

April 24, 2000

Mr. Michael T. Coyle
Vice President
Clinton Power Station
AmerGen Energy Company, LLC
Mail Code V-275
P. O. Box 678
Clinton, IL 61727

SUBJECT: CLINTON POWER STATION OPERATIONAL SAFETY TEAM INSPECTION
REPORT 50-461/2000007(DRP)

Dear Mr. Coyle:

On March 10, 2000, the NRC completed an operational safety team inspection, which included a 48-hour continuous observation of control room activities, at the Clinton Power Station. The enclosed report presents the results of that inspection.

We determined that plant operators conducted their activities professionally with safety as their primary focus. Operators appropriately responded to annunciators, used effective communications techniques, and closely monitored reactivity changes. Improvements in the overall conduct of operations which were effected before the May 1999 plant restart from an extended outage have been sustained and the plant has operated well since restart.

Although the plant has been operated safely, some previously identified process weaknesses in the conduct of plant operations continued to exist. For example, operators were either unaware of or did not understand the effects of several suspect control room indications. Also, operators unexpectedly entered Technical Specification Limiting Conditions for Operation about twice per month during planned activities which indicated that your work control process was not fully effective. In addition, the effectiveness of newly implemented preventive maintenance activities was limited because plant equipment was not refurbished prior to conducting the preventive maintenance activities. Finally, engineers did not always document the information necessary to support the system operability conclusions reached during the conduct of operability evaluations.

Based on the results of this inspection, the NRC has determined that three violations of NRC requirements occurred. The first violation involved the failure of a non-licensed operator to conduct his duties during plant area rounds in accordance with procedural controls. The second violation involved the use of two unauthorized operator aids in the plant. The third violation pertained to the failure to provide sufficient information such that operability evaluations were stand-alone documents. These violations are being treated as Non-Cited Violations (NCVs), consistent with Section VII.B.1.a of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violations or the severity level of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document

Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Electronic Reading Room (PERR) link at the NRC homepage, namely ><http://www.nrc.gov/NRC/ADAMS/index.html>.

Sincerely,

Original signed by
Marc L. Dapas, Deputy Director

Marc L. Dapas, Deputy Director
Division of Reactor Projects

Docket No. 50-461
License No. NPF-62

Enclosure: Inspection Report 50-461/2000007(DRP)

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REGION III

Docket No: 50-461
License No: NPF-62

Report Nos: 50-461/2000007(DRP)

Licensee: AmerGen Energy Company

Facility: Clinton Power Station

Location: Route 54 West
Clinton, IL 61727

Dates: February 22 - March 10, 2000

Inspectors: Charles Phillips, Team Leader
Karla Stuedter, Assistant Team Leader
Troy Pruett, Senior Resident Inspector - River Bend
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Katherine Green-Bates, Regional Inspector
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Approved by: Thomas J. Kozak, Chief
Reactor Projects Branch 4
Division of Reactor Projects

EXECUTIVE SUMMARY

Clinton Power Station NRC Inspection Report 50-461/2000007(DRP)

This was an announced team inspection of approximately 3 weeks duration which included aspects of licensee operations, maintenance and engineering.

Operations

- Main control room operators appropriately responded to annunciators, used effective communication techniques during shift and relief turnovers and pre-evolution briefings, generated descriptive operator logs, closely monitored reactivity changes, and followed procedural controls during evolutions. However, operators were either unaware of or did not understand the effects of several suspect indications in the control room. A similar observation was made during the NRC restart inspection (Section O1.1).
- While plant operators generally understood and properly implemented the licensee's conduct of operations procedures, two examples were identified where operators did not resolve questionable procedural guidance and one example was identified where operators did not conduct an operability determination as required by station procedures. Neither of these issues were associated with safety-related components (Section O1.2).
- Operations management determined that a rate of one to two issues per month associated with the implementation of Technical Specifications (TSs) was acceptable. Therefore, with each unplanned, unexpected entry into a TS Limiting Condition for Operation (LCO), corrective actions were narrowly focused on the specific LCO occurrence rather than focused on resolving the broader issue of operators not being aware that certain activities would result in the existence of TS LCO entry conditions. Although no TS violations were identified, the existence of unplanned, unexpected TS LCOs increased the likelihood that TSs would be violated and was indicative of the need to improve the station's work control processes (Section O1.3).
- Operational and surveillance testing procedures reviewed were sufficiently detailed and provided the necessary information to ensure continued operability of the low pressure core spray, high pressure core spray, and residual heat removal systems. Although the comment control form and procedure revision backlogs primarily contained non-technical issues, the backlogs were relatively large and licensee efforts to reduce the backlogs have only been marginally effective (Section O3.1).
- Non-licensed operator performance was inconsistent. Several non-licensed operators were observed performing thorough plant tours and correctly performing valve and circuit breaker manipulations. However, there were several observations where non-licensed operators failed to perform their duties in accordance with procedural requirements. One Non-Cited Violation was identified (Section O4.1).
- Although the licensee conducted a second audit to review the operator aid program after NRC inspectors identified weaknesses in the original audit, the auditors failed to identify two unauthorized operator aids which were installed in the plant. One Non-Cited Violation was identified (Section O7.1).

Maintenance

- Material condition of plant equipment improved since startup based on a large reduction in the non-outage corrective maintenance item backlog and the lack of significant plant transients due to equipment failures. However, the inspectors identified vulnerabilities that had the potential to impact the effective conduct of maintenance. For example, there were several instances over the last 6 months where the work control supervisor did not identify the potential impacts of planned maintenance activities on plant equipment prior to approving the work activities. In addition, the completion of only 70 percent of scheduled work activities per week had the potential to invalidate the previously conducted risk assessment of on-line maintenance activities. Finally, main control room personnel were not informed that preventive maintenance activities were being conducted for the first time, which can potentially impact plant operations (Section M2.1).

Engineering

- Engineering personnel resolved plant safety issues in a timely and technically sound manner. No significant concerns were identified during reviews of temporary modifications, design changes, and safety evaluations. In contrast, several operability evaluation packages did not provide sufficient bases to support the conclusion that the associated equipment was operable. While the bases to support equipment operability decisions were eventually provided during discussions with engineers or reviews of condition report apparent cause evaluations, a Non-Cited Violation was identified for the failure to provide sufficient information such that operability evaluations were stand-alone documents (Section E2.1).
- Although the licensee implemented extensive actions to improve its preventive maintenance (PM) program, the inspectors identified several vulnerabilities in the new PM program. For example, although many pieces of equipment in the plant had little or no PM conducted since construction, no baseline inspections were documented and/or material condition improvements initiated for the equipment prior to initiating the newly recommended PM activities. Since the PM activities were based on maintaining essentially new equipment, the effectiveness of the PM activities was limited (Section E2.3).

