

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-315; 50-316  
License Nos: DPR-58; DPR-74

Report No: 50-315/99019(DRP); 50-316/99019(DRP)

Licensee: American Electric Power Company  
1 Cook Place  
Bridgman, MI 49106

Facility: D. C. Cook Nuclear Generating Plant

Location: 1 Cook Place  
Bridgman, MI 49106

Dates: August 26 through October 8, 1999

Inspectors: B. L. Bartlett, Senior Resident Inspector  
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Approved by: A. Vogel, Chief  
Reactor Projects Branch 6  
Division of Reactor Projects

## EXECUTIVE SUMMARY

### D. C. Cook Units 1 and 2 NRC Inspection Report 50-315/99019(DRP); 50-316/99019(DRP)

This inspection included aspects of licensee operations, maintenance, engineering, and plant support. The report covers a 6-week period of resident inspection activities and includes follow-up to issues identified during previous inspection reports.

#### Operations

- On August 27, 1999, maintenance workers performing voltage checks on de-energized switchgear found voltage present. The licensee included the event in the scope of the proposed corrective actions for previously identified clearance order problems. The inspectors reviewed the licensee's short-term corrective actions and concluded that the licensee's corrective actions were reasonable. (Section O1.2)
- Two spent fuel pool (SFP) cooling system abnormal operating procedures were not revised after modifications were made to plant equipment. The annunciator response procedure for low level in the SFP directed the operators to check a section of piping which had been previously removed, and the abnormal operating procedure for loss of spent fuel pool cooling referenced a temporary modification which had been removed. (Section O2.1, b.2)
- The inspectors determined that the spent fuel pool cooling system was adequately performing its intended function. In addition, based on interviews of operations staff, the operators were knowledgeable of actions required to restore cooling in the event of lowering spent fuel pool water level. (Section O2.1)
- Senior Management Review Team and Nuclear Safety Design Review Committee meetings observed during this report period were conducted in a detailed, probing, and appropriate manner. Differing view points of the committee members were considered and resolved prior to dispositioning the presented information. Both committees appeared to be effective in the performance of their oversight role. (Section O7.1)

#### Maintenance

- The licensee did not have any preventive maintenance measure in place to ensure that spent fuel pool siphon breaker holes were not blocked. The inspectors observed that the siphon breaker holes were clear and concluded that the failure to have a preventive maintenance program on the holes did not affect system operation. (Section O2.1, b.1)
- The licensee was taking appropriate system operating data in accordance with their 10 CFR 50.65 (Maintenance Rule) paragraph (a)(1) monitoring plan for risk-significant systems. However, the inspectors identified that the system manager was not aware that the SFP cooling system was being monitored under licensee established Maintenance Rule goals. (Section O2.1, b.3)
- The licensee was adequately protecting plant equipment and ensuring personnel safety during the Unit 2 "A" Train breaker cleaning. Observed work was performed in accordance with procedures. The current revision of the appropriate procedures were in

use at the work sites, and proper work safety and radiological protection practices were noted. (Section M1.1)

- On September 17, 1999, an operator identified a fuse configuration error on a Unit 2 "A" Train 600V safety-related bus. The licensee's actions to verify the fuse configurations on the remaining 600V busses were prompt and thorough. (Section M1.2)
- The licensee's procedures for controlling fuse configuration during breaker refurbishment were not adequate. The inspectors identified that the procedures did not specify that the fuse configuration be checked when returning a breaker to service. The failure to provide adequate guidance to ensure that breaker fuse configuration was properly controlled was a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V. (Section M1.2)

#### Engineering

- The inspectors identified that the temporary modification (TM) process was not rigorously implemented for TM 12-96-07(refueling water cleanup system) as evidenced by several identified deficiencies. Signatures were not obtained to approve restoration and drawings were not revised. In addition, the safety analysis was not revised to evaluate the acceptability for extended partial restoration of the TM. No adverse safety consequences resulted from the identified deficiencies. (Section E1.1)

## Report Details

### Summary of Plant Status

Both units remained defueled throughout this inspection period. The licensee completed the Unit 2 "B" Train electrical bus outage on September 16, 1999. The licensee began the Unit 2 "A" Train electrical bus outage on September 17, 1999, in order to perform bus cleaning; the Unit 2 CD emergency diesel generator scheduled 18-month maintenance tear down; and other "A" Train electrical work. The Unit 2 "A" Train electrical bus outage was in progress at the end of this inspection period.

