

Fermi 2

2Q/2003 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Wrong Spring Installed in West Station Air Compressor Breaker Causes Compressor Failure

A self revealed finding was identified for inappropriate maintenance on the breaker for the west station air compressor on December 20, 1999. This led to excessive cycling of the breaker and failure of the compressor coupling during compressor shutdown on March 13, 2003. This issue was considered more than minor because it affected an attribute and objective of the Initiating Events Cornerstone. No violation of regulatory requirements occurred because the issue occurred on plant support equipment, which was nonsafety-related. A phase 2 risk assessment was performed and it was determined that the issue had low safety significance (Green) do to a low initiating event frequency of a Loss of Instrument Air with one of three station air compressors unavailable.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Jun 30, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Include Technical Specification Amendment 114 into UFSAR

The inspectors identified a non-cited violation for failing to comply with 10 CFR 50.71 (e). This violation was related to not updating the Updated Safety Analysis Report (USAR) with the effects of a safety analysis and evaluation performed by the licensee in support of approved license amendment 114, which allowed average reactor coolant system temperature to be between 200 and 212 degrees Fahrenheit for conducting in-service leakage tests and hydrostatic tests while in MODE 4. Specifically the licensee's safety analysis and evaluation credited all control rods as fully inserted to ensure additional shutdown margin during these testing evolutions, but this condition (all rods inserted) was not incorporated into the USAR or licensee procedures. This finding was more than minor because this condition permitted the conduct of control rod scram testing during hydrostatic and system leakage testing, which was different from the initial condition that all control rods were fully inserted as assumed in the analysis and evaluation for approved license amendment 114. The licensee provided this initial condition in their amendment request and the NRC staff used this initial condition in the safety evaluation for approval of license amendment 114. The failure to comply with 10 CFR 50.71(e) caused inappropriate pressure testing procedure changes and created a situation where less shutdown margin than originally evaluated and accepted by the NRC staff was present at times when these activities were conducted concurrently. As such, the performance of scram time testing during hydrostatic or system leakage testing would have required prior NRC approval in accordance with 10 CFR 50.59. The issue was considered of very low safety significance because the finding did not contribute to the likelihood of a primary or secondary system loss of coolant accident, it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available nor did it increase the likelihood of a fire or internal/external flood. Adequate shutdown margin had always been maintained.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Jun 30, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Operator Error Causes Loss of Shutdown Cooling

A self revealed violation of 10 CFR 50, Appendix B, Criterion V, occurred on April 28, 2003, when operators improperly shifted reactor protection system busses and caused a loss of shutdown cooling. 10 CFR 50, Appendix B, requires, in part, that activities affecting quality shall be accomplished in accordance with prescribed procedures. The licensee developed Procedure 23.316 to shift reactor protection system busses and require depression of the open pushbutton for E1150-F008. Contrary to these requirements, the operator failed to depress the pushbutton and caused a loss of shutdown cooling. The inspectors determined that the violation is more than minor using the guidance provided in NRC Inspection Manual Chapters 0609 and 0612. Chapter 0609 provides guidance on evaluation of the significance of findings for a shutdown reactor. In accordance with Appendix G, Table 1 of 0609, loss of shutdown cooling is a finding of very low safety significance.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Mar 31, 2003

Identified By: Licensee

Item Type: FIN Finding

Failure of Circulating Water Pump No. 2 Casing Bolts

One Green finding was identified regarding performance issues which resulted in the unexpected failure of circulating water pump No. 2, and an initiating event (a plant scram). The pump diffuser casing bolts were cleaned of rust and reinstalled following preventive maintenance in 2000. Residual rust left on the bolts caused an inadequate torque to be applied to the bolts. After running the pump for about 29 months, the bolts fatigued and failed. The diffuser casing separated from the pump column and struck and damaged the pump shaft on October 2, 2002. These failures led to a loss of condenser vacuum, a turbine trip, and a reactor scram. This finding was more than minor because the failure of the pump caused a plant transient. However, the failure of the pump was of very low risk significance because the condition neither contributed to: (1) the likelihood of a primary or secondary loss of coolant accident initiator, (2) the likelihood of a reactor trip and unavailability of mitigating equipment or loss of mitigating equipment functions, or (3) the increased likelihood of a fire or an internal or external flood. There were no violations of NRC requirements because the pump is a nonsafety-related component and the pump pieces did not impact the operation of safety-related equipment.

Inspection Report# : [2003002\(pdf\)](#)

Mitigating Systems

Significance:  Dec 06, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Have Adequate Procedures for Alternative Shutdown in Effect

The inspectors identified that the licensee failed to have adequate procedures in effect for alternative shutdown in accordance with their license conditions. Specifically, performance of necessary actions to conduct an alternative shutdown would have required operators to perform steps contrary to the emergency operating procedures. The failure to have adequate procedures in effect for alternative shutdown is a violation of a license condition. This issue was greater than minor because the conflict between procedures could result in operator delay and confusion for

performance of necessary alternative shutdown steps. The finding was determined to be of very low safety significance, i.e., Green, because the finding did not affect a fire protection feature and interviews with operators indicated that they would take the necessary actions. Because the finding was of very low safety significance, and the finding was captured in the licensee's corrective action system, this finding is being treated as a NCV consistent with Section VI.A.1 of the NRC Enforcement Policy.

