July 15, 2003

Mr. A. C. Bakken III
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107

SUBJECT: D. C. COOK NUCLEAR POWER PLANT, UNITS 1 AND 2
NRC INSPECTION REPORT 50-315/03-09 (DRP); 50-316/03-09 (DRP)

Dear Mr. Bakken:

The NRC conducted a follow-up supplemental inspection using inspection procedure 95002 "Inspection For One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area" at your D. C. Cook Nuclear Power Plant, Units 1 and 2 during the week of June 16, 2003. The enclosed report documents the inspection findings which were discussed on June 20, 2003, with J. Pollock and other members of your staff.

The NRC previously performed this supplemental inspection as required by the NRC Action Matrix based on plant performance for D. C. Cook Unit 2 being within the Degraded Cornerstone Column of the NRC Action Matrix due to two White findings in the Mitigating Systems Cornerstone. As stated in our inspection report dated April 15, 2003, we concluded that your evaluation of these findings was incomplete because an adequate extent of condition review for the root and contributing causes had not yet been performed. Specifically, the extent of condition reviews for maintenance procedure adequacy and condition report evaluation and closure for equipment-related issues, which were two important causes for both of the White findings, were not adequately completed. This was considered to be a significant weakness with your evaluation and resulted in both of the White findings that contributed to the Degraded Cornerstone remaining open.

Based on the results of this follow-up inspection, the inspectors determined that an adequate extent of condition review had been completed. Given the acceptable performance in addressing the incomplete extent of condition evaluation of the issues, the two White findings leading to the Degraded Cornerstone will only be considered in assessing plant performance using the NRC Action Matrix thru the end of the second quarter 2003.

This supplemental 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. The purpose of this inspection was to (1) provide assurance that the root and contributing causes for both White findings and for the overall performance issues which resulted in the Degraded Cornerstone are understood; (2) independently assess the extent of condition and generic implications of the White findings; and (3) provide assurance that the corrective actions to address the White findings are sufficient to prevent recurrence.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures 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/

Geoffrey E. Grant, Director
Division of Reactor Projects

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

Enclosure: Inspection Report 50-315/03-09 (DRP); 50-316/03-09 (DRP)
w/Attachment: Supplemental Information

cc w/encl: J. Pollock, Site Vice President
M. Finissi, Plant Manager
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

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-315; 50-316
License Nos:	DPR-58; DPR-74
Report No:	50-315/03-09(DRP); 50-316/03-09(DRP)
Licensee:	Indiana Michigan Power Company
Facility:	D. C. Cook Nuclear Power Plant, Units 1 and 2
Location:	1 Cook Place Bridgman, MI 49106
Dates:	June 16 through June 20, 2003
Inspectors:	L. Kozak, Project Engineer C. Brown, Resident Inspector
Approved by:	E. Duncan, Chief Branch 6 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000315-03-09 (DRP), IR 05000316-03-09 (DRP); Indiana Michigan Power Company; 06/16/03-06/20/03; D. C. Cook Nuclear Power Plant, Units 1 and 2; Supplemental Inspection - Mitigating Systems Cornerstone.

This report covers a supplemental inspection performed by regional-based and resident inspectors. 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.

Cornerstone: Mitigating Systems

The NRC performed a follow-up supplemental inspection to assess the licensee's extent of condition evaluation for the two White performance issues associated with the Degraded Cornerstone. The failure to perform an adequate extent of condition evaluation was identified during the initial supplemental inspection and was considered a significant weakness in the licensee's evaluation. This resulted in the two White findings remaining open pending the licensee's completion of the extent of condition evaluation and the NRC's inspection of the evaluation.

The inspectors concluded during the follow-up supplemental inspection that the licensee had completed an adequate extent of condition evaluation. As a result, the two White findings will be closed as of the end of the second quarter 2003.

A. **NRC-Identified and Self-Revealed Findings**

No findings of significance were identified.

B. **Licensee-Identified Violations**

None

REPORT DETAILS

01 Inspection Scope

This follow-up supplemental inspection, performed in accordance with Inspection Procedure 95002, "Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area," was conducted to review the licensee's extent of condition evaluation for the root and contributing causes to the two White findings that resulted in a Mitigating Systems Degraded Cornerstone. Specifically, the extent of condition evaluation included a review of maintenance procedure adequacy and a review of the evaluation and closure of equipment-related issues identified during the expanded system readiness review (ESRR) conducted during the extended outage.

