October 16, 2001

Mr. R. P. Powers
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107-1395

SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2
NRC INSPECTION REPORT 50-315/01-16(DRP); 50-316/01-16(DRP)

Dear Mr. Powers:

On September 30, 2001, the NRC completed an inspection at your D. C. Cook Nuclear Power Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on October 2, 2001, with you and other members of your staff.

This 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 on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because this issue has been entered into your corrective action program, this violation is being treated as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny any Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001; and the NRC Resident Inspector at the D. C. Cook facility.

Since September 11, 2001, D. C. Cook has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to the American Electric Power Company. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Anton Vegel, Chief
Branch 6
Division of Reactor Projects

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

Enclosure: Inspection Report 50-315/01-16(DRP);
50-316/01-16(DRP)

cc w/encl: A. C. Bakken III, Site Vice President
J. Pollock, Plant Manager
M. Rencheck, Vice President, Nuclear Engineering
R. Whale, Michigan Public Service Commission
Michigan Department of Environmental Quality
Emergency Management Division
MI Department of State Police
D. Lochbaum, Union of Concerned Scientists

DOCUMENT NAME: G:\cook\dcc2001016 drp.wpd

To receive a copy of this document, indicate in the box "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII		RIII		RIII					
NAME	DPassehl/trn		GWright		AVegel					
DATE	10/16/01		10/16/01		10/15/01					

OFFICIAL RECORD COPY

ADAMS Distribution:
CMC1
DFT
JFS2
RidsNrrDipmIipb
GEG
HBC
BLB1
C. Ariano (hard copy)
DRPIII
DRSIII
PLB1
JRK1

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58; DPR-74
Report No:	50-315/01-16(DRP); 50-316/01-16(DRP)
Licensee:	American Electric Power Company
Facility:	D. C. Cook Nuclear Power Plant, Units 1 and 2
Location:	1 Cook Place Bridgman, MI 49106
Dates:	August 19, 2001 through September 30, 2001
Inspectors:	B. L. Bartlett, Senior Resident Inspector K. Coyne, Resident Inspector Z. Dunham, Resident Inspector, Kewaunee J. Lennartz, Senior Resident Inspector, Palisades J. D. Maynen, Resident Inspector G. Wright, Senior Project Engineer
Approved by:	A. Vegel, Chief Branch 6 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000315-01-16(DRP), IR 05000316-01-16(DRP), on 08/19-09/30/2001, Indiana Michigan Power Company, D.C. Cook Nuclear Power Plant, Units 1 and 2. Resident Inspector Report. Surveillance Testing.

This report covers a 6-week routine inspection. The inspection was conducted by resident and Region III inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violations.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- Green. A non-cited violation was identified for the failure to follow a surveillance procedure during Essential Service Water (ESW) system flow balancing in October 2000. Specifically, the licensee failed to properly position the ESW supply valve to the Unit 1 West Component Cooling Water (CCW) heat exchanger, 1-WMO-733, during flow balancing of the ESW system. The improperly positioned valve would have resulted in the heat exchanger receiving less than the required amount of ESW flow during an Engineered Safeguards Features Actuation. The inspectors concluded that the licensee's failure to position 1-WMO-733 as required by the ESW flow balance procedure constituted a non-cited violation of Technical Specification 6.8.1.

  The inspectors evaluated the risk significance of this issue using the Significance Determination Process. Because reasonable operator action could have been taken to maintain the CCW heat exchanger safety function, no actual loss of safety function occurred. Consequently, this issue was screened as Green (very low risk significance) after a Phase 1 Significance Determination Process review. (Section 1R22)

B. Licensee Identified Findings

No findings of significance were identified.

Report Details

Summary of Plant Status:

Unit 1 began the inspection period at full power. On August 27, 2001, Unit 1 was shut down to support repair to the circulating water system. On September 29, 2001, the unit was placed in Mode 2 (Reactor Startup). At the end of the report period, the operators were raising power on the unit; the unit was in Mode 1 (Power Operation) at approximately 70 percent power.

Unit 2 began this report period at full power. On August 30, 2001, Unit 2 was shut down in response to a lake debris intake in the Essential Service Water (ESW) system. This event is discussed in greater detail in Inspection Report 50-315/01-17; 50-316/01-17. Unit 2 remained in Mode 5 (Cold Shutdown) at the end of the report period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed a partial system walkdown of the following risk-significant system:

Mitigating Systems Cornerstone

- Appendix R walkdown of Unit 2 systems in support of Unit 1 startup

The inspectors selected this system based on its risk significance relative to the reactor safety cornerstone. The inspectors reviewed operating procedures, Technical Specification (TS) requirements, Administrative Technical Requirements (ATRs), system diagrams, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered these systems incapable of performing their intended functions.

b. Findings

No findings of significance were identified.

