April 4, 2000

Mr. Mark L. Marchi
Site Vice President
Kewaunee Plant
Wisconsin Public Service
Corporation
Post Office Box 19002
Green Bay, WI 54307-9002

SUBJECT: NRC INSPECTION REPORT 50-305/2000003(DRS)

Dear Mr. Marchi:

On March 10, 2000, the NRC completed a routine inspection of the corrective actions backlog at your Kewaunee Nuclear Power Plant. The enclosed report presents the results of this inspection.

Areas examined during the inspection are identified in the report. The inspection included an assessment and evaluation of the Backlog Reduction Team's efforts to reduce the corrective action backlog, corrective actions, operability determinations of open items, design changes and 10 CFR 50.59 evaluations. Within these areas, we selectively observed activities in progress, reviewed procedures and representative records, observed plant conditions, and discussed activities and concerns with members of your staff.

Overall, our inspection results indicated that corrective action activities were acceptable. The actions taken to resolve Generic Letter 96-01, "Testing of Safety Related Logic Circuits," was considered a strength. The establishment of the Backlog Reduction Team was a positive initiative in your attempts to reduce the backlog and address issues that have been open for several years. Safety evaluations performed in accordance with 10 CFR 50.59 were thorough and operability determinations reviewed were acceptable. However, the timeliness of some corrective actions remains a concern. Although the Backlog Reduction Team has made progress, a number of issues involving a fuse study, incident reports and design change requests issued prior to 1993, have not been closed or resolved. The failure to resolve issues related to the fuse study was considered a weakness. Additionally, the Backlog Reduction Team evaluations, and your backlog procedure do not require a prioritization process to resolve the more significant outstanding items.

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 Document Room (PDR).

Sincerely,

/RA by H. A. Walker Acting For/

Ronald Gardner, Chief
Electrical Engineering Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-305/2000003DRS)

cc w/encl: K. Weinhauer, Manager, Kewaunee Plant
B. Burks, P.E., Director, Bureau of Field Operations
Chairman, Wisconsin Public Service Commission
State Liaison Officer

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Docket No. 50-305
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cc w/encl: K. Weinhauer, Manager, Kewaunee Plant
B. Burks, P.E., Director, Bureau of Field Operations
Chairman, Wisconsin Public Service Commission
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-305
License No:	DPR-43
Report No:	50-305/2000003(DRS)
Licensee:	Wisconsin Public Service Corporation
Facility:	Kewaunee Nuclear Power Plant
Location:	N 490 Highway 42 Kewaunee, WI 54216-9511
Dates:	February 28 - March 10, 2000
Inspectors:	R. Mendez, Reactor Engineer G. O'Dwyer, Reactor Engineer
Approved by:	R. N. Gardner, Chief Electrical Engineering Branch Division of Reactor Safety

EXECUTIVE SUMMARY

Kewaunee Nuclear Plant
NRC Inspection Report 50-305/2000003DRS)

The NRC conducted an announced inspection to review the effectiveness of corrective actions for current and backlog issues. The inspection included a review of the Backlog Reduction Team's effort in resolving and correcting long standing open issues and efforts in reducing corrective action backlog.

- The Backlog Reduction Team was effective in reviewing, proposing corrective actions, and closing some of the open issues. The licensee's decision to select managers and assign them to the Backlog Reduction Team was an excellent initiative in the efforts to reduce the backlog. The Backlog Reduction Team, however, did not have a formal prioritization system that would review the most significant items first. Additionally, the backlog screening procedure did not require that the backlog issues be prioritized (Section E1.1).

- The control of design changes and modifications was effective. Post-modification testing and 10 CFR 50.59 evaluations were adequately performed. However, the licensee had not closed or resolved several design changes issued prior to 1993 (Sections E1.2 and E1.3).

- New calculations such as the diesel generator load study were good, had documented assumptions, and were current. However, a fuse study developed in 1993 had not received second level reviews, had not been closed, and was considered a weakness. In addition, the licensee did not have a calculation or basis for the containment spray suction pressure value used in the surveillance procedures (Section E1.4).