The inspectors reviewed the licensee's extent of condition evaluation to determine if the evaluation was thorough and properly determined the applicability of the root and contributing causes to other plant equipment issues and procedures. In addition to reviewing the licensee's results regarding extent of condition, the inspectors independently sampled maintenance procedures and equipment-related issues and compared the results of the independent review to the licensee's results. The inspectors also reviewed the corrective actions specified for the problems identified to verify that the corrective actions were appropriate.

The inspectors reviewed the licensee's independent assessment performed by the Performance Assurance (PA) department and compared the inspectors' conclusions regarding the thoroughness of the review to the conclusions of the PA assessment.

02 Evaluation of Inspection Requirements

Inspection requirements 02.01a - d, 02.02a - c, and 02.03a - d of Inspection Procedure 95002 were completed and documented in the initial supplemental inspection report 50-315/03-04; 50-316/03-04. Inspection requirements 02.02d and 02.04 were only partially completed at that time because the licensee's extent of condition evaluation was incomplete. The results of the additional inspection for these two requirements are documented below.

02.02 *Root Cause and Extent of Condition Evaluation*

D. *Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problem.*

Extent of Condition Evaluation for Maintenance Procedure Adequacy

The inspectors reviewed the licensee's extent of condition evaluation for maintenance procedure adequacy performed under corrective action 11 of Condition Report (CR) 02277047, "Common Cause Investigation for Mitigating Systems Degraded Cornerstone." The action required a multi-disciplined team assessment of a statistically significant sample of safety-related maintenance procedures. The licensee selected 70 safety-related maintenance procedures for review. To ensure consistent reviews of the

selected procedures, the licensee developed a matrix of items to be checked and a process of individual and team reviews. The results of each procedure review were documented on individual CRs. Of the 70 procedures reviewed, 9 (13 percent) had wrong technical data in the procedure and were placed on hold until the technical data was revised and/or validated to be correct, 43 (61 percent) were lacking technical justification or clarification, and 18 (26 percent) identified user preferences or enhancements.

After the first 95002 inspection, the licensee generated a roll-up CR to address all maintenance procedure issues (CR 03057040, "Screening committee request to generate a roll-up CR for Maintenance Procedure issues identified in the 95002 inspection"). The apparent cause evaluation for this CR revealed that a previous self-assessment (SA-2001-BDC-014, Procedure Programmatic Assessment), performed by a multi-disciplined team in October 2001, had found that efforts to improve the procedure program had been delayed or hampered by restart, refueling outages, and forced outages and that some of the past efforts were either ineffective or never fully implemented. The self-assessment's primary recommendations included bench marking, revising program procedures, establishing a standard set of procedure software, and providing additional training for procedure writers and reviewers. The assessment also determined that procedure development, changes, and reviews were discrete activities for all personnel involved. Some organizations had budgeted time for procedure reviews but "higher priority work and support activities" had routinely impacted personnel availability to complete the reviews. This condition had resulted in perceived time pressure, inadequate reviews, and ultimately plant events due to inadequate procedures.

The results of the individual procedure reviews during the extent of condition evaluation revealed the following weaknesses as the cause of the technical and procedural inadequacies.

- Wrong personnel doing reviews (maintenance and engineering).
- Ineffective understanding of "what to review and verify."
- Not self-critical enough, "ok as is."
- Failure to validate technical information.
- Lack of management oversight and support.
- Insufficient information available or provided to the writer for procedure development.
- Lack of comprehensive review by the reviewer.
- Timeliness and/or priority of procedures out for review.
- Lack of timely procedure upgrades.
- Inadequate level of detail to support the least experienced user.
- Lack of vendor information.
- Ineffective or lack of notification when procedure inputs change.

To further evaluate procedural weaknesses and to determine if additional maintenance procedures needed to be placed on administrative hold, the licensee broadened the scope of review to include about 2000 open maintenance procedure change CRs using the same criteria established for condition report action (CRA) 02277047-11. An

additional 23 procedures were identified that warranted being placed on administrative hold.

Based on the results of the licensee's apparent cause evaluation and the results of the sample initially selected for review, the scope of the review was expanded to include all maintenance procedures. The licensee had concluded that the apparent cause for the condition of the maintenance procedures was an organizational and programmatic breakdown based on inadequate job skills, work practices, and decision making – a Nuclear Organization Programmatic Deficiency. This was supported by licensee findings that identified that there had been an acceptance of substandard information in procedures, a lack of justification for technical data, and a lack of engagement by maintenance supervision to ensure that procedure reviews utilized craft input. The corrective actions were to ensure that all procedures owned by maintenance would be reviewed against the standards established in CRA 02277047-11.

