Fermi 2
1Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Feb 03, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Safety Evaluation for the Online Noble Chemical Metal Process
The inspectors identified a Severity Level IV, Non-Cited Violation (NCV) of 10 CFR 50.59(d)(1), “Changes, Tests, and Experiments,” and an associated (Green) finding for the licensee’s failure to provide an adequate written safety evaluation to demonstrate that application of the On-Line NobleChem™(OLNC) process did not require a license amendment. Specifically, the licensee had not provided an evaluation to demonstrate that application of the OLNC process did not increase the likelihood for hydrogen induced detonation and piping failures for six areas of the balance of plant (BOP) piping susceptible to hydrogen accumulation. The licensee entered the issue into its corrective action program as CARD 12-20812 and intended to revise safety evaluation No.10-0286 to provide an adequate written basis for the OLNC process prior to the next scheduled application of OLNC materials.

The finding was determined to be more than minor because the inspectors could not reasonably determine if the application of the OLNC process would not have required NRC prior approval (e.g., a license amendment). The finding was also determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of Equipment Performance and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Absent NRC identification, the licensee would have continued to introduce OLNC materials into the reactor feed system without confirming that the OLNC process did not increase the likelihood for hydrogen induced detonation and piping failures in the BOP piping segments that would upset plant stability and challenge safety systems. The finding was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip AND the likelihood that mitigation equipment or functions will not be available. This finding has a cross-cutting aspect in the Decision Making component of the Human Performance cross-cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee’s failure to provide a written safety evaluation, which demonstrated that application of the OLNC process did not increase the likelihood for hydrogen induced detonation and piping failures was the result of a non-conservative assumption that the OLNC process was safe
Inspection Report# : 2012007 *(pdf)*

Significance: G Apr 29, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Unauthorized Transient Combustibles
The inspectors identified a finding of very low safety significance (Green) and associated NCV of License Condition 2.C(9) for the licensee’s failure to control transient combustibles in accordance with the fire protection program requirements. Specifically, the inspectors determined that the licensee stored combustible materials in an area containing safety-related equipment without evaluating the location or obtaining a transient combustible permit as required by procedure. Upon discovery, the licensee removed the transient combustibles and placed the issue into their corrective action program.

The inspectors determined that this finding was more than minor because the transient combustibles were stored directly under safety-related cables and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding has a cross-cutting aspect in the area of Human Performance, because the licensee did not appropriately plan work activities by incorporating job-site conditions that may impact plant structures, systems, and components. [H.3(a)] (Section 1R05.1.b)

Inspection Report# : 2011009 *(pdf)*

Mitigating Systems

Significance: G Feb 03, 2012
Identified By: NRC
Item Type: FIN Finding
Inadequate Safety Evaluation for the Online Noble Chemical Metal Process
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify and evaluate that the installed Neutral Grounding Resistors (NGRs) for emergency diesel generators (EDGs) exceeded the maximum design value specified in the design basis calculation. The field measurement data obtained by the licensee in support of the 4.16kV cable replacement modification, in November 2011, exceeded the design value of 4.225 ohms specified in calculation DC-5373. The licensee entered this issue into their corrective action program to revise the design calculation to incorporate using the measured or the resistor's maximum tolerance value.

The inspectors determined that the finding was more than minor because the finding was associated with the Mitigating Systems cornerstone's attribute of Equipment Performance and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to assure that the measured NRG for EDG-11 and EDG-13, which exceeded the maximum design value specified in the design basis calculation would perform their design function during overvoltage and fault conditions. The finding was of very low safety significance because it did not result in a loss of operability. No cross-cutting aspects were associated with this finding.

Inspection Report# : 2012007 *(pdf)*

Significance: G Feb 03, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify EDG's Neutral Grounding Resistor Exceeded its Design Values
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to identify and correct a condition adverse to quality. Specifically, the licensee failed to identify and evaluate that the installed Neutral Grounding Resistors (NGRs) for emergency diesel generators (EDGs) exceeded the maximum design value specified in the design basis calculation. The field measurement data obtained by the licensee in support of the 4.16kV cable replacement modification, in November 2011, exceeded the design value of 4.225 ohms specified in calculation DC-5373. The licensee entered this issue into their corrective action program to revise the design calculation to incorporate using the measured or the resistor's maximum tolerance value.

The inspectors determined that the finding was more than minor because the finding was associated with the Mitigating Systems cornerstone's attribute of Equipment Performance and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to assure that the measured NRG for EDG-11 and EDG-13, which exceeded the maximum design value specified in the design basis calculation would perform their design function during overvoltage and fault conditions. The finding was of very low safety significance because it did not result in a loss of operability. No cross-cutting aspects were associated with this finding.

