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SUBJECT: Provides mod of plant ATWS design.

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April 4, 1995

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

Subject: Oconee Nuclear Site
Docket Nos. 50-269, -270, -287
Modification of the Oconee ATWS Design

In a letter dated August 30, 1989, Duke Power Company submitted the Final Design Description for the Oconee ATWS Mitigation Systems Actuation Circuitry (AMSAC) and Diverse Scram System (DSS). This submittal was made to meet the required changes to nuclear facilities identified in 10 CFR 50.62. On November 29, 1989, a Safety Evaluation Report (SER) was issued by the NRC which concluded that the proposed plant-specific design was in compliance with the rule requirements of 10 CFR 50.62. The purpose of this letter is to submit information concerning the recent changes to the Oconee Nuclear Station which affected the specific wording used in both the Duke submittal and the NRC SER.

During September, 1993, Oconee Nuclear Station began replacing the Anticipatory Reactor Trip System (ARTS) initiation sensors for Loss of Main Feedwater. These ARTS initiation sensors monitor Main Feedwater Pump Discharge Pressure and Main Feedwater Pump Turbine Oil Pressure. The replacement of these sensors was dictated by the inability of the original manufacturer to supply qualified replacement sensors. In addition, material compatibility between the pressure switch diaphragms and the feedwater fluid chemistry was considered a problem. An alternate vendor had been identified which could provide safety-related pressure switches using a compatible diaphragm material. Unknowingly, this vendor had also been selected to supply replacement pressure switches for the ATWS systems.

The Duke submittal for the ATWS systems had stated that the sensors used for the ATWS systems, while not required to be of diverse manufacture, were in fact of diverse manufacture. The ATWS systems were identified as using Static 'O' Ring switches. Meanwhile, the Emergency Feedwater initiation and ARTS used Custom Component switches. In the SER, the NRC acknowledged the diversity of the proposed Duke design while making no mention of the exemption from diversity. The Babcock and Wilcox

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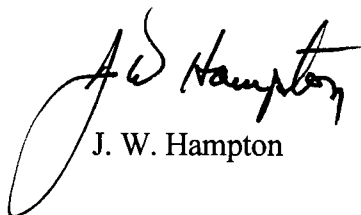
Owners Group (B&WOG) Generic Report "Design Requirements for DSS and AMSAC", upon which Duke's submittal was based, did not require diversity of the sensors used for RPS functions and AMSAC/DSS. The NRC's SER on the B&WOG Generic Report acknowledged that sensor diversity was not required. In addition, the SER on the B&WOG Generic Report indicated that common sensors for RPS and AMSAC/DSS could be utilized. However, qualified isolation devices and specific power sources would be required for the common sensors. Duke's submittal was based on the B&WOG generic report and the NRC guidance provided in the SER on the B&WOG generic report.

On approximately October 3, 1994, Oconee Engineering personnel were involved in the review activities associated with the description of the ATWS interfaces with another plant system. This review identified that a modification had been implemented on Oconee Units 1 & 3 and was being implemented on Oconee Unit 2. These modifications would invalidate the descriptions contained in the Duke submittal and the SER for the Oconee design. These modifications have caused the pressure switches that are used for the Main Feedwater Pump Discharge Pressure initiation of the Emergency Feedwater System, the RPS related ARTS function and the AMSAC function to be from the same manufacturer. While specific model numbers are different, the pressure switches are from the same manufacturer.

The purpose of submitting this information regarding the ATWS/EFW/ARTS pressure switches is to identify to the NRC a material change in the design description of the Oconee AMSAC system. Duke's Electrical Systems Engineering assessment indicates that the common manufacturer for the pressure switches does not invalidate the compliance with the rule requirements of 10 CFR 50.62. In addition, the assessment indicates that the lack of diversity does not invalidate the 50.59 review. Finally, the use of a common manufacturer does not prevent the Oconee specific AMSAC system or the Oconee RPS/ARTS from performing their required functions. The present configuration meets all of the requirements that were identified in the B&WOG generic design and the NRC's SER for the generic design.

Oconee does not intend to replace the AMSAC/DSS pressure switches in the near term with models from another manufacturer. However, if future circumstances indicate that a change in these pressure switches is necessary, then the change will be evaluated in accordance with 10 CFR 50.59.

Very truly yours,



J. W. Hampton

cc:

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