

CONTAINMENT SYSTEMSAIR TEMPERATURELIMITING CONDITION FOR OPERATION

3.6.1.5 Primary containment average air temperature shall be maintained:

- a. between 85°F* and 110°F^{***} in the containment upper compartment, and
- b. between 100°F* and 120°F^{***} in the containment lower compartment.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the containment average air temperature not conforming to the above limits, restore the air temperature to within the limits within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.5.1 The primary containment upper compartment average air temperature shall be the weighted average** of all ambient air temperature monitoring stations located in the upper compartment. As a minimum, temperature readings will be obtained at least once per 24 hours from the following locations:

Location

- a. Elev. 743 ft.
- b. Elev. 786 ft.
- c. Elev. 786 or 845 ft.

4.6.1.5.2 The primary containment lower compartment average air temperature shall be the weighted average** of all ambient air temperature monitoring stations located in the lower compartment. As a minimum, temperature readings will be obtained at least once per 24 hours from the following locations:

Location

- a. Elev. 722 ft.
- b. Elev. 700 ft.
- c. Elev. 685 or 703 ft.

* Lower limit may be reduced to 60°F in MODES 2, 3 and 4.

** The weighted average is the sum of each temperature multiplied by its respective containment volume fraction. In the event of inoperable temperature sensor(s), the weighted average shall be taken as the reduced total divided by one minus the volume fraction represented by the sensor(s) out of service.

*** Upper limit of 105°F in the upper containment and 125°F in the lower containment are permitted for a 120 day period effective 7-23-81.

SEQUOYAH - UNIT 1

3/4 6-10

ENCLOSURE 2

JUSTIFICATION FOR PROPOSED CHANGE TO SEQUOYAH NUCLEAR PLANT UNIT 1 TECHNICAL SPECIFICATIONS

The existing containment air temperature upper limits are based on (1) FSAR chapter 15 emergency core cooling system (ECCS) analysis and (2) equipment protection and anticipated operating conditions. In regard to item 1, Westinghouse Electric Corporation has reviewed the applicable analyses and concluded the following.

- A. The maximum predicted peak F_0 for the duration of this cycle is 2.07 due to burndown of peaking factors. Since the 10 CFR 50.46 loss of coolant accident (LOCA) analysis was done with a maximum F_0 of 2.237, the value of 2.07 for the remainder of the cycle ensures additional margin to the limit of 2,200°F in calculated peak clad temperature.
- B. The 10 CFR 50.46 ECCS performance analysis for Sequoyah Nuclear Plant unit 1 is based on a containment back pressure transient which assumes temperatures in the containment upper and lower compartments of 110°F and 120°F respectively. In order for this analysis to be unaffected by an increase in either the upper or lower compartment temperature, the total containment air mass must remain unchanged. This can be accomplished by restricting the temperature in the unaffected compartment to offset the affected compartment's higher temperature. For the specific case existing at Sequoyah unit 1 where a high temperature exists in the lower compartment, Westinghouse recommends a degree for degree trade off up to a maximum temperature limit of 125°F in the lower compartment. The effect of back pressure on making this trade off is actually favorable since the upper compartment has a larger volume than the lower compartment, so the total air mass will increase. With a lower compartment temperature of 125°F, upper compartment temperature must not exceed 105°F.

In regard to item 2, considering that in containment equipment has been qualified to postaccident conditions, TVA believes that the integrity of such equipment would not be jeopardized due to this slightly elevated normal temperature. In addition, TVA has determined that the average temperature for the areas in containment which contain equipment required to be qualified in NUREG-0588 is several degrees less than the overall containment average temperature. Both TVA and Westinghouse conclude that the slightly elevated temperatures in the lower compartment will have negligible affect on equipment.