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Early C. Ewing, III
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Waterford 3

W3F1-98-0118
A4.05
PR

July 1, 1998

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
NRC Inspection Report 98-08
Reply to Notice of Violation

Gentlemen:

In accordance with 10CFR2.201, Entergy Operations, Inc. hereby submits in Attachment 1 the response to Violations 9808-01, 9808-03 and 9808-04 identified in Enclosure 1 of the subject Inspection Report. On June 29, 1998, an extension of the original 30-day response date until July 10, 1998, was granted to Waterford 3 by Mr. P. Harrell, NRC Region IV.

Waterford 3 agrees with the NRC's assessment of Violations 9808-01 and 9808-04. However, we do not agree with the characterization of Violation 9808-04 as an example of narrowly focused scoping of a problem, similar to the issue with diaphragm valves discussed in NRC Inspection Report 50-382/98-06. This is discussed in Attachment 1.

With regards to Violation 9808-03, we have performed a critical examination of the inspection report and do not find this to constitute a condition outside of the plant's design basis. Additional details are provided in Attachment 1.


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If you have any questions concerning this response, please contact me at (504) 739-6242.

Very truly yours,

A handwritten signature in black ink, appearing to be 'E.C. Ewing', with a long horizontal flourish extending to the right.

E.C. Ewing
Director
Nuclear Safety & Regulatory Affairs

ECE/BVR/rtk
Attachment

cc: E.W. Merschoff (NRC Region IV), C.P. Patel (NRC-NRR),
J. Smith, N.S. Reynolds, NRC Resident Inspectors Office

ATTACHMENT 1

ENTERGY OPERATIONS, INC. RESPONSE TO THE VIOLATION IDENTIFIED IN
ENCLOSURE 1 OF INSPECTION REPORT 98-08

VIOLATION NO. 50-382/9808-01

Technical Specification 6.8.1.a requires, in part, that written procedures be established covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Section 3 of Appendix A requires that the licensee have procedures for the operation of emergency power sources.

Contrary to the above, the licensee failed to establish adequate procedures for the operation of the emergency diesel generators when in a no or low electrical loading condition in that no specific guidance was provided for operational restrictions on the operation of the emergency diesel generators in a low or no load condition.

This is a Severity Level IV violation (Supplement 1) (50-382/9808-01).

RESPONSE

Summary of Entergy Operations, Inc. Position

Entergy Operations Inc. has carefully evaluated the information in Violation 9808-01 and agrees with the NRC's assessment that operations procedure OP-009-002 regarding diesel generator operation at low or no load conditions did not provide appropriate guidance to the operations staff.

Reason for the Violation

The reason for the inadequate procedure, regarding diesel generator operation at low or no load conditions, is an inadequate review of the content of Operating Procedure, OP-009-002, Emergency Diesel Generator (EDG) due, in part, to vague guidance provided by the emergency diesel generator vendor. In several locations throughout the procedure, it was stated that the EDG should not be operated for an extended period of time unloaded. The procedure also stated that the fuel injection pump temperatures should be checked periodically if the EDG is operating at an unloaded condition for an extended period of time. If any fuel injection pump gets too hot to comfortably hold your hand on, then load or secure the EDG. The length of time to operate the EDG unloaded as defined by the phrase "extended period of time" was unclear in the procedural instructions provided to operations personnel. However, because the EDG vendor manual did not provide a defined period of time to run the EDG in an unloaded configuration, the phrase "extended period of time" was used in the original development of OP-009-002 to provide guidance to the operator to limit operating the diesel at unloaded conditions. It should be noted that several recent inquiries have been made to the vendor regarding time limits for

running the diesel unloaded, and, the vendor has stated that this information is unavailable.

A contributing cause for this occurrence is a lack of questioning attitude by operations personnel in that the vagueness of the phrase "extended period of time" and the uncertainty of the actual temperature of the injection pump to begin loading or securing the EDG was not questioned. The procedure required loading or securing the EDG when the injection pump gets too hot to comfortably hold your hand on the pump. This "temperature value" is subjective and was not quantified.

Corrective Steps That Have Been Taken and the Results Achieved

Operation Procedure OP-009-002, Emergency Diesel Generator, was revised on May 17, 1998, to clarify expectations of running the EDG unloaded or at low load conditions. The issue was investigated by Waterford 3 Systems Engineering and discussions were held with the EDG vendor. It was determined that a concern for overheating the fuel injection pumps at no or low loads does not exist. Thus, the phrase "extended period of time" was removed throughout the procedure and a requirement was added to minimize operation at no or low load conditions. The intent of the new requirement is to prompt the operators to secure the EDG if they determine the diesel is not needed.

In addition, the requirement to load or secure the diesel when the injection pump gets too hot to comfortably hold your hand on the pump was determined not necessary by the EDG vendor and Waterford 3 System Engineering. Thus, it was removed from the procedure.