- Corrective actions were effectively implemented. The licensee's corrective actions to address Generic Letter 96-01 were thorough and comprehensive and was considered a strength. Issues were being properly resolved and the Backlog Reduction Team was effective in reducing some of the existing backlog. Although the licensee has made progress in closing many issues, a number of design changes and incident reports have been open for nine years or more and, therefore, have not been timely. Additionally, the licensee has not taken action to test 480V electrical circuit breakers at reduced voltage (Section E2.1).

- The operability determinations process was effective. Operability determinations and supporting evaluations were acceptable and contained sufficient detail (Section E2.2).

- The operating experience program was acceptable and adequately responded to industry information. The information received was appropriately reviewed, evaluated, and the necessary actions taken (Section E2.3).

Report Details

III. Engineering

E1 Conduct of Engineering

E1.1 Engineering Backlog (Backlog Reduction Team) (37550)

a. Inspection Scope

The inspectors reviewed the Backlog Reduction Team (BaRT) involvement in the corrective action process and the licensee's efforts to reduce overdue corrective actions and engineering issues that have been open for several years. The inspectors' review included incident reports, Kewaunee assessment process (KAP), safety system functional inspection (SSFI) issues, design change requests, operating experience assessments (OEAs), 10 CFR 50.59 evaluations, and operability determinations. During the course of the inspection and reviews, the inspectors assessed corrective actions irrespective of whether BaRT had reviewed the issue. It should be noted that BaRT was not assigned the responsibility to review open design changes.

b. Observations and Findings

b.1 Background

During the past year, the licensee recognized that the backlog of open engineering and corrective actions had the potential to have a negative impact on the operation of the plant. The licensee developed the Kewaunee Improvement Plan to resolve the open engineering issues. The licensee proposed to identify and initiate actions to assist in resolving the existing backlog of work and to address open corrective actions that were greater than two years old. In addition, the licensee proposed to create a single master list that would identify all outstanding corrective actions.

b.2 BaRT Responsibilities

As part of the Kewaunee Improvement Plan, the licensee established the BaRT to review and disposition the backlog of engineering issues and open corrective actions. The BaRT was assigned the responsibility of closing open issues if corrective action had already been taken, or leave the item open pending recommended actions to be taken. To ensure success in resolving and correcting the open issues, the licensee selected the BaRT from the highest ranking managers in the operations, engineering, planning and scheduling, quality programs, maintenance, and licensing departments. The inspectors noted that the selection of managers for the BaRT team was an excellent method for initiating action and allocating resources to resolve backlog issues.

In July 1999, the BaRT was initially assigned to review 77 open issues that were either awaiting corrective action or had not been resolved. The open issues included SSFI issues that had been open since 1990 and 1991, incident reports (the licensee's

previous corrective action system), incident report corrective actions, operating experience assessments greater than two years old, and operating experience corrective actions greater than two years old.

Recently, the BaRT was assigned to review 174 additional open items. These included KAPs greater than three years old, engineering support requests, KAPs greater than two but less than three years old, and KAP corrective actions greater than two years old. The licensee developed a master list that included all 251 open items. The list identified each issue and documented whether the issue was open or closed, and what corrective actions were proposed. Of this second group of 174 open issues, the BaRT has not reviewed or made recommendations to close any of these issues.

b.3 Assessment of BaRT

Of the 77 original backlog issues, BaRT determined that adequate corrective actions had been performed and proposed closing 28 of the items. The remaining 49 items were still open pending resolution of BaRT's recommendations and subsequent corrective actions. The inspectors found that the number of backlog issues was not excessive but that many had been open for extended periods. For example, the SSFI issues had been open since 1990 and 1991. Some of the incident reports were open since about 1994 to 1997, while the OEAs were originally issued from 1994 to 1995. The inspectors did not identify operability issues but were concerned that BaRT was slow in resolving some of the issues. For example, one incident report issued in 1991, recommended reviewing the technical specifications to establish the number of instruments required to measure the forebay level. Although the issue was not safety significant, the inspectors noted that the incident report was still open.

The inspectors reviewed a sample of the backlog issues assigned to BaRT and found that the disposition of the backlog items was proper. The inspectors concurred with the BaRT's assessments of potential operability issues. Some of the backlog issues required additional information and the BaRT provided good recommendations and made conservative decisions. For example, in the review of an SSFI request for information (RI) R-002-01A, the BaRT recommended setting the service water inlet temperature setpoint at 58.2 degrees. This was a conservative decision because of several current heat exchanger issues at the plant. Additionally, the BaRT recommended leaving Request for Information (RI) R-024-011 open. This issue involved evaluating the shield building ventilation annulus design temperature basis. The BaRT recommended leaving this issue open until the temperature design basis could be verified. These last two issues were examples of good recommendations made by the BaRT.