Inspection Report# : 2012007 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC

Item Type: NCV NonCited Violation
FAILURE TO DEVELOP APPROPRIATE CORRECTIVE ACTIONS FOR A MAINTENANCE RULE (a)(1) MONITORED SYSTEM
The NRC inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65 for failure to develop appropriate corrective actions for an (a)(1) monitored system. The licensee failed to determine the cause of repeated SS 1 computer and printer lock ups in the D1100 process radiation monitor system. They determined the D1100 SS-1 computer should be monitored as (a)(1) status, and established (a)(1) monitoring goals, established a get-well plan, and implemented their plan. However, the get-well plan corrective actions failed to meet the (a)(1) monitoring goals and further inspection revealed the weaknesses in the causal determination and the ineffectiveness of the corrective actions. The inspectors determined this finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This finding was determined to be of very low safety significance because all the screening questions in IMC 0609, Attachment 04, Table 4a, for the Mitigating Systems Cornerstone were answered “no.”
This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action, problem evaluation aspect because the licensee failed to appropriately evaluate the causes of the D1100 SS-1 computer problems (P.1 (c)).
Inspection Report# : 2011005 *(pdf)*

Significance: G Jun 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
SPENT FUEL CASK LAY-DOWN AREAS DID NOT MEET SEISMIC CATEGORY I REQUIREMENTS
A finding of very low safety significance and associated NCV of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion III, “Design Control,” was identified by the inspectors for failure to provide adequate design control measures for the reactor building radial girders, reactor building concrete floor slab and beam structures, spent fuel pool structure, and spent fuel cask leveling plate which were used to support the spent fuel cask placement. Specifically, the inspectors identified four examples where the licensee failed to perform adequate evaluations of the reactor building radial girders, reactor building concrete floor slab and beam structures, spent fuel pool structure, seismic restrain for multiple purpose canister cask transfer configurations, and spent fuel cask leveling plate in accordance with Seismic Category I requirements as defined in the Updated Final Safety Analysis Report, Section 3.8.4.5.1. The licensee documented the violation examples in condition assessment resolution documents (CARDs) 10 21097, 10 21205, 10 21943, 10 22955, 10 25226, 11 22993, and 11 25507.

The performance deficiency was determined to be more than minor because if left uncorrected the performance deficiency could lead to a more significant safety concern. The inspectors determined the finding could be evaluated using the SDP in accordance with Inspection Manual Chapter 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 Initial Screening and Characterization of Findings,” Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered “yes” to the question; is the finding a design qualification deficiency confirmed not to result in loss of operability or functionality in the Mitigating Systems column based on the licensee revising design calculations and initiating modifications where necessary to demonstrate compliance. The inspectors concluded the finding was of very low safety significance (Green). The inspectors identified a Human Performance, Work Practices, management and supervisory oversight (H.4.c) cross cutting aspect associated with this finding. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the reactor building concrete floor slab, spent fuel pool structure and the spent fuel cask leveling plate used to support spent fuel cask placement. (H.4(c)) (Section 4OA5.4)
Inspection Report# : 2011003 *(pdf)*

Significance: G Apr 29, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures to Control the Plant from the Dedicated Shutdown Panel
The inspectors identified a finding of very low safety significance (Green) and associated NCV of License Condition 2.C(9) for the failure to implement procedures which would ensure that reactor vessel water level would be

maintained above the top of the core in the event of a fire. Specifically, procedure deficiencies could have resulted in delays in restoring make-up to the reactor vessel causing reactor vessel water level to lower more than the level assumed in the accident analyses. The licensee placed the issue into their corrective action program and revised procedures to address identified deficiencies.

The inspectors determined that this finding was more than minor because the failure to ensure that water level would be maintained above the top of the core affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance because sufficient margin still existed to prevent core damage. This finding has a cross-cutting aspect in the area of Human Performance because procedures did not provide guidance on which operators should be used to fulfill safe shutdown roles. [H.2(c)] (Section 1R05.5.b)
Inspection Report# : 2011009 *(pdf)*

Significance: G Apr 29, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Detection in Emergency Diesel Generator Rooms
The inspectors identified a finding of very low safety significance (Green) and associated NCV of License Condition 2.C(9) for the licensee's failure to install heat detectors at the ceiling in the emergency diesel generator (EDG) rooms. Specifically, the licensee failed to install heat detectors at the ceiling level of the open grated areas directly above each of the four EDGs. The licensee entered the issue into their corrective action program, declared the carbon dioxide (CO2) suppression systems associated with the heat detectors inoperable, and established an hourly fire watch as a compensatory measure.

