October 29, 2002

Mr. William O'Connor, Jr.
Vice President
Nuclear Generation
Detroit Edison Company
6400 North Dixie Highway
Newport, MI 48166

SUBJECT: FERMI 2 NUCLEAR POWER STATION
NRC INTEGRATED INSPECTION REPORT 50-341/02-07

Dear Mr. O'Connor:

On September 30, 2002, the Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Fermi 2 Nuclear Power Station. The enclosed report documents inspection findings which were discussed on October 11, 2002, with you, Mr. Cobb, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based upon the results of this inspection, three Green findings that were violations of NRC requirements were identified. However, because of their very low safety significance and because they have been entered into your corrective action program, the NRC is treating these issues as Non-Cited Violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U. S. Nuclear Regulatory Commission - Region III, 801 Warrenville Road, Lisle, IL 60532-4351; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Fermi 2 facility.

During this past year, in response to the terrorist attacks on September 11, 2001, the USNRC issued an Order and several threat advisories to commercial power reactors to strengthen licensees' capabilities and readiness to respond to a potential attack. The USNRC established a deadline of September 1, 2002, for licensees to complete modifications and process upgrades required by the Order. In order to confirm compliance with this Order, the USNRC issued Temporary Instruction 2515/148 and over the next year, the USNRC will inspect each licensee in accordance with this Temporary Instruction. The USNRC continues to monitor overall security controls and may issue additional temporary instructions or require additional inspections should conditions warrant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Mark A. Ring, Chief
Projects Branch 1
Division of Reactor Projects

Docket No. 50-341
License No. NPF-43

Enclosure: Inspection Report 50-341/02-07

cc w/encl: N. Peterson, Director, Nuclear Licensing
P. Marquardt, Corporate Legal Department
Compliance Supervisor
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: License No:	50-341 DPR-43
Report No:	50-341/02-07
Licensee:	Detroit Edison Company
Facility:	Enrico Fermi, Unit 2
Location:	6400 N. Dixie Hwy. Newport, MI 48166
Dates:	July 1 through September 30, 2002
Inspectors:	S. Campbell, Senior Resident Inspector J. Larizza, Resident Inspector G. Pirtle, Physical Security Inspector P. Pelke, Reactor Engineer R. Lerch, Project Engineer
Approved by:	Mark Ring, Chief Branch 1 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000341-02-07, Detroit Edison Company, on 7/01-9/30/02, Fermi 2 Nuclear Power Station; Unit 2. Maintenance Risk Assessments and Emergent Work and Nonroutine Plant Evolutions.

This report covers a 3-month period of baseline resident inspection and announced baseline inspection on security. The inspection was conducted by Region III inspectors and the resident inspectors. Three Green findings were identified, involving three Severity Level IV Non-Cited Violations (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. <u>Inspection Findings</u>

Cornerstone: Mitigating Systems

- Green. 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. (Section 1R13)

- Green. 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. (Section 1R13)

- Green. 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. (Section 1R14)

Report Details

1. REACTOR SAFETY

Cornerstone: Mitigating Systems

Plant Status

At the start of the inspection period, Fermi 2 operated at 100 percent power. On September 14, 2002, reactor power was reduced to 63 percent to perform control rod pattern adjustment, control rod scram insert time tests and other planned maintenance. Reactor power was returned to 100 percent on September 16, 2002. On September 28, 2002, operators reduced reactor power to 65 percent to conduct turbine bypass valve testing. Operators returned power to 100 percent on September 29, 2002. Reactor power remained at or near 100 percent the remainder of the inspection period.

1R04 Equipment Alignments

.1 Partial Walkdowns (71111.04Q)

a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of risk- significant, mitigating systems during times when the systems were of increased importance due to redundant divisions or other related equipment being unavailable. The inspectors reviewed associated piping and instrumentation drawings, condition assessment resolution documents (CARDs) and used the system operating procedures lineup listed at the end of this document to verify the system standby alignment. The inspectors also examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies.

- Reactor Core Isolation Cooling
- Primary Containment Operability Verification
- Emergency Equipment Cooling Water
- Station Air and Control Air System
- Residual Heat Removal (RHR) Mechanical Draft Cooling Tower
- Condensate Storage Tank System
- Emergency Equipment Cooling Water

b. Findings

No findings of significance were identified.

.2 Complete Walkdowns (71111.04S)

a. Inspection Scope

A complete walkdown was performed of the high pressure coolant injection system and the turbine building closed cooling water system. These were selected because they were considered risk-significant in the licensee's probabilistic risk assessment. The inspection consisted of the following activities:

- Review of appropriate plant procedures
- Drawings
- Updated Final Safety Analysis Report (UFSAR) to identify proper system alignment
- Maintenance work requests
- Outstanding design issues and operator work arounds
- Control room logs

The inspectors used the documents to verify valves were positioned correctly and did not exhibit leakage that would impact the valve's function, availability of electrical power, proper labeling, lubrication and cooling of major equipment and functionality of hangers and support system.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope

The inspectors toured the following areas to determine whether combustible hazards were present, fire extinguishers were properly filled and tested, the CARDOX units were operable, hose stations were properly maintained, and if the fire hazard analysis drawings were correct:

- Ventilation Equipment Area (UFSAR Section 9A.4.2.14)
- Cable Tunnel (UFSAR Section 9A.4.2.6.1)
- Reactor Building, Fifth Floor (UFSAR Section 9A.4.1.10)
- Auxiliary Building, Basement (UFSAR Section 9A.4.2.2.)
- Turbine Building (Standby Feedwater Pump Room) (UFSAR Section 9A.4.5)
- Division 1 RHR Complex (UFSAR Section 9A.4.3)
- Transformers (UFSAR Section 9A. 4.7.5)
- Division 2 RHR Complex (UFSAR 9A.4.3)
- Control Room, Zone 9, El 643 Ft 6 in, 655 Ft 6 in and 677 Ft 6 in (UFSAR Section 9A 4.2.10)
- Ventilation Equipment Area, Zone 15, El 677 Ft 6 In (UFSAR Section 9A.4.2.16)

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On August 22, 2002,the inspectors observed the Shift 3 operating crew during an "as found" requalification examination on the simulator involving the scenario "Loss of Offsite and Onsite Electrical Power (SBO - Station Blackout)." The inspectors evaluated crew performance in the areas of:

- Clarity and formality of communications
- Ability to take timely actions in the safe direction
- Prioritization, interpretation, and verification of alarms
- Procedure use
- Control board manipulations
- Oversight and direction from supervisors
- Group dynamics

Crew performance in these areas was compared to licensee management expectations and guidelines as presented in the operations section of the work instructions and critical tasks listed in the exercise guide, both referenced at the end of this report. The inspectors also compared simulator configurations with actual control room board configurations. For any weaknesses identified, the inspectors observed the licensee evaluators to verify that they also noted the issues and discussed them in the critique at the end of the session.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