1R06 Flood Protection

a. Inspection Scope

The inspectors reviewed and assessed flood protection measures for internal and external flooding events. The inspectors reviewed the licensee's probabilistic risk analysis and associated flood protection reports to identify risk significant flood areas and protective features. The inspectors performed walkdowns of risk significant flood

areas, including the auxiliary building 573' level and the turbine building 569' level. The inspectors reviewed abnormal and alarm response procedures associated with the diagnosis and mitigation of flooding events. The inspectors also discussed flood protection features and recently identified problems with the turbine and auxiliary building system manager and design engineering.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

The inspectors evaluated the licensee's implementation of 10 CFR 50.65 (the Maintenance Rule) for the following three systems: 120V AC safety-related electrical distribution, control room complex ventilation system, and offsite power system. The inspectors assessed: (1) functional scoping in accordance with the Maintenance Rule; (2) characterization of system functional failures; (3) safety significance classification; (4) 10 CFR 50.65 (a)(1) or (a)(2) classification for system functions; and (5) performance criteria for systems classified as (a)(2) or goals and corrective actions for systems classified as (a)(1).

The inspectors have previously documented weaknesses in the licensee's implementation of the Maintenance Rule in NRC Inspection Reports 50-315/00-20, 50-316/00-20; 50-315/00-22, 50-316/00-22; 50-315/01-07, 50-316/01-07; and 50-315/01-09, 50-316/01-09. These Maintenance Rule implementation weaknesses were related to inadequate failure evaluations; system, structure, or component (SSC) performance monitoring; and effectiveness of corrective action for SSCs with identified performance problems. The licensee's corrective actions for these issues included additional training, re-evaluation of SSC Maintenance Rule functions and monitoring programs, and historical SSC performance reviews. At the time of this inspection, the licensee was still in the process of implementing corrective actions for these previously identified issues. Therefore, for instances when the inspectors identified issues associated with previously identified weaknesses, the inspectors assessed the effectiveness of planned corrective actions.

.1 120V AC Safety-Related Electrical Distribution

a. Inspection Scope

The inspectors reviewed the implementation of the Maintenance Rule requirements for both units' 120V AC safety-related electrical distribution systems. The 120V AC distribution system provides control and instrumentation power to safety related components. The inspectors also performed an independent review of historical control room log entries, job orders, and condition reports. The inspectors considered the 120V AC safety-related electrical distribution system to be part of the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

.2 Control Room Complex Ventilation System

a. Inspection Scope

The inspectors reviewed the implementation of the Maintenance Rule requirements for both units' control room complex ventilation system. The control room ventilation system provided heat removal and air filtration to support control room habitability and continued reliability of control room equipment. The inspectors performed an independent review of historical control room log entries, job orders, and condition reports to assess control room ventilation system performance relative to maintenance rule requirements. Because of its role in supporting post-accident control room habitability, the inspectors considered the control room ventilation system to be part of the barrier integrity cornerstone.

b. Findings

No findings of significance were identified.

3. Offsite Power System

a. Inspection Scope

The inspectors reviewed the implementation of the Maintenance Rule requirements for the offsite power system. The offsite power system provided the preferred reserve and alternate reserve source power from the offsite transmission network to the 4kV switchboards. The inspectors performed an independent review of historical control room log entries, job orders, and condition reports to assess offsite power system performance relative to maintenance rule requirements. Because of its role in supporting emergency core cooling functions, the inspectors considered the offsite power system to be included in the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

1R13 Maintenance and Emergent Work (71111.13)

a. Inspection Scope

The inspectors reviewed the risk assessment and risk management for the following risk significant maintenance activities:

Mitigating Systems Cornerstone

- Unit 1 Forced Outage, August 27, 2001 through September 29, 2001, Mode 5 (Cold Shutdown) yellow risk path
- Unit 2 Forced Outage, August 30, 2001 through September 30, 2001, Mode 3 (Hot Standby) and Mode 5 yellow risk path

These activities were selected based on their potential risk significance relative to the reactor safety cornerstones. For each of the above activities, the inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst, and verified that plant conditions were consistent with the risk assessment. The inspectors also reviewed TS and ATR requirements and walked down portions of redundant safety systems, when applicable, to verify that risk analysis assumptions were valid and applicable requirements were met.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Evolutions (71111.14)

a. Inspection Scope

The inspectors observed the licensee's performance during the following non-routine events:

- Unit 1 shutdown and forced outage planning
- Unit 2 shutdown and forced outage planning
- Unit 1 mode ascension and restart

The inspectors observed the licensee's conduct of operations, attended briefings, and reviewed procedures during these events. The inspectors verified that plant operation was conducted safely and in accordance with appropriate plant procedures.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Unit 1 "A" Train Emergency Diesel Generator Tempering Damper Failed to Operate Correctly

a. Inspection Scope

On July 10, 2001, the licensee identified that the Unit 1 "A" Train emergency diesel generator (D/G) tempering damper was not functioning properly. This condition was documented in CR 01191011.