Performance Assurance (PA) staff performed an independent review of the procedures after the procedure team had completed their review and documented their recommendations in separate condition reports (PA-SR-03-0003, Degraded Cornerstone Extent of Condition Surveillance). The initial PA reviews identified numerous additional items. These PA findings were shared with the procedure review team in order to improve subsequent reviews. The inspectors noted that the number, type, and significance of additional PA findings decreased as the procedure team learned more and became more thorough in their reviews. In addition to a technical review, PA also performed a separate usability review on the procedures. A third independent review was completed on a sample of completed and released procedures as a final check, using an in-field walk down inspection technique. The results of the in-field walk down procedure reviews demonstrated that the quality of the procedures had been markedly improved.

The inspectors found the licensee's extent of condition review to be thorough and self-critical and the corrective actions identified should correct the condition of the maintenance procedures. The improvements were notable after incorporating performance assurance's findings as feedback. The PA independent review was thorough and intrusive and added value (as noted above). Corrective actions included nearly tripling the procedure review staff including dedicated maintenance personnel support. The licensee planned to incorporate the CRA 02277047-11 procedure review matrix into the required biennial review process for all procedures. The review group planned to review about 700 procedures in 2003 which was broken down into approximately 25 instrument procedures, 2 electrical procedures, and 8 mechanical procedures per week. The review was planned to continue through 2004 and was planned to complete in 2005. The inspectors considered this to be an aggressive schedule which will require constant attention to achieve; however, the corrective actions were well planned and supported and are achievable. The inspectors also noted that "Maintenance Procedures" was number 30 on the top 30 items on the station's Equipment Reliability (EQR) List. The licensee had a July 31, 2003, due date for having plans in place complete with due dates and measurement tools for all top 30 EQR items.

Extent of Condition Evaluation for Adequacy of Evaluation and Closure of Equipment-Related Issues

The licensee defined the scope and evaluation criteria to determine the extent of condition in this area. The extent of condition review was to identify any missed opportunities to correct significant equipment deficiencies. The review scope included a sampling of condition reports that were potentially inappropriately backlogged or closed with no action. A backlogged condition report (CR) was defined as a CR that was initiated prior to the restart of either D. C. Cook unit following the extended shutdown that occurred between 1997 and 2000 but evaluated after restart or a CR written after restart and not completed within 130 days. Two criteria were developed to determine if a CR was inappropriately backlogged. These criteria were:

- The documented condition caused or may cause a plant transient or other initiating event.

- The documented condition posed or may pose a challenge to timely and coordinated operational response to plant transients.

Two criteria were also developed to determine if a CR was inappropriately closed with no action. These criteria were:

- Condition reports closed an item to another process that failed to resolve the issue and could have allowed or led to the degradation of equipment that could have had an adverse impact on nuclear safety or reliable plant operation.

- Condition reports closed with no correction and without documented technically appropriate justification that could have allowed or led to the degradation of equipment that could have had an adverse impact on nuclear safety or reliable plant operation.

The licensee developed several different categories of CRs to review. These categories included CRs evaluated for maintenance rule functional failures prior to October 2001; backlogged category 4 CRs written between October 1997, and December 2000, for selected safety systems; backlogged CRs written between October 1997, and December 2000, for several important nonsafety-related systems; category 3 CRs closed to no action; and recently closed CRs. The majority of the CRs reviewed were category 4 CRs that were potentially backlogged. In all, the licensee reviewed 3161 CRs to determine if CRs that were inappropriately backlogged or closed to no action represented missed opportunities to correct significant equipment deficiencies.

The licensee's evaluation of the 3161 CRs concluded that 2 CRs were inappropriately backlogged and 10 CRs were inappropriately closed to no action. New CRs were written to address these inappropriate actions. As the overall number was very low, the conclusion of the extent of condition review was that there was no significant trend or programmatic breakdown. Performance Assurance (PA) completed a surveillance activity to independently review the extent of condition results and identified 2 additional instances of CRs that were inappropriately backlogged. Performance Assurance concluded that the extent of condition was adequately performed.