.1 Emergent Work Activities

b. Inspection Scope

The inspectors reviewed the licensee's evaluation of risk, activity scheduling, configuration control, and emergent work to ensure that plant risk was appropriately managed. The inspectors verified that licensee actions, such as establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff to address increased online risk during these periods were accomplished when needed. The following work week activities were reviewed:

Work Week Reviewed	**Systems Out-of-Service During Work Week**
Week of July 14, 2002	Division 2 Core Spray Valve E2150F005B Stroked Open Bypassing Interlock with E2150F004B.
Week of July 14, 2002	CARD 02-15001- Concern with Emergency Diesel Generator (EDG) Fuel Oil Storage Tank Required Volume
Week of August 4, 2002	Cold Shutdown Justifications (E2150F004B and 5B)
Week of August 11, 2002	Repair EDG 11 Room Supply Fan (X4103-C002)
Week of September 8, 2002	P4400F603A , Supplemental Cooling System/Emergency Equipment Cooling Water/Reactor Building Closed Cooling Water/Valve Operating Test Evaluation System/Measuring & Test Equipment
Week of September 15, 2002	EDG 14 Trip on Low Fuel Oil Pressure Following SOP 23.307 Start for PMT
Week of September 15, 2002	Failed Emergency Equipment Cooling Water/ Emergency Equipment Service Water Flow Test

b. Findings

No findings of significance was identified.

.2 Direct Current Distribution Panel 2PB-2 Circuit 14 Switching Error

a. Inspection Scope

The inspectors reviewed the circumstances leading to Direct Current Distribution Panel 2PB-2 Circuit 14 switching error, CARD 02-18747, “EDGs 13 and 14 Direct Current Distribution Cabinet 2PB-2 Circuit 14 Denergized Rendering EDGs 13 and 14 Inoperable - Mispositioned Breaker,” the cause evaluation, associated procedures, and Technical Specifications. The inspectors spoke with licensee personnel to determine the circumstances which led to the breaker mispositioning.

b. Findings

The inspectors identified one Green finding involving a Non-Cited Violation for failure to follow procedure and adequately self-check to ensure that the right switch was manipulated.

Background

On August 12, 2002, an operator removed division 2 battery charger 2B-1 from service, which required a switch over to spare battery charger 2B1-2, per Procedure 23.309, “260/130V Electrical System (Emergency Safety Feature and Balance of Plant).” Another operator watched to ensure the that the task was performed correctly. The operator incorrectly performed procedure Step 6.4 and deenergized Circuit 14 instead of Circuit 13. This action de-energized 2PB2-14, Division 2, 130 V direct current distribution panel in the residual heat removal complex, rendering both Division 2 EDGs inoperable and unavailable. The loss of control power to Division 2 residual heat removal complex included diesel electrical buses 72EC and 72ED.

Operations entered the appropriate Technical Specifications for the diesels, the mechanical draft cooling towers and the associated diesel electrical buses. Operators confirmed that indication only was lost for Division 2 residual heat removal service water pumps B and D and Division 2 emergency equipment service water pump B. All the pumps remained operable. In addition, busses 13EC, 14ED and mechanical draft cooling tower fans B and D lost indication, but no breakers repositioned.

Operators re-energized 2PB-2-14, 130 V direct current control power panel and tried to reset the annunciators for EDGs 13 and 14. Reset of the annunciators was successful on EDG 14 and the diesel remained available. However, the EDG 13 “Exciter Trip” and “Not Ready for Auto Start” remained in alarm. The operators reset the exciter trip and completed restoration of EDG 13 to standby and available status. Charger 2B-1 was restored to service and the 2PB Battery was charged to normal. Restoration of the Division 2 emergency electrical system was completed within 2 hours.

A system engineer evaluated the condition and concluded that all circuits responded as expected. The anomaly noted, in that EDG 13 exciter was de-energized, while EDG 14 exciter remained energized, was evaluated and determined that it could have happened to either exciter.

The licensee initiated CARD 02-18747 and conducted an investigation. They determined that human error, attributed to the operator who performed the changeover incorrectly, caused the event. Also, the licensee determined that the second person verifier was ineffective at ensuring the correct switch was manipulated.

Significance Evaluation

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 inspectors used the Significance Determination Process Phase 1 Screening Worksheet and determined that the issue was of very low safety significance (Green) because having two of the four EDGs inoperable for a short duration (2 hours) while the station blackout combustion turbine generator remained operable only produced a slight increase to the core damage probability, which is a low risk condition.

Enforcement Actions

10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires that activities affecting quality shall be prescribed by documented instructions appropriate to the circumstances and shall be accomplished in accordance with these instructions. Contrary to the above, the licensee failed to accomplish Step 6.4 of Procedure 23.309, “260/130V Electrical System (Emergency Safety Feature and Balance of Plant),” to turn on Circuit 13 to place spare charger 2B-2 in service. Instead, the licensee turned off circuit 14, thereby, rendering the Division 2 emergency power source inoperable for a period of time. This was considered a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V (**NCV 50-341/02-07-01**) in accordance with Section VI.A.1 of the USNRC Enforcement Policy. The issue was entered into the licensee’s corrective action program as CARD 02-18747.

.3 Both Divisions of Control Center Heating, Ventilation, and Air Conditioning (CCHVAC) Inoperable Due to Opening Access Panel

a. Inspection Scope

The inspectors reviewed the circumstances surrounding both divisions of CCHVAC becoming inoperable due to the opening of an access panel: associated CARD 02-16703, the Root Cause Analysis Report, Licensee Event Report 02-003, “Breaching of Control Room Emergency Filtration System Ductwork Integrity” and associated procedures. The inspectors spoke with licensee personnel to determine the circumstances which led both divisions of CCHVAC to become inoperable.

b. Finding

The inspectors identified one Green finding involving a Non-Cited violation for failure to provide documented instructions of a type appropriate to the circumstances related to the CCHVAC work control.

Background

On June 27, 2002, the Division 1 Control Room Emergency Filtration system (CREF) was started to support post maintenance testing on the Division 1 CREF emergency air north inlet radiation monitor flow switch. During the test, an operator reported an unusual noise coming from the Division 1 CCHVAC return air fan. Vibration analysis indicated a failing fan outboard bearing. The fan was shutdown, Division 1 CREF was declared inoperable, Technical Specification 3.7.3, Action A was entered, and a high priority emergent work request was initiated.

The work control planner discussed the scope of work with the system engineer and identified that maintenance personnel would have to open an access panel to allow work to be carried out on the fan outboard bearing. The access panel was not labeled and it was not understood that opening the access panel would result in unfiltered air in-leakage to the operating division of CREF system and render both CREF divisions inoperable. Consequently, Work Request 000Z021979, which was revised to troubleshoot the Division 1 CCHVAC return air fan problem, provided instructions for removing the panel. Following work package review by appropriate personnel, work began at 9:40 p.m. At 9:52 p.m., a high control room pressure alarm annunciated. Operations personnel stopped the maintenance work on the fan to investigate the alarm. At 10:22 p.m., the access panel was closed and the control room pressure returned to normal.