Report Details

Summary of Plant Status

The plant remained at or near 100 percent power during the inspection period.

I. Operations

O1 Conduct of Operations

O1.1 Main Control Room Observations

a. Inspection Scope (93802)

The inspectors observed main control room and non-licensed operator activities for approximately 48 hours between February 22 and 24, 2000.

b. Observations and Findings

The inspectors observed operator communication techniques, annunciator responses, log keeping, shift turnovers, temporary relief turnovers, evolution briefings, reactivity changes, and procedure use. The following observations were made:

- Three-way Communications: The inspectors observed frequent and consistent use of three-way communications.
- Annunciator Response: The inspectors observed operations personnel acknowledge alarming annunciators, communicate the cause of the alarm to main control room personnel, and review and implement the applicable plant procedure.
- Log Keeping: The inspectors reviewed operator logs and determined that shift activities were adequately described in the station log.
- Shift and Relief Turnover: The inspectors observed shift and relief turnovers and determined that operations personnel appropriately communicated plant status information and the current status of ongoing activities.
- Pre-Evolution Briefings: The inspectors observed pre-evolution briefings in the main control room. The briefings included an overview of the evolution, lessons learned, and personnel assignments.
- Reactivity Changes: The inspectors observed that reactivity changes were communicated to main control room personnel and monitored by the control room supervisor.
- Procedures: The inspectors observed that procedures were in active use during the operation of plant systems and equipment.

The inspectors compared these results to the results of observations documented in NRC Inspection Report 50-461/99010 (Restart Inspection) and NRC Inspection Report 50-461/96011 (1996 Operational Safety Team Inspection). In general, improvement was identified in annunciator response, pre-evolution briefings, shift and relief turnover, control room supervisor oversight, and in the documentation of station logs. The inspectors concluded that operators' use of three-way communications, conduct of reactivity changes, and use of procedures was consistent with operator performance observed in these areas during the referenced inspections. In general, discrepant indications were identified and promptly entered into the corrective action program. Nevertheless, several exceptions to normal operational practices were noted:

- The moisture separator reheat blanket steam flow indicator 1B21-R878 was off-scale low. Operations personnel had not previously identified this condition.
- The main steam system bypass valve C85-J079B indication was off-scale low. Operations personnel had not previously identified this condition.
- The residual heat removal system heat exchanger "A" bypass valve F048A indication was off-scale low. Operations personnel had not previously identified this condition.
- The off-gas system high efficiency particulate air filter differential pressure indicator N66-R619 indicated 0 psid with flow through the system. Operations personnel had not previously identified this condition.
- The radiation monitoring sensor light for the system parameter display system indicated red. Operations personnel were able to explain that a disabled or inaccurate indication would result in a red sensor light. However, two of four reactor operators questioned did not know which radiation monitors were displaying inaccurate data.
- The inspectors noted that operators had annotated in the turnover log that Annunciator 5130-7F, "Off-gas System Recombiner Reheater Drain Pot High Level Annunciator," was lit reflecting a degraded equipment condition. However, the equipment deficiency causing the annunciator indication was corrected on July 6, 1999. Operations personnel mistakenly assumed that the annunciator window for annunciator 5130-8F, which was immediately below annunciator window 5130-7F, was lit due to the deficient condition associated with the drain pot high level annunciator. Following the inspectors' observation, the licensee removed the item from the turnover log.
- The colored flags on annunciators 5067-3L, "High High Level in the Drywell Equipment Floor Drain Sump," and 5011-3E, "DC [direct current] Failure 480 Volt Bus," signified that these annunciators were only partially disabled. However, the descriptions in the annunciator tracking list stated that the annunciators were out-of-service completely.

The licensee initiated action requests as necessary to address the discrepant conditions identified by the inspectors.

c. Conclusions

Main control room operators appropriately responded to annunciators, used effective communication techniques during shift and relief turnovers and pre-evolution briefings, generated descriptive operator logs, closely monitored reactivity changes, and followed procedural controls during evolutions. However, operators were either unaware of or did not understand the effects of several suspect indications in the control room. A similar observation was made during the NRC restart inspection.

O1.2 Review of Administrative Programs To Support Operations

a. Inspection Scope (93802)

The inspectors assessed the effectiveness of the licensee's administrative programs implemented in support of plant operations. This included a review of coordination plans, contingency plans, operator turnover notes, and the degraded equipment list.

b. Observations and Findings

Coordination and Contingency Plans

Coordination plans were used to outline strategies, coordinate work, and provide contingencies for use during the conduct of on-line maintenance or surveillance testing. They were not meant to provide system operating instructions. The inspectors determined that the reviewed plans generally contained information which supplemented existing procedural guidance. However, one issue was identified during the inspectors' review of coordination plans.

Coordination Plan 00-008, "Flow Control Valve [FCV] Position and Thermal Limits," contained guidance for reactor recirculation (RR) system FCV positions and for operating the plant within its thermal limits. The coordination plan stated that the enclosed guidance did not supercede the requirements in operating procedure CPS 3005.01, "Unit Power Changes," Revision 22. However, the inspectors determined that Coordination Plan 00-008 included specific actions to be taken for certain conditions that were not included in a plant procedure. Specifically, Coordination Plan 00-008 contained actions which should be taken when certain thermal limits were approached or when RR system FCVs were less than 45 percent open. The licensee determined that these actions did not need to be proceduralized and that the coordination plan was not needed. The coordination plan was subsequently canceled.

Review of Operator Turnover Notes

The inspectors reviewed 39 turnover note entries included as part of the operator turnover reports. The turnover reports generally contained sufficient information to adequately provide plant status to oncoming crews. However, one issue was identified during the inspectors' review of turnover reports.

On May 26, 1999, operations personnel entered a turnover note in a non-licensed operator turnover report which stated that switchyard tie circuit breaker 4522 had different design pressure requirements than the other switchyard circuit breakers. Due to the differences between circuit breakers, the note at the bottom of page 8 of

CPS 3800.02C005, "Switchyard and Transformer Log," Revision 13, specified that the circuit breaker design pressure of 232 psig did not apply to switchyard circuit breaker 4522. However, the licensee did not initiate a change to the procedure to include the correct design pressure for circuit breaker 4522 until prompted by the inspectors. A procedure revision was subsequently completed and approved on March 22, 2000. The equipment involved was not safety-related and therefore, this was not considered a violation of regulatory requirements.