## I. Operations

### **O1    Conduct of Operations**

#### **O1.1   General Comments**

The inspectors conducted frequent observations of control room and in-plant operation of equipment during the extended outage of both reactor units. Overall, plant operations were performed using approved operating procedures and reflected good operating practices. Specific events and noteworthy observations are detailed in the sections below.

#### **O1.2   Licensee Response to Clearance Permit Error**

##### **a.    Inspection Scope (71707)**

On August 27, 1999, maintenance personnel performing voltage checks inside de-energized switchgear found voltage present. The unexpected voltage was the result of a clearance permit system error. The inspectors reviewed the circumstances and licensee corrective actions related to this occurrence. In addition, the inspectors interviewed operations and maintenance personnel, and reviewed applicable documentation.

##### **b.    Observations and Findings**

On August 27, 1999, workers verifying that a Unit 2 600V "B" Train electrical bus was de-energized found voltage present where no voltage was expected. The maintenance workers wrote Condition Report (CR) 99-21638 to document the problem. In order to expeditiously prevent personnel injury or equipment damage, the Performance Assurance Department issued a stop work order on clearances the same day. This stop work order was documented in CR 99-21691. On August 28, 1999, the operating crew wrote CR 99-21682 to document that the operations management had also issued a stop work order to the department on clearances. The stop work orders were lifted after short-term corrective actions were completed which verified the clearance writers' qualifications and provided the Centralized Clearance Group a written checklist for developing clearances. Additionally, the licensee performed voltage checks and clearance verifications to ensure the adequacy of all switchgear isolation boundaries.

NRC Inspection Report 50-315/316/99015 and 50-315/316/99017 had previously discussed the clearance permit system issues. Inspection Report 50-315/316/99017 documented the following:

“On June 29, 1999, the licensee wrote CR 99-17286 to document an adverse trend involving equipment clearances. The licensee required that a full root cause investigation be performed and assigned a due date of October 8, 1999. The licensee closed several other CRs related to clearance order problems to CR 99-17286.”

The inspectors reviewed the draft root cause analysis for CR 99-17286 and noted that the two CRs written following the August 27, 1999, event (CR 99-21682 and CR 99-21691) had also been included in the scope of the proposed corrective actions for the adverse trend on clearances. The inspectors determined that the short-term corrective actions proposed in the root cause analysis had been implemented and were considered reasonable. On October 7, 1999, the licensee's Corrective Action Review Board approved the root cause analysis and preliminary long-term corrective actions.

c. Conclusions

On August 27, 1999, maintenance workers performing voltage checks on de-energized switchgear found voltage present. The licensee included the event in the scope of the proposed corrective actions for previously identified clearance order problems. The inspectors reviewed the licensee's short-term corrective actions and concluded that the licensee's corrective actions were reasonable.

**O2 Operational Status of Facilities and Equipment**

**O2.1 Spent Fuel Pool Cooling System (62707, 71707)**

a. Inspection Scope

On August 8, 1999, the licensee completed off-loading both cores into the spent fuel pool (SFP). During this inspection period, the inspectors walked down accessible portions of the SFP cooling system. In addition, the inspectors reviewed SFP cooling system documentation, including the following: procedures used for operating the system, portions of the maintenance history on selected system components, and the Expanded System Readiness Review (ESRR) findings on the SFP cooling system.

b. Observations and Findings

On September 14, 1999, the inspectors walked down accessible portions of the SFP cooling system. The inspectors observed that the system was operating within the normal ranges as identified in the normal operating procedure 12-Operations Head Procedure (OHP) 4021.018.002, "Placing In Service and Operating the Spent Fuel Pit Cooling System," and in the operations surveillance checklist, Attachment 10 to 01-OHP 5030.001.002, "Outage Risk Surveillance." In addition, the inspectors reviewed recently completed surveillances for SFP chemistry and SFP cooling pump performance and did not identify any deficiencies. The inspectors did not identify any equipment deficiencies in the SFP cooling pump room which had not already been marked with an action request (AR) tag. Additionally, the inspectors verified that each equipment

deficiency marked with an AR tag had been entered into the licensee's AR database. The licensee had concluded that the identified deficiencies did not prevent the SFP cooling system from performing its intended function. The inspectors reviewed the AR evaluations in the database and agreed with the licensee's conclusion. Comments on specific findings are detailed in the sections below.