With both divisions of CREF inoperable, immediate entry into Technical Specification 3.0.3 was required (action to be initiated within 1 hour, i.e. by 10:52 p.m., to place the reactor in a mode in which the Limiting Condition for Operation does not apply, i.e., shutdown). However, this action was not performed because the licensee failed to recognize the impact opening this panel had on both divisions of the CREF boundary. The system was restored within 42 minutes at 10:22 p.m.

<u>Significance Evaluation</u>

The inspectors used the Significance Determination Process Phase 1 Screening Worksheet and determined that the issue was of very low safety significance (Green). 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. Also, backup systems (purge and chlorine modes of CCHVAC, standby gas treatment system, and self-contained breathing apparatus equipment for the occupants) remained operable and available.

<u>Enforcement Actions</u>

10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” requires that activities affecting quality shall be prescribed by documented instructions of a type appropriate to the circumstances. Contrary to the above, WR 000Z021979 provided inappropriate instructions for removing the CREF access panel, in that, the work request did not note that performing this action would render both divisions of CREF inoperable. Both divisions of CREF were inoperable for 42 minutes. This was considered a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V **(NCV 50-341/02-07-02)** in accordance with Section VI.A.1 of the NRC Enforcement Policy. The issue was entered into the licensee’s corrective action program as CARD 02-16703.

1R14 Nonroutine Plant Evolutions (71111.14)

.1 Core Spray Valves E2150F004B and F005B Open Simultaneously

a. Inspection Scope

The inspectors reviewed CARD 02-16969, “Simultaneous Opening of E2150F005B While E2150F004B Open During Preventive Maintenance Testing,” the apparent cause evaluation, and associated procedures, and interviewed operations personnel to determine the circumstances which led to having two low pressure protection valves open on the Division 2 core spray system discharge piping with the reactor at full pressure.

b. Findings

The inspectors identified one Green finding and a Non-Cited Violation for inadequate work instructions resulting in having two core spray low pressure protection valves open with the reactor at operating pressure.

Background

On July 16, 2002, the licensee conducted a Division 2 core spray safety system outage. Work Request B868020100, that provided instructions for motor power monitoring of core spray loop B inboard isolation valve E2150F005B, was required to be performed during the outage. Valve E2150F005B and normally open core spray loop B outboard isolation valve E2150F004B, which is upstream valve E2150F005B, are interlocked at 461 psig reactor pressure so both valves cannot be open simultaneously. The interlock provides low pressure protection of the core spray discharge piping with the reactor at full operating pressure.

For the motor power monitoring, Work Request B868020100 required that a test switch be installed at the electrical motor control center breaker that supplies power to the valve. The test switch jumper was installed in a configuration that bypassed the low pressure protection interlock. Maintenance personnel made initial notifications to the control room personnel to begin the job and past practice had been to perform the sequence of steps in their entirety after initial notification. Consequently, maintenance craft proceeded to stroke valve E2150F005B without clearly communicating this action to the control room personnel. Alarm 2D90, “Core Spray System Division I/II Fill Line Press Low,” annunciated and the control room operators saw valve E2150F005B opening. Within 2-3 minutes, the operators responded by closing normally open valve E2150F004B to protect the low pressure core spray piping from full reactor pressure, thereby averting a potential inter-system loss of coolant accident. Fortunately, core spray Division 2 inboard primary containment check valve E2100F006B, which is in the same line between the reactor and E2150F005B, remained closed and limited the core spray system discharge piping pressure to 120 psig.

The licensee initiated CARD 02-16969 to document the condition. A root cause evaluation team was formed to review the circumstances surrounding the event. An independent consulting team reviewed the root cause evaluation team findings. The licensee determined the root causes to the event were: (1) the plant impact statement was of poor quality, (2) the work package lacked adequate detail to perform the valve opening sequence and (3) maintenance personnel mistakenly thought that the jumper was not a jumper since it included a test switch.

Significance Evaluation

The licensee conducted a significance determination and determined that the incremental conditional core damage probability (4.0E-8) and the incremental conditional large early release probability (4.0E-8) were less than the criteria for incremental conditional core damage probability (5.0E-7) and incremental conditional large early release probability (5.0E-8) in Reg Guide 1.177, “An Approach for Plant-Specific Risk-Informed Decision making: Technical Specifications.” In this evaluation, the licensee accounted for the failure rate of the discharge check valve E2150F006B, which was used in calculating the incremental conditional core damage probability and incremental conditional large early release probability, without taking credit for operator action or for the isolation capability of E2150F004B. The result was that having both E2150F005B and E2150F004B simultaneously open for a short duration had minimal impact on the probability of core damage and plant safety.

The inspectors reviewed the licensee’s significance determination and requested assistance in determining risk from the NRC Regional Senior Reactor Analyst (SRA). The SRA performed a Phase 3 risk assessment and determined that the issue had low safety significance (Green) due to the low initiating event frequency of an Inter-System Loss of Coolant Accident (1E-7) coupled with the short duration the condition existed (2-3 minutes) and the inboard primary containment check valve's failure probability to prevent over-pressurization of the core spray system discharge piping. The senior reactor analyst also reviewed the licensee's risk assessment and determined that the calculation was conservative given the assumptions used. The licensee's analysis determined that the change in core damage frequency was in the 1E-8 range.

Enforcement Actions

10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, on July 16, 2002, the licensee failed to provide documented instructions of a type appropriate to the circumstances related to the core spray discharge valve E2150F005B motor power monitoring testing. Work Request B868020100 was not adequate to the circumstances in that it contained an improper work impact statement and inadequate instructions for opening the valve without first ensuring that the other in-line isolation valve (E2150F004B) was closed. Consequently, the low pressure protection interlock function was bypassed allowing both core spray valves to be open simultaneously. This Severity IV violation is being considered a Non-Cited Violation consistent with Section VI.A.1 of the USNRC Enforcement Policy **(NCV 50-341/02-07-03)**. The violation was entered into the licensee’s corrective action program as CARD 02-16703.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors assessed the following operability evaluations:

- P4400F603A, Supplemental Cooling System/Emergency Equipment Cooling Water/Reactor Building Closed Cooling Water Valve Operating Test Evaluation System Measuring and Test Equipment
- Safety Evaluation 95-0036, “Use of Emergency Equipment Cooling Water During Power Ops”

The inspectors reviewed the technical adequacy of the evaluation against the Technical Specification, UFSAR, and the other design information; determined whether compensatory measures, if needed, were taken; and determined whether the requirements of Engineering Support Conduct Manual MES 27, “Verification of System Operability,” were met.