On July 18, 2001, the licensee briefly entered the action statement for TS 3.0.5 on Unit 1 after determining that the Unit 1 "A" Train D/G was inoperable simultaneously with the Unit 1 "B" Train Motor Driven Auxiliary Feedwater Pump (MDAFWP). The D/G was declared inoperable because its ventilation tempering damper was found in the wrong position (CR 01199073). After the condition was identified, the licensee restored the Unit 1 "B" Train MDAFWP to exit the TS 3.0.5 action statement. The inspectors reviewed the initial and backup operability determinations for the D/G, the licensee's compensatory actions, and the job order to repair the D/G. The inspectors considered this inspection to be part of the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

.2 Impact of Low Essential Service Water Flows to Unit 1 Safety-Related Equipment

a. Inspection Scope

In September 2001, the licensee performed flow verification testing on the ESW system to ensure that the ESW system could supply the required cooling water flowrate to safety related equipment. During this testing, the licensee identified ESW flows less than the required acceptance criteria on two Unit 1 auxiliary feedwater pump room coolers, the Unit 1 West component cooling water heat exchanger, and the Unit 1 West containment spray heat exchanger. The licensee evaluated the ability of these components to perform their required safety functions with reduced ESW flow and determined that additional thermal margin provided by lower than design basis lake water temperatures provided sufficient margin to compensate for reduced ESW flow. The inspectors reviewed the basis for the licensee's operability determination. Because the ESW system provided the ultimate heat sink for the emergency core cooling system, the inspectors determined that this inspection was associated with the mitigating systems cornerstone.

b. Findings

No findings of significance were identified.

.3 Essential Service Water System Supply Valves to Emergency Diesel Generators

a. Inspection Scope

A potential common cause failure mechanism was identified on the D/Gs when both the normal and alternate ESW supply valves to the D/Gs were opened concurrently. Specifically, with both valves open, all of the facility's D/Gs could be susceptible to silt/debris intrusion from the ESW system. The licensee implemented a temporary modification to ensure that only the normal ESW supply valves would open automatically during an D/G starting sequence. The installation of the temporary modification is discussed in more detail in Section 1R23 below. In addition to this temporary modification, the licensee also revised operating procedures to ensure that the alternate supplies would only be operated under administrative controls to support

testing or during events where the normal ESW supply was lost. The inspectors reviewed the licensee's operability evaluation and supporting documentation which documented the licensee's planned actions to support operability of the D/Gs under conditions when the alternate ESW supply valves were open. The inspectors verified that the planned actions were appropriately documented in approved procedures and assessed whether the actions would work as intended.

b. Findings

No findings of significance were identified.

.4 Unit 2 Safety Injection Pumps Exhibiting Erratic Discharge Pressure Indications

a. Inspection Scope

On July 8, 2001, the licensee noted erratic pressure indications on the Unit 2 Safety Injection pump discharge pressures while the pumps were in standby. Specifically, over a period of a few days, discharge pressure was observed to build up to approximately 742 psig and then lower to approximately 122 psig in a cyclic manner with no operator action. The licensee documented this condition in CR 01189007. The licensee determined that the most likely cause of the increased pressure was due to minor back leakage from check valves located in the safety injection line to the reactor coolant system, and the following pressure decrease was due to packing and body to bonnet leakage in a number of safety injection system valves. The inspectors reviewed the licensee's operability evaluation to ensure that system operability could be demonstrated commensurate with the facility's design basis documentation. The inspectors also reviewed the facility's limitations on reactor coolant system leakage to verify that Technical Specifications were met and that total emergency core cooling system leakage was bounded by assumptions in control room habitability.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the post maintenance testing requirements associated with the following scheduled maintenance activity:

Barrier Integrity Cornerstone

- Unit 1 Source Range Nuclear Instrument N-31 Detector Replacement

The inspectors reviewed post maintenance testing criteria specified in the applicable preventive and corrective maintenance work orders. The inspectors verified that test methodology and acceptance criteria were appropriate for the scope of work performed.

Documented test data was reviewed to verify that the testing was complete and that the equipment was able to perform the intended safety functions.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed portions of the following surveillance tests to verify that testing was conducted in accordance with applicable procedural and TS requirements:

Mitigating Systems Cornerstone

- Unit 1 ESW Flow Verification Testing
- Unit 1 Containment Closeout Inspection
- Unit 2 Train “A” Battery 18-Month Surveillance
- Unit 2 Train “A” D/G Fast Speed Start

The inspectors reviewed the test methodology and test results in order to verify that equipment performance was consistent with safety analysis and design basis assumptions. The inspectors also reviewed condition reports concerning surveillance testing activities to verify that identified problems were appropriately characterized.

b. Findings

In September 2001, during Unit 1 ESW flow verification testing, the licensee found that the as-found intermediate throttle positions for East CCW Heat Exchanger ESW Outlet Shutoff Valve 1-WMO-733 and West CCW Heat Exchanger ESW Outlet Shutoff Valve 1-WMO-737 were inconsistent with the acceptance criteria from previous ESW flow balance testing conducted in October 2000. Specifically, although the as-found setting of 1-WMO-733 was consistent with the setting recorded during previous flow balance testing, the throttle position was not sufficiently open to meet minimum flow requirements. Conversely, the as-found throttle position of 1-WMO-737 was greater than the previously recorded position, but the valve passed an adequate amount of flow.