**b.1 Spent Fuel Pool Siphon Breaker Holes**

Unit 1 Technical Specification (TS) 5.6.3 stated, "The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 629 feet 4 inches." During the SFP walkdown, the inspectors observed that the siphon breaker holes on the SFP cooling and skimmer systems were not obstructed. As shown on flow diagram OP-12-5136-21, "Spent Fuel Pit Cooling & Clean-Up," the SFP skimmer and cooling system discharge piping enter the SFP above the normal pool water level and terminate below the water level approximately 6 feet above the top of the stored fuel, at elevation 626 feet 1½ inches. The flow diagram also indicated that siphon breaker holes were incorporated into the design of each of these discharge lines. The siphon breaker holes, located near the normal pool water level, were intended to prevent siphoning of the SFP in the event of a skimmer or cooling system discharge pipe break. If the siphon breaker holes had become blocked, a break in the skimmer or cooling system discharge line could have inadvertently drained the SFP below elevation 629 feet 4 inches.

The inspectors questioned the SFP system manager about the maintenance of the siphon breaker holes. NRC Information Notice 88-65, "Inadvertent Drainages of Spent Fuel Pools," had previously documented that blocked or non-existent siphon protection of the SFP cooling system could lead to an inadvertent draining of the SFP. The SFP system manager informed the inspectors that there was no preventative maintenance program to ensure that the siphon breaker holes remain open. The SFP system manager wrote CR 99-23149 to evaluate the need for a preventative maintenance program to detect degradation of the SFP siphon breaker holes.

**b.2 Loss of Spent Fuel Pool Cooling Abnormal Operating Procedures**

The inspectors reviewed the loss of SFP cooling abnormal operating procedures and identified two SFP cooling system abnormal operating procedures which were not revised after modifications were made to plant equipment. However, the procedures could have been performed as written and satisfactorily accomplished their objectives.

Annunciator response procedure 12-OHP 4024.134, Drop 2, "Spent Fuel Pit Water Low," Subsequent Action Step 3.4 directed the operators to verify that the anti-siphon vent cap was removed on the SFP drain line. However, the SFP drain line had been cut and capped because it was used only during plant construction. The annunciator response procedure did not require the operators to verify that the siphon breaker holes on the SFP pump discharge lines and the skimmer pump discharge lines were not obstructed. The inspectors interviewed several operators about how Step 3.4 would be accomplished. The operators stated that they would check that the siphon breaker holes were open, but recognized after the inspectors' questioning that the step was incorrect as written. The licensee wrote CR 99-23774 to enter the procedure discrepancy into the corrective action program.

The inspectors identified that Abnormal Operating Procedure 12-OHP 4022.018.001, "Loss of Spent Fuel Pool Cooling, " Revision 4, contained an incorrect caution statement in Attachment A, "Spent Fuel Pool Makeup Alignment." The caution stated that the procedure attachment assumed the refueling water purification pump was aligned to purify either unit's refueling water storage tank via a temporary demineralizer. In March 1996, the licensee installed a temporary demineralizer under TM 12-96-07 for refueling water clean-up because the original demineralizer had broken resin retaining screens. In November 1996, licensee removed the temporary demineralizer and replaced the original demineralizer. Consequently, the assumption in the caution statement was no longer correct. However, the inspectors determined that the caution statement in the procedure attachment had no significant impact on the operators' ability to complete the procedure. Temporary Modification 12-96-07 is discussed in further detail in Section E1.1 below.

The inspectors determined that the plant had multiple sources available to add water to the SFP in the event of a low level alarm. Additionally, the inspectors verified that the plant equipment necessary to add water to the SFP was accessible and capable of accomplishing the task. Operations personnel indicated that, for a slowly lowering water level, hoses were available and could be obtained or fabricated to add water to the SFP. If an immediate source of water was needed, the fire water header was available.

### b.3 Monitoring of the Spent Fuel Pool System

As part of the restart effort, the licensee had re-classified the SFP cooling system as risk significant from non-risk significant early in 1999. Because no system performance history had been previously developed, the licensee implemented a monitoring program under Maintenance Rule paragraph (a)(1) in order to collect system performance data. Before the classification as risk significant, the licensee had monitored performance of the SFP cooling system using only reliability criteria rather than using both reliability and availability criteria.