Review of Degraded Equipment List

The inspectors reviewed nine degraded equipment list entries and identified one degraded equipment issue regarding the feedwater level control system. Channel B of the feedwater level control system caused reactor water level to vary 2 to 3 inches. The feedwater system master level demand varied between 59 and 64 percent and feedwater system pump suction pressure, flow rates, and speed varied unexpectedly.

Following this discovery, operations personnel switched the controlling feedwater level control system channel from channel B to channel A, which eliminated the impact of the degraded equipment on the rest of the plant. However, the inspectors determined that operations personnel periodically transferred feedwater level control to channel B while testing was conducted on channel A.

The inspectors questioned operations personnel to determine if an operability determination (OD) had been conducted for feedwater level control system channel B. Operations personnel stated that an OD was not required. The inspectors subsequently determined that the feedwater level control system was within the scope of the maintenance rule. After being provided this information, operations personnel completed an OD for feedwater level control system channel B. The inspectors reviewed the OD and did not identify any concerns. Although an OD was required by the licensee's procedure because the feedwater level control system was within the scope of the maintenance rule, the equipment involved was not safety-related and therefore, this was not considered a violation of regulatory requirements.

c. Conclusions

While plant operators generally understood and properly implemented the licensee's conduct of operations procedures, two examples were identified where operators did not resolve questionable procedural guidance and one example was identified where operators did not conduct an operability determination as required by station procedures. Neither of these issues were associated with safety-related components.

O1.3 Review of Operations-Related Condition Reports (CRs)

a. Inspection Scope (93802)

The inspectors reviewed 28 operations-related CRs which were initiated between August 1, 1999, and January 31, 2000, to identify if any adverse trends existed that were not recognized by the licensee.

b. Observations and Findings

The inspectors identified that between August 1999 and January 2000, there were at least six occasions where operators did not recognize that work activities or emergent conditions resulted in the existence of Technical Specification (TS) Limiting Conditions for Operation (LCOs). In each case, the TS LCO was entered some time after the condition existed. Also, in each case, the condition was resolved prior to the TS LCO allowed outage time being exceeded.

While all of these occurrences were entered into the licensee's corrective action program, the actions taken to prevent their recurrence were generally limited to correcting the specific issue associated with the unplanned, unexpected TS LCO entry. During the review of these occurrences for generic implications, licensee personnel identified that the average number of CRs initiated concerning TS compliance issues was two per month during 1999. The licensee concluded that two TS-related issues per month represented a small number of errors relative to the large number of TS entry decisions that were made each month. Therefore, no actions were taken to reduce or eliminate the generic issue of unplanned, unexpected TS LCO entries.

In response to the inspectors observations concerning the unplanned, unexpected entry into TS LCOs, the licensee initiated a Level 2A condition report. A root cause evaluation of this issue, which requires plant manager review and approval, is due by the end of April 2000.

c. Conclusions

Operations management determined that a rate of one to two issues per month associated with the implementation of TS was acceptable. Therefore, with each unplanned, unexpected entry into a TS Limiting Condition for Operation (LCO), corrective actions were narrowly focused on the specific LCO occurrence rather than focused on resolving the broader issue of operators not being aware that certain activities would result in the existence of TS LCO entry conditions. Although no TS violations were identified, the existence of unplanned, unexpected TS LCOs increased the likelihood that TSs would be violated and was indicative of the need to improve the station's work control processes.

03 Operations Procedures and Documentation

03.1 Review of Procedures

a. Inspection Scope (93802)

The inspectors reviewed a sample of normal operating and surveillance testing procedures associated with the low pressure core spray, high pressure core spray, and residual heat removal systems. The inspectors also reviewed the procedure revision and comment control form (CCF) backlogs for the ten most risk significant systems as defined by the licensee's Individual Plant Examination.

b. Observations and Findings

The inspectors determined that each procedure reviewed was sufficiently detailed and provided the necessary information to ensure continued operability of the low pressure core spray, high pressure core spray, and residual heat removal systems.

The inspectors determined that operations personnel were initiating CCFs to document procedural enhancements. Those items in the procedure revision backlog also appeared to be non-technical in nature. However, the CCF and procedure revision backlogs were estimated at 2300 and 231 items, respectively. Licensee personnel involved in processing procedure changes stated that the current work load impacted their ability to make substantive progress in reducing the backlogs and that they were addressing items in both backlogs when scheduling allowed. Licensee management was also monitoring the status of operations procedures to ensure that the large backlog did not discourage personnel from initiating necessary procedure changes.

c. Conclusions

Operational and surveillance testing procedures reviewed were sufficiently detailed and provided the necessary information to ensure continued operability of the low pressure core spray, high pressure core spray, and residual heat removal systems. Although the CCF and procedure revision backlogs primarily contained non-technical issues, the backlogs were relatively large and licensee efforts to reduce the backlogs have only been marginally effective.

04 Operator Knowledge and Performance

04.1 Non-licensed Operator Performance

a. Inspection Scope (93802)

The inspectors observed the activities of five non-licensed operators (NLOs) during the conduct of plant tours. The inspectors also reviewed operating and administrative procedures, control room narrative logs, the operator aid index, and operator turnover checklists.

b. Observations and Findings

In general, the NLOs understood their assigned duties, were cognizant of what equipment should be checked for proper operation during their assigned plant rounds, and knew what compensatory actions were required for degraded and out-of-service equipment. The NLOs routinely assessed equipment status by checking oil levels, circuit breaker positions, sump levels, damper positions, switch positions, motor temperatures, and lighting. The inspectors verified that discrepant conditions were entered into the licensee's corrective action program when appropriate. In addition, the NLOs practiced good housekeeping by wiping up oil, replacing oil pads when required, and picking up trash.

While the NLOs generally conducted thorough plant rounds, the inspectors identified several instances where an NLO did not identify suspect conditions or conduct adequate area tours.