The inspectors determined that this finding was more than minor because the lack of heat detectors in the ventilation corridors above the EDGs resulted in a reasonable doubt with respect to the functionality of the CO2 suppression systems in the EDG rooms. This finding was of very low safety significance because a fire would only affect the EDG in that room. This finding does not have a cross-cutting aspect because the finding is not representative of current performance. (Section 1R05.3.b)
Inspection Report# : 2011009 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2011
Identified By: Self-Revealing
Item Type: FIN Finding
PLACING A FUEL BUNDLE IN THE WRONG CELL DURING FUEL SHUFFLE
A self-revealed finding of very low safety significance (Green) was identified by the inspectors for placing a fuel bundle in the wrong cell during a fuel shuffle in the spent fuel pool. The error was noted later in the fuel shuffle when another bundle was moved to the same location, and the operators noted that the cell was filled. Specifically, on November 1, 2011, movement of spent fuel in the Spent Fuel Pool was taking place in preparation for testing of boron concentration in the high density racks. While performing step 150 of the approved MES32003, "Special Nuclear Material/Component Transfer Form," the presence of a fuel bundle already occupying the target location (4N 12) for step 150 was self-revealed. The Refuel Floor Coordinator was informed, and the bundle was returned to its original starting location. This issue was placed in the licensee's corrective action program as CARD 11-29841, "Fuel Move Error in Spent Fuel Pool." The inspectors determined that this finding was more than minor because if left uncorrected the performance deficiency had the potential to lead to a more significant safety concern. This finding was determined to be of very low safety significance because all the screening questions in IMC 0609 Attachment 0609.04 Table 4a, Characterization Worksheet for IE, MS, and BI Cornerstones were answered "no". This finding had a cross-cutting aspect in the area of human performance, work practices because the licensee failed to provide direct licensed operator oversight (H.4(c)) of fuel handling operations in the spent fuel pool

Inspection Report# : 2011005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2011
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
ENTRY TO A HIGH RADIATION AREA ON THE WRONG RADIATION WORK PERMIT
A finding of very low safety significance (Green) was self revealed when two radiation workers entered a high radiation area without proper authorization. This issue was an NCV of licensee Technical Specification 5.4.1, Procedures. Specifically, radiation workers failed to adhere to a radiation work permit that limited access in the radiologically restricted area to radiation areas. This issue was placed in the licensee's corrective action program as CARD 10 29820.

The finding was more than minor because the individuals entered into a high radiation area on the wrong RWP, which is similar to the example in IMC 0612, Appendix E, Example 6.H, that states entry to a high radiation area is, "not minor if: The individual was not authorized to enter a high radiation area." In addition it is associated with the human performance attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective to ensure adequate protection from exposure to radiation. The finding was determined to be of very low safety significance (Green) because it did not involve the as low as reasonably achievable program, did not involve an over exposure, did not involve a substantial potential for an over exposure, and did not compromise the ability to assess dose. The finding was not associated with a cross cutting aspect as no aspects listed in IMC 0310 were characteristic of the finding. (Section 2RS1.7)
Inspection Report# : 2011003 *(pdf)*

Public Radiation Safety

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Separation of Metal Containers and Combustible Radwaste
A finding of very low safety significance and an associated NCV of the Fermi 2 Facility Operating License Condition 2.C(9),for the fire protection program, was identified by the inspectors for the licensee's failure to ensure combustible radwaste was not stored with spent charcoal filter material and HEPA filters. Specifically, the licensee failed to ensure the radwaste combustible material for the cleanup of the December 2010 resin spill was not in the same storage area as the metal containers in the on-site storage facility as required by Updated Final Safety Analysis (UFSAR) Chapter 11, "Radwaste Waste Management," Section 7.2.2.4, "Onsite Storage Facility, Fire Protection." This issue was placed in the licensee's corrective action program as CARD 11-28704, NRC Issue with Resin Storage in the Offsite Storage Facility. The site has taken action to separate the material as required by the UFSAR.

The finding was more than minor because if left uncorrected, the storage of the combined material in bay 1 and bay 4, could lead to a more significant safety concern in that the potential for an unplanned radiation release was possible. The licensee was using the area for storage of the metal containers and normal combustible radwaste. A fire in this area of the plant has the potential to affect radioactive material. The finding affected the Public Radiation Safety Cornerstone, Radioactive Material Control Program. Screening under IMC 0609, Appendix D, "Public Radiation Protection Significance Determination Process" was required. Based on a review of Appendix D, the inspectors concluded that the exposure received would be less than 0.005 rem total effective dose equivalent. Therefore, the finding screened to very low safety significance (Green). This finding has a cross-cutting aspect in the area of Human

Performance, Work Control, because the licensee failed to coordinate work activities between Radiation Protection and Fire Protection groups to ensure combustible material was not stored with the metal containers in accordance with the UFSAR. H.3 (b) (Section 1R05.1)
Inspection Report# : 2011004 *(pdf)*

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

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