On September 14, 1999, the inspectors discussed the SFP cooling system with the system manager. During the discussions, the inspectors determined that the system manager was not aware that the SFP cooling system was being monitored under 10 CFR 50.65 (the Maintenance Rule) paragraph (a)(1). The system manager stated that he had only recently become the system manager of the SFP cooling system, and that prior to that, he had been participating in the licensee's ESRR effort at an offsite location. However, the licensee's Maintenance Rule coordinator explained that the SFP cooling system performance had been monitored using operations' department surveillance procedures; therefore, the system performance information had been retained. At the time of this inspection, no maintenance preventable functional failures of the system were recorded within the last two years, and the SFP cooling system had operated within the established performance goals. The licensee was finalizing SFP cooling unavailability and reliability performance criteria and intended to place the system under monitoring per Maintenance Rule paragraph (a)(2).

### c. Conclusions

The inspectors concluded that the SFP cooling system was adequately performing its intended function. However, the licensee did not have any preventive maintenance measure in place to ensure that the siphon breaker holes were not blocked. The

inspectors observed that the siphon breaker holes were clear and concluded that the failure to have a preventive maintenance program on the holes did not affect system operation.

The inspectors concluded that two SFP cooling system abnormal operating procedures were not revised after modifications were made to plant equipment. The annunciator response procedure for low level in the SFP directed the operators to check a section of piping which had been previously removed, and the abnormal operating procedure for loss of spent fuel pool cooling referenced a temporary modification which had been removed. After interviewing several operators and reviewing the procedures, the inspectors concluded that the operators were aware of the proper actions to restore SFP cooling in the event of lowering SFP water level. The procedures could have been performed as written and satisfactorily accomplished their objectives.

The inspectors concluded that the licensee was taking appropriate system operating data in accordance with their 10 CFR 50.65 (Maintenance Rule) paragraph (a)(1) monitoring plan for a risk-significant system. However, the inspectors identified that the system manager was not aware that the SFP cooling system was being monitored under licensee established Maintenance Rule goals.

## **O7 Quality Assurance in Operations**

### **O7.1 Case Specific Checklist Item 2 "Corrective Action Program Breakdown"**

#### **a. Inspection Scope (40500)**

The inspectors observed the off-site Nuclear Safety Design Review Committee (NSDRC) and the on-site Senior Management Review Team (SMRT) activities in order to assess licensee oversight performance. The SMRT was not required by NRC regulations but was established as part of the licensee's Restart Plan to supplement the existing oversight committees.

#### **b. Observations and Findings**

The SMRT was responsible for the generation and approval of the restart criteria, approval of Restart Action Plans, and for the oversight of the associated restart processes. The inspectors observed SMRT meeting number 99-19, held on September 28, 1999, and SMRT meeting number 99-21, held on October 5, 1999. The primary purpose of the meetings was to review selected Restart Action Plans.

The inspectors verified that the committee members present were as stated in the licensee's Restart Plan, Revision 5. The inspectors also observed the performance of the SMRT and determined that the members appropriately questioned the Restart Action Plans being reviewed. In addition, the inspectors observed that the differing viewpoints of all of the committee members were considered. Any differences were resolved through professional discussions to the members satisfaction. The SMRT appeared to be effective in its oversight of the Restart Action Plans that were presented.

The inspectors observed meeting number 208 of the NSDRC, on September 28, 1999. The primary focus of the meeting was to review a proposed TS change and necessary license amendments regarding the containment recirculation sump design. The



inspectors observed that a quorum was present, that committee members questioned the presented information in a detailed, probing, and appropriate manner, and that differing viewpoints of the committee members were considered. The committee appeared to be effective in providing oversight for the proposed TS change.

c. Conclusions

The inspectors concluded that the Senior Management Review Team and Nuclear Safety Design Review Committee meetings were conducted in a detailed, probing, and appropriate manner. Differing viewpoints of the committee members were considered and resolved prior to dispositioning the presented information. Both committees appeared to be effective in the performance of their oversight role.

