May 12, 2005

Mr. Craig W. Lambert
Site Vice President
Kewaunee Nuclear Power Plant
Nuclear Management Company, LLC
N490 Hwy 42
Kewaunee, WI 54216-9511

SUBJECT: KEWAUNEE NUCLEAR POWER PLANT
NRC INTEGRATED INSPECTION REPORT 05000305/2005003

Dear Mr. Lambert:

On March 31, 2005, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Kewaunee Nuclear Power Plant. The enclosed inspection report documents the inspection findings which were discussed on March 29, 2005, with you 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, one self-revealed finding of very low safety significance was identified. This finding was determined to involve a violation of NRC requirements. However, because the violation was of very low safety significance and because the issue was entered into your corrective 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 contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector Office at the Kewaunee facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public

Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Thomas Kozak, Chief
Technical Support Section
Division of Reactor Projects

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

Enclosure: Inspection Report 05000305/2005003
w/Attachment: Supplemental Information

cc w/encl: J. Cowan, Executive Vice President,
Chief Nuclear Officer
Plant Manager
Manager, Regulatory Affairs
J. Rogoff, Vice President, Counsel & Secretary
D. Molzahn, Nuclear Asset Manager,
Wisconsin Public Service Corporation
L. Weyers, Chairman, President and CEO,
Wisconsin Public Service Corporation
D. Zellner, Chairman, Town of Carlton
J. Kitsembel, Public Service Commission of Wisconsin

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-305
License No:	DPR-43
Report No:	05000305/2005003
Licensee:	Nuclear Management Company, LLC
Facility:	Kewaunee Nuclear Power Plant
Location:	N 490 Highway 42 Kewaunee, WI 54216
Dates:	January 1 through March 31, 2005
Inspectors:	S. Ray, Senior Resident Inspector (Acting) P. Higgins, Resident Inspector D. McNeil, Reactor Engineer W. Slawinski, Senior Radiation Specialist C. Zoia, Operations Engineer
Approved By:	T. Kozak, Team Leader Technical Support Section Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000305/2005003; 01/01/2005 - 03/31/2005; Kewaunee Nuclear Power Plant, Operator Performance During Non-Routine Evolutions and Events.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection on radiation protection. The inspections were conducted by the resident and Region III inspectors. The inspection resulted in one self-revealed finding of very low safety significance (Green). The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the Significance Determination Process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector-Identified and Self-Revealed Findings

Cornerstone: Barrier Integrity

- Green. A finding of very low safety significance associated with a Non-Cited Violation of the plant operating license was self-revealed during normal plant operations. The Kewaunee Nuclear Power Plant Facility Operating License, as amended stated, "The Nuclear Management Company (NMC) is authorized to operate the facility at steady-state reactor core power levels not in excess of 1772 megawatts (thermal)." Contrary to this, on January 31, 2005, the 8-hour average thermal power peaked at 1772.07 MWt before being restored to below 1772 MWt. Reactor power was allowed to rise above 1772 MWt because the 8-hr average reactor thermal power indicator on the plant process computer system was not reliable, and the site operating philosophy allowed the 1-minute average and the 15-minute average reactor thermal power indications to exceed 1772 Mwt. Once the 8-hour average was discovered to be in excess of that allowed in the Operating License, operators immediately lowered power to within the licensed limit and entered this issue into the corrective action program.

  This violation of the plant operating license was considered greater than minor, because it could affect the barrier integrity cornerstone objective of protecting the integrity of the fuel cladding and was associated with the barrier integrity cornerstone attributes of thermal limits and reactivity control. The finding also involved the crosscutting area of human performance. In accordance with Inspection Manual Chaper (IMC) 0609, Appendix A, Phase 1, the finding was of very low safety significance. (Section 1R14.1)

B. Licensee-Identified Violations

No finding of significance were identified.

REPORT DETAILS

Summary of Plant Status

The plant operated at or near full power until February 19, 2005, when a shutdown was initiated due to the licensee determining that all three auxiliary feedwater (AFW) pumps were inoperable. The turbine was taken offline and the reactor shutdown was completed on February 20. The plant reached cold shutdown on February 22 and remained shutdown through the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04)

a. Inspection Scope

The inspectors performed a walkdown of the B diesel generator during a period when the train was of increased risk-significance because the A diesel generator was unavailable to determine if the train was correctly aligned to perform its design safety function, as discussed in the appropriate sections of the Technical Specifications (TS) and Updated Safety Analysis (USAR). In preparation for the walkdowns, the inspectors reviewed the system lineup checklists, normal operating procedures, abnormal and emergency operating procedures, and system drawings to determine the correct system lineup. During the walkdown, the inspectors also examined valve positions and electrical power availability to verify that valve and electrical breaker positions were consistent with, and in accordance with, the licensee's procedures and design documentation. The inspectors also observed the material condition of the equipment. Documents reviewed during this inspection are listed in the Attachment. This inspection constituted one sample of the quarterly requirement.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S)