The inspectors reviewed the extent of condition assessment and concluded that the review was adequate and that the results were reasonable given the scope and criteria applied. The inspectors noted that the definition of a category 4 CR was a condition adverse to quality that has minimal impact on plant or personnel safety. Given this definition, it was not expected that many conditions meeting the criteria defined for the review would be identified in a population of mainly category 4 CRs. However, the purpose of the review was to find situations similar to what had been identified in the essential service water (ESW) silt intrusion root cause evaluation. That evaluation determined that several category 4 CRs were inappropriately backlogged or closed with no action. If these CRs had received additional evaluation and corrective action, the failed ESW strainer basket may have been discovered prior to the silt intrusion event in August 2001.

The inspectors reviewed the 12 CRs identified by the line organization and the 2 CRs identified by PA during the extent of condition review. The majority of the conditions affected nonsafety-related equipment. Several of the conditions had resulted in repeat issues that were currently being addressed or were recently addressed by the licensee. The inspectors concluded that none of the conditions identified affected the operability or availability of important plant equipment and that the likelihood of these issues causing a reactor transient was low. Overall, the issues identified were not significant.

Although the overall conclusion of the review did not identify any significant problems, the licensee generated a corrective action to enhance the guidance in the corrective action process to contain a category for equipment failure analysis that required some cause identification at the category 4 level. The intent of this action was to further ensure that equipment conditions and issues that appeared to be low-level were evaluated and corrected prior to becoming larger problems. The inspectors concluded that the licensee's proposed action would improve the evaluation and resolution of equipment-related issues that are determined to be category 4 CRs.

02.04 *Independent Review of Extent of Condition*

Extent of Condition Evaluation for Maintenance Procedure Adequacy

The inspectors performed an independent review of three maintenance procedures that had been completely through the licensee's review and/or revision procedure. The inspectors' review identified a number of items for the licensee to evaluate. However, all of the items were considered to be clarifications, human factors improvements, or enhancements. The inspectors did not find any technical errors during the independent review. The results were as follows:

1) 12-MHP-5021-019-003, Essential Service Water Strainer Maintenance, Revision 7b, Change 0. The inspectors found that the procedure had been revised six times since February 2003. An example of one of the inspectors' observations was that the procedure contained a potential to measure basket height without the basket top hat installed due to the wording and placement of a "Note." The licensee documented the inspectors' observations in CR 03171023.

2) 12-MHP-5021-032-018, Emergency Diesel Engine Fuel Injector Maintenance, Revision 6, Change 0. The most significant observation was changing the person verifying the absence of fuel leaks from a supervisor to a mechanic and not giving specific directions on how to find fuel leaks in an oily environment. The licensee documented the inspectors' observations in CR 03171016.

3) 12-MHP-5021-001-175, Pressurizer Power Operated Relief Valve and Actuator Maintenance, Revision 3, Change 1. The most significant observation was removing a thread locking compound and replacing it with a gasket sealant on an air operator shaft stuffing box. The licensee researched the procedure change and determined that the removal of the thread locking compound and addition of the gasket sealant were two separate and unrelated changes. However, the change documentation indicated that the two changes were related. The licensee documented the inspectors' observations in CR 03171019.

Extent of Condition Evaluation for Adequacy of Evaluation and Closure of Equipment-Related Issues

The inspectors reviewed 33 CRs to independently verify the conclusions of the licensee's extent of condition. Some of the CRs were included in the scope of the licensee's review and some were not. The inspectors did not identify any inappropriately backlogged or closed CRs that would clearly result in the plant effects used in the criteria established by the licensee. That is, none of the issues described in the CRs reviewed represented significant plant deficiencies.

Overall, after reviewing the licensee's results and sampling CRs to independently review, the inspectors concluded that the results of the licensee's evaluation were appropriate. The inspectors further noted that the extent of condition evaluation was not a review of corrective action implementation or effectiveness, nor was it a review of the current backlog of CRs. Therefore, the results do not reflect on current or past corrective action program implementation with respect to adequacy of corrective actions.

03 Disposition of Open Items

(Closed) Violation 50-316-02-02-04(DRP): "Failure to Take Prompt Corrective Action to Prevent Repetitive Failure of the Unit 2 Turbine Driven Auxiliary Feedwater Pump." The licensee completed an adequate evaluation of this finding individually and the degraded cornerstone. Appropriate corrective actions were taken. This violation is closed.

(Closed) Violation 50-315-01-17-01; 50-316-01-17-01(DRP): "Essential Service Water Strainer Maintenance Instructions Not Appropriate to the Circumstances." The licensee completed an adequate evaluation of this finding individually and the degraded cornerstone. Appropriate corrective actions were taken. This violation is closed.