## II. Maintenance

### **M1 Conduct of Maintenance**

#### **M1.1 General Comments**

a. Inspection Scope (62707)

The inspector reviewed or observed portions of the following activities:

- Job Order (JO) C47408, Repair various exhaust leaks on Unit 2 CD ("A" Train) emergency diesel generator
- JO C47614, Perform cold crankshaft deflection on Unit 2 CD emergency diesel generator
- JO C49563, Perform detailed bus cleaning of Unit 2 "A" Train 4kV bus 2C
- JO R10468, Unit 2 CD ("A" Train) battery 60-month battery and charger surveillance
- JO R80406, Open both ends of Unit 2 East component cooling water (CCW) heat exchanger for inspection
- JO R91359, Inspect and clean Unit 1 East CCW heat exchanger as required

b. Observations and Findings

The inspectors noted that the observed work was performed in accordance with procedures. The current revision of the appropriate procedures were in use at the work sites, and proper work safety and radiological protection practices were noted.

The inspectors walked down the "A" Train switchgear rooms to verify the precautions which had been taken to protect plant equipment and ensure safety. The inspectors noted that cleanliness and stowage of the work areas was acceptable. However, the inspectors noted that breakers removed from cubicles in switchgear rooms, which were awaiting maintenance, had been tied off with rope to the plant ground bus bar around

the perimeter of the room. The inspectors informed the work supervisor, and the licensee took action to secure the breakers to other structures in the room.

The inspectors also walked down the "B" Train switchgear rooms to verify the precautions taken to protect the opposite train equipment during the "A" Train outage. The inspectors identified that the licensee had placed warning placards on the 4kV breakers supplying power to the "B" Train essential service water pump and the "B" Train component cooling water pump. The inspectors noted that no warning placards had been placed on the feeder breakers which were supplying power to the "B" Train 4kV safety-related busses. However, the licensee had posted the Unit 2 "B" Train switchgear rooms as guarded areas to provide additional controls on performing work in the vicinity of the vital equipment.

c. Conclusions

The inspectors concluded that the observed work was performed in accordance with procedures. The current revision of the appropriate procedures were in use at the work sites, and proper work safety and radiological protection practices were noted.

The inspectors concluded that the licensee was adequately protecting plant equipment and ensuring personnel safety during the Unit 2 "A" Train breaker cleaning. The inspectors noted that the licensee had tied removed breakers to the plant ground bar with rope; however, after the inspectors informed the licensee, this condition was promptly corrected.

M1.2 Loss of Configuration Control of 600V Breaker Fuses (Unit 2)

a. Inspection Scope (62707)

On September 17, 1999, an operator identified that 30 amp fuses were not installed in the Unit 2 south SFP cooling pump 600V supply breaker. The operator also noted that the breaker had two 10 amp fuses installed rather than one. After the operator contacted the control room, the licensee racked out the breaker and investigated the event. The inspectors reviewed the job order and interviewed members of the licensee's operations and maintenance departments.

b. Observations and Findings

After identifying the fuse configuration error, the operators de-energized the Unit 2 600V "A" Train bus 21C. The licensee identified two other breakers which had incorrect fuse configurations: the south screen wash pump 600V supply breaker, and the north non-essential service water pump 600V supply breaker. The operators also noted that for the three breakers with incorrect fuse configurations, no fuses were missing; the fuses were simply installed in the wrong locations. The operators wrote CR 99-23814 to document the finding.

The inspectors followed up on the operations department response to the finding. The operations shift verified that the "B" Train 600V breakers had the proper fuse configuration. The "B" Train 600V breakers had been previously refurbished as part of the "B" Train outage. The operators determined that the improper fuse configurations were isolated to the 21C bus and were most likely the result of the fuses being installed

improperly following breaker refurbishment. Therefore, the licensee concluded that the breakers on the "B" Train busses would have operated properly if needed. The inspectors noted that the licensee's actions to verify the fuse configurations on the other busses was prompt and thorough. The inspectors did not have any questions about the operability of the "B" Train breakers.

Two procedures were used to perform the breaker refurbishment on the 21C bus: Instrument Head Procedure 5030.EMP.006, "MCCB [molded case circuit breaker] /TOLR [thermal overload relay] Testing and Electrical Enclosure Maintenance," Revision 4, and Operations Head Procedure 4021.082.009, "Racking In and Out 4kV, 600V, and 480V Breakers," Revision 9. The inspectors reviewed these procedures and noted that neither procedure required the breaker fuse amperage rating or installation configuration to be verified correct prior to breaker operation. The failure to install the fuses in the proper configuration could have prevented the breaker from tripping if necessary; therefore, the safety-related load shedding function might not have worked properly. The inspectors determined that inadequate guidance was provided to the operations and maintenance personnel to ensure that the proper 600V breaker fuse configuration was maintained.