- On February 22, 2000, the inspectors accompanied an NLO on a tour of the C area which included the control building, diesel generator building, auxiliary building, and containment. During the tour, the inspectors observed an unsecured ladder standing in the B residual heat removal (RHR) system heat exchanger room in close proximity to safety-related equipment. When the NLO did not identify the ladder as a housekeeping issue and did not correct the condition, the inspector questioned the operator about the ladder. The operator initiated actions to have the ladder removed. After the inspector discussed his observation with plant management, a condition report was initiated to address this issue.
- On February 23, 2000, the inspectors accompanied an NLO on a tour of the C area. The inspectors determined that the NLO did not: (1) check fire panels; (2) identify leaks; (3) visually inspect 480 volt switchgear; (4) check pumps for vibration, seal leakage, or obstructed air intakes; (5) verify sump pumps were properly operating; and (6) conduct general area housekeeping observations. The inspectors also determined that the individual was not aware of expected plant indications for several components. After the inspector discussed his observations with the licensee, the plant manager directed that a condition report be initiated to address these issues.
- The inspectors identified several material condition discrepancies during system walkdowns which had not been previously identified by operators during area rounds. The material discrepancies noted by the inspectors included a missing pipe cap; tape partially blocking a floor drain in the Division III emergency service water (SX) system pump room; a packing leak on the "C" SX strainer; an oil leak on the service water system valve 1SX014A actuator; two broken door fasteners on diesel generator ventilation unit 1VD01S; oil leakage from component cooling water system pumps A, B, and C; and an air leak on the tubing downstream of the air regulator for service water system valve 1SX027B. The licensee initiated action requests to address these issues.

Technical Specification 5.4.1.a requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, dated February 1978. Section 1 of Appendix A to RG 1.33, recommends administrative procedures be implemented for authorities and responsibilities for safe operation and shutdown. Procedure CPS 3800.02, "Area Operator Logs," Revision 0, is an administrative procedure used to implement authorities and responsibilities for safe operation and shutdown. Section 8.3 of CPS 3800.02, requires, in part, that operators verify that: (1) fire protection panel alarms and status lights are reset; (2) action is taken to correct leaks and initiate maintenance requests; (3) electrical switchgear has no visual odor or signs of overheating; (4) pumps have no signs of vibration, seal leakage, obstructed air intakes, or abnormal bearing temperature; (5) sump pumps are operating properly; and (6) general area checks include an observation of valves and components not locked, improper labels, housekeeping issues, and unacceptable lighting. The failure of an NLO to adequately conduct a plant area round on February 23, 2000, and verify plant conditions as required by CPS 3800.02 is a violation of TS 5.4.1.a. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy **(50-461/20000007-01DRP)**.

c. Conclusion

While most non-licensed operators conducted thorough plant tours and correctly conducted valve and circuit breaker manipulations, there were several observations where non-licensed operators failed to conduct their duties in accordance with procedural requirements. One Non-Cited Violation for the failure to follow procedures was identified.

O7 Quality Assurance in Operations

O7.1 Review of the Operator Aid Program

a. Inspection Scope (93802)

The inspectors reviewed the licensee's operator aid program including the corrective actions taken to address previously identified operator aid program deficiencies.

b. Observations and Findings

In NRC Inspection Report 50-461/98017, several weaknesses concerning the operator aid program were described. For example, several operator aids were identified to be in use without prior authorization, the operator aid log was not revised to reflect that a specific operator aid was no longer being used, and operator aids had not been replaced with permanent signs or procedure revisions in a timely manner.

In NRC Inspection Report 50-461/99015, additional weaknesses in the operator aid program were described which included inconsistencies between tracking databases for operator aids, not replacing operator aids with permanent signs or procedure revisions, and multiple uncontrolled operator aids throughout the plant. This issue was dispositioned as a Non-Cited Violation for the failure to follow TS-required procedures.

The licensee initiated CR 1-99-10-097 to document several permanent operator aid postings that were not included in the operator aid program. The licensee suspected that the permanent postings were installed during previously implemented field changes or field alterations. The licensee also initiated CR 1-99-10-106 to address the Non-Cited Violation documented in NRC Inspection Report 50-461/99015. During its apparent cause evaluation, the licensee identified several operator aid program weaknesses including inconsistencies between information in the operator aid log and the number of active operator aids, inconsistencies between checklists used to review operator aids in the field, a lack of emphasis on identifying unauthorized operator aids in the plant, and a lack of emphasis on replacing the total number of operator aids (approximately 210) with permanent signs or procedure revisions.

Corrective actions for these issues included: (1) revisions to CPS 1401.06, "Procedures and Operator Aids," to describe methods to make operator aids permanent, to address the expected duration of an operator aid, and to provide additional guidance on identifying unauthorized operator aids during the quarterly audit and on maintaining the operator aid log book; (2) development of an operator aid performance indicator; (3) communicating examples of unauthorized operator aids to operations personnel; and (4) conducting another quarterly operator aid audit with the expectation to identify all unauthorized operator aids.

The inspectors reviewed the results of the additional quarterly operator aid audit completed on November 17, 1999, and determined that guidance was provided to audit personnel on the different types of unauthorized operator aids. Although a second quarterly audit was conducted in an effort to identify all unauthorized operator aids in the plant, the inspectors identified the following two unauthorized operator aids which were not identified during the audit:

- A yellow and black label was affixed to circuit breaker cubicle 1SH1AA/AB, control panel 1PL71JG, which specified, "Caution, circuit breaker off to prevent overheating reactor protection system inverters." The licensee informed the inspectors that there were no deficiencies associated with the reactor protection system inverters when circuit breaker 1SH1AA/AB was energized and removed the aid.
- A label was affixed to process radiation monitors which specified, "Use only Silver Zeolite Cartridges." The licensee determined that the unauthorized label was most likely placed on the radiation monitors in the 1980s in response to personnel using incorrect filters and removed the labels.

The licensee stated that the operator aid program was one of the areas targeted for improvement in the Operations Department Strategic Plan. Specifically, the key performance area of "World Class Reliability" included a provision to upgrade plant labeling. The labeling project plan required that a review of all installed labels be conducted and that those that are no longer needed be removed. These actions were due by March 31 and May 31, 2000, respectively.

