July 27, 2001

Mr. M. Reddemann
Site Vice President
Kewaunee and Point Beach Nuclear Plants
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: KEWAUNEE NUCLEAR POWER PLANT
NRC INSPECTION REPORT 50-305/01-09

Dear Mr. Reddemann:

On June 30, 2001, the NRC completed an inspection at your Kewaunee Nuclear Power Plant. The enclosed report documents the inspection results which were discussed on July 2, 2001, with Mr. T. Taylor and other members of your staff.

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

Based on the results of this inspection, the inspectors identified one No Color issue and one issue of very low safety significance (Green), which was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Kewaunee facility.

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

Sincerely,

Original signed by
Roger D. Lanksbury

Roger D. Lanksbury, Chief
Project Branch 5
Division of Reactor Projects

Docket No. 50-305
License No. DPR-43

Enclosure: Inspection Report 50-305/01-09

cc w/encl: K. Hoops, Manager, Kewaunee Plant
D. Graham, Director, Bureau of Field Operations
Chairman, Wisconsin Public Service Commission
State Liaison Officer

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-305
License No:	DPR-43
Report No:	50-305/01-09
Licensee:	Nuclear Management Company, LLC
Facility:	Kewaunee Nuclear Power Plant
Location:	N 490 Highway 42 Kewaunee, WI 54216
Dates:	May 11 through June 30, 2001
Inspectors:	J. Lara, Senior Resident Inspector Z. Dunham, Acting Senior Resident Inspector B. Bartlett, D.C. Cook Senior Resident Inspector K. Coyne, D.C. Cook Resident Inspector J. Maynen, D.C. Cook Resident Inspector D. Nelson, Radiation Specialist D. Schrum, Reactor Engineer
Approved By:	Roger D. Lanksbury, Chief Project Branch 5 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000305-01-09, on 05/11-06/30/2001, Nuclear Management Company, LLC, Kewaunee Nuclear Power Plant. Maintenance rule implementation, post-maintenance testing.

The inspection was conducted by resident inspectors and regional inspectors. The inspection identified one No Color finding and one Green finding, which was a Non-Cited Violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector-Identified Findings

- No Color. The inspectors identified a failure to evaluate whether adjustments were necessary such that there would be an appropriate balance between systems' availability and reliability in accordance with 10 CFR 50.65(a)(3) of the maintenance rule. The inspectors identified that the licensee did not have an administrative process to track maintenance rule functional failures and maintenance preventible functional failures. As a result, reliability and availability could not be balanced as required by the Maintenance Rule periodic evaluation.

  The safety significance of the specific finding was very low because it did not affect the operability of the systems, and the licensee entered the finding in the corrective action program. However, this finding was considered to be of regulatory concern in the area of maintenance rule implementation due to the extent of the problems with the Maintenance Rule Program. (Section 1R12)

- Green. The inspectors identified that the licensee failed to promptly identify and correct the 'B' train auxiliary feedwater pump discharge check valve which was stuck in an intermediate position. A Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was issued.

  The finding was of very low safety significance because, although the check valve was stuck in an intermediate position, the time that it was known to have been stuck was less than the technical specification allowed outage time for one train of auxiliary feedwater to be out of service (less than 72 hours). Additionally, the other two trains of auxiliary feedwater were each capable of 100 percent decay heat removal. (Section 1R19)

B. Licensee-Identified Findings

Violations of very low significance which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. These violations are listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status

The plant was operated at approximately 96 percent power for most of the period except for a brief reduction in power to facilitate quarterly scheduled main trubine stop and control valve testing. Additionally, on June 20 an automatic reactor trip occurred. On June 21, operators restarted the unit and synchronized to the grid.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

On June 21, 2001, the licensee repaired a leaking check valve on the discharge of the 'B' train auxiliary feedwater (AFW) pump. Following the repair of the check valve, the licensee tested both motor-driven trains and the turbine-driven train of AFW. On June 25, 2001, the inspectors walked down portions of the AFW system, and reviewed normal operating procedures and system flow diagrams to verify that the system was returned to the proper alignment following the testing. The AFW system was selected because the leaking check valve and subsequent testing resulted in an increased risk for this mitigating system.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Fire Zone Inspections

a. Inspection Scope

The inspectors walked down the following areas to assess the overall readiness of fire protection equipment and barriers:

- 1A and 1B Battery Room - May 27, 2001
- Turbine Building Mezzanine - May 11, 2001
- Condensate Storage Tank Room and Maintenance Work Areas - May 11, 2001
- Emergency Diesel Generator 1A and 1B Fuel Oil Day Tank Rooms - May 26, 2001

Emphasis was placed on the control of transient combustibles and ignition sources, the material condition of fire protection equipment, and the material condition and operational status of fire barriers used to mitigate fire damage or propagation. Additionally, fire hoses, sprinklers, portable fire extinguishers, and fire detection devices were inspected to verify that they were installed at their designated locations, were in satisfactory physical condition, and were unobstructed. Passive features such as fire doors, fire dampers, and fire zone penetration seals were also inspected to verify that they were in satisfactory condition and capable of providing an adequate fire barrier.

