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Waterford 3

W3F1-97-0177
A4.05
PR

July 21, 1997

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 97-08
Reply to Notice of Violation

Gentlemen:

In accordance with 10CFR2.201, Entergy Operations, Inc. hereby submits in Attachment 1 the response to the violation identified in Enclosure 1 of the subject Inspection Report. In the cover letter of the subject Inspection Report, the Staff noted that two of the four examples of the 10CFR50 Appendix B, Criterion III Violation were NRC-identified, indicating additional efforts are needed to ensure our current programs are sufficient to identify design control errors. While Waterford 3 is confident that the identification of design control and design basis discrepancies is improving, we recognize continued efforts are needed in this area to meet our current standards. A number of these efforts were documented in our response to the recent 10CFR50.54(f) request, and include the following: implementation of the Engineering Request Process, additional design basis reviews and system self-assessments, and training to enhance awareness and understanding of the design basis and configuration control. It should be noted that the two examples of the violation referred to resulted from actions taken several years ago and do not meet the expectations of current Waterford 3 Management. We believe that the current safety culture of Waterford 3 is greatly improved from years past and will minimize the occurrence of these types of errors. We also believe the actions mentioned above, along with others outlined in the 10CFR50.54(f) response and Waterford 3 Performance Improvement Plan, will continue to increase the questioning attitude of plant personnel and the ability to identify any existing design discrepancies.

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

Very truly yours,

E.C. Ewing
Director,
Nuclear Safety & Regulatory Affairs

ECE/DFL/tjs
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 97-08

VIOLATION NO. 9708-05

10 CFR Part 50, Appendix B, Criterion III, states, in part, that measures shall be established to assure that the design basis, as defined in Part 50.2 and as specified in the license application, is correctly translated into procedures and instructions. Design changes, including field changes, shall be subject to design-control measures commensurate with those applied to the original design and approved by the organization that performed the original design.

Technical Specification 4.6.2.1 requires that operators verify, once every 12 hours, that the containment spray riser level is > 149.5 feet (181 feet mean sea level).

Calculation EC-191-027, "Containment Spray Riser Levels A & B Instrumentation Loop Uncertainty Calculation," Revision 0, dated July 6, 1993, documented that the instrument uncertainty was 9 feet.

Contrary to the above:

1) As of April 4, 1997, the design basis was not correctly translated into procedures in that procedural/instructional requirements to limit emergency diesel generator loading were not implemented in accordance with Design Change 3055 because guidelines did not identify permissible loads on the emergency diesel generators.

2) As of March 21, 1997, the design basis was not correctly translated into procedures in that the procedures for implementing Technical Specification 4.6.2.1 did not include an allowance for instrument uncertainty.

3) As of April 4, 1997, a de facto field change was installed without design control measures commensurate with those applied to the original design and without approval by the organization that performed the original design. Specifically, new filter material was added to the original metal filter screens for the air cooling system to safety-related Cabinet CP-22 without engineering evaluation or approval to determine acceptability.

4) As of May 17, 1997, the design basis was not correctly translated into procedures and instructions in that erroneous design inputs were listed in the Engineering Groundrules Document (e.g., maximum emergency feedwater flow, steam generator pressure at full power, etc.). This design information is used by

the fuel vendor in accident analysis calculations to determine whether thermal limits are exceeded.

This is a Severity Level IV violation (Supplement 1) (50-382/9708-05).