10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," required, in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances . . . ." Contrary to the above, Operations Head Procedure 4021.082.009, "Racking In and Out 4kV, 600V, and 480V Breakers," Revision 9, was not appropriate to the circumstances in that it did not provide guidance to the operations and maintenance personnel to ensure that the proper 600V breaker fuse configuration was maintained. This Severity Level IV violation is being treated as an NCV.

Appendix C of the Enforcement Policy requires that for Severity Level IV violations to be dispositioned as NCVs, they be appropriately placed in the licensee's corrective action program. Implicit in that requirement is that the corrective action program be fully acceptable. The D. C. Cook Plant corrective action program was not adequate and has been the focus of significant attention by the licensee to improve the program. While the licensee and the NRC have not yet concluded that the corrective action program is fully effective, the corrective action program improvement efforts are underway and captured in the D. C. Cook Plant Restart Plan which is under the formal oversight of the NRC through the NRC Manual Chapter 0350 process, "Staff Guidelines for Restart Approval." Consequently, this issue is being dispositioned as an NCV (50-316/99019-01(DRP)).

c. Conclusions

On September 17, 1999, an operator identified a fuse configuration error on a Unit 2 "A" Train 600V safety-related bus. The inspectors concluded that the licensee's actions to verify the fuse configurations on the remaining 600V busses were prompt and thorough. However, the inspectors also concluded that the licensee's procedures for controlling fuse configuration during breaker refurbishment were not adequate in that the procedures did not specify that the fuse configuration be checked when returning a breaker to service. The inspectors determined that the failure to provide adequate guidance to ensure that breaker fuse configuration was properly controlled was a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V.

### III. Engineering

#### **E1 Conduct of Engineering**

##### **E1.1 Review of Temporary Modification 12-96-07**

###### **a. Inspection Scope (37551, 71707)**

The inspectors reviewed Temporary Modification (TM) 12-96-07, which was referenced in SFP cooling procedures as discussed previously in Section O2.1, b.2 of this inspection report. In addition, the inspectors discussed the TM process with engineering personnel and reviewed associated CRs.

###### **b. Observations and Findings**

In March 1996, TM 12-96-07 was installed to add a temporary demineralizer for refueling water clean-up. The system's original demineralizer was out-of-service because of broken resin retaining screens. The TM remained in place until November 6, 1996, at which time the original demineralizer was replaced and the temporary demineralizer was removed under JO C35337. The inspectors determined that a heat exchanger for the 15 gpm radioactive waste evaporator had been removed to install the TM. The heat exchanger was scrapped following removal; therefore, the 15 gpm evaporator system could not be restored to its original design, and the TM could not be closed out (i.e., paperwork complete). Engineering personnel indicated that the 15 gpm evaporator was not used and would be retired in place through a design change and that the TM could be closed out after the design change was completed. The inspectors determined that no adverse safety consequences resulted from the current status, partial restoration of the TM.

On July 22, 1999, licensee personnel identified that the approved extension for TM 12-96-07 had expired on December 31, 1998. The licensee had not fully restored the TM, and had not documented any further extensions. Licensee personnel wrote CR 99-19248 which was entered into the licensee's corrective action system. However, the CR was coded as post-restart and therefore, the discrepancy still existed. Following the inspectors' questions, engineering personnel reviewed the TM package and identified the following additional deficiencies:

- The required signature to approve restoration had not been obtained.
- The documented safety review only covered installation and was not revised to evaluate acceptability of partial restoration for an extended period.
- The marked up drawings were not available as required.

Engineering personnel wrote CR 99-23773 to enter the identified deficiencies into the licensee's corrective action program. The identified deficiencies demonstrated a lack of rigor regarding implementation of the TM process for TM 12-96-07. The inspectors determined that the failure to implement the TM process per plant procedures had no adverse safety consequences and therefore, constituted a violation of minor significance that was not subject to formal enforcement action.

c. Conclusions

The inspectors concluded that the temporary modification process was not rigorously implemented for TM 12-96-07 as evidenced by several identified deficiencies. Signatures were not obtained to approve restoration and drawings were not revised as required. In addition, the safety analysis was not revised to evaluate the acceptability for extended partial restoration of the temporary modification. No adverse safety consequences resulted from the identified deficiencies.