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Inspection

a. Inspection Scope

On May 23, 2001, the inspectors observed an unannounced fire drill at the facility to evaluate the readiness of the fire brigade to prevent and fight fires. The drill simulated a fire located at the turbine oil reservoir. The inspectors observed the following activities to verify that the fire brigade was capable of adequately fighting fires:

- Donning of protective clothing and turnout gear
- Operation of self-contained breather apparatus
- Deployment and simulated pressurization of fire hoses
- Application of portable fire extinguishers
- Communication between the fire brigade leader and fire brigade team members
- Implementation of fire fighting strategies

The inspectors also attended the licensee's post-drill critique to evaluate the adequacy of the drill observers' comments and observations.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of internal flooding for the 1B Emergency Diesel Generator Room, Component Cooling Pump 1B Room, and the Residual Heat Removal 1A and 1B Pump Pits. Additionally, the inspectors reviewed the licensee's external flood analysis on the screen house which housed the facility's safety-related service water pumps. The inspectors performed walkdowns and design reviews to verify the adequacy of the licensee's flooding analysis. Flooding analysis attributes which were reviewed included:

- Potential flooding sources
- Material condition and assumed clearances of doors credited as flood barriers
- Material condition of drain systems and sump pumps
- Potential unidentified, unsealed penetrations between flood areas
- Credit for operator actions to isolate flooding
- Preventative maintenance activities and instrument calibrations of sump pump and level alarm circuits

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the Maintenance Rule, 10 CFR 50.65, for the systems listed below. The inspectors reviewed recent maintenance rule evaluations to assess: (1) scoping in accordance with 10 CFR 50.65; (2) characterization of system, structure, and component (SSC) failures; (3) SSC safety significance classification; (4) 10 CFR 50.65(a)(1) or (a)(2) classification for the SSCs; and (5) performance criteria for SSCs classified as (a)(2) or goals and corrective actions for SSCs classified as (a)(1). The inspectors also interviewed licensee staff and evaluated the licensee's monitoring and trending of performance data.

Specific systems evaluated were:

- Service Water (System 02)
- 4160-Volt Electrical Supply and Distribution (System 39)
- Station and Instrument Air (System 01)

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation

a. Inspection Scope

The objective of the inspection was to:

- Verify that the periodic evaluation was completed within the time restraints defined in 10 CFR 50.65, the maintenance rule (once per refueling cycle, not to exceed two years), ensuring that the licensee reviewed its goals, monitoring, preventive maintenance activities, industry operating experience, and made appropriate adjustments as a result of that review;

- Verify that the licensee balanced reliability and unavailability during the previous refueling cycle, including a review of safety significant SSCs;

- Verify that (a)(1) goals were met, corrective action was appropriate to correct the defective condition, including the use of industry operating experience, and (a)(1) activities and related goals were adjusted as needed; and

- Verify that the licensee has established (a)(2) performance criteria, examined any SSCs that failed to meet their performance criteria, or reviewed any SSCs that have suffered repeated maintenance preventable functional failures including a verification that failed SSCs were considered for (a)(1).

The inspectors examined the periodic evaluation report for February 1, 1999, to January 1, 2001. To evaluate the effectiveness of (a)(1) and (a)(2) activities, the inspectors examined a number of corrective action program (Kewaunee Assessment Process) problem reports (KAPs) and work orders (WOs). In addition, the KAPs were reviewed to verify that the threshold for identification of problems was at an appropriate level and the associated corrective actions were appropriate.

b. Findings

The inspectors identified that the licensee did not have an administrative process to account for and track maintenance rule functional failures and maintenance preventable functional failures. Specifically, the licensee failed to monitor the functional failures/reliability of approximately 50 Maintenance Rule systems.

10 CFR 50.65(a)(3) requires that adjustments be made where necessary to ensure that the objective of preventing failures of SSCs through maintenance is appropriately balanced against the objective of minimizing unavailability of SSCs due to monitoring or preventive maintenance. When an unbalanced condition is identified, then adjustments need to be made to re-establish this balance. Since 1999, there could not be a comparison of availability and reliability because there was no data base to make that comparison. The licensee had recently added additional unavailability time to the performance criteria of 15 systems even though there appeared to be a low failure rate for the equipment. The licensee stated that the current unavailability was too restrictive and this was a method to get many of these systems out of (a)(1). These actions by the licensee were the opposite as expected by balancing of unavailability and reliability as required by the Maintenance Rule. As a result of not performing the requirements of (a)(3), the inspectors concluded that the licensee could not demonstrate that the performance of those SSCs in the Maintenance Rule had been effectively controlled through the performance of appropriate preventive maintenance.

This issue was not screened through the Phase 1 Significance Determination Process as there was no effect on system operability. Although this issue was considered minor per the Group 1 questions of Manual Chapter 0610*, Attachment 2, based on review of Group 3 questions, extenuating circumstances warranted documenting the issue in the inspection report. Specifically, there is increased regulatory concern due to the fact that the licensee had neglected the Maintenance Rule Program for several years and the licensee currently is in the process of attempting to make that program work again. As

a result, implementation problems associated with (a)(3) of the Maintenance Rule is considered a No Color finding (50-305/01-09-01). The inspectors concluded that the failure to evaluate whether adjustments were necessary such that there would be an appropriate balance between systems' availability and reliability constituted a violation of 10 CFR 50.65(a)(3) of minor significance and is not subject to enforcement action in accordance with Section IV of the NRC's Enforcement Policy. This issue was entered into the licensee's corrective action system as KAP WO #01-11518. This finding is closed.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and assessment of plant risk, scheduling, and configuration control during the planned and emergent work activities listed below. In particular, the licensee's planning and management of maintenance was evaluated to verify that on-line risk was acceptable and in accordance with the requirements of 10 CFR 50.65(a)(4). Additionally, the inspectors compared the assessed risk configuration against the actual plant conditions and any in-progress evolutions or external events to verify that the assessment was accurate, complete, and appropriate. Licensee actions to address increased on-line risk during these periods were also inspected to verify that actions were in accordance with approved administrative procedures.

- Maintenance activities scheduled during week of June 11, 2001
- Auxiliary feedwater pump discharge check valve AFW-1B emergent work

b. Findings

No findings of significance were identified.

1R14 Non-Routine Evolutions (71111.14)

.1 Plant Power Reduction to Facilitate Planned Main Turbine Stop and Control Valve Testing

a. Inspection Scope

On May 25, 2001, the licensee conducted a power reduction to meet the initial conditions for planned quarterly testing of the main turbine stop and control valves. The inspectors observed the power reduction and interviewed control room staff to verify that plant technical specifications and procedural requirements were met, and to evaluate operator awareness during the evolution.

b. Findings

No findings of significance were identified.