RESPONSE TO VIOLATION NO. 9708-05, EXAMPLE 1

(1) Reason for the Violation

The cause of this violation was personnel error and inadequate management oversight during the implementation of Design Change 3055 (DC-3055), resulting in inadequate control of electrical loads in the Chemistry Laboratory. DC-3055 Revision 0 was implemented in 1989 to provide safety related power (fed from the Emergency Diesel Generators) to the Chemistry Laboratory via a 7.5 kVA transformer and lighting panel LP-3003. DC-3055 Revision 1 was implemented in April, 1993, to add another 7.5 kVA transformer and panel PDP-3055. The FSAR was updated to reflect the addition of LP-3003, but not updated to include PDP-3055. The reasoning behind this decision was that the combined loads for both panels would be controlled to be below the original analyzed load of 7.5 kW by the Chemistry Department Guide. Chemistry Standing Instruction #32 was established to provide guidelines for using lab power supplied from LP-3003 and PDP-3055. However, these instructions were not adequately reinforced to Chemistry personnel on a continuing basis resulting in some personnel not being aware of the requirements. Standing Instruction #32 was also inadequate in that it did not list all permissible loads. Additionally, the subject outlets and power strips were not labeled as safety bus power. The above lack of controls resulted in the potential to exceed the 7.5 kW analyzed limits of the design.

(2) Corrective Steps That Have Been Taken and the Results Achieved

Maintenance performed current measurements for LP-3003 and PDP-3055 loading with all lab equipment turned on. The loads were within the original limits of the design.

Equipment necessary to support chemistry analysis, while safety bus power is supplied from the diesel generators, was identified and labeled for such use.

Safety bus powered outlets and power strips for LP-3003 and PDP-3055 were identified and posted as Safety Bus Power. All unused power strip outlets were plugged to prevent use.

This condition was reviewed with all Chemistry personnel to reinforce expectations and requirements of Standing Instruction #32.

Other active Chemis anding Instructions were reviewed and found to be adequate, although al of the Instructions should be incorporated into procedures to enhance controls.

(3) Corrective Steps Which Will Be Taken to Avoid Further Violations

The Waterford 3 FSAR will be updated to clarify the combined loading and controls of LP-3003 and PDP-3055.

A Chemistry Department procedure, CE-001-025, "Control of Safety Bus Power in the Chemistry Labs," is being developed to incorporate the controls listed in Standing Instruction #32 as well as other necessary controls identified.

The above procedure will be reviewed with the Maintenance I&C Department.

Several other Chemistry Standing Instructions will be incorporated into procedures to enhance controls as mentioned above.

(4) Date When Full Compliance Will Be Achieved

Waterford 3 will be in compliance upon completion of the corrective step for procedural development. This action will be completed by July 30, 1997. The corrective step for FSAR clarification will be completed by September 30, 1997. The action to review procedure CE-001-025 will be completed by September 30, 1997. The action to incorporate the additional Standing Instructions into procedures will be completed by March 31, 1998.

RESPONSE TO VIOLATION NO. 9708-05, EXAMPLE 2

(1) Reason for the Violation

The root cause of this violation is discussed in Licensee Event Report (LER) 97-011-01, which was submitted to the NRC on July 18, 1997.

(2) Corrective Steps

The corrective steps which have been taken and which will be taken to avoid further violations are discussed in LER 97-011-01.

(3) Date When Full Compliance Will Be Achieved

The corrective step to perform a review of TS for instrument uncertainty will be completed by June 30, 1998.

RESPONSE TO VIOLATION NO. 9708-05, EXAMPLE

(1) Reason for the Violation

The root cause of this violation is personnel error in that no formal evaluation for the additional layer of filter material was performed prior to the use of the material. Apparently, this additional layer of filter material was installed over the CP-22 cabinet fan filters to remove more dust prior to the air stream reaching the core protection calculators. However, it does not appear that any of the formal configuration control processes at Waterford 3 were used to facilitate this change. It is unclear when the filter material was first used in the plant, but work history records show usage as early as 1990.

In April 1995, Problem Evaluation / Information Request (PEIR) OM-90 was generated by the Maintenance department to ask Engineering if this additional material causes any air flow restrictions. As of April, 1997 this PEIR had not been responded to by Engineering. This was partially due to overall tracking and prioritization problems with the PEIR process. Additionally, this PEIR was not recognized as a configuration control issue. The Waterford 3 Corrective Action Process should have been used to document the concern raised in 1995.