The inspectors noted that the BaRT team did not formally prioritize corrective actions or determine what systems within the backlog list were more important than others. In discussing this issue with the BaRT facilitator, the facilitator mentioned that open SSFI issues were given first priority since they appeared to be more safety-significant. However, within the SSFI issues, the inspectors did not find evidence of prioritization. In addition, because of the current level of importance given to the SSFI backlog issues, an SSFI component labeling issue (999-005) would have more importance than, for example, incident report 95-018 that involved inadvertent opening of the diesel

generator startup air relief valve. The inspectors also reviewed backlog procedure NAD 14.7, "Work Backlog Screening," Revision A, and found that the procedure did not require that backlog issues be prioritized in some manner. The licensee agreed there was no formal prioritization of backlog items and would review this matter further.

c. Conclusions

The establishment of the BaRT was an excellent initiative by the licensee to review old backlog engineering issues. The BaRT made conservative decisions in closing the first group (28 of the 77 backlog items) and made recommendations to resolve the other 49 open issues. The inspectors did not identify instances where the BaRT had failed to disposition properly an operability concern or a backlog item. However, the BaRT team and the backlog procedure did not require a formal prioritizing system for reviewing the backlog issues.

E1.2 Design Changes (37550)

a. Inspection Scope

The methods used to control design changes were reviewed to verify adequacy, control, and compliance with regulatory requirements. The inspectors reviewed both closed and open modification packages. The inspectors also reviewed post-modifications testing, 10 CFR 50.59 evaluations, screenings, and design calculations.

b. Observations and Findings

Overall the design changes were effectively implemented. Post-modification testing was effective in verifying that the modified system would perform its design function. Screenings and evaluations to meet 10 CFR 50.59 were included and were adequate to ensure that NRC approval was not needed prior to installing the modification. The inspectors did not identify operability concerns with any of the design changes reviewed.

The inspectors noted that, while the backlog of design changes was not excessive, a total of 12 design changes had remained open since 1993. One issue identified during a review of an operating experience assessment involved the potential for over-pressurizing the safety injection piping. In 1993, the licensee approved design change request 2552 to install relief valves, but the work was not performed due to workload considerations. The licensee planned to install the overpressure protection during the outage this year. Another open design change request, 924, was initiated in 1980, and required the installation of a spare reserve auxiliary transformer. However, the licensee had not closed out the design change because of differences with the internal impedences of the old and new transformers. This would have required a short circuit calculation but the licensee had not completed the calculation due to other priorities. Consequently, although the work was completed in 1981, the licensee had not closed out the design change. The inspectors did not identify any outstanding design changes that had potential safety significance.

c. Conclusions

The inspectors concluded that the methods used to control design changes and modifications were effective. Effective post-modification testing was specified and performed. 10 CFR 50.59 screenings and safety evaluations were appropriately prepared and were consistent with licensee procedures and regulatory requirements. Although no safety issues were identified, some design change requests had been left open for extended periods.

E1.3 10 CFR 50.59 Evaluations and Screenings (37001)

a. Inspection Scope

The methods and procedure used to control 10 CFR 50.59 evaluations and screenings were reviewed to verify adequacy, control, and compliance with regulatory requirements. The review included design changes and corrective action documents.

b. Observations and Findings

The implementing procedures appropriately described effective methods for controlling and performing 10 CFR 50.59 screenings and evaluations. Selected 10 CFR 50.59 screenings and evaluations were verified to be appropriately prepared in accordance with the implementing procedures. The inspectors verified that the screenings were performed and that no further safety evaluation was required. The evaluations adequately addressed the effects of the proposed changes on plant operations, interactions with other systems and components, any new failure modes, the effects on accidents and transients, and whether prior NRC review was required. Evaluations performed for plant changes appropriately answered the 10 CFR 50.59 questions with adequate documentation and referenced other documents as appropriate.

c. Conclusions

The inspectors determined that 10 CFR 50.59 evaluations and screenings were performed for plant changes, the evaluations were thorough, and the 10 CFR 50.59 questions were appropriately answered.