.2 Failed Pressurizer Master Pressure Controller Results in Plant Pressure Transient

a. Inspection Scope

On May 19, 2001, the unit's pressurizer master pressure controller failed. In response to the failed controller, the pressurizer power-operated relief valves cycled open and shut which caused a reactor coolant system pressure reduction. The pressure transient ended when a reactor operator took manual control of plant pressure and restored it to the normal operating band. The minimum pressure observed during the transient was approximately 2170 pounds per square inch. Normal operating pressure was 2235 pounds per square inch. The licensee subsequently repaired the pressurizer master controller and returned plant pressure control to automatic. The inspectors evaluated the personnel response to the pressure transient and interviewed reactor operators to verify that the facility emergency and abnormal operating procedure (EOP and AOP) requirements were met. Additionally, the inspectors reviewed equipment response and plant parameters during the pressure transient to verify that equipment responded as designed.

b. Findings

No findings of significance were identified.

.3 Reactor Startup Following Reactor Trip

a. Inspection Scope

The inspectors observed the performance of the control room staff during the June 21, 2001, unit restart following the June 20 automatic reactor trip (see Section 4OA3.1 for further details on the reactor trip). The inspectors observed control room staff shift turnovers, operator performance and procedural compliance during the restart activities, and command and control of the control room shift management.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed design basis information and technical specification requirements to verify the technical adequacy of the operability evaluations listed below and to verify that system operability was properly justified and the system remained available, such that no unrecognized increase in risk occurred.

The inspectors reviewed the following operability evaluations:

- Component Cooling Water Pump 1B Operability With the Associated Fan Coil Unit Removed from Service for Maintenance - May 15, 2001

- Pressurizer Power Operated Relief Valve Block Valve Weak Link Analysis - June 11, 2001

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWAs) (71111.16)

.1 OWA 01-08

a. Inspection Scope

The licensee had written OWA 01-08 in response to inspectors' questions regarding operator actions taken to reseat valves AFW-4A and AFW-4B following a unit restart, including whether these actions constituted an OWA (See Section 1R19 for more details of the operator actions taken). The inspectors reviewed OWA 01-08 which documented the contingency actions for operators to take in the event that the AFW header check valves to the steam generators (AFW-4A and AFW-4B) did not seat tightly following a unit startup, thereby allowing backleakage from the steam generators to the AFW header. The inspectors evaluated OWA 01-08 to determine whether there was any impact on the operators to properly respond to plant transients and accidents and to implement AOPs and EOPs.

b. Findings

No findings of significance were identified.

.2 OWA 01-05

a. Inspection Scope

The inspectors reviewed OWA 01-05 which documented contingency actions for an identified problem with proper pin alignment of the manual actuator for the 1A steam generator power-operated relief valve (SD-3A) when placing the valve in local manual control. The inspectors evaluated OWA 01-05 to determine whether there was any impact on the operators to properly respond to plant transients and accidents and to implement AOPs and EOPs.

b. Findings

No findings of significance were identified.

.3 Equipment Operator Rounds

a. Inspection Scope

On April 19, 2001, the inspectors accompanied an equipment operator during his rounds to determine whether there were any field activities or degraded equipment conditions

which could constitute an OWA that had not been identified by the licensee. During the rounds, the inspectors focused on potential equipment problems which could impact the ability of operators to implement AOPs and EOPs.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed the post-maintenance testing activities associated with the maintenance and emergent work activities listed below to verify that the test was adequate for the scope of the maintenance work which had been performed and that the testing acceptance criteria were clear and demonstrated operational readiness consistent with the design and licensing basis documents. The inspectors attended pre-job briefings to verify that the impact of the testing had been properly characterized; observed or reviewed the test to verify that the test was performed as written and all testing prerequisites were satisfied; and reviewed the test acceptance criteria. Following the completion of the test, the inspectors conducted walkdowns of the affected equipment to verify that the test equipment was removed and that the equipment was returned to a condition in which it could perform its safety function.

- Auxiliary Feedwater Pump 1B Discharge Check Valve (AFW-1B) Backleakage - June 22, 2001
- Removal of Residual Heat Removal [RHR] Interlock from Valves RHR-299A and RHR-299B - June 15, 2001
- Reactor Trip Breaker Maintenance - May 23, 2001
- Limit Switch Replacement on Valve RC-423 - May 30, 2001

b. Findings

Auxiliary Feedwater Pump 1B Discharge Check Valve (AFW-1B) Backleakage

One issue of very low safety significance (Green) that was a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified for not promptly identifying and correcting a condition adverse to quality.

On the evening of June 21, 2001, following the unit restart from a reactor trip earlier that day, the licensee identified that the ‘B’ train AFW header check valve (AFW-4B) located in containment was not fully seated. This was identified when an auxiliary operator noted that the header piping located outside containment was hot to the touch. With Valve AFW-4B not fully seated, hot feedwater (approximately 340 degrees Fahrenheit) leaking back through Valve AFW-4B caused the ‘B’ AFW header to heat above ambient temperatures. In response to this condition, the licensee started the 1B AFW pump in accordance with AOP A-FW-05B to reseat Valve AFW-4B. After the 1B AFW pump was stopped, the licensee noted that the 1B AFW pump suction relief valve (MU-320B) had lifted and was spraying water on the 1B AFW pump motor. The licensee

determined that the lifting of the relief valve was a result of Valve AFW-4B and the 1B AFW pump discharge check valve (AFW-1B) failing to reseat after the pump was stopped. With both check valves not fully seated, pressure from the 'B' steam generator caused Valve MU-320B to lift. After this condition was identified, the licensee isolated the 'B' AFW header which rendered the 1B AFW pump and the turbine-driven AFW pump inoperable.

