15-inch water gauge pressure; all leakage should be in-leakage. SHould the fan fail to start, the redundant alternate fan and filter system is designed to start automatically. Each of the two fans has 100% capacity. This substantiates the availability of the operable circuit and results in no added risk; thus, reactor operation or refueling operation can continue. If neither circuit is operable, the plant is brought to a condition where the system is not required.