E1.4 Calculations (37550)

a. Inspection Scope

The methods used in performing and revising design calculations for modifications, design changes, and setpoint changes were reviewed to verify adequacy, control, and compliance with regulatory requirements. The calculations were reviewed for accuracy and to verify appropriate inputs, assumptions, and calculation methods. The inspectors selected backlog issues reviewed by BaRT and KAPs that had not been reviewed by BaRT.

b. Observations and Findings

Overall, the inspectors determined that the methods used in performing and revising design calculations were correct and appropriate. The inspectors reviewed recent calculations that have been updated, such as the calculations for the diesel generator load study and the battery short circuit analysis. These were examples of calculations that were up-to-date, accurate, and the assumptions were documented. The inspectors identified a weakness with the fuse control program and also determined that the licensee had not developed the basis for the back pressure used in inservice test containment spray pump surveillance.

Fuse Study - RI R-23-023

The inspectors considered the failure to resolve outstanding issues associated with the fuse control program a weakness. The BaRT had not closed this issue but was in the process of making recommendations to resolve the fuse study. During the self-assessment in 1990, the SSFI team identified a number of issues with the fuse control program that were documented under RI R-23-023. Since the licensee did not have original fuse design bases information, a walkdown was initiated to identify the size, type, and manufacturer of all the safety-related fuses installed in the field. The field walkdown was completed in 1991, and the licensee initiated a fuse study to determine whether the individual fuses were overloaded. In 1993, the fuse study was developed but was not closed.

In September 1997, the licensee completed a modification that replaced several solenoid valves in the auxiliary building special ventilation system. The licensee had issued design change request 1083 in 1984, that would replace the existing Johnson Control solenoid valves with ASCO solenoid valves. As part of the design change, the calculation performed indicated that the 3-Ampere fuse in the circuit would provide adequate protection. In October 1997, the fuse opened due to an overloaded circuit. The licensee determined that the new solenoid valves had a higher current rating than the old solenoid valves. The inspectors noted that the calculation associated with the design change contained incorrect values and assumptions to conclude that the 3-Ampere fuse was adequate. The licensee performed an operability evaluation and replaced the old fuse with a 6-Ampere fuse. The licensee also re-verified the current loads to each of the fuses and did not identify additional overloaded fuses.

The inspectors noted that the fuse study was reviewed by BaRT, and had not been closed because the licensee had not performed the required second level reviews. Additionally, the inspectors noted a number of fuse tabulation sheets that had missing review signatures and dates, and a number of yes or no questions related to the types of fuses that were not checked. Furthermore, there were a number of discrepancies between the individual device load current values listed in the fuse study and values researched by an independent reviewer, that had not been resolved. The fuse study has been waiting second level review for about seven years without any action.

Containment Spray Pump - KAP 622

This KAP was written because of NRC concerns that the acceptance criteria for the inservice test procedures would not ensure compliance with the original design basis of the engineered safety feature pumps. It should be noted that this KAP was assigned to BaRT but had not been reviewed. The inspectors reviewed a sample of calculations and inservice test procedures associated with the engineered safety feature pumps and found the calculations acceptable. However, the inspectors identified a minor discrepancy in the licensee's use of the 28 psig suction pressure in the containment spray pump inservice testing procedure. The licensee could not locate a calculation supporting the suction pressure or what assumptions were made in determining the value of 28 psig. The licensee subsequently performed a calculation and determined that the suction pressure that should have been used was 29.6 psig and that the 28 psig value was slightly non-conservative. The licensee documented the discrepancy on a KAP and performed an operability determination. The licensee determined that even if 30 psig were used, the pump performance would still have met the acceptance criterion of 194 psig containment spray pump differential pressure. The inspectors found that there was sufficient margin in the differential pressure setpoint and that the operability determination was acceptable.

c. Conclusions

The inspectors concluded that the newer calculations were of good quality. However, the inspectors considered the licensee's failure to resolve open issues associated with the fuse study that was developed in 1993, a weakness. The inspectors identified a minor discrepancy with the use of 28 psig containment spray pump suction pressure that was slightly non-conservative and that the licensee did not have an adequate basis or calculation to support the suction pressure used in the containment spray pump inservice procedure.