The licensee's corrective actions included inspecting the 1B AFW pump motor and conducting electrical checks of the motor and supply breaker. The licensee then performed AOP A-FW-05B as a retest to verify that the 1B AFW pump motor was operable. Normal flow and pressure indications were noted by the licensee during the retest. In addition to verifying the operability of the 1B AFW pump, the retest also served to reseat Valve AFW-4B. The licensee subsequently returned the 1B AFW and turbine-driven AFW pump to service following completion of the retest.

On June 22, 2001, the inspectors noted that the licensee did not take corrective action to address the failure of Valve AFW-1B to reseat from the night before. Additionally, the inspectors were concerned that the retest did not adequately test the condition of Valve AFW-1B. The design function of the AFW pump discharge check valves, as stated in the facility's Updated Safety Analysis Report, was to prevent a flow diversion from the other train AFW pumps in the event of a malfunction of an AFW pump. The inspectors were concerned that Valve AFW-1B may not be fully seated and could divert flow from the redundant train AFW pumps, thereby reducing AFW flow to the steam generators during an accident. When questioned by the inspectors, the licensee could not provide a basis for operability of Valve AFW-1B. Subsequent to this determination, the licensee isolated the 1B AFW pump and declared the 'B' train of AFW out-of-service. The licensee documented the inspectors' concerns in KAP WO 01-3920.

Later radiographic examination by the licensee determined that Valve AFW-1B was not fully seated and was in an intermediate position. The licensee then disassembled the valve and verified that the disc assembly was stuck in the valve. The licensee freed the disc assembly and estimated that the valve disc was approximately 7/16-inch from full closure. A new disc assembly was installed in the valve. The inspectors reviewed the retest requirements and results for the valve disassembly and repair and did not note any concerns. The licensee also tested the capabilities of the 1A AFW pump and the turbine-driven AFW pump discharge check valves to fully seat. Those valves were tested satisfactorily.

An additional concern that the inspectors noted was the licensee's practice of running the AFW pumps to reseat Valves AFW-4A and AFW-4B. These valves had a history of not fully seating during restart conditions. The inspectors questioned the licensee whether this practice constituted a proceduralized OWA (See Section 1R16.1 for more details).

The inspectors determined that with Valve AFW-1B stuck in an intermediate position, there was a credible impact on safety and that the operability of a train of a mitigating system was impacted. However, since only the mitigating cornerstone was affected and due to the ability of either the 1A AFW train or the turbine-driven AFW pump to provide 100 percent decay heat removal, the finding is considered to be of very low safety

significance (Green). Appendix B, Criterion XVI, "Corrective Action," of 10 CFR Part 50 required, in part, that conditions adverse to quality, such as malfunctions and deficiencies, be promptly identified and corrected. On June 21, 2001, the licensee noted that Valve AFW-1B was degraded, yet failed to identify any operability concerns nor take adequate corrective actions in response to the degraded condition. It was not until after operability of Valve AFW-1B was questioned by the inspectors that an operability concern was noted by the licensee and corrective actions taken. The failure of the licensee to promptly identify the deficient condition of Valve AFW-1B was considered to be a violation of 10 CFR Part 50, Appendix B, Criterion XVI. However, because of the very low safety significance of the finding and because the licensee had entered the issue into their corrective action program as KAP WO 01-3920, this Severity Level IV violation is being treated as a Non-Cited Violation (NCV 50-305/01-09-03, Failure to Identify Deficient Condition of Valve AFW-1B), consistent with Section VI.A.1 of the NRC Enforcement Policy. The licensee planned to conduct a root cause evaluation of the issue.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed surveillance testing on risk-significant equipment to verify that the equipment was capable of performing its intended safety function and that the surveillance tests satisfied the requirements contained in Technical Specifications and the licensee's procedures, and that the equipment was capable of meeting its design function. During the surveillance tests, the inspectors reviewed the test to verify that it was adequate to demonstrate operational readiness consistent with the design and licensing basis documents, and that the testing acceptance criteria were clear. Portions of the test were observed to verify that the test was performed as written, that all testing prerequisites were satisfied, and that the test data were complete, appropriately verified, and met the requirements of the testing procedure. Following the completion of the test where applicable, the inspectors conducted walkdowns of the affected equipment to verify that the test equipment was removed and that the equipment was returned to a condition in which it could perform its safety function.

The inspectors observed and reviewed the performance of the following surveillance testing on risk-significant equipment:

- Component Cooling Pump and Valve In-Service Test - May 24, 2001
- Bus 1-6 Loss of Voltage Relay Test and Calibration - May 23, 2001

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

On May 26, 2001, the inspectors reviewed the licensee's process for installing a replacement pressurizer pressure master controller which had failed and caused a reactor coolant system pressure transient (See Section 1R14.2 for more details on the pressure transient). The licensee had utilized the facility's work order system to control the removal and replacement of a pressure controller used in the control circuitry of the 'A' steam generator bypass feedwater regulating valve (FW-10A) which was then used to replace the pressurizer pressure master controller. The inspectors reviewed the licensee's temporary modification procedure to determine if the replacement of the pressure controller should have been controlled as a temporary modification instead of as a work order.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

On June 26, 2001, the licensee performed an emergency planning drill. The drill was designed to exercise the licensee's onsite and offsite emergency response organization and emergency plan. The drill scenario involved a ruptured steam generator which resulted in an offsite release. The inspectors observed portions of the drill from the control room simulator and the Technical Support Center to evaluate the licensee's evaluation, classification, and notification of the simulated event. The inspectors also attended both the drill controllers' debrief and the general drill critique to determine whether the licensee was properly identifying weaknesses in response to the drill.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's PI data collection process and historical data through the first quarter of 2001 to verify the accuracy of collected and submitted data. Additionally, the inspectors reviewed corrective action records, monthly operating reports, and control room logs to independently verify the data that the licensee had collected. The following PIs were evaluated:

- Reactor Coolant System Specific Activity
- Reactor Coolant System Leak Rate

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up (71153)

.1 Automatic Reactor Trip Due to Failure of Steam Generator 'B' Feed Regulating Valve Controller

a. Inspection Scope

On June 20, 2001, at 12:11a.m., the reactor was automatically tripped due to the 'B' steam generator feedwater regulating valve controller failing which caused the valve to drift close and lower steam generator level to the point where an automatic reactor trip setpoint was met. The inspectors reviewed alarm printouts, EOPs and AOPs to verify proper operator and equipment response to the reactor trip. The inspectors attended operations staff shift turnovers to evaluate the adequacy of information about plant conditions which was passed on to the relieving shift. Additionally, the inspectors attended licensee post-trip meetings to evaluate whether all equipment and event issues were resolved prior to the commencement of unit restart activities.

b. Findings

No findings of significance were identified.

.2 Closure of Open Items

(Closed) Licensee Event Report (LER) 305/2000-006: Intergranular Attack and Intergranular Corrosion Cracking of Tubes in Steam Generators Results in Category C-3.

This LER documents steam generator eddy current inspection results. This event did not constitute a violation of NRC requirements. The inspectors reviewed this LER and determined that all defective tubes were either plugged or repaired, and that water chemistry control programs were in place to reduce the caustic environment and corrosion/erosion of the secondary side components. The performance of in-situ leak testing confirmed that operational leakage performance criteria were met. The inspectors consider the above actions by the licensee to be appropriate to assure continued operation. Additional details appear in NRC Inspection Report 50-305/2000011(DRS), issued June 13, 2000.

(Closed) Unresolved Item (URI) 50-305/2000014-02: PI Definition for Scrams with Loss of Normal Heat Removal.

This URI was opened pending further NRC review of the licensee's interpretation of this PI definition. A frequently asked question (FAQ ID 248) was submitted by both the

resident inspectors and the licensee to determine the correct interpretation of this PI as it pertained to the licensee's facility. The frequently asked question response was officially approved on February 8, 2001, and determined that the licensee's interpretation of the PI was correct. This issue did not constitute a violation of NRC requirements.

4OA6 Management Meetings

Exit Meeting Summary

On July 2, 2001, the resident inspector presented the inspection results to Mr. T. Taylor, and other members of the Nuclear Management Company staff. 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.

Interim Exit Meeting Summary

Senior Official at Exit:	Tom Taylor, Acting Plant Manager
Date:	July 2, 2001
Proprietary:	No
Subject:	Maintenance Rule Implementation - Periodic Evaluation
Change to Inspection Findings:	No

4OA7 Licensee-Identified Violation

The following findings of very low significance were identified by the licensee and were violations of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

NCV Tracking Number	Reguirement Licensee Failed to Meet

50-305/01-09-02

10 CFR 50.65(a)(1), requires, in part, that the licensee monitor the performance or condition of SSCs within the scope of the rule as defined by 10 CFR 50.65(b), against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, and components, are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken. Contrary to the above, from 1996, the licensee did not take appropriate corrective actions when the performance of those systems in (a)(1) did not meet licensee established goals. Specifically, the licensee determined timely and appropriate corrective actions had not been taken for five systems that had been in (a)(1) category for approximately 3 years to 5 years: component cooling (entered (a)(1) on April 23, 1997), control room air conditioning (July 24, 1996), station and instrument air (July 3, 1997), auxiliary building air ventilation (July 31, 1997), and control rod drive (August 6, 1998). This issue is in the licensee's corrective action system as KAP WO 01-3323.

The inspectors evaluated the risk significance of this issue using the Significance Determination Process. The inspectors did not identify where this failure resulted in a total loss of a risk significant SSC. Therefore, this issue was screened as Green (very low risk significance) after a Phase 1 Significance Determination Process review. Although the risk significance of this issue was low, the inspectors concluded that this was more than a minor concern because the failure to recognize and correct ineffective maintenance practices resulted in risk significant systems in (a)(1) for years with no improvement in performance.

50-305/01-09-04 Failure to Track Unavailability of Systems Required During Shutdown Operation	10 CFR 50.65(a)(1), required, in part, that the licensee monitor the performance or condition of SSCs within the scope of the rule as defined by 10 CFR 50.65(b), against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. 10 CFR 50.65(a)(2) stated, in part, that monitoring as specified in 10 CFR 50.65(a)(1) was not required where it had been demonstrated that the performance or condition of an SSC was being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remained capable of performing its intended function. Contrary to the above, the licensee failed to demonstrate that the performance or condition of systems required to be available during shutdown conditions and within the scope of the rule had been effectively controlled through the performance of appropriate preventive maintenance and did not monitor against licensee-established goals. Specifically, the licensee failed to monitor the unavailability of systems required during shutdown operation. Reference licensee corrective action program item KAP 01-000075.

KEY POINTS OF CONTACT

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Nuclear Regulatory Commission - RIII

R. Lanksbury, Branch Chief, DRP, Branch 5

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-305/01-09-01	FIN	Implementation Problems With (a)(3) of the Maintenance Rule (Section 1R12)
50-305/01-09-02	NCV	Failure to Take Corrective Actions When (a)(1) Goals Were Not Met (Section 4OA7
50-305/01-09-03	NCV	Failure to Identify Deficient Condition of Valve AFW-1B (Section 1R19)
50-305/01-09-04	NCV	Failure to Track Unavailability of Systems Required During Shutdown Operation (Section 4OA7)

