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SUBJECT: Provides addl info er containment hydrogen control sys. Util identified discrepancies between current sys design & info previously submitted to staff, as result of review.

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DUKE POWER

February 22, 1996

U. S. Nuclear Regulatory Commission
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Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Additional Information Concerning Containment
Hydrogen Control System

The purpose of this letter is to provide additional information on the Containment Hydrogen Control System (CHCS). As a result of reviewing the design basis of the CHCS, Duke Power identified discrepancies between the current system design and information that was previously submitted to the Staff.

By letter dated February 12, 1986, Duke Power proposed an amendment to the Oconee Technical Specifications concerning operation of the Containment Hydrogen Recombiner System (CHRS). In a letter dated August 29, 1986, the NRC Staff requested additional information regarding the power supply for the CHRS. Duke responded to this request on October 20, 1986, stating that in the event of a LOCA with a simultaneous loss of offsite power (LOOP) the CHRS could be powered from the Keowee Hydroelectric Station (KHS).

Following the 1986 submittal, power for the CHRS was modified such that it is currently supplied from the switchyard via the B3T or B4T transformer. The B3T and B4T transformers are supplied from the switchyard and cannot receive power from KHS in the event of LOCA/LOOP. Therefore, the likely source of power to the CHRS following a design basis accident is different from what was described to the Staff in 1986. Duke Power also recently revised the design basis hydrogen generation calculations. The new calculations predict that the lower flammability limit for hydrogen would be exceeded approximately 15 days following a design basis accident. This information also differs from what was submitted to the Staff in 1986. Section 15.16 of the Oconee FSAR will be revised to reflect these new analyses. Since it takes approximately 15 days to reach the

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lower flammability limit following a design basis accident, there is adequate time to restore power to the CHRS. Power will be supplied to the recombiners using offsite power through transformers B3T or B4T. In the unlikely event offsite power is unavailable, adequate time exists to supply power to the CHRS from another source using temporary cabling.

On February 1, 1996, at 1330 hours, a Limiting Condition for Operation (LCO) was entered due to declaring the Containment Hydrogen Control System (CHCS) inoperable. This declaration was made due to the discovery that the potential existed for condensation to form in the lines between the Reactor Building and the Hydrogen Recombiner/Purge. Following this discovery, work began on a temporary modification which would drain the condensate from these lines and route this condensate back to the Reactor Building. An emergency Technical Specification amendment request was submitted on February 6, 1996, and approved by the NRC on February 8, 1996, to allow an additional seven days for completion of this temporary modification. The temporary modification was described in the emergency Technical Specification amendment request. The following additional information is provided in support of this temporary modification.

The temporary modification, as completed on February 10, 1996, included drain tanks which were pressure tested to 10 psig. While this pressure is less than the design pressure (59 psig) of the Reactor Building, operation of this system is administratively controlled such that the maximum pressure in the drain tank will not exceed 10 psig. Subsequent modifications to this system have replaced the 10 psig tanks with upgraded tanks satisfactorily tested at 59 psig. All drainage hoses to the drain tanks which have the potential to be exposed to containment design pressure have also been satisfactorily tested at 59 psig. The piping construction code for the piping system to which the hoses are attached is not applicable to the drainage hoses due to the nature of the material. Consequently, this system will remain "operable, but degraded".

February 22, 1996

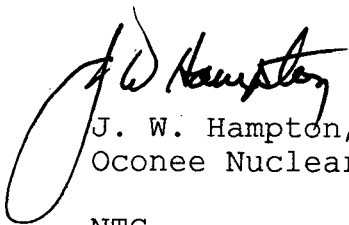
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As part of the 10 CFR 50.59 evaluation associated with the temporary modification, it was noted that the flexible connections to the CHRS differed from what is currently described in the FSAR. The FSAR refers to "flexible metal piping" while high pressure reinforced hoses are actually installed. These high pressure reinforced hoses are functionally equivalent to flexible metal piping. A 10 CFR 50.59 evaluation of the use of this hose was completed and no unreviewed safety questions existed. The FSAR will be updated to reflect the current hydrogen recombiner flexible connections.

The temporary modification which installs drainage equipment in support of the hydrogen recombiner/purge is a short-term solution. Consequently, an intensive effort is in progress to provide a long term solution which will return the system to fully operable status.

This information is being provided to assist in understanding the current status and planned changes to the installed modification. Please contact us if any further information is desired.

Very Truly Yours,



J. W. Hampton, Site Vice President
Oconee Nuclear Site

NTC

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February 22, 1996

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