E2 Engineering Support of Facilities and Equipment

E2.1 Corrective Action Program (40500)

a. Inspection Scope

The methods used to control the corrective action process at Kewaunee were reviewed to verify the adequacy and effectiveness of correcting identified problems. The inspectors performed a review of selected controlling procedures, open and closed corrective action documents such as incident reports, and KAP issues assigned to BaRT. The KAPs and incident reports were evaluated to determine the initiation threshold and the acceptability of corrective actions. The inspectors reviewed open KAPs that were assigned to the BaRT, but had not been reviewed. The inspectors also reviewed open and closed SSFI issues to determine if the issues had been adequately resolved and whether adequate corrective actions had been taken.

b. Observations and Findings

The inspectors determined that the KAPs and incident reports provided a clear description and corrective actions were appropriate. Corrective actions were not narrowly focused and actions were implemented to prevent recurrence. In particular, the corrective actions to address Generic Letter 96-01, "Testing of Safety-Related Logic Circuits," were considered a strength. The inspectors reviewed several surveillance procedures and drawings and determined that licensee actions to identify circuits that were not tested during the normal surveillances were extensive and thorough.

Although completed corrective actions were appropriate and the licensee's backlog did not appear excessive, a number of KAPs, incident reports, and old SSFI issues remained open. In 1990 and 1991, the licensee performed a series of self-assessment SSFI inspections that included the service water, diesel generator, and the 4kV/480V electrical distribution system. Many of these issues remain open and have not been resolved by the licensee.

The inspectors also reviewed a number of SSFI issues that were not part of the current backlog and found that in most cases the corrective actions were properly implemented shortly after the SSFI report was issued. However, the inspectors had a concern with one, and questions on two other SSFI issues that mainly relied on visual inspections to close the SSFI item. It should be noted that the first two items were not assigned to the BaRT and the third had not been closed by the BaRT.

RI R-39–031: The inspectors were concerned that the licensee did not test the 480V breakers at reduced control voltages. The original RI questioned whether the voltage used to test the 4kV breaker and the 480V closing and tripping coils had taken into account the voltage drop to the coils or during degraded voltage conditions. The original documented response by the licensee in 1991, stated that reduced voltage testing was not required. The inspectors reviewed this further and found that the 4kV breakers were recently factory tested at the required reduced voltages. Additionally, the inspectors noted that voltage drop calculations existed to demonstrate that the 4kV and 480V breakers were operable. However, testing that would demonstrate that the 480V breakers would operate satisfactorily during design basis accidents had not been performed since Kewaunee became operational. The licensee planned to test the breakers at reduced voltages in the future and this was determined to be acceptable.

RI R-39-001: The SSFI team identified a potential for insulation damage to the 1-52 service transformer that fed safety-related loads. The RI stated that insulation breakdown and insulation embrittlement were potential problems not addressed by the incident report that identified the problem. The subsequent corrective actions taken in 1991, involved only visual inspections. However, disposition of this issue did not include testing to determine if the insulation was still acceptable. The inspectors questioned whether visual inspections could reveal problems with the breakdown of transformer insulation. The inspectors determined that the licensee performed preventative maintenance activities that adequately tested the transformer insulation.

RI R-02 -06A: The SSFI team recommended raising the forebay level alarm and circulation water pump trip setpoint required for service water submergence. The RI

was closed out largely based on visual inspection of the service water pumps and no further action was taken. Recently, a resident inspection report revealed that the setpoint was not conservative. The licensee performed a calculation and determined that the existing setpoint was not conservative. The setpoint was raised to account for vortexing and instrument inaccuracies.

c. Conclusions

The inspectors concluded that corrective actions were effective. The inspectors did not identify any operability concerns. However, many incident reports and SSFI issues have been open for several years. The inspectors identified a concern with the lack of reduced voltage testing of safety-related 480V breakers. The disposition of two SSFI issues included mainly visual inspections; however, the licensee demonstrated that the transformer insulation was acceptable and took corrective action to resolve the forebay level setpoint.