On May 13, 1998, the Operations Superintendent discussed with operations personnel the need to address vagueness in procedures and to take the appropriate steps to correct the deficiency. A memo was issued to operations personnel on May 15, 1998, to reiterate these expectations.

Corrective Steps Which Will Be Taken to Avoid Further Violations

The above corrective actions are adequate to avoid further violations.

Date When Full Compliance Will Be Achieved

Waterford 3 is in full compliance.

VIOLATION NO. 50-382/9808-03

10 CFR Part 50, Appendix B, Criterion III states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis are correctly translated into procedures and instructions.

Contrary to the above, the licensee failed to correctly translate applicable regulatory requirements and the design basis into procedures and instructions in that the response time acceptance criteria contained in surveillance test procedures for the emergency feedwater system, containment fan coolers, and high pressure and low pressure safety injection systems did not ensure that the requirements of the licensing basis were met.

This is a Severity Level IV violation (Supplement 1) (50-382/9808-03).

RESPONSE

Summary of Entergy Operations, Inc., Position

Entergy Operations Inc. has carefully evaluated the information in Violation 9808-03 and believes a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," did not occur.

Basis for Entergy Operations, Inc., Position

Nuclear power plants are designed to operate according to a design basis. 10 CFR 50.2 defines design basis as information which identifies the specific functions to be performed by a structure, system, or component (SSC) of a facility, and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. 10 CFR 50.2 also states, in part, that design basis values are requirements derived from analysis of the effects of a postulated accident for which a SSC must meet its functional goals. Based on this definition for design basis, Waterford considers the following position on conditions outside the design basis of the plant to be appropriate.

The functional goal of a safety-related SSC in a nuclear power plant is to perform its required safety function as assumed in the applicable accident analyses. The results of the accident analyses serve as the reference bound for overall plant design to ensure that the plant is capable of mitigating the consequences of a design basis accident. In order to assure the health and safety of the public, some analysis results (i.e., cladding temperature, cladding oxidation, etc.) coincide with regulatory requirements and are affected by a range of input values. EFW response time is an example of such an input value. While a failure to meet the acceptance criteria during testing of a SSC would constitute a degraded or nonconforming condition, such a condition is not necessarily outside the design basis of the plant. If changes to a model input significantly affect the ability of the SSC to perform its intended safety function, as determined through analysis, a condition would exist which is outside of the plant's design basis. For this purpose, a significant effect is one which

results in exceeding regulatory requirements. This position is consistent with similar regulations, such as 10 CFR 50.46(a)(3)(i), which addresses significant changes in the application of Emergency Core Cooling System models.

As a result of the above position, transients are typically simulated over the time period that the results have a potential to approach the design or regulatory criteria. With respect to the EFW turbine driven pump, results of UFSAR Chapter 15.2 accident analyses occur before EFW flow is initiated. Thus, an increase in response time of the magnitude seen here does not have the potential to affect the results of any of the associated analyses. Based on this information, the condition would not result in a condition that is outside of the plant's design basis.

Waterford does believe, however, that periodic testing of the EFW turbine driven pump should be performed in accordance with adequate written procedures, as required by TS 6.8.1.c. Therefore, Waterford has developed corrective actions to address deficiencies related to operations procedure OP-903-047, "Emergency Feedwater Actuation Signal Test."

Violation 9808-03 also refers to the Containment Fan Coolers, High Pressure and Low Pressure Safety Injection Systems. Based on an investigation of the issue, Waterford concluded that the actual surveillance data for these systems met the acceptance criteria and preserved the values given in the Technical Requirements Manual. Thus, no violation occurred with respect to these systems. Furthermore, NRC Inspection Report 98-08 states:

As result of this discovery, the licensee reviewed TRM Table 3.3-5 to identify any other inconsistencies of this type. Two other similar conditions were identified and documented as follows:

- CR 98-0545 Start Response Time for Containment Fan Coolers
- CR 98-0558 Start Response Times for the High Pressure Safety Injection (HPSI) and Low Pressure Safety Injection (LPSI) Systems

In both these cases, the acceptance criteria contained in the surveillance procedures could possibly result in the response times assumed in the FSAR and the TRM requirements being exceeded. However, a review of the actual test results indicated that the response time was within the requirements for both these cases. Because of this, the containment fan coolers and HPSI and LPSI pumps were not declared inoperable.

The inspectors reviewed the above referenced documents and discussed these issues with licensee personnel. Based on these reviews, it appeared that the actions taken by the licensee were appropriate upon discovery of the inconsistencies.

