Waterford 3
2Q/2005 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 26, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control of the Train B Emergency Diesel Fuel Oil Storage Tank Level Instrument Sensing Line
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, for the failure to maintain design control of the Train B emergency diesel fuel oil storage tank level instrument sensing line resulting in level indication error. This error affected the ability of Train B fuel oil storage tank to provide sufficient fuel oil to support 7 days of continuous diesel generator operations following a loss of offiste power and a design-bases accident. This finding was greater than minor because it affected the mitigating systems cornerstone objective of ensuring the capability of emergency power to respond to initiating events to prevent undesirable consequences. Since the finding represented an actual loss of safety function, for a single train, for greater than its Technical Specification-allowed outage time, the finding was analyzed using Phase 2 of the Significant Determination Process. The finding was of very low safety significance because the licensee staff would have sufficient time to order replacement fuel, procedures existed to order replacement fuel and training was conducted on the existing procedures under conditions similar to the initiating event assumed.

Inspection Report# : 2005003*(pdf)*

Significance: G Apr 07, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Prevent a Reoccurrence Cycle Timer Failure in the Essential Chiller
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure to implement effective corrective actions to prevent recurrence for a significant condition adverse to quality affecting operability of the essential chillers. Specifically, on multiple occasions the essential chillers have failed to function as required due to cycle timer switch failure. Essential chiller malfunction could result in elevated chilled water system temperature used to cool areas containing safety significant equipment. This finding was more than minor in significance because it affected the mitigating systems cornerstone objective to ensure the availability of systems that respond to initiating events and would become a more significant condition if left uncorrected. The inspectors utilized NRC Inspection Manual Chapter 0609, Significance Determination Process, Appendix A, Significance Determination Process Phase 1 Screening Worksheet, dated December 1, 2004, for Initiating Events, Mitigating Systems, and Barrier Cornerstones to assess the safety significance. The finding was determined to be of very low risk significance because, for each essential chiller malfunction, the affected train was inoperable for less than the Technical Specification allowed outage time. A problem identification and resolution crosscutting aspect was identified for the failure to correct the condition which resulted in multiple timer failures (Section 4OA2).

Inspection Report# : 2005002*(pdf)*

Significance: G Mar 10, 2005
Identified By: NRC
Item Type: FIN Finding
Degraded performance could be masked and appropriate corrective actions not identified or implemented.
A finding with two examples of very low safety significance was identified for weaknesses in the maintenance rule program in regards to the component cooling water pumps, the reactor protection system and the reactor trip breakers. Specifically, the team found that the licensee did not monitor the performance or condition of structures, systems, or components in a manner sufficient to provide reasonable assurance that equipment reliability and degraded performance would not be masked and appropriate corrective actions would not be identified or implemented. This finding is more than minor because it affects the Mitigating Systems Cornerstone attributes of equipment reliability, in that, degraded performance could be masked and appropriate corrective actions not identified or implemented. This finding was of very low safety significance because no performance criteria were exceeded and there was no actual loss-of-safety function. Licensee personnel initiated Condition Report CR-WF3-2005-00322 to address this finding. (Section 1R21.4b2)

Inspection Report# : 2005008*(pdf)*

Significance: G Mar 10, 2005
Identified By: NRC
Item Type: FIN Finding
Failure to analyze the Dry Cooling Tower diesel driven sump pump discharge hose supports.
A finding of very low safety significance was identified for inadequate design of the diesel-driven sump pump associated with the dry cooling tower in that it did not provide an analysis to ensure that the support arrangement of the discharge hoses was adequate to support the discharge line. This finding is important to safety but not covered under 10 CFR Part 50, Appendix B Criterion. This finding was entered this issue into their corrective action program as Condition Report CR-WF3-2005-00592. This finding is greater than minor because it affected an attribute and the objective of the Mitigating Systems Cornerstone in that the design inadequacies did not provide assurance that the support arrangement for the diesel-driven sump pump was structurally adequate. The finding is of very low safety significance because, although it represented a design inadequacy, it did not contribute to a loss-of-mitigation equipment function, and did not increase the likelihood of a flood.