a. Inspection Scope

The inspectors conducted a complete walkdown of the component cooling water (CCW) system to determine if the system was correctly aligned to perform its design safety function, as discussed in the TS and USAR. This system was selected because of its high relative importance in the licensee's probabilistic risk assessment. In preparation for the walk down, the inspectors reviewed the system lineup checklists, normal operating procedures, abnormal and emergency operating procedures, and system

drawings to determine the correct system lineup. During the walk down, the inspectors also examined valve positions, electrical power availability, and Control Room control switch positions to verify that valve and electrical breaker positions were consistent with, and in accordance with, the licensee's procedures and design documentation. In addition, the inspectors reviewed documents in the coppective action program (CAP) initiated in response to issues identified during a Safety System Design Inspection discussed in Inspection Report (IR) 05000305/2002007 to determine if significant corrective actions (CAs) were being accomplished in a timely manner. The inspectors also observed the material condition of the equipment as part of this inspection. Documents reviewed in this inspection are listed in the Attachment. This inspection constituted one sample of the semiannual requirement.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Quarterly Walkdowns (71111.05Q)

a. Inspection Scope

The inspectors performed fire protection walkdowns of the following plant areas, completing nine inspection samples of the quarterly requirement:

- TU-90, diesel generator room A;
- TU-92, diesel generator room B;
- AX-30, relay room;
- various areas protected by Halon systems;
- TU-95A, bus 51/52 area;
- TU-95B, bus 61/62 area;
- TU-22, turbine building operating floor;
- AX-32, cable spreading room; and
- AX-21, bus 1 and 2 room.

During the walkdowns, the inspectors focused on the availability, accessibility, and condition of fire fighting equipment; the control of transient combustibles and ignition sources; and the materiel condition of installed fire barriers. The inspectors selected fire areas for inspection based on the overall contribution to internal fire risk, and the potential to impact equipment that could initiate a plant transient. The inspectors verified that fire response equipment was in the designated location and available for immediate use without obstruction; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and that passive features such as fire doors, dampers, and penetration seals were in satisfactory condition. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

Review of External Flood Protection Measures

a. Inspection Scope

The inspector performed an external flood protection inspection for the lake screen house. This constituted one inspection procedure sample. The inspectors reviewed the USAR and related external flooding analysis to identify external flooding barriers and vulnerabilities. The inspectors reviewed plant procedures and conducted plant walkdowns to determine the adequacy and conditions of existing flood protection measures. As part of this inspection, the inspectors also reviewed licensee resolution of previously identified external flood protection issues. Documents reviewed as part of this inspection are listed in the attachment.

b. Findings

No findings of significance were identified

1R07 Heat Sink Performance (71111.07A)

a. Inspection Scope

The inspectors performed an inspection of the heat exchanger performance on the auxiliary building basement fan coil unit 1A, completing one inspection procedure sample. The heat exchanger utilizes service water to cool the auxiliary building basement during normal operation and accident conditions. The inspector observed heat exchanger performance data gathering and software calculation of the heat removal capability of the heat exchanger using obtained performance data. The inspector reviewed test acceptance criteria and compared it against calculated test results. The inspector reviewed heat exchanger performance calculation methodology to ensure that both instrument uncertainty and calculation uncertainty were accounted for in the results to be compared against test acceptance criteria. The inspector also reviewed testing frequency to ensure that it was sufficient consistent with potential for biofouling.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program

Quarterly Review of Requalification Activities (71111.11Q)

a. Inspection Scope

The inspectors reviewed a Licensed Operator Requalification Training Program simulator evaluation consisting of one inspection sample of the quarterly requirement. The inspectors observed crew performance in the simulator setting utilizing an approved

simulator scenario that was of sufficient detail and difficulty to evaluate licensed operator performance under simulated emergency conditions. The inspectors observed crew communications, alarm response, use of procedures, control board manipulations, and the ability to take timely action to mitigate plant problems. Crew oversight and direction provided by the Shift Manager was also evaluated. The scenario performance based critique was observed. The training staff provided appropriate observations and suggestions to improve performance to the operating crew.

In addition, the simulation facility functioned properly throughout the observed scenario. The fidelity of the simulation was appropriate for all conditions and malfunctions simulated by the machine.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

Routine Quarterly Resident Review (71111.12Q)

a. Inspection Scope

The inspectors reviewed the implementation of the Maintenance Rule for the systems listed below, completing two inspection samples of the quarterly requirement:

- incore instrumentation; and
- Foxboro H-Line process control equipment.

