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DUKE POWER

April 20, 1994

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269,-270,-287
Proposed Technical Specification Amendment
Supplemental Information
(Technical Specification 3.4)

By letter dated December 8, 1993, a proposed amendment to Technical Specifications 3.4, Secondary Systems Decay Heat Removal, was submitted which included a request to remove the Emergency Condenser Cooling Water (ECCW) system requirement.

On April 6, 1994, a meeting between NRR and Duke Power was convened to discuss several technical aspects of the requested amendment. NRR requested that we submit a supplement to the amendment and address specific issues as a result of this meeting. This letter is in response to your request. Included also is information in response to an additional three questions that were received from NRR via telecopy on April 13, 1994.

One of the items identified in the April 6 meeting was a need to clarify our statement in the amendment request about ECCW only being required in the event of a loss of all AC power (Station Blackout, SBO). The Emergency Condenser Circulating Water (ECCW) mode of operation consists of two distinct siphons. The "first" siphon supplies flow from the intake canal to the buried intake piping and on to the suction of the Low Pressure Service Water (LPSW) pumps. In the event of a loss of offsite power (LOOP) during which emergency power is available, the "first" siphon is required to provide flow to the LPSW pumps until forced flow can be reestablished. The "second" siphon provides flow from the buried intake piping through the condenser to the Keowee Hydro Tailrace in the event of a SBO (Re: Letter dated April 30, 1984 from John F. Stolz - NRC to Hal B. Tucker - Duke regarding the Safety Evaluation Report associated with Amendment Nos. 128, 128TO, and 125TO to Facility Operating License Nos. DPR-47, DPR-55, and DPR-55 respectively). The "first" siphon must function in order for the "second" siphon to function. However, during an SBO event, the condenser would be the only load receiving flow since the LPSW pumps would be without power.

In 1984, the NRC approved the Tech Spec change submitted by Oconee allowing for continued operation of the Oconee units for a limited period of time (seven days) if the ECCW system becomes or is declared inoperable. In this SER, the NRC recognized the fact that "the ECCW system allows for continued

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condenser circulating water flow by gravity following a loss of all station power except station batteries. This feature allows for closed loop recirculation of condensate which might normally be vented to the atmosphere through the main steam relief valves..." (Re: Letter dated April 30, 1984 from John F. Stolz - NRC to Hal B. Tucker) During any other event involving a LOOP, secondary side heat rejection to the atmosphere, through the main steam safety valves is more than adequate until a CCW pump is restarted. Procedurally, a CCW pump will be restarted within one hour allowing for closed loop recirculation of condensate. The 72,000 gallons of condensate required by Tech Specs is more than adequate for this one hour period.

During the April 6 meeting, we were also requested to provide additional information on the use of the Turbine Driven Emergency Feedwater (TDEFW) pump in an SBO event. The purpose of the following discussion is to address this issue and to request that you provide concurrence with this position. Oconee's submittal in response to the SBO rule, and NRC SERs, establish a coping duration of 4 hours for Oconee. (Re: Letter dated March 10 and December 3, 1992 from L. A. Wiens - NRC to J. W. Hampton - Duke regarding the Safety Evaluation Report and Supplemental Safety Evaluation Report associated with the station blackout rule, 10 CFR 50.63). These documents also establish the Standby Shutdown Facility Auxiliary Service Water (SSF ASW) System as the required means for providing feedwater to the steam generators for secondary side heat removal. The SSF is designed to maintain hot shutdown on all three units for 72 hours by pumping lake water into the steam generators and rejecting the heat to atmosphere via the main steam safety valves. The SSF has its own diesel generator which is designed to provide power to all loads required to maintain hot shutdown conditions on all three units. The SSF also has its own control room with sufficient instrumentation and controls to maintain hot shutdown conditions on all three units. The NRC required that Oconee's main control room remain functional and habitable during the 4 hour coping duration in order to facilitate the recovery of power and maintain the availability of control room instrumentation. In order to meet this requirement, Oconee extended battery life beyond 4 hours by instituting procedural changes to shed certain, non-vital loads. In addition, it was demonstrated by calculation that the control room would remain habitable and functional without HVAC for the 4 hour coping duration. The turbine driven emergency feedwater (TDEFW) pump would also be available during an SBO and would, in fact, be the preferable mode for injecting feedwater into the steam generators. The 72,000 gallons of condensate grade feedwater (per unit) required by Tech Specs is greater than that required to maintain hot shutdown conditions for 4 hours (approximately 65,000 gallons). Because battery life has been extended beyond 4 hours, the TDEFW pump is capable of being controlled from the main control room and injecting condensate into the steam generators for the duration of the SBO, with the heat being rejected to atmosphere via the main steam safety valves. Although the TDEFW pump (along with its flowpath) is available, it is not required to achieve compliance with the SBO rule. The SSF ASW System is the credited means of injecting feedwater into the steam generators during the 4 hour coping duration. We request that the NRC provide their concurrence with this position.