Technical Specification surveillance requirement 4.7.4.1 required that, at least once every month, the licensee verify that each automatic valve servicing safety-related equipment actuated to its correct position on a safety injection test signal. The licensee determined the correct position of the ESW outlet valves to the CCW heat exchangers (which automatically reposition to an intermediate throttle position upon actuation of a safety injection signal) during flow balance testing conducted in accordance with procedure 01-EHP 4030.119.241, "ESW Flow Balance." During flow balance testing in October 2000, the licensee determined that the correct throttle position for 1-WMO-733 and 1-WMO-737 were throttled open 20 handwheel turns and 16 handwheel turns, respectively. These positions were based upon providing a minimum ESW flow rate of 5000 gpm to the CCW heat exchangers. During flow verification testing performed in

September 2001, the licensee determined that, although 1-WMO-733 was set to automatically position to 20 turns open, the measured flow rate at this throttle position was approximately 400 gpm less than the required test acceptance criteria, and approximately 200 gpm lower than the minimum flow rate specified in the UFSAR Table 9.8-5 "Essential Service Water System Minimum Flow Requirements per Train (gpm)". During flow verification testing on the Unit 1 west ESW train, 1-WMO-737 was found to automatically position to 26 turns open. Although the as-found throttle setting for 1-WMO-737 was approximately 8 turns further open than the position recorded in the October 2000 performance of flow balance testing, the ESW flow rate measured through the CCW heat exchanger was approximately equal to the required flow rate. The inspectors determined that the flow balance testing conducted in October 2000 failed to adequately identify and implement the correct intermediate throttle positions for 1-WMO-733 and 1-WMO-737.

Technical Specification 6.8.1 stated, in part, written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Rev. 2. Regulatory Guide 1.33, Appendix A, Section 8 stated, in part, that specific procedures for surveillance tests should be written (implementing procedures are required for each surveillance test listed in the technical specifications). Procedure 01-EHP 4030.119.241 was written to satisfy the requirements of TS 4.7.4.1. Steps 5.1.1, 5.1.2, 5.1.3 and 5.1.4 of Procedure 01-EHP 4030.119.241, Revision 0, required, in part, that ESW flow balance acceptance criteria are met and that 1-WMO-733 and 1-WMO-737, traveled to the safety injection preset intermediate position when a safety injection signal was actuated. Contrary to the above, on September 19, 2001, it was identified that ESW flowrate provided by the preset safety injection position for 1-WMO-733 failed to meet test acceptance criteria. Additionally, on September 25, 2001, it was identified that the preset safety injection position for 1-WMO-737 was approximately 8 turns further open than the as-left preset safety injection position recorded in 01-EHP 4030.119.241 in October 2000.

The inspectors determined that this issue was more than a minor concern since it had a credible impact on safety. The failure to properly establish the throttle position of automatic ESW system valves servicing safety related equipment could result in the inability to provide sufficient ESW cooling to post accident emergency core cooling equipment. In this case, the failure to properly set the limit switch settings for 1-WMO-733 resulted in CCW heat exchanger flow approximately 200 gpm lower than the minimum flow rate specified in UFSAR Table 9.8-5, "Essential Service Water System Minimum Flow Requirements per Train (gpm)". Because of the availability of control room indications and alarms, combined with the relatively small difference in actual flow compared with required flow, the inspectors determined that reasonable operator actions to manually control ESW flow to the CCW heat exchanger could maintain the safety function of this equipment. Since this issue was determined to have very low risk significance and was characterized as Green by the SDP, this violation is being treated as a Non-Cited Violation of TS 6.8.1, consistent with Section VI.A of the NRC Enforcement Policy **(NCV 50-315/01-16-01**). This violation is in the licensee's corrective action program as CR 01268022 and CR 01262077.

1R23 Temporary Plant Modifications (71111.23)

.1 Modification to Disable Automatic Opening of Alternate ESW Supply Valves to the D/Gs

a. Inspection Scope

On September 25, 2001, the inspectors reviewed the licensee's implementation of Temporary Modification (TM) 12-TM-01-52-R0, which modified the actuation circuitry associated with both units' alternate D/G ESW supply valves, 1-WMO-723, 1-WMO-727, 2-WMO-724, and 2-WMO-728. The ESW system had been designed such that during a D/G start, both the normal and alternate ESW supply valves automatically opened to ensure a source of cooling water to the associated D/G. However, it was determined that with both the normal and alternate supply valves concurrently open, a common cause failure mechanism existed on all of the facility's D/Gs. In the event of silting or debris intrusion in one of the ESW supply headers, all four D/Gs could be rendered inoperable. Temporary Modification 12-TM-52-R0 removed the capability of the alternate ESW supply valves to automatically open during a D/G starting sequence. This prevented automatic cross-connection of the D/G ESW supplies and the potential for the occurrence of a common cause failure of the facility's D/Gs.