In addition, the inspectors reviewed selected issues that the licensee entered into the corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

Engineering Design Package 29446, for installation of piping to pressurize the high pressure coolant injection (HPCI) discharge piping, was reviewed and selected aspects were discussed with engineering personnel. The modifications were designed to decrease the possibility of a water hammer event upon start of the HPCI pump. The water hammer was possibly due to HPCI discharge piping connecting near the injection valve to the feedwater system. In this location, the HPCI absorbs heat from the feedwater via conduction and valve leakage forming localized steam voids. When the HPCI turbine driven pump was started, rapid depressurization of this line caused the void to collapse and produce a pressure transient (water hammer) which stressed the piping and related supports. This document was reviewed for adequacy of the safety evaluation and consideration of design parameters.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

b. Inspection Scope

The inspectors reviewed and observed the following post-maintenance testing activities involving risk significant equipment in the Mitigating Systems cornerstones:

- Procedure 24.203.03, “Division 2 Core Spray System Pump and Valve Operability Test”
- Procedure 24.205.05, “Division 1 RHR Service Water Pump and Valve Operability”

The inspectors verified that the post-maintenance test was adequate for the scope of the maintenance work performed, acceptance criteria were clear, and operational readiness consistent with design and licensing basis documents was demonstrated. The inspectors also verified that the impact of the testing had been properly characterized in the risk assessment, the test was performed as written, the testing prerequisites were satisfied, and that the test data was complete. Following the completion of the test, the inspectors verified that the system was returned to its normal standby configuration.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed surveillance testing activities and/or reviewed completed packages for the tests listed below related to systems in the Mitigating Systems and Barrier Integrity Cornerstones:

- Procedure 24.107.03, “Standby Feedwater Pump and Valve Operability and Lineup Verification Test”
- Inservice 0201090, 02970718, 02030908, 02990913 - “General Service Water Piping and Volumetric Wall Inspections”
- Procedure 44.030.155, “Emergency Core Cooling System High Pressure Coolant Injection Torus Level Functional Test”
- Procedure 24.307.30, “EDG 11 - 24 Hours Run Followed by Hot Fast Restart”
- Procedure 24.307.15, “EDG 12 Start and Load Test - Slow Start”
- Procedure 24.307.16, “EDG 13 Start and Load Test - Slow Start”
- Procedure 44.030.219, “Emergency Core Cooling System - RHR Pump C Discharge Permissive (Automatic Depressurization System Permissive) Cal/Functional Test”

The inspectors verified that the structures, systems, and components selected were capable of performing their intended safety function and that the surveillance tests satisfied the requirements contained in Technical Specifications, the UFSAR, and licensee procedures. During surveillance testing observations, the inspectors verified that the test demonstrated operational readiness consistent with design and licensing basis documents and that the test acceptance criteria were clear. The inspectors also verified that the impact of the testing had been properly characterized during the pre-job briefing; the test was performed as written; the test data was complete and met the requirements of the testing procedure; and the test equipment range and accuracy was consistent with the application. Following test completion, the inspectors verified that the test equipment was removed and that the system was returned to its normal standby configuration.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

Temporary Monitoring Equipment at the Valve Control Module for No. 3 High Pressure Control Valve

a. Inspection Scope

The inspectors reviewed Temporary Modification 02-0009, Revision A, "Install Temporary Monitoring Equipment at the Valve Control Module for No. 3 High Pressure Control Valve," to verify that the modification was screened in accordance with 10 CFR 50.59, the modification was consistent with documentation, associated drawings and procedures had been updated, and post installation test results were satisfactory.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP3 Response to Contingency Events (71130.03)

.1 Protective Strategy

a. Inspection Scope

The inspectors reviewed the current Protective Strategy including the licensee's target set analysis, observed handgun and rifle qualifications, and stress firing with contingency weapons and handguns at the onsite firing range. The inspectors also conducted a walkdown of the protected area boundary and alarm system, observed testing of selected protected area alarm zones, and walked down security defensive positions. The inspectors discussed defense strategy and procedures with licensee security personnel; observed two table top exercises; and reviewed procedures, training records, and licensee drill and exercise critiques pertaining to response to security contingency events.

b. Findings

No findings of significance were identified.

.2 Homeland Security Advisory System

The Office of Homeland Security developed a Homeland Security Advisory System to disseminate information regarding the risk of terrorist attacks. The Homeland Security Advisory System implements five color-coded threat conditions with a description of corresponding actions at each level. The USNRC Regulatory Information Summary 2002-12a, dated August 19, 2002, “NRC Threat Advisory and Protective Measures System,” discusses the Homeland Security Advisory System and provides additional information on protective measures to licensees.

a. Inspection Scope

On September 10, 2002, the USNRC issued a Safeguards Advisory to reactor licensees to implement the protective measures described in USNRC Regulatory Information Summary 2002-12a in response to the Federal government declaration of threat level “orange.” Subsequently, on September 24, 2002, the Office of Homeland Security downgraded the national security threat condition to “yellow” and a corresponding reduction in the risk of a terrorist threat.

The inspectors interviewed licensee personnel and security staff, observed the conduct of security operations, and assessed licensee implementation of the threat level “orange” protective measures. Inspection results were communicated to the region and headquarters security staff for further evaluation.

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes (71130.04)

a. Inspection Scope

The inspectors reviewed Revision 40 to the Fermi 2 Physical Security Plan, Revision 12 to the Safeguards Contingency Plan, and Revision 19 to the Security Training and Qualification Plan. All of the revisions were effective May 20, 2002. The review was conducted to verify that the changes did not decrease the effectiveness of the security plans. The revisions were submitted in accordance with 10 CFR 50.54(p).

b. Findings

No findings of significance were identified.

OTHER ACTIVITIES (OA)

4OA1 Identification and Resolution of Problems (71151)

.1 Security Performance Indicator Verification

a. Inspection Scope

The inspectors verified the data for the Physical Protection Performance Indicators pertaining to Fitness-For-Duty, Personnel Reliability, Personnel Screening Program, and Protected Area Security Equipment. Specifically, a sample of plant reports related to security events, security compensatory measure logs, fitness-for-duty reports, and other applicable security records were reviewed for the period between January 1 and June 30, 2002.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

. a. Inspection Scope

The inspectors assessed the corrective actions associated with CARD 00-10026, "Fire Protection Component Clarification."

b. Findings

The inspectors determined corrective action for CARD 00-10026 had not been timely. This was a contributing factor in the event associated with Licensee Event Reports 50-341/02-02-00 and 50-341/02-02-01 discussed in Section 4OA3 below. Condition Assessment Resolution Document 00-10026 was written on February 4, 2000, concerning the fire protection field in the Central Component Database being unreliable. Initial inputting to this field had never been controlled by the fire protection engineer, and the data had never been validated. One of the corrective actions for CARD 00-10026 was software changes to revise the fire protection field to include "R" (for Appendix R), "D" (for dedicated shutdown only), "Y" (fire protection and emergency lighting equipment) and "N" (not associated with the fire protection program). However, this action was not yet complete as of September 2002. The failure to implement the corrective actions for CARD 00-10026 was a contributing factor in allowing an incorrect field modification, performed on February 19, 2002, which invalidated an inherent assumption in the procedure for controlling the plant from the dedicated shutdown panel by re-orienting a valve such that operators needed a ladder to operate the valve.