Technical Specification 5.4.1.a requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in RG 1.33, Revision 2, Appendix A, dated February 1978. Section 1 of Appendix A to RG 1.33 recommends administrative procedures be implemented for equipment control. Procedure 1401.06, "Procedures and Operator Aids," Revision 6A, is an administrative procedure used for equipment control. Section 2.2.7 of Procedure 1401.06 defines an operator aid as information which is used to assist personnel in the performance of their duties. Section 8.4.3 of Procedure 1401.06 states that requesters desiring to have operator aids posted shall submit the proposed information to the Director-Operations who shall review each proposed operator aid and then sign those approved for installation. On February 24, 2000, the inspectors identified a machined label on breaker cubicle 1SH1AA/AB control panel 1PL71JG, which was used to assist personnel in the performance of their duties by stating, "Caution, breaker off to prevent overheating reactor protection system inverters," and a machined label on a process radiation monitor which was used to assist personnel in the performance of their duties by directing personnel to "Use only Silver Zeolite Cartridges." These labels were installed on plant equipment but were not submitted to, reviewed, or signed by the Director-Operations prior to installation. The failure to obtain authorization prior to installing operator aids as required by CPS 1406.01 is a violation of TS 5.4.1.a. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (**50-461/2000007-02(DRP)**). This item was entered into the licensee's corrective action program as CR 2-00-02-180 and CR 2-00-02-167.

c. Conclusions

Although the licensee conducted a second audit to review the operator aid program after NRC inspectors identified weaknesses in the original audit, the auditors failed to identify two unauthorized operator aids which were installed in the plant. One Non-Cited Violation was identified.

II. Maintenance

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Maintenance Support of Plant Operations

a. Inspection Scope (93802)

The inspectors assessed the coordination of work activities between operations and maintenance personnel and the effectiveness of maintenance department support to plant operations. The inspectors reviewed maintenance program control processes and procedures, and interviewed operations, maintenance, and engineering personnel. The inspectors directly observed the conduct of planning activities and the material condition of plant equipment.

b. Observations and Findings

In general, the inspectors observed that the material condition of plant equipment has improved since plant restart from an extended outage in 1999 as demonstrated by a large reduction in the non-outage corrective maintenance item backlog and the lack of significant plant transients caused by failed equipment. The non-outage corrective maintenance item backlog of about 1200 which existed prior to restart, had been reduced to about 450 items at the time of the inspection. The inspectors verified that only 14 of the work activities were administratively closed. In addition, the inspectors walked down three plant systems and did not identify any significant material condition concerns.

While the maintenance item backlog had been significantly reduced since restart and plant material condition was generally good, the inspectors identified vulnerabilities that could potentially impact the effective conduct of maintenance during their review of the maintenance work control process. Issues were identified associated with the approval of maintenance work requests, schedule adherence, and first-time preventive maintenance activities.

Work Control Supervisor (WCS) Oversight of Maintenance Activities

The WCS is responsible for evaluating the impact of planned maintenance activities on plant operations. In addition, the WCS manages the risk associated with these activities. The WCS is the last barrier in the review process prior to work packages being approved for use. In at least nine instances since August 1999, weaknesses in the development and review of work packages led to an unexpected impact on plant equipment. While these occurrences did not result in a plant transient or shutdown, the unexpected conditions were a distraction to plant operators.

Although all of these occurrences were entered into the licensee's corrective action program, the actions taken to prevent their recurrence were generally limited to correcting the specific issue associated with the inadequate work packages. Operations management stated that no CRs had been initiated to document generic concerns with the work package development and review process. However, in Quality Assurance (QA) assessment report, "Conduct of Operations Watch Standing," approved February 25, 2000, QA personnel stated that the day shift WCS was overburdened with maintenance personnel providing work packages for approval to start work. This affected the thoroughness with which the WCS reviewed work packages. In response to this issue, operations department management initiated a work package pre-approval process, but it had not yet been fully implemented. No specific recommendations were developed or CRs initiated to document the concerns associated with the QA observation.

The inspectors determined that the operations department strategic plan included provisions to refine the operations work control process. Associated actions scheduled for completion during the years 2000 and 2001 included a benchmark of the work control process, development of an improvement plan, implementation of the plan, and a re-assessment of the process. No specific actions had been developed to assess the routine failures of WCSs to identify the potential impacts of planned maintenance activities on plant equipment prior to their approval.

Maintenance Schedule Adherence

Licensee management stated that their expectations are that all maintenance activities be completely planned, prepared, and scheduled 5 weeks prior to the start of work. Only emergent work was to be added to the schedule after the 5th week. The expectation to plan, prepare, and schedule all maintenance activities 5 weeks in advance was meant to support operations department review cycles and risk assessment. The risk assessment was conducted based on the scheduled work activities for a given week. On the average, only 70 percent of the work orders scheduled each week were actually completed in that week. This necessitated additional review by operations personnel to assure that the original risk assessment was valid once the work was rescheduled.

The failure to complete all scheduled work activities in a given week was attributed by licensee management to: (1) maintenance planning personnel not completing work packages on time; (2) maintenance personnel not walking down work packages prior to the start of work to assure that correct support was identified and available; (3) emergent work impact; and (4) a general lack of accountability to meet schedules.

Several work scheduling, planning, and execution improvement initiatives were recently implemented to improve maintenance effectiveness. Examples of these initiatives included the implementation of a more detailed maintenance activity completion trending program, the initiation of a centralized review center to improve the effectiveness of the maintenance review process, and staging documents, manuals and prints frequently used by maintenance planners in a location adjacent to the work planning area to enhance worker efficiency and work package preparation timeliness.

First Time Preventative Maintenance Activities

The inspectors identified that communications between maintenance and operations personnel were not effective in ensuring control room personnel were aware that certain preventive maintenance tasks were first time maintenance activities. Maintenance personnel stated that the term “shell only” was printed on a scheduled line item in the maintenance work week schedule to indicate it was a first time maintenance evolution. However, the inspectors questioned three senior reactor operators and three licensed operators who were unaware what the words “shell only” meant. When the inspectors informed maintenance management of this fact, the words in the weekly schedule were promptly changed from “shell only” to “first time maintenance activity” to more clearly describe this activity.

First time preventive maintenance activities have the potential to impact plant operations. For example, on February, 15, 2000, preventive maintenance on the 6.9 kilovolt bus 1B undervoltage and overcurrent protective relays was conducted for the first time. The requirements in the post-maintenance test procedure only required the isolation of one of two trip circuit subassemblies on auxiliary relay 527X1-51B. Had the bus undervoltage test switches been placed in the test position in accordance with the procedure, the B reactor recirculation system pump would have tripped which would have resulted in a plant transient.

This transient was prevented by a conscientious relay technician that was aware that this was the first time the test was to be performed. The relay technician reviewed the entire procedure along with the circuit drawing prior to commencing the test and identified the error. Although the licensee’s root cause investigation was not complete prior to the completion of the inspection, the relay technician did identify an error on drawing E02-AP99-037 which may have contributed to the procedure being incorrect. The inspectors verified a request for a drawing change was submitted.