The inspectors reviewed 12-TM-01-52-R0 and its associated 10 CFR 50.59 safety screening against the facility's design basis documentation to verify that the modification did not adversely impact D/G operation and operability. Additionally, the inspectors sampled selected operations procedures, maintenance procedures, and schematic drawings to ensure that configuration control of the modification was adequate. The inspectors selected one of the facility's D/Gs to examine the installation of the temporary modification to verify that it was correctly installed. After installation of the modification, the inspectors reviewed the post-maintenance testing results to confirm that the tests were satisfactory and that the impact of the temporary modification on the system design was adequately verified.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's gathering and submittal of data for the following performance indicators for second quarter of 2001:

- Unit 2 Safety System Functional Failures
- Unit 2 Reactor Coolant System Leakage

b. Findings

No findings of significance were identified.

4OA3 Event Follow-Up (71111.14 and 92700)

.1 Licensee Event Reports

a. Inspection Scope

The inspectors reviewed the corrective actions associated with the following licensee event reports.

b. Findings

(Closed) Licensee Events Reports 50-315/97017-02 and 50-316/97005-02: Condition outside design basis results in Technical Specification required shutdown. The licensee could not verify with certainty that the volume of water in the active containment sump would be sufficient to meet post accident cooling requirements. The technical issues associated with these LER were reviewed in inspection reports Inspection Reports 50-315/99029; 50-316/99029 and 50-315/00-01; 50-316/00-01, and through a review of licensee design change packages. The programmatic issues raised in the LERs were dealt with through enforcement items 98-150, 98-151, 98,152, and 98-186. Further review in this area was judged not to be necessary. No additional issues or concerns were identified. These LERs are closed.

(Closed) Licensee Event Report 50-316/00-015-00-01: Containment air lock not tested at frequency required by Technical Specifications. The licensee identified that testing of one containment air lock had not been completed within the Technical Specification time constraints. Subsequent tests did not identify any issues with through penetration leakage. The initial LER was evaluated in Inspection Report 50-315/00-25; 50-316/00-025. Supplement 1 was reviewed during this inspection period to assess final root cause(s) and corrective actions. No concerns were identified. This LER is closed.

(Closed) Licensee Event Report 50-315/01-003-00: Emergency diesel generator inoperable due to degraded ventilation system. On July 11, 2001, the licensee identified that the Unit 1 CD D/G tempering damper was not operating properly. On July 18, 2001, the licensee determined that the incorrectly operating tempering damper could potentially affect the operability of the D/G, and the tempering damper was repaired. The inspectors reviewed the licensee's evaluation of this event as part of the operability determination inspection discussed above in Section 1R15. The licensee determined that, based on the outside air temperatures while the tempering damper was not operating correctly, the Unit 1 CD D/G ventilation would have been capable of maintaining room temperature within the allowable range; therefore, the operability of the Unit 1 CD D/G was not affected. The inspectors concluded that this event was of very low significance. This LER is closed.

4OA6 Management Meetings

The inspectors presented the inspection results to licensee management listed below on October 2, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.

4OA7 Licensee Identified Violations

The following findings of very low safety significance were identified by the licensee and are violations of NRC requirements which meet the criteria of Section IV of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as Non-Cited Violations (NCV).

NCV Tracking Number	Requirement Licensee Failed to Meet
(1) NCV 50-316/01-16-02	Operations Head Procedure 12-OHP 2110.CPS.001, "Clearance Permit," a procedure covered by Regulatory Guide 1.33 and Technical Specification 6.8.1, required that clearance tags be placed as directed by the clearance permit. During placement of clearance 2011396, the wrong component was manipulated and tagged. This issue was entered into the licensee's corrective action program as CR 01251005. This is being treated as a Non-Cited Violation.

KEY POINTS OF CONTACT

Licensee

C. Bakken, Site Vice President
P. Cowan, Supervisor, Licensing
R. Gaston, Regulatory Affairs Manager
S. Greenlee, Director, Design Engineering and Regulatory Affairs
E. Larson, Manager, Operations
R. Meister, Regulatory Affairs
T. Noonan, Director, Performance Assurance
J. Pollock, Plant Manager
M. Rencheck, Vice President, Nuclear Engineering
E. Ridgell, Regulatory Affairs
R. Smith, Acting Director, Plant Engineering
D. Wood, Manager, Radiological Controls, Chemistry and Environmental

NRC

A. Vegel, Chief, Reactor Projects Branch 6

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-315/01-16-01	NCV	Failure to follow surveillance procedure during ESW flow balancing
50-316/01-16-02	NCV	During placement of clearance 2011396, the wrong component was manipulated and tagged

Closed

50-316/97005-02	LER	Condition outside design basis results in Technical Specification required shutdown
50-315/97017-02	LER	Condition outside design basis results in Technical Specification required shutdown
50-315/00-015-00 50-315/00-015-01	LER	Containment air lock not tested at frequency required by Technical Specifications.
50-315/01-003-00	LER	Emergency diesel generator inoperable due to degraded ventilation system
50-315/01-16-01	NCV	Failure to follow surveillance procedure during ESW flow balancing
50-316/01-16-02	NCV	During placement of clearance 2011396, the wrong component was manipulated and tagged

