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ACCESSION NBR: 8210210131 DOC. DATE: 82/10/13 NOTARIZED: NO DOCKET #
 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269
 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287
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 DENTON, H. R. Office of Nuclear Reactor Regulation, Director
 STOLZ, J. F. Operating Reactors Branch 4

SUBJECT: Responds to NRC 820908 ltr transmitting technical evaluation
 rept on emergency feedwater sys. Sys may not meet all current
 criteria for seismic qualification but will remain
 functionally operable during OBE.

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October 13, 1982

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Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. John F. Stolz, Chief
Operating Reactors Branch No. 4

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Sir:

By letter dated September 8, 1982, the NRC provided for our review and comment a Technical Evaluation Report, prepared by Lawrence Livermore National Laboratory, on the Oconee Emergency Feedwater (EFW) System. Our detailed comments are attached. Duke concludes that although the existing EFW system may not fully meet all of the present day criteria the NRC has requested in the areas of seismic qualification, the system will in fact remain functionally operable during an OBE. Furthermore, credit should be given for the Duke initiated design and construction of a dedicated shutdown facility, which was begun in late 1977, and which will be fully operational, under an existing License Condition, within 30 months of NRC approval of final design.

Finally, Duke disagrees with the Staff statement in the cover letter alluding to the sensitivity of the Oconee plants and the substantial lack of AFW seismic resistance. By letter dated July 23, 1980 in response to NUREG-0667, Duke provided substantial information regarding actual Oconee operating experience. Duke considers that the assertion of sensitivity of the Oconee plants is not technically based, and furthermore, that the Staff's assertion of substantial lack of seismic resistance is not supported by the Technical Evaluation Report provided.

Very truly yours,

H.B. Tucker / BT

Hal B. Tucker

RLG/php
Attachment

cc: Mr. Victor Stello
Deputy Executive Director for Regional
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Washington, D. C. 20555

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Mr. Harold R. Denton, Director
October 13, 1982
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cc: Mr. James P. O'Reilly, Regional Administrator
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Mr. W. T. Orders
NRC Resident Inspector
Oconee Nuclear Station

Duke Power Company
Oconee Nuclear Station

Response to NRC Technical Evaluation Report
Seismic Qualification of Emergency Feedwater

- A. The staff asserts that "the present AFW substantially lacks the capability to withstand a postulated safe shutdown earthquake". This is not supported by the technical information provided by Duke (reference 1). Also, the TER provided by the NRC states that only the following items are not fully seismically qualified:
1. Pumps/Motors - As stated in the Duke submittal, portions of the turbine driven EFW pump oil system and oil cooling system do not have retrievable seismic documentation. However, either one of the remaining two redundant motor-driven EFW pumps and redundant delivery paths to the Steam Generators is fully capable of effectively removing decay heat from the reactor coolant system (Reference 1, Section VII). As such, Duke considers that the stated lack of qualification to full SSE in this case is of no concern.
 2. Piping - As stated in our submittal, branch piping beyond the first valve is currently non-seismically qualified. However, this is consistent with the analytical, testing, and evaluation methods of other similar Oconee safety-related systems and this appears to be consistent with the statements made in paragraph A of Enclosure 1 of GL 81-14.

As such, Duke considers that the EFW system through the first isolation valves are acceptably designed to withstand an SSE. These isolation valves are normally closed and thus any failures occurring downstream in connected piping should not cause the EFW system to become inoperable.
 3. Valves/Actuators - As stated, valves in the oil support system, pneumatic control valves and backup nitrogen bottles, and certain other valves lack full seismic qualification. However, this lack of qualification to SSE has no effect on the operability of the EFW system. As noted in Section VII of our submittal, no actuation of EMO valves in the system is necessary to establish EFW flow, and the pneumatic valves will fail open upon loss of power or air.
 4. Power supplies - Although power supplies to certain motor-operated valves are not seismically designed, they are not required to function to provide EFW flow. So while these power supplies are not fully SSE qualified, the EFW system is fully capable of functioning without power to these valves.
 5. Structures - The EFW and supporting mechanical, electrical, and I&C systems are located primarily in the Oconee Turbine Building with portions in the Auxiliary Building and Reactor Building. The Reactor and Auxiliary Buildings are seismic Class 1 structures and the Turbine Building is a seismic Class 2 structure. The TER has

judged that the Turbine Building is capable of withstanding an OBE. However, portions of the piping are located in the Reactor and Auxiliary Building which are designed to withstand an SSE.

Contrary to the conclusion drawn by the Staff, Duke considers that the present EFW system has substantial capability to withstand a postulated OBE. In fact, the EFW system fully expected to remain operable during an SSE, the only concern being in the structural integrity of the Turbine Building.

- B. The Staff states that "the licensee has not done and does not plan to do a walk-down on the AFW". Duke has considered the potential benefits such as walk-down would provide. In as much and as the seismically designed, portions of the EFW system have been inspected per the requirements of various NRC bulletins as described in Section VI of our submittal, and based on the technical evaluation, as provided in the response to "A" above, Duke considers that little if any benefit would be derived from such an effort. Modifications are not required to assure operability of the EFW system; however, substantial modifications would be necessary to the Turbine Building to assure its integrity during an SSE. The concern associated with catastrophic failure of the Turbine Building is one reason the dedicated shutdown facility (SSF) was conceived in late 1977. It is currently under construction and will be completed, as required by License Condition, within 30 months of NRC approval the final design. Duke concluded that any changes to the Turbine Building as a result of a system walkdown could not be effectively implemented in any substantially shorter period of time and would not be cost effective in providing long term benefit in light of the costs associated with the design and construction of the SSF.
- C. The Staff states that "the licensee did not describe an alternate system for decay heat removal that is presently available". The original letter from the NRC specifically stated that in those plants, or portions, thereof, which are not seismically qualified, information concerning systems which provide an alternate decay heat removal path is requested. Based on the technical evaluation, Duke considers that the EFW system is fully qualified to withstand an OBE, and with the exception of the structure, is qualified to remain fully operable during an SSE. Alternatives to this are those systems classified as Engineered Safeguards such as High Pressure Injection, and Low Pressure Injection described in Chapter 6 of the Oconee FSAR. Finally, one additional means to remove decay heat which the NRC originally accepted when Oconee was licensed is the Auxiliary Service Water System described in Chapter 9 of the Oconee FSAR. Power for this pump is from CT4 through an unground cable to the Auxiliary Building.