(Closed) Licensee Event Report (LER) 50-316-01-03-00 (DRP): "Degraded ESW Flow." This LER describes the event that resulted in the White finding. This LER is closed.

(Closed) LER 50-316-01-03-01 (DRP): “Degraded ESW Flow Renders Both Unit 2 Emergency Diesel Generators Inoperable.” This LER was an update to the original LER that describes the ESW silt intrusion event which resulted in the White Finding. This LER is closed.

04 Management Meetings

Exit Meeting Summary

The inspection results were presented to Mr. J. Pollock and other members of licensee management at the conclusion of the inspection on June 20, 2003. The licensee acknowledged the findings presented. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

C. Coleman, System Engineering
P. Cowan, System Engineering Manager
R. Crane, Operations
M. Finissi, Plant Manager
J. Gebbie, Plant Engineering, Assistant Director
P. Gember, Work Control Manager
J. Giuffre, Maintenance Manager
B. Kovarik, Performance Assurance
D. Naughton, System Engineering
J. Pollock, Site Vice President
M. Scarpello, Regulatory Affairs
L. Weber, Performance Assurance Manager
D. White, Work Control

NRC

B. Kemker, Senior Resident Inspector
I. Netzel, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-316-02-02-04	VIO	Failure to Take Prompt Corrective Action to Prevent Repetitive Failure of the Unit 2 Turbine Driven Auxiliary Feedwater Pump.
50-315-01-17-01; 50-316-01-17-01	VIO	Essential Service Water Strainer Maintenance Instructions Not Appropriate to the Circumstances.
50-316-01-03-00	LER	Degraded ESW Flow.
50-316-01-03-01	LER	Degraded ESW Flow Renders Both Unit 2 Emergency Diesel Generators Inoperable.

Discussed

None

LIST OF DOCUMENTS REVIEWED

Condition Reports

P-99-10964	ESRR: It was determined that maintenance and testing procedures may not adequately address a potential hardware failure related to the assembly of the Main Steam Safety Valves
P-99-16033	Unit 2 ABDG experienced 100kW load changes during surveillance run
P-99-18214	ESRR: There is no program for the inspection of thermal sleeves
P-99-18537	ESRR: Generic issues associated with molded case circuit breakers have been identified by ESRR teams
P-99-20004	ESRR: Some thermal overload relay settings do not agree with the motor current data shown in the facility database
P-99-25930	Excessive top end prelubrication of 2AB EDG, 2-OME-150-AB
P-00-00118	The actuators on the Unit 1 and 2 west motor driven auxiliary feed pump PP-3W test valves are not capable of providing the required force to prevent leakage under normal system back pressure
P-00-06707	The inboard seal leakoff reservoir is plugged with Boric Acid
P-00-09021	Unit 2 west motor driven aux. Feed pump room temperature is not regulated by the room cooler 2-HV-AFP-WAC when the pump is running
P-00-11348	Repeated fouling/plugging up of NESW side of containment ventilation units
00280003	Deficiency discovered during performance of 2CD EDG run has been in existence and in the Work Control system for a year
02066022	HEA on 2-TR21MC tripped causing an auto transfer cross tying BMC to CMC. Additionally the ionization detector for the CMC transformer alarmed
00362028	Plant Process Computer, “Power Escalation Ramp Rate Monitor” appears to be calculating inaccurate ramp rates
00362051	U-1 CAC running with high amps
00364008	Control room humidity was observed to be at 22% and it lowered to 19% over the next 15 minutes
00365019	Unit 2 circulating water system temperature transient affecting main feed pump operation
01025067	Unit 2 East Control Air Dryer intermittently brings in Annunciator 222 Drop #19 when it shifts to the right tower in service
01027005	During main turbine normal startup the main turbine tripped
01030001	Water hammer event occurred while restoring blowdown on the normal flash tank following the performance of a thermal power calculation
01030014	2E MFPT control oil filter alarm was alarming since before startup
01032008	Water was found in the oil from the Unit 1 west motor driven aux feed pump outboard pump bearing
01075001	2-PP-26N north safety injection pump breaker abnormal alarm didn’t clear after clearance #2010417 was restored and control switch returned to the neutral position
01075005	Breaker 2-T21D5 failed to operate properly during 2-PP-26N run
01084014	Ann 221 Drop 89, RWST piping low temperature alarm is in with no apparent cause. It is suspected that ckt. 275 is alarming
01089066	Discovered various pieces of debris in the Unit 1 ice condenser
01095048	Seal oil vacuum pump caused fire