Discussed

None

LIST OF ACRONYMS USED

AEP	American Electric Power
AFW	Auxiliary Feedwater System
ATR	Administrative Technical Requirement
CEQ	Letters do not stand for specific sequence of words. Refers to containment mixing fans.
CFR	Code of Federal Regulations
CR	Condition Report
CRID	Control Room Instrument Distribution
DRP	Division of Reactor Projects
ESRR	Enhanced System Readiness Review
ESW	Essential Service Water
gpm	Gallons per Minute
IMC	Inspection Manual Chapter
MDAFWP	Motor Driven Auxiliary Feedwater Pump
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
OA	Other Activities
OHP	Operations Head Procedure
PDR	Public Document Room
PI	Performance Indicator
PMP	Plant Manager's Procedure
PMT	Post-maintenance Testing
PPC	Plant Process Computer
RCP	Reactor Coolant Pump
SDP	Significance Determination Process
SSC	Structures, Systems, and Components
STP	Surveillance Test Procedure
TDAFWP	Turbine Driven Auxiliary Feedwater Pump
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VAC	Volts, Alternating Current
VIO	Violation

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

TS 3.7.1.2	Auxiliary Feedwater System	Amendment 171

1R06 Flood Protection

UFSAR Section 14.4.2.6.2	Flooding	Revision 17
NED-2000-537-REP	Flooding Evaluation for AEP, D.C. Cook Unit #2	Revision 0
Calculation DCC-PV-12- MC01-F	Floor Drain Flow Capabilities IE Notice 83-41	Revision 1
Calculation DCC-PV-12-MC22-N	Flood Protection ESW Pipe Tunnel	June 12, 1990
Calculation DCC-PV-12-MC17-N	Flood Protection Features	December 5, 1989
CR 99-12376	The design bases flooding elevation of 595' does not include surface run-off contribution	May 18, 1999
CR 99-13299	The turbine building has two unprotected roll-up doors located below the design bases flood elevation of 595'	May 24, 1999
CR 99-15588	The calculation reconstitution project evaluated internal flooding calculations as acceptable but the ESRR review indicated that the calculations were unacceptable and did not include the screen house in the review	June 15, 1999
CR 99-16669	Sufficient information to demonstrate reasonable assurance that the auxiliary building and turbine building are protected from design basis flooding events is not available	June 24, 1999
CR 99-29255	Flooding evaluation post-restart recommendations	December 16, 1999
CR 00-8792	Local flooding of the plant access road and north guardhouse	June 14, 2000

CR 00262020	Auxiliary building flooding Safety Analysis Report description for operator response requires revision	September 18, 2000
CR 01004043	Discovered a small steam plume from the Turbine Building Sump overflow hatch area	January 4, 2001
CR 01086021	Operator response time following internal flooding requires verification	March 27, 2001
CR 01238004	Heater drain pump area flood control pump failed to pump water during functional check	August 26, 2001

1R12 Maintenance Rule Implementation

.1 120V AC Safety Related Electrical Distribution

	120 V AC Safety Related Electrical Distribution Maintenance Rule Scoping Document	Revision 1
	120 V AC Safety-Related Distribution - Historical Performance Review	June 30, 2001
	CRID System Performance Monitoring Plan	
System Health Report	120V AC Vital Buses and CRID Inverters Cook Units 1 and 2	April 1, 2001 to June 30, 2001
UFSAR Section 8.3.3	120 Volt AC Vital Instrument Bus System	Revision 17

.2 Control Room Ventilation Complex

	Control Room Complex Ventilation System - Maintenance Rule Scoping Document	March 22, 2001
	Control Room Ventilation - Historical Performance Review	July 13, 2001
UFSAR Section 14.2.1	Fuel Handling Accident	Revision 17
CR 01043003	Unit 2 North Control Room Air Conditioning compressor not operating	February 21, 2001

CR 01073044	Unit 1 North Control Room Air Conditioning compressor has no pressure when running	March 14, 2001
CR 01082066	The Unit 1 South Control Room Air Conditioning unit will not run	March 23, 2001
CR 01180077	Unit 2 South Control Room Air Conditioner is not cooling the control room adequately	June 29, 2001

.3 Offsite Power System

	Offsite Power System - Maintenance Rule Scoping Document	March 28, 2001
	Offsite Power System - Historical Performance Review	July 25, 2001
	Unit 1 and Unit 2 Control Room Logs	
CR 00-8384	Loss of Train A Reserve feed power due to apparent fault	June 8, 2000
CR 01219075	The voltage on transformer 4 showed an alarm for 4 consecutive hours	August 7, 2001
CR 01220024	Unit 1 control room operators found voltage on transformer number 4 less than acceptable limit	August 8, 2001