Inspection Report# : 2005008*(pdf)*

Significance: G Mar 10, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to develop and maintain procedures affecting a design basis limit.
A noncited violation of Waterford Technical Specification 6.8.1 was identified for failure to properly develop and implement procedures. Technical Specification 6.8.1 states in part that written procedures shall be established, implemented and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, which references activities affecting safety-related structures. Contrary to this, station personnel failed to develop and implement procedures to relate the design basis ambient conditions to the operation of the ultimate heat sink cooling tower fans. As a result, no monitoring to recognize that a design basis limit has been exceeded, nor any actions required in the event that the design basis limit has been exceeded have been included in station procedures. This issue was entered into the corrective action program as Condition Report CR-WF3-2005-0000590. The finding is greater than minor because it affects the Mitigating Systems Cornerstone objective, in that, if left uncorrected could result in the plant operating outside the design basis limits. The team determined this finding to be of very low safety significance because there was no evidence found that the licensee had exceeded their design basis limit.

Inspection Report# : 2005008*(pdf)*

Significance: G Mar 10, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to maintain design control over Seismic Category 1 structure.
A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to perform a complete and adequate design of a Seismic Category 1 structure. Specifically, the licensee failed to perform a complete analysis of the component cooling water surge tank baffle plate. The surge tank was designed and constructed with a baffle plate internal to the tank, providing two independent trains of component cooling water. The analysis performed on the tank did not include an analysis of the baffle plate welds to ensure adequate performance for all applicable load scenarios. The licensee subsequently performed an analysis to demonstrate the adequacy of the baffle plate welds. This issue was entered into the corrective action program as Condition Report CR-WF3-2005-00313. The finding is greater than minor because it affects the Mitigating Systems Cornerstone objective, in that, not providing adequate design analyses for the baffle plate welds did not ensure that all load scenarios were included in the analysis. Failure of these baffle plate welds could have resulted in a loss of both trains of component cooling water surge tank. This finding is determined to be of very low safety significance because the licensee performed a calculation that demonstrated the adequacy of the welds, and there was no actual loss of a safety function.

Inspection Report# : 2005008*(pdf)*

Significance: G Mar 10, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to adequately analyze potential for over pressurizing ASME VIII air accumulators
A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for failure to provide justification for not providing over-pressure protection to air accumulators servicing safety-related valves, in accordance with ASME Code, Section VIII, Division 1. ASME Code, Section VIII, Division 1, paragraph UG-125, states that all pressure vessels (i.e., air accumulators), irrespective of size or pressure, shall be provided with pressure relief devices to protect against excessive pressure and these devices must be installed so that they may not be readily rendered inoperable. The team identified that the air accumulators, as installed, did not have any unisolable pressure relieving devices, therefore, causing the potential to over-pressure the air accumulators, challenging their structural integrity. The licensee had not provided an engineering analysis or justification for omitting over-pressure protection. The licensee initiated Condition Report CR-W3-2005-00596 to address NRC operability concerns. The finding is greater than minor because it affects Mitigating Systems Cornerstone in that not providing a design analysis did not ensure adequate protection against excessive pressure in air accumulators. Failure of these air accumulators could have resulted in a loss of motive force to the valves during loss of instrument air. Using the Phase 1 worksheet in Manual

Chapter 0609 "Significance Determination Process," the finding was determined to have very low safety significance because the air accumulators were later found to have a maximum allowable working pressure greater than the highest pressure that could be achieved in the system; therefore, the structural integrity of the design would not be challenged.
Inspection Report# : 2005008*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Effective Actions to Prevent Recurrence of Main Feedwater Isolation Valve Hydraulic System Over-Pressure Conditions
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure to implement effective corrective actions to prevent recurrence for a significant condition adverse to quality affecting operability of the main feedwater isolation valves. Specifically, on multiple occasions accumulator over-pressure conditions have occurred, resulting from degraded hydraulic fluid adversely affecting the hydraulic actuator pressure relief system. These over-pressure conditions potentially result in valve closure stroke times outside design basis values. The finding was greater than minor because it is associated with the mitigating systems cornerstone objective to ensure the capability of systems that respond to initiating events to prevent undesirable consequences. The finding was evaluated using the Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet for mitigating systems. The finding was determined to be of very low risk significance because the over-pressure conditions did not represent an actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time.

Inspection Report# : 2004005*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Control Room Electrical Isaolation During Transfer to the Alternate Shutdown Panel
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix R, Section III.L.3, for the failure to provide electrical independence in the Waterford design that included a neutral (ground) wire that was not isolated from the control room during transfer to the alternative shutdown panel. Entergy initiated Condition Report WF3-2004-03541 to track the modification to isolate the neutral wire for the affected safe shutdown circuits. The modification will bring Waterford into compliance with Appendix R. This finding is greater than minor because it was associated with the mitigating systems cornerstone attribute of protection against external factors (fire) and it has the potential to impact the mitigating systems cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. The violation is associated with degradation of a fire protection feature. Using Part 1 of the Inspection Manual Chapter 0609, fire protection Significance Determination Process Phase 1 Worksheet, the performance issue was determined to be in the postfire safe shutdown category. The degradation rating was low based on Entergy's determination that there were no existing conditions that would prevent the plant from achieving and maintaining a safe shutdown in the event of a control room fire, if the installed protective devices always operated within their designed tripping characteristics. Therefore, the finding screens as Green or of very low safety significance in the Phase 1 Worksheet. This violation is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy.