4OA3 Event Followup (71153)

.1 Review of Unresolved Items

a. Inspection Scope

The inspectors performed an onsite review of records to evaluate the root cause and corrective actions for the unresolved items discussed in the "Findings" section below. The inspectors evaluated the timeliness, completeness, and adequacy of the root cause and corrective actions in accordance with the requirements of 10 CFR Part 50, Appendix B, as appropriate.

b. Findings

(Closed) Unresolved Item 50-341/01-008-01: "High Pressure Coolant Injection (HPCI) System Pressure Transients." This item involved repetitive pressure transients in the HPCI discharge piping during a system start. The licensee determined that the HPCI discharge valve was too close to the feedwater piping, causing a heat transfer across the valve and heating the water in the discharge piping to voided conditions. During a system start, the void would collapse and cause some minor discharge piping pressure transients. To correct the problem, the licensee proposed and approved two modifications on the HPCI piping: (1) installing a keep-fill system on the discharge piping to increase pressure and limit voiding; and (2) cooling fins on the HPCI discharge valve and associated piping. The cooling fins will be installed in the next outage. This item is closed.

.2 Review of Licensee Event Reports

(Closed) Licensee Event Report 50-341/02-01-00: "High Pressure Coolant Injection and Reactor Core Isolation Cooling (RCIC) Room Area Temperature Switches Beyond Technical Specification Allowable Value." On March 8, 2002, while performing Surveillance 44.020.227, "Nuclear Steam Supply System - HPCI and RCIC Room Area Temperature, Channel A Functional Test," two temperature switches, E41N602A and E51N602A, which provide HPCI and RCIC isolation on high room temperature to protect against a steam line break, were found out of tolerance high at 185°F. Technical Specification Table 3.3.6.1-1, Functions 3.d and 4.d, require the HPCI equipment room temperature - "high" and the RCIC equipment room temperature - "high" respectively, to be set at less than or equal to 162°F.

The licensee found that during the December 2001 Channel A Functional Test for HPCI and RCIC room temperature switches, the setpoints were inadvertently set too high (185°F) due to a loose battery connection inside the test equipment (Transmation Thrice-Cell). The Thrice-Cell serves to condition the signal being supplied to the temperature switches, providing temperature compensation similar to the installed temperature detector and wiring. With the Thrice-Cell not working properly, the output was too high, causing the HPCI and RCIC room temperature setpoints to be misadjusted. The battery connection became loose while carrying the Thrice-Cell to the temperature switch location. The technicians did not check the battery connection after carrying the equipment to the area. Unknown to the licensee, Channel A for HPCI and

RCIC remained misadjusted while the other channel, Channel B, for HPCI and RCIC, was calibrated on January 9, 2002. This resulted in the A and B channels for HPCI and RCIC being inoperable for about 1 hour and 15 minutes.

This event was previously reviewed in Inspection Reports 50-341/02-03 and 02-05. One Green Non-Cited Violation was documented in Inspection Report 50-341/02-05 for the licensee's failure to properly establish measures to assure that instruments, and other measuring and test devices were properly calibrated to maintain accuracy within necessary limits in accordance with 10 CFR Part 50, Appendix B, Criterion XII. The licensee took a number of corrective actions. The inspectors verified that (1) the faulty Thrice-Cell (TM-004-M) was removed from the measuring and test equipment inventory; (2) the Just-In-Time Training Lesson Plan LP-GN-909-3025A incorporated lessons learned from this event, and the instrument and control instrument repairmen received the training; (3) lessons learned were incorporated into Instrument Maintenance Initial Training Plan LP-IC-471-0301; and (4) the eight surveillance procedures which utilize the Thrice-Cell have been revised to include steps to verify setpoint temperatures after adjustments are made. This licensee event report is closed.

<u>(Closed) Licensee Event Reports 50-341/02-02-00 and 50-341/02-02-01</u>: "Fire Protection Dedicated Shutdown Valve Accessibility Impacted by Field Modification." As a result of a fire protection program self assessment, on May 2, 2002, the licensee determined that a field modification performed on February 19, 2002, invalidated an inherent assumption in the procedure for controlling the plant from the dedicated shutdown panel. Specifically, the motor operator for motor operated valve (MOV) N2000F636, condenser hotwell emergency makeup bypass valve, was rotated 180 degrees to help alleviate an oil leakage problem. Rotating the MOV relocated the motor operator handwheel away from the first floor of the Turbine Building such that operators could not reasonably close the valve without the use of a ladder. Procedure 20.000.18, "Control of the Plant from the Dedicated Shutdown Panel," directs operators to de-energize and manually close MOV N2000F636 to prevent losing condensate storage tank water inventory to the hotwell in case a hot short caused the valve to open.

The licensee concluded that in the unlikely event of an Appendix R fire which induced a hot short and repositioned the closed MOV N2000F636, operators would obtain one of the Appendix R dedicated ladders staged along the lighted path to the valve within the 10 minutes before condensate storage tank water inventory drained below the minimum amount required for reactor shutdown. Section 2.C(9)(a) of the Fermi 2 Operating License states, "DECo may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire." The reorientation of MOV N2000F636 on February 19, 2002, was a violation of Section 2.C.(9)(a) of the Operating License in that it increased the time required to isolate the condensate storage tank from the hotwell. Although this violation was entered into the licensee's corrective action program as CARD 02-12412, it constitutes a violation of minor significance that is not subject to enforcement action in accordance with Section IV of the USNRC's Enforcement Policy.

The licensee is in the process of taking a number of corrective actions as documented in the licensee event report. One contributing factor for this event is further discussed in Section 4OA2 above. The inspectors verified that the licensee staged a dedicated ladder at MOV N2000F636. This licensee event report is considered closed.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. O'Connor and other members of licensee management at the conclusion of the inspection on October 11, 2002. The inspectors asked the licensee whether any material examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

• Security inspection with Mr. Gary Pirtle on August 9, 2002.