1R13 Maintenance Risk Assessment and Emergent Work Planning

PMP 2291.OLR.001	On-Line Risk Management	Revision 2
PMP 4100.SDR.001	Plant Shutdown Safety and Risk Management	Revision 4b
PMP 2291.OLR.001, Data Sheet 1	Work Schedule Review and Approval Form	August 30, 2001
	ORAM Desktop Guide	Revision 3
CR 01127004	N-31 is sporadically energizing during 100 percent power operation	May 7, 2001
CR 01239033	Weld on the Unit 1 east centrifugal charging pump discharge valve has a leak at about 1 drop every 3 seconds	August 27, 2001

CR 01241021	Evaluate the entry into ORAM yellow for reactivity control and determine if an unplanned increase in a risk assessment color ranking resulted from a Maintenance Preventible Functional Failure	August 29, 2001
CR 01251035	Stop Work Order for the initial placement and removal of clearances	September 8, 2001
Field Observation FO-01-I-046	Pre-Job Brief and Communications During Repairs to the No. 4 Accumulator Fill Valve	September 7, 2001
Field Observation FO-01-I-049	Work Activity Observations	September 8, 2001

1R14 Personnel Performance During Nonroutine Evolutions

01-OHP 4021.001.002	Reactor Startup	Revision 26
CR 01269045	Entry into TS 3.4.10.1 was not made when a thru wall leak was discovered in the ESW system	September 24, 2001
CR 01270063	Mode 3 was entered with the hot shutdown instrument 1-NLP-151 inoperable contrary to TS 3.0.4	September 27, 2001
CR 01273034	Unit 1 TDAFWP inoperable due to steam leak on steam supply drain line	September 30, 2001
CR 01266002	2-R-158, glycol return header containment isolation valves pressure relief header shutoff valve was found closed. This valve is suppose to be open	September 23, 2001
CR 01271021	Potential adverse trend identified in the area of technical specification use	September 28, 2001

1R15 Operability Evaluations

.1 Unit 1 Train “A” Emergency Diesel Generator Tempering Damper Failed to Operate Correctly

TS 3.0.5	Applicability	
TS 3.8.1	AC Power Sources - Operating	Amendment 183

CR 01191011	Tempering air damper 1-HV-DDP-CD-1 does not function properly	July 10, 2001
CR 01199073	Unit 1 CD D/G supply fan tempering damper open 30 percent with outside air temperature at approximately 90 degrees, room temperature at approximately 90 degrees and the D/G shut down	July 18, 2001

.2 Impact of Low Essential Service Water Flows to Supported Equipment

UFSAR Table 6.3-2	Containment Spray Heat Exchanger Design Parameters	Revision 16.6
01-EHP 4030-119-241	ESW Flow Balance	Revision 2
EVAL-MD-02-ESW-089-N	Reduction in ESW Temperature to Accommodate Reduced Flow Rate to ESW Components	Revision 0
DIT B-00944-06	ESW Flow Balance Acceptance Criteria Summary	September 23, 2001
DIT B-02199-00	Evaluation of Unit 1 East and West ESW flow balance acceptance criteria discrepancies associated with 01-EHP 4030.119.241	September 26, 2001
JO R0218340	1-STP.241 - ESW Flow Balance	September 19, 2001
CR 01268041	Required flowrates could not be achieved during Unit 1 west ESW system flow balance testing	September 25, 2001

.3 Normal and Alternate Essential Service Water System Supply Valves to Emergency Diesel Generators Open

UFSAR Section 9.8.3	Service Water Systems	Revision 17
02-OHP 5030.019.002E	East Essential Service Water System Flow Test	Revision 0
CR 01242013	Silt/Mud intrusion into U1 and U2 ESW systems renders CCW and D/G inoperable	August 29, 2001
DIT B-02180-00	ESW Strainers Differential Pressure and Flow	Revision 0

.4 Unit 2 Safety Injection Pumps Exhibiting Erratic Discharge Pressure Indications

CR 01189007	U-2 SI pumps exhibiting erratic discharge pressure indications	July 8, 2001

1R19 Post Maintenance Testing

N-31 Detector Replacement

TS 3.3.1	Reactor Trip System Instrumentation	Amendment 202
01-IHP 4030.SMP.129	Source Range Nuclear Instrument Function Test and Calibration	Revision 0
01-IHP 4030.SMP.130	Intermediate Range Nuclear Instrument Function Test and Calibration	Revision 0
CR 01127004	N-31 is sporadically energizing during 100 percent power operation	May 7, 2001
JO 01127004	Investigate cause of N-31 suddenly energizing	July 19, 2001
JO 01136032	Contingency action to replace N-31 detector	September 6, 2001

1R22 Surveillance Testing

Unit 2 “A” Train Battery 18-Month Surveillance

TS 4.8.2.3.2.d	DC Distribution - Operating	Amendment 224
12-IHP 4030.082.003	AB, CD and N-Train Battery Discharge Test and 18 Month Surveillance Requirements	Revision 0
JO R99355	Perform 2-BATT-CD 18 Month Surveillance	September 5, 2001
Field Observation FO-01-I-045	JOA R0099355 01, Performance of 2-BATT-CD Service Test	September 5, 2001

