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A4.05
QA

[illegible] 6, 1992

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Technical Specification Change Request NPF-38-114,
Request of Additional Information

Gentlemen:

On May 8, 1991, Entergy Operations, Incorporated submitted W3F1-91-0051 to request several changes to Waterford 3 Technical Specifications 3/4.8.1, A.C. Sources - Operating, and 3/4.8.2, A.C. Sources - Shutdown. In recent conversations with the NRC staff, some issues germane to this change request have been discussed. This letter serves as documentation of the resolution of these issues.

In one conversation, Entergy Operations, Inc. learned that although the status of the guidance used from the draft version of Regulatory Guide 1.9 to support the change to Table 4.8-1, Diesel Generator Test Schedule, was confirmed to be final, the staff was not prepared to accept it as justification for this change request until issuance of the guide. Rather than delay the approval of the entire change request until that issue is resolved, Entergy Operations, Inc. hereby withdraws the requested changes in the submittal specifically related to that reg guide (i.e., the changes made to Table 4.8-1). This frees the staff to approve the remainder of the submittal regardless of the Reg Guide's status.

Also requested in this submittal is a reduction in the minimum volume required for the diesel generator fuel oil storage tanks. In a phone conversation on August 1, 1991, between Entergy Operations, Inc. and the NRC, calculations supporting this request were discussed. Attachment A summarizes this discussion. As a result of several recent discussions with the NRC on this issue, Entergy Operations, Inc. is changing the request to reduce the current technical specification volume from 38,760 gallons to 38,000 rather than the 34,000 gallons previously submitted. This establishes a conservative minimum volume while allowing suitable margin for operational flexibility.

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Questions or comments on any of this information should be directed to T.J. Gaudet at (504) 739-6666.

Very truly yours,

RFB/DAR/ssf
Attachment NPF-38-114: Request for Additional Information
cc: R.D. Martin, NRC Region IV
D.L. Wigginton, NRC-NRR
R.B. McGehee
N.S. Reynolds
NRC Resident Inspectors Office
Administrator Radiation Protection Division (State of Louisiana)
American Nuclear Insurers

NPF-38-114: Request for Additional Information

In NPF-38-114, several changes to Waterford 3 Technical Specifications (TSs) 3.8.1.1b and 3.8.1.2b, A.C. Sources - Operating and - Shutdown, are requested. One of these requested a reduction in the minimum required volume in the diesel generator fuel oil storage tanks. These tanks are part of the Diesel Generator Fuel Oil Storage and Transfer System. This system is designed to: (1) provide oil storage capacity in each tank for seven days operation of one diesel generator to meet the engineered safety feature load requirements following a loss of offsite power coincident with a design basis accident, and (2) maintain fuel to at least one diesel engine assuming a single active or passive failure. The decrease in the minimum required volume represents a reduction in fuel oil supply from a seven day reserve to five (based on two different methods of calculation.) This is requested to accommodate diesel generator testing.

The Diesel Generator Fuel Oil Storage and Transfer System provides gross storage of diesel fuel oil and the means to supply the oil to the two EDGs. Fuel oil storage for each diesel engine is separate and independent from one another. Two completely redundant trains are provided, each consisting of a storage tank, transfer pump and feed tank. Train "A" normally serves EDG "A" and train "B" normally serves EDG "B." The capacity of each storage tank is sufficient for seven days operation of one EDG. Interconnective piping with two normally closed valves is provided between the two storage tanks to enable either EDG to be supplied from either tank should one of the transfer pumps fail. Thus a fourteen day total fuel inventory can be available onsite to operate a single EDG.

Waterford 3 calculation, EC-E90-006 Rev, documents the design basis fuel consumption of the EDGs. It indicates that the TS required fuel volume, 38,760 gallons, is sufficient to operate the emergency diesel generator (EDG) for seven days. This is based on a time dependent load scheme assuming only one EDG is operating and only one storage tank available for fuel. (This satisfies the requirements established in ANSI Standard N195, Fuel Oil Systems for Standby Diesel Generators.) Although this satisfies the design basis, such a loading scenario would restrict operability. During an emergency, operators probably would not restrict EDG loads to only those required by the design basis. To allow operators the flexibility to pick up additional loads, a more conservative calculation would assume a continuous, full load on the EDG.

Current test procedures require testing the EDGs under full load once a month. Typically, run time for the test is between one hour fifteen minutes and one hour thirty minutes. Cooper-Bessemer, the diesel generator manufacturer, has issued a technical bulletin that recommends extending this test to four hours. Although beneficial to reliability, a four hour test can consume significantly more fuel. With the tank filled to within the error margin for the high level alarm, one four hour test could potentially reduce the fuel volume to below the low level alarm. If an additional four hour test has to be run before the tank can be refilled, the fuel volume will be reduced to approximately 38,900 gallons, just above the TS limit. Presently, consideration is being given to lowering the high level alarm to prevent overfilling the storage tank. This could eliminate what little margin remains.

As indicated, a more conservative calculation determines the amount of fuel consumed to run an EDG under a continuous full load. Previous calculations were based on a time dependent load. Based on the previous (time-varying load) calculations, a value of 34,000 gallons was requested for the minimum storage tank volume in TSs 3.8.1.1b and 3.8.1.2b. Recognizing the limiting nature of a minimum storage tank volume based on a time dependent load scheme, Entergy Operations, Inc. is changing the request to 38,000 gallons rather than 34,000. A five day full load calculation indicates that a storage tank volume of approximately 37,690 gallons is required. A TS limit of 38,000 gallons maintains a five day fuel supply while allowing sufficient margin to support a four hour operability test.

This change does not alter the safety analysis in the original submittal. As discussed in that submittal, this does not represent a reduction in safety since local suppliers to Waterford 3 can replenish the fuel oil within twenty-four hours following any limiting design basis event or accident. Several diesel oil suppliers are located in the area. All have more than sufficient quantities in inventory for Waterford 3 purposes.