Inspection Report# : [2002008\(pdf\)](#)



Significance: Dec 06, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Take Prompt Corrective Actions to Correct Identified Deficiencies in Alternative Shutdown Procedure

The inspectors identified that the licensee failed to promptly correct identified deficiencies in the alternative shutdown procedure which specified safe shutdown actions to be taken in the event of a fire in an affected fire area. Specifically, the alternative shutdown procedure which specified operator actions in the event of a fire in fire area 11ABE relied upon operator actions to be taken in the same area. As such, operators may not have been able to perform the directed actions due to exposure to the fire, the actions may not have been effective due to fire damage, and the carbon dioxide fire suppression system for the area could have been adversely affected. The failure to take prompt corrective actions is a violation of a license condition. The issue was greater than minor because specified actions may not have been effectively accomplished and a fire protection feature was affected. The finding was determined to be of very low safety significance, i.e., Green, because there were no identified fire damage scenarios which would require alternative shutdown. Because the finding was of very low safety significance, and the finding was captured in the licensee's corrective action system, this finding is being treated as a NCV consistent with Section VI.A.1 of the NRC Enforcement Policy.

Inspection Report# : [2002008\(pdf\)](#)



Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Accomplish Electrical Switching Activities in Accordance With Written Procedural Instructions

A finding of very low significance was identified through a self-revealing event while performing a changeover from the 2B-1 battery charger to the spare 2B1-2 battery charger. This activity was incorrectly accomplished, rendering two emergency diesel generators inoperable for a short period of time. The finding was more than minor in that it affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was screened by the Significance Determination Process and determined to have very low safety significance (Green) because having two of the four emergency diesel generators inoperable for a short duration while the station blackout combustion turbine generator remained operable only produced a very slight increase to the core damage probability. One Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, was identified.

Inspection Report# : [2002007\(pdf\)](#)



Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Both Divisions of CCHVAC Inoperable Due to Opening Access Panel

A finding of very low significance was identified through a self-revealing event when maintenance personnel opened an access panel to repair the control center heating, ventilation and air conditioning return fan bearing. The action of

removing the panel decreased control room pressure and rendered both trains of control center heating, ventilation, and air conditioning inoperable for 42 minutes. The finding was more than minor in that the control room envelope was breached and could allow unfiltered radionuclides to enter the control room and cause operator exposures above regulatory limits during an accident. The issue was of very low safety significance because the time both divisions were inoperable, 42 minutes, was considered of short duration and therefore, a low probability event. In addition, had an accident occurred, the open panel could have been closed rapidly. Therefore, the finding was screened by the Significance Determination Process and determined to have very low safety significance (Green). One Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, was identified.

Inspection Report# : [2002007\(pdf\)](#)



Significance: Sep 30, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

Core Spray Discharge Valves E2150F004B and E2150F005B Open Simultaneously

A finding of very low significance was identified through a self-revealing event when maintenance personnel bypassed the low pressure protection interlock logic for core spray discharge valve E2150F005B, a containment isolation valve, while the reactor was at operating pressure. The maintenance craft opened the valve while E2150F004B, which is upstream of E2150F005B, was open, thereby opening two of the in-line valves which provide high pressure protection for the low pressure core spray system discharge piping. The interlock normally prevents both valves from being opened simultaneously. The primary causes to this event included an inadequate work impact statement, inadequate work instructions, poor communications, and lack of configuration control appropriate to the circumstances. The finding was more than minor because it increased the likelihood of an inter-system loss of coolant accident, which could occur if full reactor pressure over-pressurized the low pressure core spray discharge piping and caused a pipe failure. The issue was of very low safety significance (Green) because of the short duration both valves were opened and because the discharge check valve, E2150F006B, located in the same line between the reactor and valve E2150F005B, remained closed. One Non-Cited violation of NRC requirements was identified.

Inspection Report# : [2002007\(pdf\)](#)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety



Significance: Mar 20, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN CONTROL OF LICENSED RADIOACTIVE MATERIAL

A self-revealing violation of 10 CFR 20.1802 was identified, when the licensee failed to maintain control of a measurable amount of licensed radioactive material (i.e., external radioactive contamination on a lanyard) identified during whole body counting of a contractor. The finding 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 in ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The vendor operator's apparent lack of knowledge as to the requirements to control measurable amounts of radioactive material, which was exacerbated by less than adequate radiation protection oversight of the vendor and procedure deficiencies, led to the unrestricted release of measurable radioactive material. However, this finding, associated with the licensee's radioactive material control program, was of very low safety significance in that public radiation exposure was not greater than 0.005 rem and the licensee did not have more than five radioactive material control occurrences (in the previous eight quarters). An associated Non-Cited Violation of 10 CFR 20.1802 was identified for the failure to control licensed radioactive material in an unrestricted area and not in storage.

Inspection Report# : [2003006\(pdf\)](#)

Physical Protection

Miscellaneous

Last modified : September 04, 2003