On April 13, 1994, additional clarification on the function of ECCW was requested by the NRC via Telecopy:

> "In FSAR section 9.2.2.1, Duke states that following a design basis event involving loss of CCW pumps, the ECCW system supplies suction to the LPSW pumps. Section 9.2.2.2.3 further states that suction is provided to the LPSW pumps via gravity or siphon flow from the CCW system (ECCW mode) following a design basis accident where the CCW pumps are not running. This implies that following a LOCA (with LOOP) either the ECCW system must be operable or the minimum reservoir level must exist to promote and maintain NPSH to the LPSW pumps (to supply LPSW loads and to prevent LPSW pump damage) until the CCW pumps are manually started. Therefore, it appears that Tech Specs are needed for the ECCW system or the reservoir level to assure adequate NPSH to the LPSW pumps until the CCW pumps are started."

The "first" siphon, which provides suction to the LPSW pumps, is required during any event with a LOOP. Section 16.9.7 of the FSAR contains Selected Licensee Commitments (SLC) that place administrative controls on the lake level to ensure that adequate NPSH is available to the LPSW pumps. The operators regularly verify, for a given lake level, the ECCW system ("first" siphon) configuration required per the SLC. In the event that the required configuration does not exist, a Tech Spec LCO is entered. Tech Spec 3.3.7 addresses LPSW operability, and will be entered when only one siphon source is available to the LPSW pumps. If no siphon sources are available, Tech Spec 3.0 is entered based on LPSW system inoperability. Since there are already in place Technical Specifications which control LPSW operability requirements and SLC 16.9.7 specifies the required lake level to assure adequate NPSH to the LPSW pumps and references the applicable specification and LCO requirements, an additional Tech Spec is not necessary.

Following a LOOP, procedures direct the operating crew to restart a CCW pump within 1 hour. The Design Basis Specification for the CCW System (Design Basis Document, DBD) requires that the CCW pumps be restarted within 1.5 hours. The ability to do so has been demonstrated in simulator exercises a number of times. The loss of power abnormal procedure is well practiced.

Gravity flow to the LPSW pumps, without the use of the "first" siphon, requires a lake level sufficiently above the high point in the intake piping to overcome the frictional losses to the LPSW pump suction and maintain adequate NPSH to the LPSW pumps. This mode of operation is not relied upon during any licensing event; therefore, no controls are necessary to ensure gravity flow availability. Due to the elevation of the ECCW piping on the condenser outlet, gravity flow through the condenser is not possible without the use of the "second" siphon.

Regardless of the coping method, since the primary success path for secondary decay heat removal does not depend upon the availability of ECCW flow through the condenser, this flow path (the "second" siphon) is not essential for

Oconee and can be eliminated from the Secondary System Decay Heat Removal Technical Specification.

A discussion on the issue of the current surveillance specification for the ECCW system also occurred in the meeting of April 6. Since the primary success path for secondary decay heat removal does not depend upon the availability of ECCW flow through the condenser, the Surveillance Requirements Technical Specification for Condenser Cooling Water System Gravity Flow Test can also be eliminated. Therefore, it is requested that the removal of the surveillance requirements as addressed in Technical Specification 4.1-2, Item 7. Condenser Cooling Water System Gravity Flow Test, be added to our original amendment request of December 8, 1993. Attachment 1 is the proposed Technical Specification and Attachment 2 is the marked copy of the current Technical Specification.

The last remaining issue from the April 6 meeting concerns our discussion in the amendment request of December 8, 1993 on the use of the Auxiliary Service Water Pump (ASW) as a means to provide water to the steam generators. As noted in the submittal from J. W. Hampton to the NRC, dated December 8, 1993, the Auxiliary Service Water (ASW) pump can pump lake water directly into the steam generators after the secondary side is depressurized via the manual atmospheric dump valves. This ensures that decay heat removal through the secondary side can continue as long as necessary. This method, however, would not be available during an SBO event, as it does not receive power from the SSF Diesel Generator.

Very Truly Yours,

J. W. Hampton

J. W. Hampton

xc: L. A. Wiens, ONRR

S. D. Ebneter
Regional Administrator, Region II

P. E. Harmon
Senior Resident Inspector

J. W. Hampton, being duly sworn, states that he is Site Vice President of Duke Power Company, that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this revision to the Oconee Nuclear Station License Nos. DPR-38, DPR-47, and DPR-55; and that all statements and matters set forth therein are true and correct to the best of his knowledge.

J W Hampton

J. W. Hampton, Vice President

Subscribed and sworn to before me this 20 day of april, 1994.

Carrie M Breazeale

Notary Public

My Commission Expires:

2/12/2003