Although the procedure was clearly inadequate as written, the equipment involved was not safety-related; therefore, this was not considered a violation of regulatory requirements.

c. Conclusions

Material condition of plant equipment improved since startup based on a large reduction in the non-outage corrective maintenance item backlog and the lack of significant plant transients due to equipment failures. However, the inspectors identified vulnerabilities that had the potential to impact the effective conduct of maintenance. For example, there were several instances over the last 6 months where the work control supervisor did not identify the potential impacts of planned maintenance activities on plant equipment prior to approving the work activities. In addition, the completion of only 70 percent of scheduled work activities per week had the potential to invalidate the previously conducted risk assessment of on-line maintenance activities. Finally, main control room personnel were not informed that preventive maintenance activities were being conducted for the first time, which can potentially impact plant operations.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Engineering Support to Operations

a. Inspection Scope (93802)

The inspectors reviewed a sample of recently issued engineering documents to determine if the engineering organization was effectively resolving plant safety issues in a timely and technically sound manner. The types of documents in the sample included temporary modifications, operability evaluations, and condition reports.

b. Observations and Findings

Temporary Modifications

Based on the licensee's records, at the time of the inspection there were 12 temporary modifications installed in the plant, ranging in age from approximately 6 months to 49 months. All of the installed temporary modifications had expected removal dates by the end of the year. There were also eight additional temporary modifications that had been planned, but had not yet been installed. The inspectors reviewed two temporary modification packages and did not identify any technical concerns. The associated safety evaluations demonstrated that the temporary modifications did not involve unreviewed safety questions or changes in the TS. In addition, the Facility Review Group, which was equivalent to an onsite review committee, reviewed the safety evaluations as required by licensee procedures.

During discussions with the NRC inspectors, nuclear training department (NTD) personnel stated that they had not been provided copies of all of the installed temporary modifications listed in the licensee's database. This did not comply with CPS 1014.03, "Temporary Modifications," Revision 18a, Section 8.1.2.6, which required temporary modifications installed for more than 30 days to be evaluated by the NTD for needed training. As a result of this discussion, NTD personnel initiated a CR to document that information pertaining to temporary modifications installed greater than 30 days had not been transmitted to the NTD as required by the procedure. After reviewing the list in detail, NTD personnel stated that no additional training was necessary for the installed temporary modifications.

Criterion V of Appendix B to 10 CFR Part 50, requires, in part, that activities affecting quality be prescribed by documented procedures and be accomplished in accordance with these procedures. The licensee's procedure CPS 1014.03, "Temporary Modifications," Revision 18a, is a procedure used for the control of temporary modifications, an activity affecting quality. The inspectors determined that the failure to transmit information for temporary modifications that were installed more than 30 days to the NTD as required by CPS 1014.03 was a violation of Criterion V of Appendix B to 10 CFR Part 50. This failure constitutes a violation of minor significance and is not subject to formal enforcement action.

Operability Determinations and Evaluations

The licensee conducts prompt operability determinations (ODs) when degraded conditions associated with plant systems are identified. A more detailed operability evaluation (OE) is required to be completed within 14 days of conducting the OD. The licensee's procedural requirements state that OEs must be stand-alone documents such that a reader can determine the bases for declaring a system operable by reading the OE. Based on the licensee's records, at the time of the inspection there were 10 active ODs with an additional 21 ODs that had been conducted and closed out since June 1999. The active status for an OD indicated that the system, structure or component (SSC) either required compensatory actions in order to be considered operable, or corrective actions to return it to its original configuration.

The inspectors reviewed two active and four inactive ODs for technical adequacy. Based on the information documented in four of the ODs, the inspectors were unable to conclude that the associated SSCs were operable. During subsequent discussions, licensee personnel provided sufficient additional information to support the OD conclusions. In several cases, it appeared that the OE, which required a more rigorous evaluation of the SSC than an OD, was completed prior to obtaining the technical bases demonstrating that the SSC was operable.

As an example, OE 2-00-01-048-OD, stated that the main control room ventilation system could remove adequate heat from the main control room with several backdraft dampers malfunctioning based on the observation that the main control room had been able to maintain appropriate temperatures for 7.5 hours during the time when the licensee investigated the damper malfunction. Although this justification may have indicated that the system was not inoperable and therefore, could be used for the short term OD, the inspectors did not consider it rigorous from a long term design basis perspective. Since the ambient temperatures and heat loads on the main control room were not at design basis conditions, the fact that the temperatures could be temporarily maintained did not demonstrate that the SSC could perform its design basis function. After questioning the technical adequacy of the OE, engineering personnel provided the inspectors with air flow data taken during investigation activities. This data, in conjunction with the system margins documented in the OE, sufficiently demonstrated that the system was operable. However, the data was not contained nor referenced in the OD package and had not been provided to the engineer doing the OE.

As another example, OE 1-99-08-035-OD concluded that an instrument for monitoring unidentified drywell leakage was operable after indicating spurious flow rates on several occasions. The conclusion in the OE was based on the observation that the anomalies apparently only occurred during drywell equalizing evolutions. However, it was documented in the OD that, when this anomaly had previously occurred in 1998, it was resolved through equipment replacement and that continued degradation of the system was expected. The weakness of the OE was demonstrated several days after it was issued when the instrument gave more frequent and random flow rates. The licensee subsequently declared the instrument inoperable and eventually discovered that condensation in the instrument sensing lines had affected the readings. When asked for an explanation by the inspectors, the system manager acknowledged that the 14-day expectation to finalize the OE may have adversely influenced the quality of his evaluation. The inspectors did not consider the immediate OD as inadequate since the spurious indications appeared explainable. However, for the more rigorous, long term

OE, the inspectors considered the basis to be inadequate, since it was based strictly on judgment given that the cause of the anomalies was not known.

Criterion V of Appendix B to 10 CFR Part 50, requires, in part, that activities affecting quality be prescribed by documented procedures and be accomplished in accordance with these procedures. The licensee's controlling procedure CPS 1014.06, "Operability Determination," Revision 4, is used for system operability determinations and evaluations, activities affecting quality. Procedure CPS 1014.06, Section 2.1.4, states, in part, that the operability determination with the associated operability evaluation is a stand alone documentation package without dependence on any open items to determine operability. Contrary to the above, operability determinations 2-00-01-048-OD and 1-99-08-035-OD were not conducted in accordance with CPS 1014.06, in that they were not stand alone documents and depended on additional information that was not provided in the package to determine operability. This Severity Level IV violation is being treated as a Non-Cited Violation **(50-461/2000007-03(DRP))**, consistent with Section VIII.B.1.a of the NRC Enforcement Policy. This item was entered into the licensee's corrective action program as CR 2-00-03-141.

