Fermi 2
2Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2005
Identified By: NRC
Item Type: FIN Finding
Inadequate Power Converter Module Post Maintenance Testing
Green. The inspectors identified a finding of very low safety significance for the failure to perform an adequate post maintenance test after the licensee replaced the three main generator excitation power converter modules during refueling outage 10. The failure to perform an adequate test contributed to an automatic reactor shutdown when the automatic voltage regulator tripped.

The finding was determined to be more than minor because it affected the Initiating Events Cornerstone in that it ultimately contributed to a reactor scram. The finding was of very low safety significance because it did not contribute to the likelihood of a primary or secondary system loss of cooling accident initiator, that mitigation equipment or functions would be unavailable, or increase the likelihood of a fire or internal/external flood. No violations of regulatory requirements were identified. Immediate corrective actions consisted of thoroughly troubleshooting the automatic voltage regulator and related modules as well as initiating a root cause analysis. (Section 1R19.2)

Inspection Report# : 2005004*(pdf)*

Significance: G Mar 31, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Inadequate Design Control for Assembling Drywell Cooler Gaskets
Green. A finding of very low safety significance was self-revealed when design control measures were not implemented during plant construction while changing the drywell cooler gasket design from a wide to a narrow gasket. Consequently, wide instead of narrow gaskets were employed, and sufficient torque values used to secure the cooler end bells to the cooler tube sheet were not translated to maintenance procedures to ensure reassembly of a leak tight joint. As a result, the gasket on drywell cooler 4 failed and caused unidentified leakage to increase above 5 gallons per minute resulting in a plant scram and an alert declaration.

The finding was determined to be more than minor because it affected the Initiating Events Cornerstone in that operators manually shutdown the reactor in response to an apparent increase in unidentified leakage caused by the leak from the failed gasket. The finding was of very low safety significance because it did not contribute to the likelihood of a primary or secondary system loss of cooling accident initiator, that mitigation equipment or functions would be unavailable, or increase the likelihood of a fire or internal/external flood. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified. Immediate corrective actions included replacing the wide gasket with the appropriate narrow gasket and torque the end bell bolts sufficiently for a leak tight joint. (Section 4OA3.1).

Inspection Report# : 2005004*(pdf)*

Significance: G Dec 31, 2004
Identified By: Self Disclosing
Item Type: FIN Finding
Multiple Failures of the North Main Turbine Lube Oil Pump Due to Inadequate Lubrication of Motor Bearings
Green. A finding of very low safety significance was self-revealed when licensee personnel failed to adequately lubricate and prevent repetitive failures of the motor bearings for the north main turbine lube oil pump.

This finding was more than minor because if left uncorrected, it would become a more significant safety concern. The finding was of very low safety significance because although the finding contributed to the likelihood of a reactor trip, it did not contribute to the likelihood that mitigating equipment or functions would be unavailable. No violation of regulatory requirements occurred. Immediate corrective actions included the installation of a motor lubricated in accordance with the vendor's lubrication instructions. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. (Section 4OA3.2)
Inspection Report# : 2004008*(pdf)*

Mitigating Systems

Significance: G Jun 30, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Torque Switch Corrosion Due to Heat Degraded Wires
Green. A finding of very low safety significance was self-revealed when a steam isolation valve failed to close during surveillance testing on August 12, 2004. The licensee later discovered a section of insulation missing from the steam line that could have affected the ability of the valve to close due to increased heating of the actuator wiring.

The finding was determined to be more than minor because it would become a more significant safety concern if left uncorrected. The finding was of very low safety significance because the inboard steam isolation valve remained operable. A non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified. Immediate corrective actions included replacing the internal wires and installing insulation on the pipe. (Section 4OA3.1)

Inspection Report# : 2005012*(pdf)*

Significance: G Mar 31, 2005
Identified By: Self Disclosing
Item Type: FIN Finding
Loss of Essential Trip Function for Emergency Diesel Generator 14
Green. A finding of very low safety significance for the failure to properly connect a test lead was self-revealed during an event. An electrician inadvertently caused a short in the essential trip logic of emergency diesel generator (EDG)-14 which rendered it unavailable an inoperable. No violation of regulatory requirements was identified. The primary cause of the finding was related to the cross-cutting area of Human Performance.