KEY POINTS OF CONTACT

Licensee

D. Cobb, Director, Nuclear Production
J. Connelly, Response Force Supervisor
J. Davis, Manager, Outage Management
T. Dong, Manager, Performance Engineering
T. Haberland, Manager, Work Control
C. Hill, Response Force Supervisor
K. Hlavaty, Manager, Maintenance
R. Johnson, Supervisor, Compliance
C. Kitts, Security Shift Supervisor
J. Korte, Manager, Nuclear Security
J. Moyers, Manager, NQA
R. Nearhoof, General Supervisor, Chemistry/Radiation Protection
D. Noetzel, Manager, System Engineering
W. O'Connor, Vice President, Nuclear Generation
N. Peterson, Manager, Nuclear Licensing
P. Smith, Manager, Nuclear Fuels

USNRC

M. Ring, Chief, Division of Reactor Projects, Branch 1
G. Pirtle, Physical Security Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-341/02-07-01	NCV	Failure to Accomplish Electrical Switching Activities in Accordance With Written Procedural Instructions
50-341/02-07-02	NCV	Both Divisions of CCHVAC Inoperable Due to Opening Access Panel
50-341/02-07-03	NCV	Core Spray Discharge Valves E2150F004B and E2150F005B Open Simultaneously

Closed

50-341/02-07-01	NCV	Failure to Accomplish Electrical Switching Activities in Accordance With Written Procedural Instructions
50-341/02-07-02	NCV	Both Divisions of CCHVAC Inoperable Due to Opening Access Panel
50-341/02-07-03	NCV	Core Spray Discharge Valves E2150F004B and E2150F005B Open Simultaneously
50-341/01-008-01	URI	High Pressure Coolant Injection System Pressure Transients.
50-341/02-01-00	LER	High Pressure Coolant Injection and Reactor Core Isolation Cooling Room Area Temperature Switches Beyond Technical Specification Allowable Value
50-341/02-02-00	LER	Fire Protection Dedicated Shutdown Valve Accessibility Impacted by Field Modification
50-341/02-02-01	LER	Fire Protection Dedicated Shutdown Valve Accessibility Impacted by Field Modification

Discussed

None

LIST OF ACRONYMS USED

CARD	Condition Assessment Resolution Document
CCHVAC	Control Center Heating Ventilation and Air Conditioning
CREF	Control Room Emergency Filtration System
DECo	The Detroit Edison Company
EDG	Emergency Diesel Generator
HPCI	High Pressure Coolant Injection
MOV	Motor Operated Valve
NCV	Non-Cited Violation
RCIC	Reactor Core Isolation Cooling
UFSAR	Updated Final Safety Analysis Report
USNRC	United States Nuclear Regulatory Commission

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Procedure 24.206.01	RCIC System Pump and Valve Operability Test	Revision 53
Drawing 6M721-5709-1	Reactor Core Isolation Cooling (RCIC) System Sketch Functional Operating Sketch	Revision AC
Procedure 24.425.01	Primary Containment Operability Verification	Revision 41
Procedure 27.000.01	Locked Valve Line Up Verification	Revision 51
Procedure 23.127	Reactor Building Closed Cooling Water / Emergency Equipment Cooling Water System	Revision 60
Procedure 23.129	Station Air and Control Air System	Revision 68
Procedure 23.202	High Pressure Coolant Injection System	Revision 77
Drawing 6M721-5708-2	HPCI Turbine Lube Oil / Control Oil Functional Operating Sketch	Revision I
Drawing 6M721-5708-1	High Pressure Coolant Injection System Functional Operating Sketch	Revision AE
Drawing 6M721-5728-1	Turbine Building Closed Cooling Water System (2nd and 3rd Flr) Functional Operating Sketch	Revision Y
ST-OP-315-0037-001	Fermi 2 Nuclear Training - Operations, “Turbine Building Closed Cooling Water (TBCCW) P4300	Revision 7
Drawing 6M721-5728-2	Turbine Building Closed Cooling Water System (1st Flr) Functional Operating Sketch	Revision Q
CARD 02-16883	P43N404 Drawing Information Incorrect in CEO	August 16, 2002
CARD 02-15258	Valve Needs to be Adjusted	August 15, 2002
CARD 02-18764	Valve Configuration in Plant Does not Match Drawing	August 15, 2002
CARD 02-18763	Valve in System Drawing Not Shown in Drawing	August 15, 2002
CARD 02-18762	Valve Position Listed Incorrect in Drawing	August 15, 2002
CARD 02-15256	Missing Label	August 14, 2002

Procedure 23.128	Turbine Building Closed Cooling Water System	Revision 32
ST-OP-315-0083-001	Fermi 2 Nuclear Training - Operations, "Condensate Storage and Transfer System P1100"	Revision 7
Drawing 6M721-5714-1	Condensate System	Revision V
Drawing 6M721-5721-1	Condensate Storage and Transfer System	Revision C
Procedure 23.104	Condensate Storage and Transfer System	Revision 62
UFSAR Section 3.5.1.3.2.2	Residual Heat Removal Complex Mechanical Draft Cooling Towers	Revision 10
Drawing 6M721-5706	RHR Service Water Makeup Decant and Overflow Systems Functional Operating Sketch	Revision U
ST-OP-315-0068-001	Fermi 2 Nuclear Training - Operations, "Residual Heat Removal Service Water RHR SW E1151"	Revision 8

<u>1R05</u> <u>Fire Protection</u>

UFSAR Section 9A.4.2.14	Ventilation Equipment Area, Zone 13, El. 659 Ft 6 In.	Revision 10
Drag 6A721-2408	Fire Protection Evaluation Reactor and Auxiliary Buildings, Fourth Floor Plan, El-659' -6"	Revision Q
UFSAR Section 9A.4.2.6.1	Cable Tunnel, Zone 5, El. 613 Ft 6 In.	Revision 8
Drag 6A721-2405	Fire Protection Evaluation Reactor and Auxiliary Buildings, Second Floor Plan, El-613' -6"	Revision Q
UFSAR Section 9a.4.1.10	Reactor Building, Fifth Floor, Zone 9, El-684 Ft 6 In.	Revision 8
Drag 6A721-2409	Fire Protection Evaluation Reactor and Auxiliary Buildings, Fifth Floor Plan, El-677' -6" and 684' -6"	Revision R
UFSAR Section 9a.4.2.2.1	Auxiliary Building, Basement, Zone 1, El-562 Ft 0 In.	Revision 11
Drag 6A721-2402	Fire Protection Evaluation Reactor and Auxiliary Buildings, Basement Plan, El-562' -0"	Revision O

UFSAR Section 9A.4.5.1	Turbine Building (SBW Pump Room)	Revision 11
Drag 6A721-2412	Fire Protection Evaluation Turbine Building Basement Floor Plan, El-564' -0"	Revision F
UFSAR Section 7.5.2.5.3	SBW Pumps, Safety Evaluation	Revision 10
UFSAR Section 9A.4.3	Did 1 RHR Complex	Revision 8
UFSAR Section 9A.4.7.5	Transformers	Revision 11
UFSAR Section 9A.4.3	Did 2 RHR Complex	Revision 8
UFSAR Section 9A 4.2.10	Control Room, Zone 9, El 643 Ft 6 In, 655 Ft 6 and 677 Ft 6 In	Revision 10
UFSAR Section 9A.4.2.16	Ventilation Equipment Area, Zone 15, El 677 Ft 6 In	Revision 8
Drawing 6A721N-2040	Fire Protection Evaluation Residual heat Removal Complex Basement Floor Plan (Elevation 554.25 Ft)	Revision A
Drawing 6A721N-2041	Fire Protection Evaluation Residual heat Removal Complex Grade Floor Plan (Elevation 590.0 Ft)	Revision F
Drawing 6A721N-2042	Fire Protection Evaluation Residual heat Removal Complex Upper Floor Plan (Elevation 617.0 Ft)	Revision D
Drawing 6A721N-2043	Fire Protection Evaluation Residual heat Removal Complex Roof Plan (Elevation 617.0 Ft and 637.0 Ft)	Revision A
Drawing 6A721N-2407	Fire Protection Evaluation Reactor and Auxiliary Buildings, Third Floor Plan (Elevation 641.5 Ft and 643.5 Ft)	Revision Q
Drawing 6A721N-2408	Fire Protection Evaluation Reactor and Auxiliary Buildings, Fourth Floor Plan (Elevation 659.5 Ft)	Revision Q
Drawing 6A721N-2409	Fire Protection Evaluation Reactor and Auxiliary Buildings, Fifth Floor Plan (Elevation 684.5 Ft)	Revision R
CARD 02-18786	Ceiling Tiles not Clipped in Place	August 23, 2002