Condition Reports

While reviewing the operability evaluation for the degraded equipment condition described in CR-2-00-01-048, the inspectors noted that the generic implications section of the condition report did not consider whether the identified apparent cause applied to all other backdraft dampers. The licensee attributed the apparent cause to the fact that the failed dampers had not received any preventative maintenance since original installation, and that a newly implemented preventive maintenance activity did not adequately correct for this long term degradation. This apparent cause applied to all other backdraft dampers. However, the generic implications section presumed that only comparable horizontally mounted backdraft dampers needed to be considered. In addition, it only discussed nonsafety-related systems and did not address the backdraft dampers in diesel generator building ventilation or switchgear heat removal ventilation systems. After the inspectors informed licensee management of this observation, engineering personnel initiated CR-2-00-03-044 to document the narrow scope of the proposed corrective actions for this condition. The inspectors did not identify any additional problems during reviews of other condition reports and considered this situation an isolated occurrence.

c. Conclusions

Engineering personnel resolved plant safety issues in a timely and technically sound manner. No significant concerns were identified during reviews of temporary modifications, design changes, and safety evaluations. In contrast, several operability evaluation packages did not provide sufficient bases to support the conclusion that the associated equipment was operable. While the bases to support equipment operability decisions were eventually provided during discussions with engineers or reviews of condition report apparent cause evaluations, a Non-Cited Violation was identified for the failure to provide sufficient information such that operability evaluations were stand-alone documents.

E2.2 Review of Preventive Maintenance Deferral Requests

a. Inspection Scope (93802)

The inspectors reviewed eight preventive maintenance deferral requests (PMDRs) for technical adequacy.

b. Observations and Findings

The inspectors determined that PMDRs generally contained adequate engineering justification which supported deferring the preventive maintenance (PM) activity. However, one exception to this normal practice was identified. On October 1, 1999, maintenance personnel initiated PMDR 99-0627 to defer lubricating the Division II emergency diesel generator bearings from October 11, 1999, to November 30, 1999. The inspectors reviewed the engineering justification provided with PMDR 99-0627 and considered it acceptable.

During a subsequent review of completed PMs, the inspectors questioned maintenance personnel to determine if this activity was completed by November 30, 1999. The inspectors were informed that this PM activity was not completed due to the approval of PM evaluation request (PMER) 99-11854 which changed the PM frequency from 12 months to 36 months. As a result, the late date for the PM activity was revised from November 30, 1999, to July 13, 2001.

The inspectors reviewed the engineering justification provided with PMER 99-11854 and considered it to be inadequate. No information or operating data was provided to support changing the PM frequency even though CPS 1034.01, "Preventive Maintenance Program," required this information. Through further review and discussion with the licensee, the inspectors concluded that the licensee's periodicity change was valid based on the actual run time of the diesel generator. The inspectors also determined that PMER 99-11854 was not approved until December 3, 1999, 3 days after the PM activity was required to be completed.

Technical Specification 5.4.1.a requires that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, dated February 1978. Section 9 of Appendix A to RG 1.33, recommends procedures for performing maintenance be developed and implemented. The licensee's procedure CPS 1034.01, "Preventive Maintenance Program," is a procedure used for performing maintenance. Step 8.3.1.3 of CPS 1034.01 states, in part, that if an equipment qualification, safety-related, or maintenance rule PM on permanent plant equipment is not performed, or is deferred prior to the late date, then a condition report shall be initiated. In addition, a PMDR shall be processed to have the Nuclear Station Engineering Department evaluate effects on equipment reliability. The failure to initiate a condition report and process a second PMDR to defer lubricating the Division II emergency diesel generator bearings prior to the expiration of the original PMDR was a violation of TS 5.4.1. This failure constitutes a violation of minor significance and is not subject to formal enforcement action. This violation is in the licensee's corrective action program as CR 2-00-03-038.

c. Conclusions

In general, the licensee adequately evaluated and controlled preventive maintenance deferral requests.

E2.3 Engineering Support of the Preventative Maintenance Program

c. Inspection Scope (93802)

The inspectors assessed the adequacy and implementation of PM activities for several safety-related systems. The inspectors reviewed machinery history records, associated maintenance work packages, repetitive maintenance issues, and maintenance department compliance with the licensee's PM requirements for specific equipment.

b. Observations and Findings

The licensee developed and implemented a Preventative Maintenance Improvement Project (PMIP) in order to initiate an adequate material management program for plant equipment. Independent technical experts were contracted to conduct engineering reviews of plant components, and, based on their experience and expertise, to provide preventative maintenance guidance and recommendations for plant components. System managers were tasked to evaluate the recommended PM activities and determine which activities would be implemented. A justification was required for those recommendations which were not implemented.

During the review of the PM program in place for control room ventilation dampers, the inspectors identified several vulnerabilities in the licensee's PMIP. These included:

- Periodicity

The dampers had not had any preventative maintenance conducted on them since original installation. In over 10 years of use, some amount of dirt, grime, and corrosion debris had collected which was not taken into account during the initial PM periodicity assignment. The frequency of the assigned 3-year PM was based on the vendor manual's PM recommendation for a newly installed damper.

- Inspection Scope

The damper vendor manual included a 1997 letter and insert which stated that under certain conditions (moisture) the zinc plating on the damper shafts will corrode and the shafts will be difficult to turn. The dampers were in an environment where moisture was expected. However, the PM activity did not require the shaft to be inspected for corrosion. The bearing/shaft interface where corrosion was expected could not be seen by maintenance workers conducting the scheduled PM activity.

- First-Time PM Activity Baseline Inspection

A baseline inspection of the parts that were required for the dampers to perform their safety function was not conducted for the control room dampers to determine whether the equipment required reconditioning or refurbishment prior to the stated 3-year PM implementation

- Lubrication Justification

Oil could degrade or fail in the environment experienced by the dampers. Therefore, the recommended PM activity for the dampers included a provision to periodically clean the lubricated area. Because this area was difficult to access, the technical advisor stated that the bearing should not be lubricated. The licensee's engineering staff did not address the concern, modify the PM for periodic cleaning of the lubrication area, or initiate a CR to technically resolve the lubrication discrepancy.