The finding was determined to be more than minor because it was associated with the Human Performance attribute of ensuring the availability, reliability, and capability of EDG-14 to respond to initiating events. The finding was of very low safety significance because all other EDGs remained operable and the actual loss of safety function of EDG-14 was shorter than its technical specification allowed outage time of 7 days. No violations of regulatory requirements were identified. Immediate corrective actions consisted of troubleshooting the effects of the short and replacing a damaged fuse. (Section 1R13.2)

Inspection Report# : 2005004*(pdf)*

Significance: G Mar 31, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Residual Heat Removal Pressure Transient Due to Valve Misalignment
Green. A finding of very low safety significance was self-revealed on February 4, 2005, when the "D" residual heat removal (RHR) pump tripped on high suction pressure while attempting to initiate shutdown cooling. The primary cause of this finding was related to the cross-cutting area of Human Performance because operators failed to follow procedures for placing shutdown cooling in service. The issue was a Non-Cited Violation of Technical Specification 5.4.1.a for the failure to follow procedures.

This finding was more than minor because it can be reasonably viewed as a precursor to a more significant event and it was associated with the Human Performance attribute of ensuring the availability, reliability, and capability of RHR to respond to initiating events. The finding was of very low safety significance because the inspectors answered "no" to all five screening questions for the Mitigating Systems Cornerstone. Initial corrective actions consisted of an RHR system walkdown to verify the system integrity followed by an operability evaluation. (Section 1R15.2).

Inspection Report# : 2005004*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Cover Not Installed in a Cable Conduit Junction Box Penetrating a Fire Barrier
Green. The inspectors identified a finding of very low safety significance for the failure to have a conduit junction box cover installed in a cable conduit located in a 3-hour fire barrier separating the cable spreading room and the main control room.

This finding was more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems cornerstone and adversely impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences since the fire boundary separating two fire zones was not maintained which could result in the loss of mitigating equipment if a fire was to propagate between the cable spreading room and the main control room. The finding was of very low safety significance because the automatic Halon system in the cable spreading room remained operable. A Non-Cited Violation of

Fermi-2 operating license condition 2.C(9) which required that the licensee maintain and implement their approved fire protection plan was identified. As part of their immediate corrective actions, the licensee initiated a fire watch until the covers were replaced. The primary cause of this finding was related to the cross-cutting area of Human Performance. (Section 1R05)

Inspection Report# : 2004008*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Test Acceptance Criteria for HPCI and RCIC
Green. The inspectors identified a finding of very low safety significance for the failure to incorporate the requirements and acceptance limits contained in applicable design documents into the surveillance tests for the High Pressure Coolant Injection (HPCI) and the Reactor Core Isolation Cooling (RCIC) systems.

This finding was determined to be more than minor because if left uncorrected, it would become a more significant safety concern since surveillance testing would not have ensured that the HPCI and RCIC design functions were able to be accomplished if system performance degraded. The finding was of very low safety significance because there was no actual loss of safety function of either system. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," was identified. Immediate corrective actions included ensuring that both systems remained operable through analysis or testing. (Section 1R22.1)
Inspection Report# : 2004007*(pdf)*

Significance: G Sep 30, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Quarantine Degraded Electrical Components
The inspectors identified a finding of very low safety significance for the failure to quarantine degraded components inside the motor operator for the HPCI Turbine Steam Supply Outboard Containment Isolation Valve after the valve failed to close during surveillance testing activities. The primary cause of this finding was related to the cross-cutting area of human performance.