DER 96-011	Main Control Room Computer Room Missing Ceiling Tiles	February 7, 1996
CARD 98-00097	Holes in Ceiling Tiles	April 4, 1998
CARD 99-11933	2 Sections of Ceiling Tile Degraded	May 26, 1999
CARD 00-24863	Water Damage Causes Failure of Main Control Room Ceiling Tile	May 14, 2001
Procedure 28.507.01	Fire Barrier Inspection	Revision 5
WR 000Z022447	Ceiling Tiles not Clipped in Place	October 1, 2002
Drawing 6A721-2077	Reactor Building -Control Room - Sections and Detail - Enrico Fermi #2	Rev F
Drawing 6A721-2076	Reactor Building -Control Room - Sections and Detail - Enrico Fermi #2	Rev K

1R11 Licensed Operator Requal

SS-OP-202-0241 Simulator Scenario No. 8	Loss of Off-Site and On-Site Electrical Power	Revision 0
Procedure AOP 20.300.SBO	Loss of Off-Site and On-Site Power	Revision 3

1R13 Maintenance Risk Assessment and Emergent Work

TMSA-02-0029	Risk Assessment for the Remainder of August 12, 2002 Week	August 15, 2002
MMR 12	Maintenance Rule Conduct Manual, Chapter 12. “Equipment-Out-of-Service Risk Management	Revision 0
	Plan of the Day for Wednesday, August 14, 2002	August 14, 2002
CARD 02-18747	EDG 13 and 14 DC Distribution Cabinet 2PB-2 Circuit 14 Deenergized Rendering EDG 13 and 14 Inoperable - Mispositioning Error.	August 12, 2002
Procedure 23.309	260/130 VDC Electrical System (ESF and BOP)	Revision 38
Technical Specification	TS 3.8.1 AC Sources - Operating	Amendment 134

Technical Specification	TS 3.7.2 Emergency Equipment Cooling Water / Emergency Equipment Service Water System and Ultimate Heat Sink	Amendment 134
UFSAR Section 8.3.1.2.2.1	Safety Design Basis - For the Standby AC Power Supply System	
UFSAR Section 8.3.2.2.4	Safety Evaluation - For the DC Power System	
DC Distribution Panel	2PB2-14, Position 1, Bus 13EC, R1400S002C	
DC Distribution Panel	2PB2-14, Position 2, Bus 14ED, R1400S002D	
DC Distribution Panel	2PB2-14, Position 5, Bus 72EC, R1400S038	
DC Distribution Panel	2PB2-14, Position 6, Bus 72ED, R1400S039	
DC Distribution Panel	2PB2-14, Position 7, EDG 13 Local Control Panel R3000S007	
DC Distribution Panel	2PB2-14, Position 8, EDG 14 Local Control Panel R3000S008	
DC Distribution Panel	2PB2-14, Position 11, EDG 13 Relay Cabinet R3000P331	
DC Distribution Panel	2PB2-14, Position 12, EDG 14 Relay Cabinet Panel R3000	
DC Distribution Panel	2PB2-14, Position 10, Relay Panel E11P400B for MDCT Fan E1156C001B and D Brake System	
DC Distribution Panel	2PB2-14, Position 3, Inverter R1700S011B for MDCT Fan E1156C001B and D Brake System	
CARD 02-16703	Work on Division 1 CCHVAC return Fan Causes Division 2 CCHVAC to be Inoperable and Technical Specification 3.0.3 Entry	June 28, 2002
CARD 02-11908	Opportunity for Improvement to Better Identify ‘Shared Components and Shared Ductwork’ for Both Divisions of CCHVAC	July 1, 2002
CARD 02-15398	Division 1 CCHVAC Return Air Fan Bad Fan Bearing	June 27, 2002

Drawing 6M721-5736-3	Control Center A/C Air System Functional Operating Sketch	Revision F
Technical Specification	TS 3.7.3, Control Room Emergency Filtration System	Amendment 134
Technical Specification	TS 3.0.3, Limiting Condition for Operability	Amendment 134
UFSAR Section 15	Accident Analysis	Revision 6
LER 02-003	Breaching of Control Room Emergency Filtration System Ductwork Integrity	August 26, 2002
Root Cause Analysis Report	CARD 02-16703, Work on Division 1 CCHVAC Return Fan Causes Division 2 CCHVAC to be Inoperable and Technical Specification Entry	August 14, 2002
CARD 02-19413	Did 1 EESW/EECW Cross-tie Makeup Low Flow Condition	September 27, 2002
Drawing 6M721-5729-1	Emergency Equipment Cooling Water (Division I) Functional Operating Sketch	Revision AN
TMSA-02-0029	Risk Assessment for Remainder of August 12, 2002 Week	August 15, 2002
	Plan of the Day - Division 2 Week	August 14, 2002
Work Request 000Z22316	West Supply Fan for EDG 11 is Making Rattling Noise	August 14, 2002
CARD 02-16415	EDG 14 Trip on Low Fuel Oil Pressure Following SOP 23.307 Start for PMT	September 18, 2002
Safety Evaluation 91-0087	Fuel Oil Check Valve Discrepancy Between Diesels	March 10, 1992
Procedure 23.307	Emergency Diesel Generator System	Revision 73
Drawing 6M721-5734	Emergency Diesel Generator System Functional Operating Sketch	Revision AF

1R14 Nonroutine Plant Evolutions

CARD 02-16969	Simultaneous Opening of E2150F005B While E2150F004B Open During MPM Testing	July 16, 2002
WR B868020100	Perform Mini Periodic MOV Inspection and MPM Stroke	July 16, 2002

ARP 2D90	CSS Did I/II Fill Line Press Low	Revision 8
Procedure 35.306.012	Using the Motor Power Monitor (MPM) For Diagnostic MOV Testing	Revision 11
6I721-2211-07	Schematic Diagram Core Spray Inboard Isolation Valves A & B E2150F005A and E2150F005B	Revision N
6M721-3053-1	Piping Isometric - Drywell Core Spray Piping Division II South Reactor Building Unit 2 Enrico Fermi Power Plant	Revision Y
6M721-5707	Core Spray System Functional Operating Sketch	Revision AB