E2.2 Operability Determination Review (37550)

a. Inspection Scope

The inspectors reviewed a selected sample of items that were assigned to BaRT to assess operability determinations. The inspectors also reviewed a selected sample of items that the BART had not reviewed to ensure that there were no outstanding operability concerns.

b. Observations and Findings

The inspectors noted that the technical bases and conclusions were documented for operability evaluations. The inspectors did not identify any operability concerns or risk significant deficiencies in items reviewed by BaRT or items scheduled for review. The inspectors determined that the operability determinations reviewed contained an acceptable level of detail and emphasized conservative decision-making. This was noted in KAP 622, which documented that the NRC had identified operability concerns with the engineered safety feature pumps and the acceptance criteria of pump inservice testing procedures. The inspectors reviewed the operability determinations for six engineered safety feature pumps. The inspectors found that all the reviewed operability determinations documented an adequate technical basis for operability.

c. Conclusions

The operability determinations and supporting evaluations were acceptable and contained sufficient detail. The inspectors did not identify any operability concerns or risk significant deficiencies in items reviewed by BaRT or items scheduled for review.

E2.3 Industry Operating Experience Review (37550, 40500)

a. Inspection Scope

The inspectors reviewed four OEAs that have been assigned to BaRT. The inspectors reviewed the licensee's program to assess industry events by selecting several industry issues, assessing the licensee's effectiveness in disseminating information to plant staff, and initiating corrective actions as appropriate.

b. Observations and Findings

The licensee's review of the OEAs was acceptable. For example, OEA 97-081 was issued because of a potential for relay coil degradation due to thermal degradation. Although the licensee did not replace the relays, documentation of the assumptions and evaluations provided adequate reasons for not replacing the relays. This was an example of a good review.

The inspectors noted that some operating experience assessments have not been resolved. For example, OEA 96-23 identified the possibility that setpoint uncertainties of the refueling water storage tank levels could be larger than previously assumed. The 10 CFR 50.59 screening was completed on March 27, 1996, and stated that the OEA applied to Kewaunee. The level uncertainty determinations were not scheduled to be completed until April 2000. Although the inspectors agreed with the licensee assessments that there was no safety concern, the inspectors noted that development of the setpoint uncertainty determinations was not timely.

c. Conclusions

The licensee's review of operating experience was good; however, some OEAs have not been resolved.

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 and did not identify any of the documents reviewed as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

K. Weinhauer, General Manager, Kewaunee Plant
K. Hoops, Plant Manager
M. Aulik, Physical Change Process Leader
P. Brantmeier, Instrument and Controls Analyst
D. Cole, Assessments Manager
G. Harrington, Plant Licensing Supervisor
L. Haworth, Process Leader
S. Hills, Workflow Process Leader
K. Hujet, Engineering and Technical Support Engineer
J. Hoard, Projects and Evaluations Process Leader
D. Masarik, Operating Experience Assessment Owner
D. McMahon, Operations
S. Putman, Mechanical Engineering Leader
K. Schommer, Electrical Engineer Leader
J. Schweitzer, Engineering and Technical Support Manager
E. Streich, Instrumentation and Controls Engineer Leader
T. Webb, Nuclear Licensing Director

INSPECTION PROCEDURES USED

IP 3700:	10 CFR 50.59 Safety Evaluation Program
IP 37550:	Engineering
IP 40500:	Effectiveness of Licensee Process to Identify, Resolve, and Prevent Problems

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

BaRT	Backlog Review Team
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
KAP	Kewaunee Assessment Process
OEA	Operating Experience Assessment
PDR	Public Document Room
RI	Request for Information
SSFI	Safety System Functional Inspection

LIST OF DOCUMENTS REVIEWED

Calculations

C-038-007	Electrical Overcurrent Protective Device Coordination, 125 VDC Battery BRA-101
C-038-008	Electrical Overcurrent Protective Device Coordination, 125 VDC Battery BRB-101
C-042-001	Safeguard Diesel Generator Loading
C10062	Bolt Installed on Diesel Generator 1A
C10920	Component Cooling Water System Margin in Post-LOCA Containment Sump Recirculation Mode

Design Change Requests

1083	Replace of Johnson Control Solenoid Valves With ASCO Solenoid Valves
2552	Add SI Pump Suction Relief Valves
2586	Change Logic to Sequentially Start, Load Instrument Air Compressors
2786	Remove Boric Acid Tank Level and SI Auto Actuation Logic
3001	Install Pushbutton to Replace the Use of Temporary Jumper When Performing Surveillance Procedure