Inspection Report# : 2004005*(pdf)*

Significance: N/A Sep 27, 2004
Identified By: NRC
Item Type: FIN Finding
Failure to establish appropriate instructions and to accomplish those instructions for installation of the emergency diesel generator Train A
The NRC performed this supplemental inspection to assess the Entergy Operations, Inc. evaluation associated with the failure to establish appropriate instructions and accomplish those instructions for installation of a fuel oil line for the Train A emergency diesel generator in May 2003. This was a violation of 10 CFR Part 50, Appendix B, Criterion V. This failure resulted in uneven and excessive scoring of the tubing that ultimately led to a complete 360 degree failure of the fuel supply line on September 29, 2003, during a monthly surveillance test, which rendered the Train A emergency diesel generator inoperable.

The NRC concluded that Entergy Operations, Inc. performed thorough evaluations of the emergency diesel generator fuel oil line failure. The root causes of the finding were adequately defined and understood. The corrective actions resulting from the evaluations appropriately addressed the identified causes. The contributing causes for the two noncited violations identified during this inspection are consistent with the finding from the diesel fuel oil line failure, and the corrective actions are consistent with the ongoing corrective actions to improve maintenance work instructions. This included development of work instructions for new and the remaking of existing compression fittings, establishment of maintenance technician qualification requirements for compression fittings, and development of training on tube bending.

Inspection Report# : 2004008*(pdf)*

Significance: G Sep 26, 2004
Identified By: NRC

Item Type: NCV NonCited Violation
Failure to Maintain Adequate Environmental Qualification Records
The inspectors identified a noncited violation of 10 CFR 50.49(j) for the failure to maintain an auditable record demonstrating that electric equipment important to safety is environmentally qualified for its intended application. Specifically, it was identified that nonconservative temperature profiles were utilized to calculate the qualified life of ASCO NP8300 series solenoid-operated valves. The finding was more than minor since if left uncorrected it would become a more significant safety concern. Specifically, the failure to maintain electrical equipment in an environmentally qualified configuration could adversely impact the ability of such mitigating equipment to perform its safety function during design-basis accident conditions. This finding was of very low safety significance since additional analysis demonstrated that affected electrical equipment currently installed in the plant was environmentally qualifiable. Therefore, this deficiency did not result in any loss of affected equipment safety function.

Inspection Report# : 2004004*(pdf)*

Significance: G Sep 26, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Design Control of Safety Injection Sump Recirculation Piping
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, for the failure to maintain design control of the containment safety injection sump recirculation piping. This deficiency resulted in inappropriately maintaining a section of the piping void of water, potentially affecting the operability of the high-pressure safety injection and containment spray pumps during postulated design-basis accident conditions following a recirculation actuation signal. This finding was more than minor because it potentially affected the mitigating system cornerstone objective of ensuring the capability of the high-pressure safety injection and containment spray systems to perform their design-basis functions. The finding was determined to be of very low safety significance because the design deficiency was confirmed not to result in loss of function per Generic Letter 91-18, Revision 1.

Inspection Report# : 2004004*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish Adequate Test Controls for Leak Testing Fluid Systems Outside Containment that Contain High Radioactive Fluid
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Section XI, "Test Control," for the failure to establish adequate test controls for leak testing those portions of fluid systems outside containment that could contain highly radioactive fluid during a serious transient or accident. This performance deficiency could result in underestimating the leak rate of highly radioactive fluid into the reactor auxiliary building during accident conditions. The finding was greater than minor because it affected the reactor safety barrier integrity cornerstone for providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. The finding was evaluated using the Inspection Manual Chapter 0609, Significance Determination Process, Phase 1 Worksheet for barrier integrity. The finding was only of very low safety significance because it did not represent an actual reduction of the atmospheric pressure control function of the reactor containment and it did not result in an actual open pathway affecting the physical integrity of reactor containment.
Inspection Report# : 2004005*(pdf)*

Significance: G Sep 26, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Pevent Recurrence of Main Steam Isolation Valve Failures
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure to determine the cause and preclude recurrence of main steam isolation solenoid-operated dump valve failures. This failure affected the primary containment isolation function for the main steam system isolation valves. The primary cause of this finding was related to the crosscutting area of problem identification and resolution. The finding was greater than minor because if left uncorrected the finding could become a more safety significant concern. The finding was only of very low safety significance because it did not represent an actual reduction of the atmospheric pressure control function of the reactor containment, it did not result in an actual open pathway affecting the physical integrity of reactor containment, and the main steam isolation valves were inoperable for less time than the allowed Technical Specification outage time. The valve was repaired and returned to service.