#### **IV. Plant Support**

### **R3 Radiological Protection and Chemistry Procedures and Documentation**

#### **R3.1 Radiation Survey Map Not Updated Following Dual Core Off-load**

a. Inspection Scope (71750)

During routine plant tours, the inspectors compared posted survey maps to actual plant conditions and the most recent survey data. The following procedures were reviewed:

- 12 Technical Head Procedure 6010 RPP.401, "Performance of Radiation, Contamination and Airborne Radioactivity Surveys," Revision 7
- Radiation Protection Standing Order 004, "Routine Survey Schedule Frequency," Revision 10

b. Observations and Findings

On September 14, 1999, during a walkdown of the spent fuel cooling system, the inspectors noted that the Radiological Area Status Sheet for the Auxiliary Building 650' level SFP area was dated July 3, 1999. The licensee placed Unit 2 in Mode 6 on July 13, 1999, and both reactor cores were fully off-loaded to the SFP on August 8, 1999. Because the addition of fuel assemblies to the SFP could potentially change radiological conditions in the vicinity of the pool, the inspectors reviewed the licensee's requirements for the performance of periodic surveys near the SFP. In addition to detailed radiation and contamination surveys every quarter, Radiation Protection Standing Order 004 required weekly radiation checks and masslin mopping surveys of the SFP 650' level. The inspectors reviewed the results from recent weekly radiation checks and masslin mopping surveys. Although a detailed quarterly radiological survey of the SFP area was not completed following core off-load, based on the results of weekly surveys, the inspectors identified no significant changes in SFP area radiological conditions due to core off-load.

c. Conclusions

The inspectors concluded that, although a detailed quarterly radiological survey of the SFP area was not completed following the dual unit core off-load in July 1999, based on the results of weekly surveys, the inspectors identified no significant changes in SFP area radiological conditions.

**S1 Conduct of Security and Safeguards Activities (71750)**

During normal resident inspection activities, routine observations were conducted in the area of security and safeguards activities using Inspection Procedure 71750. No discrepancies were noted.

**F1 Control of Fire Protection Activities (71750)**

During normal resident inspection activities, routine observations were conducted in the area of fire protection activities using Inspection Procedure 71750. No discrepancies were noted.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of the licensee management at the conclusion of the inspection on October 8, 1999. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

#C. Bakken, Site Vice President  
#M. Dixon, Reliability Engineering  
#M. Finissi, Director, Plant Engineering  
#R. Gaston, Compliance Manager  
#R. Godley, Director, Regulatory Affairs  
#W. McDaniel, Design Engineering  
#T. Noonan, Plant Manager  
#T. O'Leary, Manager, Radiation Protection and Chemistry  
#J. Reed, Manager, Electrical Maintenance  
#M. Stark, Maintenance  
#F. Timmons, Manager, Site Protective Services  
#G. VanBladeren, Reliability Engineering  
#L. Weber, Operations Manager

# Denotes those present at the October 8, 1999, exit meeting.

## INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering  
IP 40500: Corrective Action  
IP 61726: Surveillance Observations  
IP 62707: Maintenance Observation  
IP 71707: Plant Operations  
IP 71750: Plant Support Activities  
IP 92901: Followup - Operations  
IP 92902: Followup - Maintenance

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

316/99019-01	NCV	Procedure inappropriate to the circumstances in that it did not ensure that fuses in safety-related 600V bus were properly installed
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### Closed

316/99019-01	NCV	Procedure inappropriate to the circumstances in that it did not ensure that fuses in safety-related 600V bus were properly installed
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### Discussed

None



## LIST OF ACRONYMS

AR	Action Request
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CR	Condition Report
D/G	Diesel Generators
DRP	Division of Reactor Projects
ESRR	Expanded System Readiness Review
ESW	Essential Service Water
JO	Job Order
MC	Manual Chapter
MHP	Maintenance Head Procedure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OHI	Operations Head Instruction
OHP	Operations Head Procedure
PMI	Plant Manager's Instruction
PMP	Plant Manager's Procedure
PPA	Plant Performance Assurance
PDR	Public Document Room
SFP	Spent Fuel Pool
SMRT	Senior Management Review Team
TM	Temporary Modification
TS	Technical Specification
VCT	Volume Control Tank
VIO	Violation