(2) Corrective Steps That Have Been Taken and the Results Achieved

The subject filter material has been evaluated by Design Engineering and has been determined to be acceptable for use. Testing was performed which revealed the material had no impact on the cabinet air flows. This evaluation was performed under the Work Authorization Use-As-Is process which included the appropriate 10CFR50.59 review.

During the past few years, Waterford 3 Management has taken a number of measures to enforce expectations on configuration control. The expectation that configuration control discrepancies are to be addressed per the Corrective Action Program has also been emphasized.

The PEIR process has recently been replaced with the Engineering Review (ER) process with improved tracking methods. Additionally, each new ER is reviewed, in part, to identify adverse conditions which should be addressed by the Corrective Action Program.

(3) Corrective Steps Which Will Be Taken to Avoid Further Violations

Waterford 3 believes the above corrective steps are adequate to avoid further violations of this type.

(4) Date When Full Compliance Will Be Achieved

Waterford 3 is currently in full compliance.

RESPONSE TO VIOLATION NO. 9708-05, EXAMPLE 4

(1) Reason for the Violation

In May, 1996, during a self-assessment of the EFW System, an error was discovered in the EFW maximum flow used in the Waterford 3 reload Groundrules document. This discovery led to a review of the Cycle 8 Groundrules which identified additional discrepancies. The causes of this violation are as follows: 1) The use of the incorrect EFW flow in the Groundrules document was due to plant personnel not fully understanding the intended use of the maximum EFW flow rate in the safety analyses. The maximum flow provided to the fuel vendor was taken directly from the EFW pump and system resistance curve, which assumes a steam generator (SG) pressure of 1000 psia. The minimum pressure during a Main Steam Line Break is 400 psig, which results in a higher EFW flow rate. Fuel vendor personnel also did not communicate the conditions, i.e. SG pressure, that the maximum EFW flow rate was to be applied; 2) The references for the Groundrules parameters were inadequate; and 3) Inadequate review of the Groundrules during past reload analysis updates and lack of attention to the affects of design basis changes on the Groundrules document. A Design Engineering procedure, NOECP-702, "Processing and Approval of Groundrules and Reload Analysis Report," exists to govern the preparation and review process of the Groundrules document. For each reload, the Groundrules is distributed to various Waterford 3 organizations as well as the central design engineering groups for review and comments. However, these reviews in the past in general have lacked the rigor necessary to identify the discrepancies.

(2) Corrective Steps That Have Been Taken and the Results Achieved

The higher maximum EFW flow was evaluated for impact on the relevant accident analyses. This evaluation concluded that the increased flow had no significant impact on the analyses.

The additional discrepancies were resolved for Cycle 8 and incorporated into the Cycle 9 Groundrules. The references for the parameters have also been updated to the extent possible.

(3) Corrective Steps Which Will Be Taken to Avoid Further Violations

A formal method is being established to ensure that calculations performed that affect values listed in the Groundrules document are identified and result in changes to the Groundrules parameters.

The Waterford 3 configuration change process will be updated to ensure future configuration changes are reviewed for effects on the Groundrules document.

During future issuance's of the Groundrules for comment, Safety Engineering and Analysis will re-emphasize to the various Waterford 3 organizations the importance of and expectation of performing thorough reviews.

(4) Date When Full Compliance Will Be Achieved

Waterford 3 has corrected the specific items identified as outlined in the corrective actions above. The corrective step to update the calculation process will be completed by September 1, 1997. The corrective step to update the configuration change process will be completed by September 30, 1997.

VIOLATION NO. 9708-06

Technical Specification 6.8.1.a requires, in part, that written procedures shall be maintained covering applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A, Section 9, requires that the licensee have maintenance procedures.

Contrary to the above, preventive maintenance procedures were not maintained in that the procedures to ensure the proper operation of safety-related Breakers LTN-EBKR-311AB-6FL and -6FR were improperly deleted.