Inspection Report# : 2004004*(pdf)*

Significance: G Aug 27, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Maintenance Instructions Affecting the Emergency Feedwater System
A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified when the valve failed in the open position. The failure resulted from inappropriate work instructions for replacing the actuator diaphragm on the emergency feedwater to Steam Generator 1 backup isolation valve. As a result, the diaphragm was installed incorrectly, resulting in the failure on June 14, 2004. The finding was greater than minor because it affected the operability of a containment isolation valve and the availability of the emergency feedwater system, a mitigating system. The finding was of very low safety significance because a second isolation valve was available and could have performed the isolation function. The valve was promptly repaired and a condition report was initiated. The emergency feedwater system was inoperable for less than the allowed Technical Specification outage time.

Inspection Report# : 2004008*(pdf)*

Significance: G Aug 27, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Action Affecting Main Feedwater Isolation Valve
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified for the failure to take adequate corrective action to ensure that the torque applied to the flow control valve for Accumulator B of main feedwater isolation Valve No. 1 was sufficient to prevent an O-ring from extruding, resulting in a loss of system hydraulic fluid and rendering the valve inoperable on June 20, 2004. The primary cause of the finding was related to the crosscutting area of problem identification and resolution. The finding was greater than minor because it affected the reactor safety barrier cornerstone attribute for maintaining functionality of the containment boundary. The main feedwater isolation valve was repaired within the Technical Specification allowed outage time and a condition report was initiated. This finding was of very low safety significance because it did not result in an actual open pathway affecting the physical integrity of reactor containment and the main feedwater isolation valve was inoperable for less time than the allowed by the Technical Specification outage time.

Inspection Report# : 2004008*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Nov 11, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Technical Specification Violation for Failure to Follow Radiation Work Permit Requirements
The inspector identified a self-revealing noncited violation of Technical Specification 6.8.1 because Entergy failed to follow radiation work permit requirements. On November 12, 2003, two individuals' faces became contaminated while performing maintenance on Steam Generator 2 manway studs. Personnel contamination monitors alarmed upon the exit of the individuals from the controlled access area. These alarms prompted Entergy to investigate the events and conclude that multiple violations of Radiation Work Permit 2003-1509, Task 3, occurred. Specifically, workers did not: (1) wear face shields or power visors during stud work, (2) have constant radiation protection technician coverage, (3) wear telemetry electronic dosimeters and move them to the head, or (4) wear lapel air samplers. This finding was entered into Entergy's corrective action program.
This finding is greater than minor because it is associated with the Occupational Radiation Safety attribute of exposure control and affected the cornerstone objective because not following radiation work permit requirements could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that the finding was of very low safety significance because it did not involve: (1) as low as is reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

Inspection Report# : 2004005*(pdf)*

Public Radiation Safety

Significance: G Mar 04, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to ship radioactive material correctly
The team reviewed a self-revealing, noncited violation of 10 CFR 71.5, which occurred when the licensee failed to ship radioactive material correctly. A radioactive shipment classified as an "excepted package-limited quantity" exceeded the external dose rate limitation of 0.5 millirem per hour on the surface of the package. The package recipient identified dose rates of 1.2 millirems per hour on the exterior surface of the package and notified the licensee of the problem. The finding is greater than minor because it was associated with a Public Radiation Safety cornerstone attribute (human performance) and it affected the associated cornerstone objective because the failure to correctly ship radioactive material decreases the licensee's assurance that the public will not receive unnecessary dose. However, this finding cannot be evaluated by the Public Radiation Safety Significance Determination Process because it did not involve radioactive shipments classified as Schedule 5 through 11, as described in NUREG-1660, and it did not fit traditional enforcement. Therefore, the finding was reviewed by NRC management and determined to be of very low safety significance. Additionally, this finding had cross-cutting aspects associated with human performance. Licensee personnel directly contributed to the finding when they failed to ensure that the package did not exceed the dose rate limit. The finding was placed into the licensee's corrective action program as Condition Report WF3-2003-03514.

Inspection Report# : 2005009*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : August 24, 2005