This finding was determined to be more than minor because if left uncorrected, it could become a more significant safety concern since the failure to quarantine degraded components could impede the identification of root causes for conditions adverse to quality and prevent the implementation of appropriate corrective actions to prevent their recurrence. The finding was of very low safety significance because the finding was not a design or qualification deficiency resulting in a loss of function per Generic Letter 91-18; did not represent an actual loss of safety function of a system or the loss of safety function of a train of equipment; and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified. As part of the licensee's immediate corrective actions, the wiring that was inappropriately discarded was retrieved. (Section 4OA2.2)
Inspection Report# : 2004007*(pdf)*

Significance: G Sep 30, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Use of Incorrect Fitting in RHR Seal Cooling Line
Green. A finding of very low safety significance was self-revealed when a compression fitting on a seal cooling line for Residual Heat Removal (RHR) Pump "A" separated rendering the pump inoperable. The pump was operating in the shutdown cooling mode at the time of the event. Design control measures during plant construction were inadequate in that a ferrule on a compression fitting was constructed of carbon steel instead of stainless steel, as required.

The finding was determined to be more than minor because the finding increased the likelihood of a loss of decay heat removal, affected the licensee's ability to add reactor coolant system inventory, and degraded the licensee's ability to establish an alternate core cooling path. The finding was of very low safety significance because the makeup capability of the control rod drive pumps, which were in service at the time of the event, exceeded the leakage rate through the failed seal cooling line. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified. Immediate corrective actions included replacing the carbon steel ferrule with a stainless steel ferrule. (Section 4OA3.1)
Inspection Report# : 2004007*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2004

Identified By: NRC
Item Type: FIN Finding
Failure to Clean Drywell Trench Drain
Green. The inspectors identified a finding of very low safety significance when licensee personnel failed to establish adequate procedures for cleaning the drywell basement trench which could cause inaccurate measurements in unidentified leakage.

This finding was more than minor because if left uncorrected, it could delay leakage rate information to the operators which was a more significant safety concern. Because this finding was not suitable for a significance determination process evaluation in accordance with Inspection Manual Chapter 0612, Section 05.04c., this finding was submitted for review by NRC management; and since this finding only affected the monitoring of the reactor coolant system integrity, it was determined to be of very low safety significance. No violation of regulatory requirements occurred. As part of the licensee's immediate corrective actions, the trench drain was thoroughly cleaned. (Section 1R22.2)
Inspection Report# : 2004008*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
RPV Head Weld Examination Done in the Wrong Location
Green. The inspectors identified a finding of very low safety significance involving a failure to correctly follow a procedure when a magnetic particle examination was not performed at a required reactor pressure vessel head-to-flange weld location.

This finding was more than minor because the magnetic particle examination performed on an area other than the prescribed weld could affect the reactor coolant system barrier integrity since, if left uncorrected, it could become a more significant safety concern. Specifically, the failure to perform a required weld inspection on the correct weld location could have allowed undetected through-wall cracks to remain in service. Because this finding was not suitable for a significance determination process evaluation, in accordance with Inspection Manual Chapter 0612, Section 05.04.c, the finding was submitted for review by NRC management; and because there was no evidence of actual flaws, this finding was of very low safety significance. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified. Immediate corrective actions included stopping the examination and identifying the correct weld location. The primary cause of this finding was related to the cross-cutting area of Human Performance. (Section 1R08)

Inspection Report# : 2004008*(pdf)*

Significance: G Dec 31, 2004
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Fuel Bundle Struck Refueling Shield Bridge Due to Improper Installation
Green. A finding of very low safety significance was self revealed when licensee personnel failed to implement the procedural guidance for the proper installation of the refueling shield bridge (cattle chute) which caused a fuel bundle to contact the shield bridge while the bundle was being transported from the reactor core to the spent fuel pool.