This is a Severity Level IV violation (Supplement 1) (50-382/9708-06).

RESPONSE TO VIOLATION NO. 9708-06

(1) Reason for the Violation

The cause of this violation was an inadequate review of design information to support the deletion of the preventive maintenance task for the subject breakers. The task evaluation initiator and reviewers depended on the accuracy of the Waterford 3 Station Information Management System (SIMS) fields for safety classification of the breakers. The SIMS Safety Related and Safety Class fields for these breakers were incorrect, indicating the breakers were non-safety related. Justification for the deletion did not consider the effect of the upstream feeder breaker and safety-related bus if the two breakers in series did not function properly.

(2) Corrective Steps That Have Been Taken and the Results Achieved

A generic action was taken as a result of the above to perform a review of breaker task activities (involving 380 breakers) over the past two years (i.e. since the electrical maintenance task reduction effort was initiated). The results of this review revealed the following:

1) One additional breaker, CRNEBKR314B-3DL was also incorrectly classified in SIMS and its PM task inappropriately deleted.

2) Twenty four breaker preventive maintenance tasks were inappropriately deleted for breakers that protect safety-related buses from non-safety loads in the following systems: Sump Pumps (SP), Boron Management (BM), Normal Lighting Distribution (LTN), Annulus Negative Pressure (ANP), and Cranes (CRN). The justification for the deletions was that the breakers were determined, at the time, to not have safety functions. This determination was incorrect because the breakers, while providing power to non-safety loads, do perform a safety function by maintaining the

integrity of the safety feeder bus by isolating non-safety loads from the bus. This was an inadequate justification by the Maintenance planner and was accepted by all reviewers.

3) Thirty nine breaker preventive maintenance tasks were inappropriately deleted for safety-related Engineered Safety Features Actuation (ESF) breakers. These tasks were deleted based on the risk associated with the installation of jumpers needed to perform maintenance on the breakers versus their low failure rate. Appropriate reviews and concurrence from the ESF System Engineer and Breaker Component Engineer were not obtained prior to making these deletions. Reviews and approval were obtained from another engineer who was not as familiar with the function of these breakers.

4) Many of the justifications for deletion were lacking in rigor and detail.

The deleted tasks for the breakers were reviewed to determine current due dates. For those which exceeded what would have been the due date, either the maintenance was performed, or an evaluation was performed to appropriately extend the due date.

The SIMS fields for breakers LTNEBKR311AB-6FL, LTNEBKR311AB-6FR, AND CRNEBKR314B-3DL have been corrected to indicate the breakers are safety-related.

(3) Corrective Steps Which Will Be Taken to Avoid Further Violations

The breaker maintenance tasks which were inappropriately deleted will be re-established to ensure future implementation of these tasks.

The overall objective of the Preventive Maintenance program will be reviewed with Plant Engineering and Maintenance task planners. This review will emphasize consideration of the Maintenance Rule, the need to review all available configuration documentation, and the roles and responsibilities of obtaining reviews from correct engineers, when initiating task changes/ deletions. This review will also emphasize the rigor and level of detail needed in the justification of task changes/deletions.

Procedure UNT-005-012, "Repetitive Task Identification," will be reviewed to determine if further clarification of expectations regarding task changes are needed.

As a result of actions not related to this violation, a verification of the Waterford 3 Q-List (SIMS) is being performed for non-safety related components to ensure they have been classified correctly. Interim actions

have been taken to increase the awareness of Engineering and Maintenance personnel to potential Q-list inaccuracies.

(4) Date When Full Compliance Will Be Achieved

The re-establishment of the deleted breaker maintenance tasks will be completed by August 15, 1997. The review of the PM process and expectations with Plant Engineering and Maintenance planners will be completed by August 30, 1997, at which time Waterford 3 will be in full compliance. The review of UNT-005-012 will also be completed by August 30, 1997. The action to perform Q-List verification will be completed by December 31, 1997.