DUKE POWER COMPANY
OCONEE NUCLEAR STATION

ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION REVISION

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3.4.3 The 16 main safety relief valves shall be operable.

3.4.4 A minimum of 72,000 gallons of water per operating unit shall be available in the upper surge tank, condensate storage tank, and hotwell. A minimum of 6 ft. (= 30,000 Gal.) shall be available in the upper surge tank.

3.4.5 Emergency Condenser Cooling Water (ECCW) System

a. The RCS shall not be heated above 250°F unless the ECCW System is operable.

b. If the ECCW System becomes inoperable during operation above 250°F, and the system is not restored to operable status in seven days, then the unit shall be brought to hot shutdown within an additional 12 hours and below 250°F in another 12 hours.

3.4.6 The controls of the emergency feedwater system shall be independent of the Integrated Control System.

Bases

The Main Feedwater System and the Turbine Bypass System are normally used for decay heat removal and cooldown above 250°F. Feedwater makeup is supplied by operation of a hotwell pump, condensate booster pump, and a main feedwater pump.

Operability of the Emergency Feedwater System (EFW) assures the capability to remove decay heat and cool down the Reactor Coolant System to the operating conditions for switch over to decay heat removal by the Decay Heat Removal System, in the event that the Main Feedwater System is inoperable. The EFW system consists of a turbine driven pump (880 gpm), two motor driven pumps (450 gpm each), and associated flow paths to the steam generators.

The decay heat and the reactor coolant pump heat following a reactor trip from 102% power, and the EFW flow rate (90°F feedwater) required to remove this heat demand are as follows:

Time	Heat Source (% of 2619 MWT)	EFW Flow Required to Match Heat Source (gpm)
2 min	5.031	797
5 min	3.46	548
10 min	3.06	485
30 min	2.49	395
1 hour	2.15	341
2 hours	1.89	299
4 hours	1.74	276

The limiting transient requiring maximum EFW flow is the loss of main feedwater with offsite power available. For this transient, a minimum EFW flow rate equivalent to 405 gpm at 1050 psig is adequate. Each of the three EFW pumps is capable of delivering this flow.

A 100% flowpath is defined as: The flowpath to either steam generator including associated valves and piping capable of being supplied by either the turbine driven pump or the associated motor driven pump.

One flow indicator or steam generator level indicator per steam generator is sufficient to provide indication of emergency feedwater flow to the steam generators and to confirm emergency feedwater system operation. In the event that at least one indicator per steam generator is not available, then the flowpath to this steam generator is considered to be inoperable.

The EFW System is designed to start automatically in the event of loss of both main feedwater pumps or low main feedwater header pressure. All automatic initiation logic and control functions are independent from the Integrated Control System (ICS).

Normally, decay heat is removed by steam relief through the turbine bypass system to the condenser. Condenser cooling water flow is provided by a siphon effect from Lake Keowee through the condenser for final heat rejection to the Keowee Hydro Plant tailrace. Decay heat removal via recirculation flowpath

may be maintained for up to 11 hours per unit, assuming the minimum amount of water in the upper surge tanks, condensate storage tank, and hotwell is available. This is based on the conservative estimate of normal makeup being 0.5% of throttle flow. Throttle flow at full load, 11,200,000 lbs/hr., was used to calculate the operation time. For decay heat removal the operation time with the volume of water specified would be considerably increased due to the reduced throttle flow.

Decay heat can also be removed from the steam generators by steam relief through the main steam safety relief valves. The total relief capacity of the 16 main steam safety relief valves is 13,105,000 lbs/hr. In this case the minimum amount of water in the upper surge tank, condensate storage tank, and hotwell is sufficient to remove decay heat and reactor coolant pump heat for 3 hours per unit at hot shutdown conditions.

A 6 foot level in the upper surge tank will ensure that 30,000 gallons of water are available to the EFW pumps from that source. The 6 foot level set-point includes an allowance for instrument error and for the depletion of inventory while switching to an alternate suction source.

REFERENCE

FSAR, Section 8, 10 and 15.

Duke Power Company
Oconee Nuclear Station

ATTACHMENT 2

No Significant Hazards Consideration Evaluation

Duke Power Company has made the determination that this amendment request involves a No Significant Hazards Consideration by applying the standards established by the Commission's regulations in 10 CFR 50.92. This ensures that operation of the facility in accordance with the proposed amendment would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

The proposed Technical Specification addressed in this submittal involves a change that constitutes an additional limitation and a more stringent requirement not presently included in Technical Specifications. Specifically, the requested amendment will change Technical Specification 3.4.4 to require a minimum of 6 feet upper surge tank (UST) level for emergency feedwater pump suction. Presently, the required UST level is 5 feet which corresponds to the tank volume of 30,000 gallons. The 5 feet minimum UST level is based only upon tank geometry and does not consider the effects of instrument error. The proposed 6 feet UST level is based on recent analyses performed by Duke Power Company to determine the adequacy of the UST level requirement of 5 feet. An uncertainty analysis considering the maximum expected UST level instrumentation error showed that an indicated UST level of 6 feet is required to ensure that the Technical Specification 3.4.4 is satisfied. The proposed 6 feet level setpoint includes an allowance for instrument error and for the depletion of inventory while switching to an alternate EFW suction source.

The proposed amendment also includes a revision to the table of emergency feedwater flow demand in the Bases of Technical Specification 3.4. The one minute entry is deleted, since the primary mode of heat removal in the first minute after reactor trip is boiling off the steam generator inventory which existed at the time of the trip. EFW flow does not begin until the SG level decreases to the low level limit. In addition, the remainder of the entries in the table are changed to reflect a revised calculation of required EFW flow.

The revised calculation differs from the original in the following aspects: a lower decay heat level is used, a lower reactor coolant pump heat is considered, and delayed neutron power is included. The original calculation assumed infinite operation to determine decay heat levels, while the revised calculation is based a bounding but more realistic assumption of 440 effective full power days per cycle. The reactor coolant pump heat is based on actual heat input at hot conditions rather than the nameplate power of the pump, which is higher. The delayed neutron power is conservatively based on the control rod worth associated with the minimum

shutdown margin at hot shutdown per Technical Specification 3.1.11. the actual minimum shutdown margin at beginning of cycle (the limiting condition) required by the Technical Specifications rod position limit curves is significantly greater than this amount. Thus, the actual delayed neutron power would be much lower. The contribution of delayed neutron power makes the two minute entry in the table higher than the previous amount. However, this change does not affect the capability to achieve and maintain hot shutdown with only one emergency feedwater pump operating following a loss of main feedwater with offsite power available.

Duke Power Company is confident that the revised calculation is bounding for any decay heat level that may occur in an Oconee core. Therefore this updated table has been included in the proposed Technical Specification revision.

The subsequent paragraphs address each of the three standards that are promulgated in 10 CFR 50 Part 50.92(c).

First Standard

Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment increases the required UST level from 5 feet to an indicated 6 feet allowing for maximum instrument error. This is clearly an improvement which would assure the availability of the required UST inventory. Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Second Standard

Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendment involves a change which would increase the required UST level from 5 feet to 6 feet. This change constitutes an additional limitation and restriction which will improve the margin of safety. The amendment does not involve any modification in the system design and procedures which would create the possibility of a new or different kind of accident from any accident previously evaluated.

Third Standard

Involve a significant reduction in a margin of safety.

The proposed amendment is clearly an improvement in the availability and reliability of the water sources for emergency feedwater for decay heat removal and does not involve a significant reduction in a margin of safety.

Duke Power Company has concluded based on the above discussion that the proposed amendment does not involve a significant hazards consideration.