Drawings

Oper. XK100-18	Auxiliary Coolant System, Revision AK

Engineering Support Requests

89-075	Modify Diesel Generator Sequencer Load Shed Signal
93-023	Evaluate the 2400 Series Relays That Are Obsolete
96-030	Evaluate Failure of G-1 Oil Circuit Breaker

Incident Reports

91-070	Forebay Area Water Level Instrumentation Was Found Out of Tolerance
95-164	Water Was Discovered Being Discharged From the Steam Generator Blowdown Flash Tank Vent Line on to the Roof
95-048	Discrepancies Between Drawings and Instrument Name Plate
96-008	Service Water Pump B1 Restarted When Shifting Service Water Pumps

Kewaunee Assessment Process

0005	Component Cooling Pump Bracket Cracked
96-113	Pressurizer Level Transient
0111	Safety Classification of Turbine Overspeed Control Instrumentation
0504	Perform Root Cause Failure of Solenoid Valve 33836
0643	Control Room Air Conditioning Unit Tripped on High Discharge Pressure When Started

0622	NRC Identified Non-Conservative IST Procedure Acceptance Criteria
0643	Control Room Air Conditioning Unit Tripped on High Discharge Pressure When Started
0699	Clarify Surveillance Schedules for Turbine First Stage Instrument Calibration Frequency
0728	Water Detected in Emergency Diesel Generator Oil Sample
0761	Review and Clarify USAR References to SI Mitigating the Immediate Affects of a Rod Ejection Accident
0768	Pursue Replacement of Component Cooling Pumps That Are Designed to Operate Better at the Full Range of Flows
0783	Safety Injection Pump Lube Oil Heat Exchanger SW Flow
0829	Feedwater Resistance Temperature Detectors Not Routinely Checked
1028	Reduced Flow of the B Charging Pump
1136	USAR-Specified SW Flow Not Delivered to CCW Heat Exchanger
1240	Both Trains of Auxiliary Building Ventilation Stopped
1249	Evaluate Operability of the Diesel Generators Following the Loss of a Lube Oil Check Valve Nut
1355	Two Safety Valves Did Not Meet the Surveillance Requirements
1491	Degraded Grid Undervoltage Circuitry Is Not Periodically Tested
1761	Method for Testing Reactor Trip Breakers Was Found to Be Inconsistent with Procedures
1936	No Documentation Existed for Installation of Valve SW(T)42
1960	The Updated Safety Analysis Report Should Be Revised to Include the Residual Heat Removal and Containment Spray Pumps
2029	Containment Isolation Train B Manual Start Pushbutton Was Not Tested
2088	The Sequence Loading of Control Room Air Conditioning Fans A and B Is Not Verified by the Safety Injection/Blackout Test
2097	Contacts in the Diesel Generator A/B Air Start Systems Were Not Periodically Tested
2099	Bus 5 and 6 Voltage Restoring Circuits Were Not Periodically Tested
2163	Contacts in the Safety Injection Inhibit Circuitry Were Not Verified to Perform Their Safety Function
2011	Current Safety Analysis Have Not Validated Natural Circulation Model
2067	Refueling Water Storage Tank Level Decreasing at 0.1 Inch Per 6 Hours
2374	Loose Structural Material in Cavity C on Top of Conduits
2563	Indicating Lights for Turbine Reheat Stop and Intercept Valves Not Lit

<u>Procedures</u>

GIP-001	Solenoid Valve/Coil Replacement
GMP 227	Fuse Replacement, Revision C
GNP 4.3.1	Guide to Safety Review, Safety Evaluations, and Second Level Reviews, Revision A
GNP-04.03.03	Plant Physical Change Control, Revision B
GNP 4.3.4	Calculation/Evaluation Control, Revision B
GNP 4.6.1	Plant Setpoint Accuracy Calculations Procedure, Revision A
GNP 4.6.2	Plant Setpoint Change Request Procedure, Revision A
GNP-08.02.01	Work Order/Work Order Processing, Revision E
GNP 11.8.3	Operability Determination, Revision 0