01101048	Unit 2 entry into 02-OHP-4022.002.020, Excessive Coolant Leakage abnormal procedure due to unidentified RCS leakage
01133019	Following normal shiftly source check a high radiation alarm was received on MRA-2702 loop 3 S/G PORV radiation monitor
01152028	Improper closure of initial CR and no corrective actions taken as a result
01157042	Thermal overload on 2-ABD-C-1D tripped
01162013	12-PP-42N (CVCS HUT Room North Sump Pump) tripped on thermal overload twice
01178025	RVLIS train B hydraulic isolator abnormal alarm received in Control Room
01210018	NESW flow to 2-HV-CIR appears to be blocked
01215006	1-PP-4 packing leak
01234036	Air leaks from the top of 2-ECR-28-ACT
01242007	The unit two CD emergency diesel jacket cooler 2-QT-131-CD tube side vent valve is plugged and could not be flushed out
01242010	The AB emergency diesel jacket water cooler QT-131-AB tube side vent valve is plugged and could not be flushed out
01243048	Unit 1 CRID four is not “in sync”
01246016	Approximately 215 gallons of in-leakage into the PRT occurred when swapping the RHR pumps over from the east train to the west train
01257072	When running STP-27 the output of the diesel generator was fluctuating
01258009	Attempted start of DG2CD failed when DG2CD Stop/Run control switch was taken to run
01260029	AB EDG is inoperable. The diesel failed the 5 minute restart based on generator output voltage not reaching 119 volts within 10 sec.
01296024	Evaluate pressure switches on Unit 2 main turbine system for appropriate calibration setpoint tolerances for “as-found” values
01359009	Inconsistent fastener arrangement on heim rod ends
02277047	Common Cause Investigation for Mitigating Systems Degraded Cornerstone
02334019	Alarm panel 221 drop 89 is standing due to circuit 275 temperature being low
03039006	Vacuum pump is running hot
03032022	Perform 50.59 review and final approval of On-The-Spot Change Sheet 9 of 12-IHP-6030-IMP-069, Revision 0.
03051126	Maintenance Procedure 12-MHP-5021-056-007, “TDAFP Trip and Throttle Valve Linkage Adjustment,” needs revised. Also there is a generic concern with the process for technically justifying changes to maintenance procedures.”
03057040	Screening committee request to generate a roll-up CR for Maintenance Procedure issues identified in the 95002 inspection.
03059025	The spare trip hooks for the TDAFP trip and throttle valves (1- and 2-QT-506) appear to have been dedicated to less-than-adequate critical characteristics.
03066055	Results from assessment of Maintenance Procedure, 12-MHP-5021-056-001, that is driven by Cat 1 CR 02277047-11 requires changes to procedure.
03075003	1-MRA-1701 went into high alarm after a routine source check
03086028	Extent of condition walkdown for CR 03075003 identified a non-conformance in the cabling for 2-MRA-2700
03091076	Enhancements for Maintenance Procedure 12-MHP-5021-019-004, “Essential Service Water Pump Maintenance,” were identified during reviews in accordance with CR 02277047, Degraded Cornerstone

03098017	Results of assessment of Maintenance Procedure 12-MHP-5021-001-029 that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, an enhancement was identified.
03098040	During review of 12-MHP-5021-019-003, Rev 5, for CRA 02277047-11, it was noted that the strainer basket gap at the cover to basket top could be set outside of the recommended tolerances of 0.125inch.
03099003	Results of assessment of Maintenance Procedure 12-MHP-5021-032-036 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written, work would have had to stop to get clarification on installing the seals.
03099004	Results of assessment of Maintenance Procedure 12-MHP-5021-032-020 that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, enhancements were identified.
03099019	Review of Procedure 12-MHP-5021-032-033, Emergency Diesel Engine Bendix Fuel Injection Pump Maintenance as required by CR 02277047-11." The procedure could not be performed as written.
03099025	Review of Procedure 12-MHP-5021-032-014, Emergency Diesel Engine Connecting Rod Bearing Inspection, as required by CR 02277047, Action 11." The procedure could not be performed as written.
03100016	Results of assessment of Maintenance Procedure 12-MHP-5021-056-008, Turbine Driven Auxiliary Feed Pump Governor Valve Maintenance, that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, enhancements were identified.
03100028	Results of assessment of Maintenance Procedure 12-MHP-5021-056-009 that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, enhancements were identified.
03101016	Results of assessment of Maintenance Procedure 12-MHP-5021-056-001 that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, enhancements were identified.
03106005	Appendix R procedure 12-IHP-5021-EMP-041, "Control Room Air Handling Unit Fan Temporary Power," was reviewed per CRA 02277047-11. As a result CR 03080051 was written; however, a subsequent review identified additional deficiencies.
03111004	Results of assessment of Maintenance Procedure 12-MHP-5021-001-070 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written.
03112061	Procedure 12-IHP-5021-EMP-012, "ITE 4kV Circuit Breaker Maintenance" was reviewed per CRA 02277047-11. As a result CR 03084040 was written; however, a subsequent review identified additional deficiencies.
03114044	Fish Intrusion Caused Dual Unit Shutdown
03114074	Results of assessment of Maintenance Procedure 12-MHP-5021-032-021 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written, since a basis document could not be found for the valve length tolerance.
03116019	Results of assessment of Maintenance Procedure 12-MHP-5021-019-003 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written.