Corrective Steps That Have Been Taken and the Results Achieved

- Design Engineering performed an evaluation to determine if other pumps that receive an ESFAS actuation have the same potential condition. These pumps were identified and discussed in Condition Reports (CRs) 98-0545 and 98-0558.
- Operations revised procedure OP-903-047, "Emergency Feedwater Actuation Signal Test," to ensure surveillances contain an allowance for differences in automatic actuation from a setpoint on the Plant Protection System (PPS) and manual actuation from the "Initiate" test button.

Corrective Steps Which Will Be Taken to Avoid Further Violations

- A root cause analysis is being performed to address the causes of this condition.

Date When Full Compliance Will Be Achieved

The root cause analysis will be completed by July 30, 1998. Waterford will submit a schedule for completion of any additional corrective actions which relate to avoiding further violations within 30 days of completing the root cause analysis.

VIOLATION NO. 50-382/9808-04

Technical Specification 4.8.4.2.b.1 requires, in part, that all thermal overload devices for motor-operated valves, which are not bypassed, be calibrated at least once every 6 years.

Contrary to the above, the licensee failed to calibrate all thermal overload devices every 6 years that the overload devices for motor-operated valves MS-401 A(B), SI-135A(B), SI-125A(B), and SI-412A(B) had not calibrated in the previous 6 years.

This is a Severity Level IV violation (Supplement 1) (50-382/9808-04).

RESPONSE

Summary of Entergy Operations, Inc. Position

EOI has carefully evaluated the information in Violation 9808-04 and agrees with the NRC's assessment of this condition as a violation of TS 4.8.4.2.b. However, we do not agree that this is an example of narrowly focused scoping of a problem, similar to the issue with the diaphragm valves discussed in NRC Inspection Report 50-382/98-06.

With respect to the diaphragm valves issue, Waterford incorrectly limited the population of potentially affected valves to those modified per a Design Change (DC-3211). No effort was made by Waterford to inspect the stop nuts on other similar valves to determine the full scope of a stop nut misadjustment problem.

Contrary to the diaphragm valve issue, the thermal overload concerns were identified by Waterford and an ongoing investigation of other motor operated valves with thermal overload protection and/or bypass devices was being conducted by Waterford at the time the issue was discussed with the NRC. Although all of the potentially affected valves were not immediately identified, the fact that they were eventually identified through an open item in the Waterford Corrective Action Program indicates a broad and comprehensive approach.

Reason for the Violation

The root cause of this violation was determined to be an inadequate evaluation of what valves should have been incorporated in Technical Requirements Manual (TRM) Table 3.8-2. TRM Table 3.8-2 was originally included in Waterford Technical Specification (TS) 3.8.4.2 and was later moved into the TRM. The table lists motor operated valves which have thermal overload protection and/or bypass devices.

In 1983, Crosby Valve Division (Report No. 4093) conducted tests which resulted in the replacement of the air operators in MS-401 A(B) with motor operators. As a result of this change, MS-401 A(B) should have been added to Table 3.8-2.

However, this need was not recognized and the valves were never added to the table.

Unlike MS-401 A(B), Safety Injection Valves SI-125 A(B), SI-135 A(B) and SI-412 A(B) were always motor operated valves. These valves are associated with the Shutdown Cooling System and appear to have been omitted from Table 3.8-2 due to an inadequate evaluation at the time the table was originally developed. This was apparent from the inclusion of similar valves, SI-415 A(B). Although SI-125 A(B), SI-135 A(B) and SI-412 do not receive an ESFAS signal they are safety related and have always possessed the characteristics for inclusion in Table 3.8-2.

Additional information and details concerning this condition were included in Licensee Event Report (LER) 98-005-00, which was submitted to the NRC on April 13, 1998.

Corrective Steps That Have Been Taken and the Results Achieved

- The thermal overloads for all 8 motor-operated valves were removed and successfully tested in accordance with TS surveillance requirement 4.8.4.2.b.
- Design Engineering reviewed the safety related motor-operated valves with thermal overloads used in safety systems.
- Design Engineering added valves MS-401A(B), SI-135A(B), SI-125A(B) and SI-412A(B) to TRM table 3.8-2.
- Maintenance Procedure ME-003-410, "Motor-Operated Valve Thermal Overload Channel Calibration," was revised (Rev. 8) to include SI-125 A(B), SI-135 A(B), and SI-412 A(B). Furthermore, the following repetitive tasks were initiated to ensure testing of these valves in accordance with ME-003-410:

Repetitive Task Number	Valve
022564	SI-135A
022565	SI-135B
022562	SI-125A
022563	SI-125B
016410	SI-412A
022566	SI-412B

Corrective Steps Which Will Be Taken to Avoid Further Violations

- A review of other TS revisions made in accordance with Generic Letter (GL) 91-08 will be performed to ensure the changes specified in GL 91-08 were adequately evaluated.

Date When Full Compliance Will Be Achieved

The action to review other TS revisions made in accordance with Generic Letter (GL) 91-08 will be completed August 27, 1998.