This finding was more than minor because it impacted the Barrier Integrity cornerstone and if left uncorrected and a fuel bundle struck the refueling shield bridge again, it could lead to the failure of the fuel bundle cladding and the potential release of fission products, which is a more significant safety concern. Because this finding only affected the fuel barrier, this issue was determined to be of very low safety significance. A Non-Cited Violation of Technical Specification 5.4.1.a was identified. Immediate corrective actions included properly repositioning the refueling shield bridge before transferring another fuel bundle. The primary cause of this finding was related to the cross-cutting area of Human Performance. (Section 1R20.2)

Inspection Report# : 2004008*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Lift of Drywell Head Over the Spent Fuel Pool
Green. The inspectors identified a finding of very low safety significance when licensee personnel failed to follow procedures for the movement of the drywell head. During refueling outage 10, contractors moved the drywell head over a portion of the spent fuel pool in violation of the licensee's procedures.

This finding was more than minor because if left uncorrected, the failure to follow safe load paths on the refuel floor could lead to a more significant safety concern since it would increase the likelihood of a load drop accident. Because this finding was not suitable for a significance determination process evaluation, in accordance with Inspection Manual Chapter 0612, Section 05.04.c, the finding was submitted for review by NRC management. The finding was determined to be of very low safety significance because the reactor building crane used to move the drywell head was single failure-proof. A Non-Cited Violation of Technical Specification 5.4.1.a was identified. As part of the licensee's immediate corrective actions, this issue was entered into their corrective action program as Condition Assessment Resolution Document

(CARD) 04-26765. The primary cause of this finding was related to the cross-cutting area of Human Performance. (Section 1R20.3)

Inspection Report# : 2004008*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Rattle Space Variance Evaluations for Scaffold
Green. The inspectors identified a finding of very low safety significance when engineering personnel failed to perform a proper evaluation of a scaffold in contact with the torus. Subsequent evaluation of this finding determined that the licensee's procedure for performing the evaluation was inadequate.

This finding was more than minor because the failure to properly perform the required evaluations to support scaffold variances could become a more significant safety issue if left uncorrected. The finding was of very low safety significance because it represented neither a degradation of the control room barrier nor an actual open pathway in the physical integrity of the reactor containment. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," was identified. As part of the licensee's immediate corrective actions, the scaffold in question was removed and all scaffold erection activities in safety-related areas was suspended pending re-evaluation. The primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. (Section 4OA3.1)

Inspection Report# : 2004008*(pdf)*

Emergency Preparedness

Significance: SL-IV Jun 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a 10CFR50/54(q) Review to Determine if Changing the Augmentation Process for the Station Nuclear Engineer Decreased the effectiveness of the Emergency Plan
Severity Level IV. The inspectors identified a violation of 10 CFR 50.47(b)(2) when the process for timely augmentation of on-shift staff was changed for the station nuclear engineer (SNE) position without performing a review to determine if the change decreased the effectiveness of the emergency plan. The inspectors determined this change decreased the effectiveness of the emergency plan and that the licensee did not obtain prior NRC approval contrary to the requirements of 10 CFR 50.54(q). The primary cause of this finding was related to the cross-cutting area of Human Performance in that changes were made to the emergency response organization augmentation process which were not recognized and corrected by the organization.

Because the issue affected the NRC's ability to perform its regulatory function, it was evaluated with the traditional enforcement process as specified in Section IV.A.3 of the Enforcement Policy. This issue was determined to be a Severity Level IV violation because it involved a failure to meet a requirement not directly related to assessment and notification. Further, this problem was isolated to one 30-minute responder position and was not indicative of a functional problem with the emergency response organization augmentation process. Corrective actions included discussions with the SNEs that it was no longer acceptable to remotely activate the 3-D Monocore program to respond to an emergency at the plant instead of responding to the control room and that response to the control room was required within 30 minutes of the declaration of an emergency at the plant. In addition, the Emergency Call Out System test forms were revised to remove the option for the SNE to activate the software remotely in lieu of responding to the control room. (Section 1EP3)