The inspectors observed an example where the failure to address these issues resulted in a maintenance preventable component failure. In February of 1999, the new backdraft damper PM activity was conducted for control room dampers 0VC024 and 0VC025 and the damper bearing shaft was lubricated. A first time baseline inspection was not conducted. Within 10 months, the licensee discovered that the dampers could not perform their safety function and the associated ventilation train had to be taken out-of-service for repair. One of the causes for failure was an advanced state of corrosion at the damper shaft bearing interface similar to the condition described in the vendor manual. That fact that the corrosion had existed when the PM activity was conducted was evident, and it was clear that maintenance personnel could not see this area of the damper without some damper disassembly, an activity that would have been conducted as part of a baseline inspection.

Even after the control room ventilation back draft damper failure, a baseline inspection was not initiated for the other first time damper PMs, and the PM periodicity based on the vendors recommendation for newly installed equipment was not re-evaluated by the engineering staff. The licensee issued CR 2-00-03-063 to address damper issues.

c. Conclusions

Although the licensee implemented extensive actions to improve its preventive maintenance (PM) program, the inspectors identified several vulnerabilities in the new PM program. For example, although many pieces of equipment in the plant had little or no PM conducted since construction, no baseline inspections were documented and/or material condition improvements initiated for the equipment prior to initiating the newly recommended PM activities. Since the PM activities were based on maintaining essentially new equipment, the effectiveness of the PM activities was limited.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on March 10, 2000. 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

- *M. Coyle, Site Vice President - Clinton Power Station
- *P. Hinnenkamp, Plant Manager - Clinton Power Station
- *R. Frantz, Licensing Representative
- *P. Walsh, Manager - Engineering
- W. Carsky, Project Manager
- *M. Reandeu, Director - Licensing
- *R. Schenck, Manager - Maintenance
- *V. Cwietniewicz, Director - Nuclear Training
- *G. Baker, Manager - Nuclear Support Services
- *E. Wrigley, Manager - Quality Assurance
- *J. Goldman, Project Manager - Passport
- *K. Gallogly, Director - Experience Assessment
- *W. Maguire, Director - Operations
- *M. Stickney, Licensing, Supervisor - Regional Regulatory Interface

INSPECTION PROCEDURES USED

IP93802: Operational Safety Team Inspection

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-461/20000007-01	NCV	Failure to follow procedures
50-461/20000007-02	NCV	Failure to follow procedures
50-461/20000007-03	NCV	Failure to follow procedures

Closed

50-461/20000007-01	NCV	Failure to follow procedures
50-461/20000007-02	NCV	Failure to follow procedures
50-461/20000007-03	NCV	Failure to follow procedures

Discussed

None

LIST OF ACRONYMS

AR	Action Request
CCF	Comment Control Form
CPS	Clinton Power Station
CR	Condition Report
DC	Direct Current
EDG	Emergency Diesel Generator
FCV	Flow Control Valve
LCO	Limiting Condition for Operation
LPRM	Local Power Range Monitor
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NTD	Nuclear Training Department
OD	Operability Determination
OE	Operability Evaluation
PM	Preventive Maintenance
PMDR	Preventive Maintenance Deferral Request
PMER	Preventive Maintenance Evaluation Request
QA	Quality Assurance
RCIC	Reactor Core Isolation Cooling
RG	Regulatory Guide
RHR	Residual Heat Removal
RR	Reactor Recirculation
SSC	System, Structure of Component
SX	Shutdown Service Water
VC	Control Room Ventilation
WCS	Work Coordination Supervisor

PARTIAL LIST OF DOCUMENTS REVIEWED

Procedures

CPS 1003.01, "CPS Hardware Change Program," Revision 23a
CPS 1014.06, "Operability Determination," Revision 4
CPS 1014.03, "Temporary Modifications," Revision 18a
CPS 1016.01, "CPS Condition Reports," Revision 33
CPS 1019.05, "Control of Transient Equipment/Materials," Revision 6a
CPS 1029.01, "Action Request Process," Revision 37
CPS 1034.01, "Preventative Maintenance," Revision 25a
CPS 1151.11, "Scope Control," Revision 0a
CPS 1401.02, "Operations Department Organization, Duties, and Responsibilities,"
Revision 6a;
CPS 1401.04, "Shift Turnover and Relief," Revision 6a
CPS 1401.05, "Operator Logs and Records," Revision 7a
CPS 1401.07, "Communicating Information," Revision 1
CPS 1401.09, "Control of System and Equipment Status," Revision 2b
CPS 1401.11, "Planning and Control of Evolutions," Revision 11
CPS 1501.02, "Maintenance & Work Order Execution," Revision 20a
CPS 3103.01V002, "Valve Line-up Instrument Valves," Revision 9
CPS 4200.01C002, "DC Load Shedding During a SBO [station blackout]," Revision 3
CPS 4411.10, "Standby Liquid Control Operations," Revision 3
CPS 5005.03, "Alarm Panel 5005 Annunciators," Revision 28
CPS Individual Plant Examination

Condition Reports

CR 1-98-10-123
CR 1-99-11-019
CR 2-00-01-048

Operability Determinations

1-99-06-058-OD, Revision 0
1-99-08-035-OD, Revision 0
1-99-11-153-OD, Revision 0
1-99-12-014-OD, Revision 0
2-00-01-011-OD, Revision 0
2-00-01-048-OD, Revision 2

Preventive Maintenance Deferral Requests

99-0627-0, Lubricate Division II Emergency Diesel Generator (EDG) Bearings
99-0817-0, Replace NAMCO Limit Switch on Pressure Equalizer Valve
99-0829-0, Replace NAMCO Limit Switch on Recirculation Control Valve
99-0835-0, Lubricate Reactor Vessel Head Ventilation Valve
99-1009-0, Inspect Magnuflux Swivels
99-1111-1, Collect Division III EDG Oil Sample for Analysis
00-0010-0, Calibrate Nuclear System Protection System Bus Meter
00-0015-0, Calibrate Reactor Protection System Bus Meter

Engineering Change Notices

ECN 31246, March 31, 1999
ECN 31247, March 26, 1999
ECN 31252, April 20, 1999
ECN 31253, April 20, 1999.
ECN 31321, December 12, 1999
ECN 31485, March 10, 1999.
ECN 31551, March 26, 1999.
ECN 31614, April 13, 1999.
ECN 31709, June 28, 1999.
ECN 31737, July 28, 1999.
ECN 31767, September 30, 1999.
ECN 29166, January 11, 1996
ECN 30739, September 19, 1998
ECN 31254, February 8, 1999
ECN 31263, February 21, 1999
FW-034, June 9, 1999
M-083, September 22, 1999
NB-033, May 6, 1999
Temporary Modification 99-060
Temporary Modification 99-073