03119051	Results of assessment of Maintenance Procedure 12-MHP-5021-056-011 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on Admin Hold until upgrades can be completed.
03119067	Results of assessment of Maintenance Procedure 12-MHP-5021-016-001 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on Admin Hold until upgrade can be completed.
03120010	Results of assessment of Maintenance Procedure 12-MHP-5021-003-005 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written.
03120018	Results of assessment of Maintenance Procedure 12-MHP-5021-001-175 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on hold until the procedure can be revised to be correct.
03120049	Results of assessment of Maintenance Procedure 12-MHP-5021-017-001 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on hold until the procedure can be revised to be correct.
03121009	Results of assessment of Maintenance Procedure 12-MHP-5021-008-001 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written.
03121018	Results of assessment of Maintenance Procedure 12-MHP-5021-001-175 that is driven by Cat1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on hold until the procedure can be revised to be correct.
03122094	Results of assessment of Maintenance Procedure 12-MHP-4030-031-001 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on hold until the procedure can be revised to be correct.
03129040	Review of procedure 12-MHP-5021-001-165, Diesel Generator Combustion Air ESW Inlet/Bypass Valve Maintenance as required by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written.
03132034	Results of assessment of Procedure 12-MHP-5021-056-011 that is driven by Cat 1 CR 02277047-11. Review determined procedure could not be performed as written. Procedure was placed on Admin Hold until upgrades can be accomplished.
03134035	Results of assessment of Maintenance Procedure 12-MHP-5021-032-025 that is driven by Cat 1 CR 02277047-11. Review determined procedure could be performed as written; however, enhancements were identified.
03135049	Review of Procedure 12-MHP-5021-032-034, Emergency Diesel Engine Cylinder Liner and Piston Removal, Inspection, and Installation procedure as required by Cat 1 CR 02277047-11, found the procedure could not be performed as written.
03150001	During performance of 2-MOD-35590-TP-1 C1 OTSC was written. This ESAT is written to track C1 OTSC for completion of review and approval.
03150043	CR and WR 01030014 were closed to each other and the appropriate troubleshooting was never performed for the random pressure spikes that brought in the alarm

03150061	CR 01243048 was inappropriately closed to no action required without adequate discussion to justify the need for no additional action
03151006	Sufficient corrective actions were not initiated as the result of Root Cause Report 02018064 t0 prevent reoccurrence.
03151011	Design Information Transmittal DIT-s-1037-00 may be inadequate to assure compliance in relation to key measurements that are not possible with the trip hook not installed. Also part number referenced is incorrect.
03151059	Independent review of 12-MHP-5021-016-001 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03151060	Independent review of 12-MHP-5021-019-002 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03151062	Independent review of 12-MHP-5021-019-003 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03151068	CRA-01027005-02 inappropriately backlogged and allowed to go ten months overdue
03150069	CR 00365019 did not adequately evaluate the condition described regarding main condenser and MFPT condenser temperature transient on 12/30/2002
03150035	CR 01296024 was inappropriately closed to no work performed
03152017	Independent review of 12-MHP-5021-032-029 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03152024	Independent review of 12-MHP-5021-056-008 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03152031	Independent review of 12-MHP-5021-019-004 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03154050	Independent review of 12-IHP-6030-RLY-001 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03154051	Independent review of 12-IHP-6030-RLY-002 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03154066	PA review of Procedure 12-MHP-5021-032-037, Rev 3, “Emergency Diesel Engine Woodward Governor Removal and Installation” identified procedure deficiencies.
03157023	Degraded fuse block not replaced in a timely manner
03157063	During the performance of 2-EHP-4030-216-248, an OTSC (Rev4, C1) was written. This is a tracking CR for OTSC closure.
03158015	Independent review of 12-MHP-5021-032-036 in response to Degraded Cornerstone Root Cause CRA 02277047-11 identified procedure deficiencies.
03162031	During the performance of 02-EHP-6040-PER-078, a OTSC (On The Spot Change) had to be written.
03162043	JO EVAL No. 03148066-01-EVAL 01, referenced a maximum ESW strainer lid torque value obtained during a phone conversation with the manufacturer without processing the torque value by an approved engineering process.
03170128	Supporting Documentation - Vendor instructions are not available for the packing box installation. Instructions are available for the o-ring kit installation; however, they do not include instructions for packing box installation.
03171016	NRC inspector comments on procedure 12-MHP-5021-032-018 during 95002 Degraded Cornerstone inspection.