Discussed

None

LIST OF ACRONYMS USED

AFW	Auxiliary Feedwater
AOP	Abnormal Operating Procedure
CFR	Code of Federal Regulations
DRP	Division of Reactor Projects, Region III
DRS	Division of Reactor Safety
EOP	Emergency Operating Procedure
KAP	Kewaunee Assessment Process Problem Report
LER	Licensee Event Report
MR	Maintenance Rule
MPFF	Maintenance Preventable Functional Failure
MRFF	Maintenance Rule Functional Failure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
OA	Other Activities
OWA	Operator Work-Around
PI	Performance Indicator
PSID	Pounds Per Square Inch Differential
SSC	System, Structure, and Component
URI	Unresolved Item
WO	Work Order

LIST OF DOCUMENTS REVIEWED

1RO4 Equipment Alignment

USAR Section 6.6	Auxiliary Feedwater System	Revision 16
N-FW-05B-CL	Auxiliary Feedwater System Prestartup Checklist	Revision AH
N-FW-05B	Auxiliary Feedwater System	Revision AB
OPM-204	Flow Diagram - Condensate and Gland Seal Systems	Revision HF
OPM-205	Flow Diagram - Feedwater System	Revision AU
Technical Specification 3.4.b	Auxiliary Feedwater System	

1RO5 Fire Protection

FPP 08-07	Control of Ignition Sources	Revision D
FPP 08-08	Control of Transient Combustibles	Revision A
FPP 08-09	Barrier Control	Revision C
FPP 08-10	Fire Drills	Revision A
FPP 08-12	Fire Prevention Tour	Revision B
N-FP-08-CL	Fire Protection System Checklist	Revision AL
	Appendix R Design Description	December 14, 2000
	Kewaunee Fire Protection Program Plan	Revision 4

1R06 Flood Protection Measures

SL-7234	Moderate Energy Line Break Analysis Kewaunee Nuclear Power Plant	October, 1989
ARP 47032-Q	RHR Pump Pit A/B Level High	Original Revision
ARP 47032-R	RHR Pump Pit sump Level High	Revision B
N-MDS-30-CL	Miscellaneous Drains and Sumps (MDS) Prestartup CL	Revision N
N-MDS-30	Miscellaneous Drains and Sumps (MDS)	Revision D

A-MDS-30	Miscellaneous Drains and Sumps (MDS) Abnormal Operation	Revision M
OPERM-350	Flow Diagram - Reactor Plant Misc Vents, Drains & Sump Pump Piping	Revision AP
ICP 30-02	MDS - RHR Pump Pit Sump Pump A Level Control Functional Test	Revision H
ICP 30-03	MDS - RHR Pump Pit Sump Pump B Level Control Functional Test	Revision I
USAR, Section 9.3	Auxiliary Coolant System	Revision 16
OPER-XK-100-19	Flow Diagram Auxiliary Coolant System	Revision AD
USAR Section 2.6	Hydrology	Revision 16
USAR Section 9.6.2	Service Water System	Revision 16
E-SW-02	Leak in Service Water System	Revision Q
E-0-05	Natural Disaster	Revision I
M-202	Flow Diagram - Service Water System	Revision BV
A-203	General Arrangement Diagram - Turbine and Administration Building Basement Floor	Revision AT
A-213	General Arrangement Diagram - Screenhouse and Circulating Water Discharge	Revision W
USAR 6.2.5	Effects of Leakage From Residual Heat Removal System	
WO 01-003844	Documentation of Kewaunee 'Flooding Study' Incomplete	
E-2017	Integrated Logic Diagram Miscellaneous Drains and Sumps	

1R12 Maintenance Rule Implementation

NAD 08.20	Maintenance Rule Implementation	Revision B
GNP 08.20.01	Maintenance Rule Scoping and Performance Criteria	Revision B
GNP 08.20.2	Maintenance Rule Data Evaluation	Revision B
GNP 08.20.3	Maintenance Rule Periodic Reviews	Revision A
GNP 08.20.4	Maintenance Rule MRFF and MPFF Evaluations	Revision A

USAR 8.2.2	Plant Distribution System	Revision 16
USAR Figure 8.2-2	Main 4160 and 480 Volt Single Line Diagram	Revision 16
SP-39-227A	EHV-Bus 1-5 Loss of Voltage Relay Test and Calibration	Revision N
GNP-08.20.01	Maintenance Rule Scoping and Performance Criteria	Revision B
GNP-08.20.02	Maintenance Rule Data Evaluation	Revision B
GNP-08.20.04	Maintenance Rule MRFF and MPFF Evaluations	Revision A
GNP-08.20.05	Maintenance Rule (a)(1)/(a)(2) Evaluations	Revision A
WO 00-003393	Potential MRFF Breaker 1-511 tripping open	
WO 00-001192	Potential MRFF Breaker 1-511 tripping open	
WO 00-002643	Bus 2 Relay 81A/B2 (under-frequency) out of calibration	
WO 00-001203	Potential MRFF Breaker 1-511 tripping open	
WO 01-006988	Diesel Generator Output breaker did not close	
WO 00-002790	Diesel Generator Output breaker did not close	
WO 95-207008	Diesel Generator Output breaker did not close	
WO 93-203292	Diesel Generator Output breaker did not close	
WO 97-001121	Maint Rule potential (a)(1) noted for Bus 5 and 6	
WO 00-003198	Bus 5 exceeded its unavailability criteria in April 2000	
WO 00-003735	Bus 6 exceeded its unavailability criteria in July 2000	
WO 01-000075	Evaluate the need to monitor safety systems availability during shutdown conditions for Maintenance Rule Purposes	
WO 00-000185	SW Train A candidate into MR category (a)(1)	
WO 99-002527	SW Train B candidate into MR category (a)(1)	
WO 01-003530	SW-43A1 did not maintain pressure >10 psid	
WO 01-010052	Fuse blown on SD-100	
WO 00-000260	Can not get more than 0.7 gpm bearing lube water flow to SWP A1	
WO 01-005263	SW-43A1 did not maintain pressure >10 psid	