NEP No. 4.9	Electrical Requirements for Load Changes, Revision A
NEP No. 4.13	Motor Thermal Overload Heater Sizing, Revision 0
NEP No. 14.23	GL 96-91 Testing of Safety Related Logic Circuits
NAD-11.8	Kewaunee Assessment Process, Revision C
NAD No. 14.3	Safety System Functional Inspections, Revision 0
NAD-14.7	Backlog Screening, Revision A
PMP 39-06	4160 (QA-1) Switchgear and Station Service Transformer Maintenance Bus 5, Revision K
PMP 42-07-01	DG A Associated Relays Test and Calibration, Revision D
RXT 6.0	Power Escalation Tests, Revision T
SP-02-138	Service Water Pump and Valve Test - IST, Revision AQ
SP-23-100	Containment Spray Pump and Valve Test - IST, Revision AH
SP-31-168	Component Cooling Pump and Valve Test - IST, Revision AA
SP-33–198	Safety Injection Flow Test, Revision P
SP 55-155C	Engineered Safeguards Prestartup Logic Test, Revision G

Operability Determinations

Potential Diesel Generator Lube Oil Water Intrusion Problem, April 7, 1997
NRC Identified Non-Conservative IST Procedure Acceptance Criteria, February 7, 1997
NRC Identified Non-Conservative Suction Pressure Assumption, March 9, 2000
NRC Questioned Assumption 3.4 in Calculation C10920, March 9, 2000
Loose Structural Material in Cavity C on Top of Conduits, November 20, 1998

Operating Experience Assessment Reviews

95-812	PWR Analysis Assumptions for Safety Injection
96-023	PWR Analysis Assumptions for Safety Injection for Safety Injection Switchover Time and Refueling Water Tank Level Uncertainties
96-090	Pneumatic Valves with Less Than Designed Effective Diaphragm Area
97-081	Failure of HPCS Pump Motor Breaker Overcurrent Relay

Safety System Functional Inspection Information Requests

R-10-005	Nameplate Data for Diesel Generator Air Start Motors Is 150 psig
R-10-011	Underrated Bolts Were Installed In the Diesel Generator
R-10-016	Diesel Generator Time Delay Relays and Speed Switches Were Not Tested
R-10-020	Potential for Overloading Diesel Generators
R-10-024	Nominal Diesel Generator Voltage May Not Be Sufficient to Start Safety Injection Pumps
R-10-025	Operation of Electric Motors Outside Design Ratings
R-10-030	Transient Analysis of Starting Currents Plus Running Currents Has Not Been Performed
R-31-011	Inconsistent Seal Water and Heat Exchanger Data
R-39-001	Potential for Physical Damage to Have Occurred to the 1-52 Service Transformer
R-39-005	Motor Overloads Were Based on Measured Loads Rather Than Nameplate Ratings

R-39-015	Acceptance Criteria for Undervoltage Relays Did Not Allow for Instrument Error
R-39-020	Independence of Non Class 1E Loads from Class 1E Supplies
R-39-022	Overload Relays Were Not Being Tested
R-39-027	No Procedure Was in Place to Test Lock Out Relays
R-39-031	Testing of 480 V and 4 kV Switchgear Under Degraded Voltage Conditions
R39-033	There Were No Control Documents That Specified Settings for Molded Case Circuit Breakers

10 CF50.59 Evaluations and Screenings

T-Ref Deviation Noted by Operations, September 11, 1996, KAP 190
Feedwater Resistance Temperature Detectors Not Routinely Checked, May 5, 1997, KAP 829I
Low Flow to SI Pump Lube Oil Heat Exchanger, May 8, 1997, KAP 783
Safety Classification of Turbine Overspeed Control Instrumentation, January 21, 1997, KAP 111
Design Change Regarding Nuclear Instrument Source and Intermediate Ranges, July 7, 1997, KAP 214
Feedwater Temperature Calibration, October 10, 1997, KAP 829
Provide More Accurate Description for Testing Trip Breakers, February 16, 1999, KAP 1761

Work Requests/Work Orders

00-000481	Investigate Failure of Solenoid Valve 33837
00-000504	Perform Root Cause Analysis for Solenoid Valve 33836 Failure
00-000541	NRC Identified Non-Conservative Assumption in Surveillance Procedure SP 23-100
00-000597	NRC Questioned Assumption 3.4 in Calculation C10920.
210451	Investigate TREF Linear Program Calibrator
211895	Air Operated Valves with an Effective Diaphragm Areas Less than Design Value
212885	Circuit Load Exceeded Rating of Installed Fuse