1R15 Operability Evaluations

EFA	Engineering Functional Analysis for CARD 02-15085	Revision 0
CARD 02-15085	Failed Calibration of Torque Thrust Cell, MO-021-M on work completed by Electrical Maintenance	May 29, 2002
ISI/NDE-IST-Program Evaluation Sheet	Log No 02-046, "Re-Evaluation of P4400F603A Thrust Margin"	July 11, 2002
Crane Nuclear, Inc.	Out of Tolerance Report 02-068, W.O. NR-363452	May 14, 2002
Safety Evaluation SE 95-0036	LCR 95-084 UFS Changed the UFSAR Description of the RBCCW/EECW System. The Change Identifies that One or Both Divisions May Be used to Augment RBCCW Cooling Capacity	Revision 3, June 23, 1998

1R17 Permanent Plant Modifications

EDP 29446	Keep Fill for HPCI Discharge Line and Fin Installation at F0006	Revision 0

1R19 Post Maintenance Testing

Procedure 24.203.03	Division 2 Core Spray System Pump and Valve Operability Test	Revision 40
Procedure 24.205.05	Division 1 RHR SW Pump and Valve Operability	Revision 39

1R22 Surveillance Testing

Procedure 24.107.03	SBW Pump and Valve Operability and Lineup Verification Test	Revision 30
TRM	TRSR 3.7.7.4, “Verify SBW Pumps Develops $\geq$ 600gpm	Revision 31
IS02010910	Determine GSW Piping Wall Inspection Requirements (Generate a CARD for Support)	September 10, 2001
IS02970718	Perform Volumetric Wall Inspection of GSW Piping	November 12, 1997
IS02030908	Determine GSW Piping Wall Inspection Requirements (Generate a CARD for Support)	September 8, 2003
IS02990913	Determine GSW Piping Wall Inspection Requirements (Generate a CARD for Support)	September 13, 1999
CARD 99-16663	Perform Wall Examination of GSW Piping	November 2, 1999
WR 000Z993308	Perform UT Piping examinations at Valves P4100F840, F841 and F012	November 9, 1999
CARD 01-16132	Generate Work Requests to Perform Pipe Wall Erosion Examinations	September 21, 2001
WR 000Z013009	Generate WR to Perform Piping Examinations for the Following GSW Locations: 1) N0F411 (TLO) Attached piping Scheduled for First Quarter of 2002, 2) N30F410C (H2 Cooling) Attached piping, there are no special Access Requirements. Scheduled for First Quarter of 2002 3) ROD056 (RBCCW Restricting Orifice) Attached piping, there are no special Access Requirements. Scheduled for First Quarter of 2002	February 18, 2002
Drawing 6M721-5726	General Service Water Functional Operating Sketch	Revision BD
Procedure 44.030.155	ECCS HPCI Torus Level Functional Test	Revision 34
Procedure 24.307.30	Emergency Diesel Generator No. 11 - 24 Hour Run Followed by Hot Fast Restart	Revision 31
Procedure 24.307.15	Emergency Diesel Generator No. 12 Start and Load Test - Slow Start	Revision 47

Procedure 24.307.16	Emergency Diesel Generator No. 13 Start and Load Test - Slow Start	Revision 44
Procedure 44.303.219	Emergency Core Cooling System - RHR Pump C Discharge Permissive (Automatic Depressurization System Permissive) Cal/Functional Test	Revision 27

1R23 Temporary Plant Modifications

Temp Mod 02-009	Implement Revision A to Temp Mod 02-009	September 25, 2002
Drawing 6I721-2335-105	Enrico Fermi EHG - Throttle Valve No. 3 Valve Control Module GIV 6271 Dual Power Unit Maintenance Drawing Cubicle Location 5-1-02	Revision C
Work Request 000Z022834	Implement Revision A to Temp Mod 02-009	September 25, 2002

3PP Plant Protection

	Counter Terrorism Plan	June 27, 2002
	Defense Strategy Workbook	Revision 4
	Force on Force Drill Critiques	February, March, June and July 2002
	Master Listing of Security Related CARDS	January 2- May 30, 2002
	Perimeter Intrusion Weekly Test Results	May, June, July 2002
	Quarterly Force on Force Drill Lessons Learned	1st Quarter 2002
	Safeguards Event Reports	January 1-June 30, 2002
SDI 10	Use of Range Manual, & Safety Operations	Revision 7
SDI 12	Human Performance Plan	Revision 1
	Weapon Qualification Training Records For 12 Security Officers	

4OA1 Performance Indicator Verification

	Plant Protection Performance Indicator Work Sheets	January 1- June 30, 2002

SDI 20	Security Performance Indicator Tracking and Reporting	Revision 4

4OA2 Identification and Resolution of Problems

CARD 00-10026	Fire Protection Component Clarification	February 4, 2000

4OA3 Event Followup

	Nuclear Training Lesson Plan LP-IC-471-0301	Revision 2
	Just-In-Time Training Lesson Plan LP-GN-909-3025A	
CARD 02-13570	44.202.227, Tables 1 & 2 found Greater Than the Required Limit	March 8, 2002
PTP 44.020.227	NSSSS-HPCI and RCIC Room Area Temperature, Channel A Functional Test	Revision 30, 5/20/02
PTP 44.020.228	NSSSS-HPCI and RCIC Room Area Temperature, Channel B Functional Test	Revision 31, 5/20/02
PTP 44.020.156	NSSSS-RWCU Area and Area Differential Temperature Division 1, Functional Test	Revision 37, 7/18/02
PTP 44.020.157	NSSSS-RWCU Area and Area Differential Temperature and NRHX Discharge Temperature, Division 2, Functional Test	Revision 40, 7/18/02
PTP 44.020.158	NSSSS-RWCU Area and Area Differential Temperature Division 1, Calibration/Functional	Revision 33, 8/07/02
PTP 44.020.159	NSSSS-RWCU Area, Area Differential and NRHX Discharge Temperature, Division 2, Calibration/Functional	Revision 34, 9/19/02
PTP 44.020.229	NSSSS-HPCI and RCIC Room Area Temperature, Channel A Calibration/Functional Test	Revision 26, 8/07/02
PTP 44.020.230	NSSSS-HPCI and RCIC Room Area Temperature, Channel B Calibration/Functional Test	Revision 26, 8/07/02

CARD 02-12412	Valve N2000F636 Operator Has Been Rotated 180° and not Operable From the Floor, as Required by Procedure 20.000.18	May 2, 2002
CARD 00-10026	Fire Protection Component Clarification	February 10, 2000
PTP 44.020.230	“NSSSS-HPCI and RCIC Room Area Temperature, Channel B Calibration/Functional Test”	Revision 26