WO 00-003378	SW-43B1 controlling backup lube water pressure for SWP B1 too low	
WO 00-000939	Strainer not backwashing with D/P at 9.5 psid	
WO 00-001070	Control room alarm for B2 SWP strainer high d/p	
WO 00-002039	Did not auto backwash when local indicator read 8 psid	
WO 00-004390	SWP B2 rotating strainer in continuous backwash	
WO 01-001888	SWP A1 strainer breaker discovered in off position	
WO 00-002273	Support removal of TCR 00-13	
WO 00-001824	Document current operability of SW system following testing during 2000 outage	
WO00-001825	Document past operability of SW system following testing during 2000 outage	
WO 00-002853	When attempting to shut SW-4B, receive dlow accumulator air pressurization alarm	
WO 00-000409	Current practice of rescheduling MOV activities to accommodate overall plant schedule may be symptom of bigger plant wide problem of routine schedule changes	
WO 00-002878	SW-4B failed to close during SP 02-138	
Technical Specification 3.7	Auxiliary Electrical Systems	
	Maintenance Rule Expert Panel Meeting Minutes	May 2, 2001
QSR # 2360	Quality Surveillance Report	May 14, 2001
QSR # 2368	Quality Surveillance Report	May 17, 2001
QSR # 2361	Quality Surveillance Report	May 15, 2001
QSR # 2362	Quality Surveillance Report	May 15, 2001
	Potential MRFF Corrective Work Orders	
	Emergency Diesel Generator Demand Starts	

KAP WO # 01-011518-000	Implementation Problems With (a)(3) of the Maintenance Rule	July 2, 2001
KAP WO # 00-003293-000	No KAP Could be Found to Document That System 36 Should be in (a)(1) Status Due to PR-1A	September 20, 2000
KAP WO # 00-004341-000	System 14 Function 04 has Exceeded its Maintenance Rule Performance Criteria and is a Potential Candidate for Maintenance Rule Category (a)(1)	December 18, 2000
KAP WO #99-003667-000	Technical Support Center Diesel Generator in Maintenance Rule Category (a)(1) Due to Unavailability	November 11, 1999
KAP WO # 99-002702-000	“A” Battery Room Fan Coil Unit is Potential Maintenance Rule Category (a)(1) System	February 25, 1999
KAP WO # 00-002849-000	System 18 Candidate For Maintenance Rule (a)(1) Category	August 11, 2000
KAP WO # 01-005161-000	Charging Pump 1B Candidate for Maintenance Rule (a)(1) Monitoring	March 8, 2000
KAP WO # 00-003198-000	System 39 (4160 Volt) Placed in Maintenance Rule Category (a)(1) Due to Unavailability	September 14, 2000
KAP WO # 01-008832-000	Audit Finding, Several Shortfalls in Maintenance Rule Program Implementation	May 21, 2001
KAP WO # 00-002105-000	Maintenance Rule Program Weaknesses	June 14, 2000
KAP WO # 01-003821	Coordination of Diesel Reliability Program, Probability Risk Assessment, and Maintenance Rule Has Not Been Established	June 18, 2001
KAP WO # 00-000185-000	Service Water Train A is Candidate for Placement into Maintenance Rule Category (a)(1) Due to Exceeded Unavailability Performance Criteria	February 2, 2000
KAP WO # 01-001750-000	System 01 (Station & Instrument Air) (a)(1) Corrective Actions Ineffective	February 2, 2001
PRA Application # 01-14	Maintenance Rule Performance Criteria Sensitivity	May 17, 2001
	Maintenance Rule Equipment Performance Summary	January 2001
	Maintenance Rule Equipment Performance Summary	February 2001
	Maintenance Rule Equipment Performance Summary	March 2001

	Maintenance Rule Equipment Performance Summary	April 2001
	Maintenance Rule Equipment Performance Summary	May 2001
	List of all Performance Criteria Changes Made to MR Items During the Last Two Years	
	List of (a)(1) System KAPs and Corrective Actions	
	List of Systems With Unavailabilities or Failure Rates Below MR Performance Criteria	
	Maintenance Rule Program Action Plan	June 24, 2001
	Summary of Section 3 Data	May 31, 2001
GNP-08.20.03	Maintenance Rule Periodic Reviews	Revision A
	Kewaunee Nuclear Power Plant Maintenance Rule Periodic Assessment - February 1, 1999 to January 1, 2001	June 22, 2001
	Kewaunee Nuclear Plant Maintenance Rule Periodic Assessment - August 1997 to January 1999	March 25, 1999
	Section 5.0 Core Damage Frequency Quantification	April 27, 1998
K-90-240	Safety Evaluation of Kewaunee Nuclear Power Plant Response to the Station Blackout Rule (TAC No. 68558)	November 20, 1990

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

NAD 08.2	Work Request / Work Order	Revision D
GNP 08.21.01	Risk Assessment for Plant Configurations	Revision A
NAD 08.21	Configuration Risk Management	Revision A
GNP 08.02.01	Work Request/Work Order Processing	Revision F
Individual Plant Examination, Section 5	Core Damage Frequency Quantification	

1R14 Non-Routine Evolutions

N-TB-54	Turbine and Generator Operation	Revision AQ
N-TB-54-CL	Turbine and Generator Prestartup Checklist	Revision D
N-0-02	Plant Startup From Hot Shutdown to 35% Power	Revision AD
N-0-03	Plant Operation Greater Than 35% Power	Revision AK
SP 54-086	Turbine Stop and Governor Valve Operability Test	Revision AD
ARP 47043-C	Pressurizer Control Press Abnormal	Revision B
ARP 47043-D	Pressurizer Pressure Low	Revision A
A-RC-36D	Reactor Coolant Leak	Revision AC
N-RC-36C	Pressurizer Pressure Control	Revision V
E-2038	Integrated Logic Diagram - Reactor Coolant System	Revision AA
KAP WO 01-008816	Control Pressure Abnormal	
Technical Specification 3.10.l	Reactor Coolant System Pressure	
Technical Specification 3.10.n	DNBR Parameters	
	Operator Logs	May 19, 2001