03171019 During the 95002 inspection, the NRC inspector reviewed 12-MHP-5021-001-175, Revision 3, Change 1, “Pressurizer Power Operated Relief Valve and Actuator Maintenance,” and provided comments.

03171023 NRC inspector comments on procedure 12-MHP-5021-019-003 during Degraded Cornerstone inspection.

Procedures

IP 95002	Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Area, dated January 17, 2002
IP 42700	Plant Procedures, dated November 15, 1995
IP 62700	Maintenance Program Implementation, dated April 4, 2000
IMC 0612, Appendix C	Guidance for Supplemental Inspections, dated April 29, 2002
Regulatory Guide 1.33	Quality Assurance Requirements, Revision 2
PA-SR-03-0003	Degraded Cornerstone Extent of Condition Surveillance, Revision 0
PMP-2010-PRC-001	Procedure Writing, Revision 1c, Change 0
PMP-2010-PRC-002	Procedure Correction, Change, and Review, Revision 10a, Change 0
PMP-7030-CAP-001	Corrective Action Program Process Flow, Revision 15
12-IHP-6030-IMP-052	Pressurizer Power Operated Relief Valve (PORV) Air Regulator and Limit Switch Calibration and Maintenance, Revision 2, Change 0
12-IHP-6030-IMP-075	Emergency Diesel Generator Tuning and Adjustment, Revision 1, Change 0
12-MHP-4030-031-001	Inspection of Lower Containment and Recirculating Sumps, Revision 2, Change 0
12-MHP-5021-001-175	Pressurizer Power Operated Relief Valve and Actuator Maintenance, Revision 3, Change 0 and Change 1
12-MHP-5021-019-003	Essential Service Water Strainer Maintenance Revision 5, Change 1, dated February 24, 2003 Revision 6, Change 0, dated April 25, 2003 Revision 6, Change 1, dated April 28, 2003

Revision 6, Change 2, dated April 30, 2003
Revision 7, Change 0, dated May 7, 2003
Revision 7a, Change 0, dated May 9, 2003
Revision 7b, Change 0, dated May 18, 2003

12-MHP-5021-032-018	Emergency Diesel Engine Fuel Injector Maintenance, Revision 6, Change 0
12-MHP-5021-032-051	Nova Swiss Fuel Injector Line Maintenance, Revision 0, Change 0
12-MHP-5021-032-053	Emergency Diesel Engine Fuel Rack Maintenance, Revision 0, Change 0
12-MHP-5021-056-007	Turbine Driven Feed Pump and Throttle Valve Linkage Adjustment, Revision 4, Change 0

Miscellaneous Documents

PA-SR-03-0003	Surveillance Report: Degraded Cornerstone Extent of Condition Surveillance

DIT-S-01165-01 - Maintenance Procedure, 12-MHP-5021-056-007, “TDAFP Trip and Throttle Valve Linkage Adjustment,” requires engineering technical basis for the procedure Revision 3.

Equipment Reliability (EQR) Steering Committee Status Report of June 18, 2003

D. C. Cook Work Scheduling Process Indicators of June 18, 2003

EQR Steering Committee Top Issues, Top 30 Items List

Work Management - Maintenance Procedures Group Organization Chart, June 1, 2003

LIST OF ACRONYMS

CR	Condition Report
CRA	Condition Report Action
ESRR	Expanded System Readiness Review
ESW	Essential Service Water
NRC	Nuclear Regulatory Commission
PA	Performance Assurance