Inspection Report# : 2005012*(pdf)*

Significance: G Jun 30, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure to Declare an Unusual Event Upon Determining that an ARM Reading Exceeded the Maximum Normal Operating Level
Green. A finding of very low safety significance and an associated non-cited violation of 10 CFR 50.47(b)(4), which required a standard emergency classification and action level scheme be in use by the licensee, was self-revealed. On February 7, 2005, the operators failed to declare an Unusual Event upon determining that an area radiation monitor reading inside secondary containment exceeded the maximum normal operating level for the area. The area radiation monitor reading of approximately 100 millirem per hour met the threshold specified in the licensee's emergency plan for declaring an Unusual Event. The primary cause of this finding was related to the cross-cutting area of Human Performance in that licensed operators failed to recognize an Emergency Action Level threshold had been exceeded and an Unusual Event declaration was required.

The finding was more than minor because it was associated with the Reactor Safety/ Emergency Preparedness Cornerstone Attribute of Response Organization performance and affected the cornerstone objective of providing reasonable assurance that the licensee was capable of

implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was of very low safety significance because, although it involved an actual event, the appropriate classification was an Unusual Event and the finding involved a failure to comply with the emergency plan while there were no indications of Planning Standard problems. Corrective actions taken by the licensee included initiating a root cause evaluation to determine the reasons for missing the emergency action level. Also, lessons learned training was identified for all operations personnel and emergency directors to reenforce emergency classification capabilities. Additionally, the Operations Engineer coached individuals on ensuring roles and responsibilities were carried out during all off normal events. (Section 1EP5.b.1.)

Inspection Report# : 2005012*(pdf)*

Significance: G Jun 30, 2005
Identified By: Self Disclosing
Item Type: NCV NonCited Violation
Failure of Four of Six Required RP Technicians to Augment the On-shift Staff in the Required 30 Minutes for the January 24, 2005, Declared Alert
Green. A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR 50.47(b)(2) was self-revealed when four of the six RP technicians failed to augment the on-shift staff in the required 30 minutes for the declared Alert emergency on January 24, 2005. The primary cause of this finding was related to the cross-cutting area of Human Performance in that individuals failed to recognize expectations and responsibilities associated with requirements for timely augmentation of the on-shift staff in an emergency.

The finding was more than minor because it was associated with the Reactor Safety/ Emergency Preparedness Cornerstone Attribute of Response Organization performance and affected the cornerstone objective of providing reasonable assurance that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding was of very low safety significance because, although it involved an actual event, the event was classified as an Alert, and the finding involved a failure to comply with the emergency plan while there were no indications of Planning Standard problems. Corrective actions taken by the licensee included a change to the emergency response organization callout process to activate all RPTs instead of the first six that called in during an emergency. Also, the callout for RPTs was added to the Unusual Event emergency class and higher instead of at the Alert class and higher. (Section 1EP5.b.2.)

Inspection Report# : 2005012*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Complete Outbound Shipment Vehicle Radiation Survey as Required by the Department of Transportation
Green. The inspectors identified a finding of very low safety significance and an associated violation of NRC requirements for the failure to perform complete radiation surveys of an outbound shipment of radioactive material to demonstrate compliance with Department of Transportation limits for the applicable mode of transport.
This issue was more than minor because it was associated with the Program and Process and Human Performance attributes of the Public Radiation Safety Cornerstone and affected the Cornerstone objective that ensures adequate protection of public health and safety from exposure to radioactive materials transported into the public domain. The issue represented a finding of very low safety significance because shipment package and vehicle radiation limits were not exceeded, no package breach occurred during transit, nor were certificate of compliance or low level burial ground issues applicable, and shipment notification and emergency information requirements were met. A Non-Cited Violation of 10 CFR 71.5(a) was identified for the failure to complete transport vehicle surveys applicable to the mode of transport as required by 49 CFR 173.475. Immediate corrective actions included postponement of further radioactive material shipments until tailgate training was provided to those staff that perform shipment radiation surveys. The primary cause of the finding was related to the cross-cutting area of Human Performance. (Section 2PS2.4)

Inspection Report# : 2005004*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : August 24, 2005