1R15 Operability Evaluations

USAR, Section 9.3.1	Auxiliary Coolant System	Revision 16
N-ACA-17	Auxiliary Building Ventilation System	Revision P
A-RC-36D	Reactor Coolant Leak	Revision AC
IPEOP E-3	Steam Generator Tube Rupture	Revision R
Calculation C10873	PR-1A&B Potential for Pressure Locking	
Calculation C10890	Structural Analysis of the Wedge for Valves PR-1A & PR-1B	

Calculation C10894	Stem Growth (Thermal Expansion) Effect on the PORV Block Valves	
WO 01-001758	CCW Pump B Fan Coil Unit makes noises	
WO 01-008739	Guidance on N-TAV-16 and N-ACA-17	
WO 01-010123	Calculated margin for PR-1A and PR-1B is negative in the open direction	
Technical Specification 3.3.d	Component Cooling System	
Technical Specification 3.1.a.5	Pressurizer Power-Operated Relief Valves (PORV) and PORV Block Valves	

1R16 Operator Work Arounds

E-0-07	Fire in Dedicated Fire Zone	Revision P
WO 01-009923	SD-3A manual sleeve rod hole will not line up	
OWA 01-05	SD-3A, Steam Generator 'A' PORV, if pin is installed, valve may not open when in local control	
OWA 01-08	Reseating of AFW-4A and AFW-4B Following Plant Startup	

1R19 Post Maintenance Testing

DC/PM 3214-01	Removal of Residual Heat Removal Pump A Discharge Pressure Interlock From RHR-299A	Original Revision
DC/PM 3214-02	Removal of Residual Heat Removal Pump B Discharge Pressure Interlock From RHR-299B	Original Revision
E-2032	Integrated Logic Diagram Safety Injection System	Revision V
PMP-47-01	RCP-(QA-1) Reactor Trip Breaker Maintenance	Revision Q
SB 9702	Target Rock Service Bulletin, Reed Switch Adjustment Procedure	Revision A
E-2075	Integrated Logic Diagram - Primary Sampling	Revision F
GMP 201	Cable Terminating Procedure	Revision O
GMP 205	Inter and Intra Wiring Procedure	Revision K

OPERM-205	Flow Diagram - Feedwater	Revision AU
GMP 148	Powell 'Y' Check Valve Figure #19065-Y(WE) Inspection	Revision D
DCR 3214	Removal of RHR Pump Discharge Pressure Interlock from RHR-299A&B	
WO 01-009210	Hotleg Outside Containment Isolation Solenoid Valve Indicated Mid-Position	
WO 00-003418	TCR 00-12 Installed to Defeat RHR Pump Discharge Pressure Interlock	
WO 01-010275	MU-320B Lifted and Sprayed Water on Motor for AFW Pump B	
WO 01-010297	X-Ray AFW-1B to Determine Position of Disc	
WO 01-010319	Resident NRC Inspector Questions Operability of AFW-1B	

1R22 Surveillance Testing

SP 31-168	Component Cooling Pump and Valve Test - IST	Revision AG
USAR, Section 9.3	Auxiliary Coolant System	Revision 16
SP 39-227B	Bus 1-6 Loss of Voltage Relay Test and Calibration	Revision N
SP 47-062A	Reactor Protection Logic Train A Monthly Test	Revision N

1R23 Temporary Plant Modifications

GNP 04.03.03	Plant Physical Change Control	Revision B
WO 01-008668	Pressurizer Spray Control Master Controller Failed in Automatic	

1EP6 Drill Evaluation

EPIP-AD-02	Emergency Class Determination	Revision AA
EPIP-AD-04	KNPP Response to Alert or Higher	Revision AC
A-RC-36D	Reactor Coolant Leak	Revision AC
E-0	Reactor Trip or Safety Injection	Revision Q

E-1	Loss of Reactor or Secondary Coolant	Revision M
E-2	Faulted Steam Generator Isolation	Revision M
FR-C.1	Response to Inadequate Core Cooling	Revision L

4OA1 Performance Indicator Verification

SP 36-082	Reactor Coolant System Leak Rate Check	Revision Y
EPRI 99-02	Regulatory Assessment Performance Indicator Guideline	Revision 0
	Reactor Operator and Shift Manager Logs	April 1, 2000 through April 1, 2001
WO 01-009932	Barrier Cornerstone Performance Indicator Data Submittal Error	
WO 01-009913	NRC Review of Barrier Cornerstone Performance Indicator	

4OA3 Event Followup

E-0	Reactor Trip or Safety Injection	Revision Q
EPIP-AD-02	Emergency Class Determination	Revision AA
E-2802	Integrated Logic - Steam Generator Trip Signals	Revision M
ARP 47062E	S/G B Bypass CV Level Deviation	Original Revision
ARP 47062D	S/G B Program Level Deviation	Revision A
ARP 47062F	S/G B Level Low	Original Revision
ARP 47061-E	S/G B SF>FF	Original Revision
GNP 2.2.1	Guidelines for Post Trip Activities	Original Revision
E-1625	Integrated Logic - Feedwater System	Revision S
ES -0.1	Reactor Trip Response	Revision M

	Sequence of Events Recorder Printout	June 20, 2001
ARP 47021-A	SI Train A Actuated	Original Revision
ARP 47042-D	Pressurizer Pressure < 1900	Revision A
N-ESF-55	Post Trip Review	Revision J
WO 00-001266	Evaluate Loss of Redundancy for Feedwater Isolation	
WO 01-010270	During Reactor Trip Recovery a Letdown Isolation Signal Was Received	
WO 01-010262	Reactor Trip	