Unit 2 Emergency Diesel Generator CD Fast Speed Start

TS 4.8.1.1.2	AC Power Sources - Operating	Amendment 191
TS 4.8.1.2	AC Power Sources - Operating	Amendment 213

02-OHP 4030.STP.027CD, Attachment 2	DG2CD Fast Speed Start	September 15, 2001
02-OHP 4021.032.008CD, Attachment 6	DG2CD Automatic Start Alignment	September 16, 2001
02-OHP 4030.STP.027CD, Attachment 7	Fuel Oil Transfer Pumps 2-QT 106-CD2 Quarterly and 2-QT-106-CD1 Monthly Checks	September 15, 2001
02-OHP 4030.STP.027CD, Data Sheet 1	DG2CD Operating Data	September 16, 2001
02-OHP 4030.STP.027CD, Attachment 4	Removing Accumulated Water From CD Diesel Generator Fuel Oil Day Tank	September 16, 2001
02-OHP 4030.STP.027CD, Data Sheet 2	DG2CD Local Operating Data	September 16, 2001
CR 01258009	Attempted start of DG2CD failed when DG2CD Stop/Run Control Switch was taken to RUN	September 15, 2001
CR 01259026	2-CD D/G was started for an operability run but the time to voltage was missed because a fluke was used to measure the voltage instead of the control board indication	September 16, 2001

Unit 1 Containment Closeout Inspection

01-OHP 4030.001.002	Containment Inspection Tours	Revision 17
CR 01256062	NRC identified packing leakage on 1-SI-141-L1 and 1-SI-141-L2	September 13, 2001
CR 01256064	NRC identified personnel hatch from Unit 1 instrument room to annulus	September 13, 2001
CR 01256068	Valve 1-SI-158-L1 appears to be leaking as evidenced by boric acid on the valve	September 12, 2001
CR 01256066	NRC identified miscellaneous debris in Unit 1 lower containment during final containment closeout walkdown	September 13, 2001

CR 01256067	NRC identified thin film of oil on floor beneath the RCP #11	September 13, 2001

Unit 1 ESW Flow Verification Testing

01-EHP 4030.119.241	ESW Flow Balance	Revision 2
JO R0218340	1-STP.241 - ESW Flow Balance	September 19, 2001
CR 01262077	During Unit 1 ESW flow balance testing, the required flows to the east CCW heat exchanger and the east MDAFWP and east TDAFWP room coolers	September 19, 2001
CR 01268022	ESW valve 1-WMO-737 West CCW heat exchanger outlet as found position incorrect during ESW flow balance	September 25, 2001

1R23 Temporary Plant Modifications

UFSAR Section 8.4	Emergency Power System	Revision 17
UFSAR Section 9.8.3	Service Water Systems	Revision 17
TS 3.7.4	Essential Service Water System	Amendment 164
Temporary Modification 12-TM-01-52-R0	Disable automatic opening feature of Essential Service Water Supply Header to D/G Heat Exchangers Shutoff Valves during the start sequence/run	
Safety Screening 2001-1008-00	Changes to Preclude Debris Intrusion through an ESW Strainer and into all 4 D/G Cooling Lines	Revision 0
OP-1-98034-26	Diesel Generator 1AB Control Elementary Diagram	Revision 26
OP-2-5113-63	Flow Diagram - Essential Service Water	Revision 63
DIT B-02180-00	ESW Strainers Differential Pressure and Flow	Revision 0
CR 01242013	Silt/Mud intrusion into U1 and U2 ESW systems renders CCW and D/G inoperable	August 29, 2001

4OA3 Event Follow Up

Technical Specification
Amendments 234 and 217

12-IHP 4030.046.227	Unit 1 and Unit 2 Personnel Airlock Door Seal Leak Rate Surveillance	Revision 0
12-EHP 4030.046.204	Unit 1 & 2 Personnel Airlock Leak Rate Surveillance	Revision 0
PMP 4030.EIS.001	Event Initiated Surveillance Testing	Revision 2a
2-DCP-443	Re-route CEQ Room Floor Drains from Annulus Sump to Containment Sump and Install Safety Related Check Valves	April 16, 2000
1-DCP-634 2-DCP-650	CEQ Fan Logic and Time Delay	December 2, 2000 May 18, 2000
1-DCP-728 2-DCP-679	Modification to Containment Flood Up Overflow Wall	October 28, 2000 May 11, 2000
1-DCP-678 2-DCP-729	Refueling Water Storage Tank Overflow Line Modification	October 28, 2000 May 24, 2000
2-DCP-4346	Install New Containment Water Level Switches	May 13, 2000
CR 99-00163	Several non-conservatisms have been identified in the Fall, 1997 analysis to resolve containment recirculation sump inventory issue following a small break LOCA	January 8, 1999
CR 00265023	Incorrect interpretation of containment airlock door seal test frequency requirements which partially satisfy Technical Specification 4.6.1.2	September 21, 2000