The inspectors verified that the licensee identified, entered, and scoped component and equipment failures within the maintenance rule requirements. The inspectors also verified that the systems and equipment were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The inspectors reviewed a sample of maintenance work orders (WOs), action requests, functional failure evaluations, unavailability records, and a sample of CAP reports to verify that the licensee identified issues related to the Maintenance Rule at an appropriate threshold and that CAs were appropriate. Additionally, the inspectors reviewed the licensee's performance criteria to verify that the criteria adequately monitored equipment performance. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's management of plant risk during emergent maintenance activities or during activities where more than one significant system or

train was unavailable. The activities were chosen based on their potential impact on increasing the probability of an initiating event or impacting the operation of risk-significant equipment. The inspections were conducted to determine whether evaluation, planning, control, and performance of work were done in a manner to reduce the risk and minimize the duration where practical, and that contingency plans were in place where appropriate.

The licensee's daily configuration risk assessment records, observations of operator turnover and planning meetings, and observations of work in progress, were used by the inspectors to determine whether the equipment configurations were properly listed, that protected equipment was identified and being properly controlled where appropriate, that work was being conducted properly, and that significant aspects of plant risk were being communicated to the necessary personnel.

In addition, the inspectors reviewed CAP entries to determine whether problems encountered during the activities were being entered with the appropriate characterization and significance. Documents reviewed during this inspection are listed in the Attachment.

The inspectors completed four samples of this inspection requirement by reviewing the following activities:

- compensatory actions for internal flooding concerns;
- compensatory actions for AFW pump suction concerns;
- protection of 'B' train safeguards equipment during outage maintenance on 'A' train components; and
- actions taken upon discovery of a 'B' train control room post accident recirculation system operability issue while the 'A' train diesel generator was inoperable.

b. Findings

No findings of significance were identified that will be documented in this report. For the inspection samples regarding compensatory actions for internal flooding concerns and AFW pump suction concerns, any potential findings have been addressed in IR 05000305/2005002, a pilot inspection which took place during the same time period.

1R14 Operator Performance During Non-Routine Evolutions and Events (71111.14)

.1 Licensed Reactor Thermal Power Exceeded During Normal Plant Operations

a. Inspection Scope

The inspectors reviewed the conditions leading to and operator response to a condition where reactor thermal power exceeded the licensed thermal power limit for an 8-hour average.

b. Findings

Introduction: A finding of very low safety significance associated with a non-cited violation (NCV) of the plant operating license was self-revealed during normal plant operations. On January 31, 2005, the operators received an alarm indicating that they had exceeded 1772 megawatts thermal (MWt) for an 8-hour average. Exceeding an 8-hour average of 1772 MWt was a violation of the plant operating license. This finding was also associated with the cross-cutting area of human performance because it involved operators failing to be attentive to and analyzing all of their indications of reactor power in order to maintain the power at less than or equal to the the licensed limit.

Description: On January 31, 2005, the Control Room received an alarm for "Reactor Thermal Power High." This alarm was set to come in whenever the 8-hour average reactor power exceeded 1772 MWt, the licensed thermal power limit. Reactor power was allowed to rise above 1772 MWt average because some indicators on the plant process computer system (PPCS) that are normally used to verify compliance with the plant licensed thermal power limitations were not reliable. This unreliability was caused by the performance of a calibration procedure on a feedwater flow transmitter which provides inputs to the PPCS for the reactor thermal output calculation. Surveillance Procedure SP-05A-034C-1 "Feed water Slow Transmitter Channel 1 (Red) Calibration was performed and it affected the reactor thermal power calculations being performed by the PPCS, by providing artificially low feedwater flow data to the PPCS which was then used to calculate the 8-hour average reactor thermal power.

When this artificially low data no longer contributed to the 8-hour average, the calculated 8-hour average, as displayed on the control room PPCS monitors rapidly increased to the actual thermal power level. Shortly thereafter, the reactor thermal power 8-hour average read 1772.03 MWt and the "Reactor Thermal Power High" alarm was received in the control room. Upon receipt of the alarm, the control room operators entered the Alarm Response Procedure for the "Reactor Thermal Power High" alarm and immediately reduced reactor thermal power below 1772 megawatts in accordance with that procedure. During this occurrence, the Reactor Thermal Power 8-hour average peaked at 1772.07 MWt.

During this time frame, the on-shift operating crew was aware that the reactor thermal power 8-hour average data being displayed on control room PPCS monitors was unreliable. However, other indications of reactor thermal power, including PPCS reactor thermal power 15-minute average data was reliably being displayed on the control room PPCS monitors. The reactor thermal power 15-minute average data clearly indicated a reactor thermal power above 1772 MWt. However, no operator action was taken to immediately reduce thermal power below 1772 MWt. In addition, when this 15 minute average data showed reactor thermal power moving below 1772 MWt thermal, a dilution was performed to increase reactor thermal power above 1772 MWt. These operator actions were due to a site operating philosophy which allowed the 1 minute average and the 15 minute average reactor thermal power to exceed 1772 megawatts.

Analysis: The inspectors determined that, in accordance with Appendix B of IMC 0612, failure to maintain the reactor thermal power 8-hour average below 1772 MWt, as

required by the plant Operating License, was a licensee performance deficiency and was considered greater than minor because it could affect the fuel cladding barrier. Thus, it degraded the barrier integrity cornerstone objective and was associated with the cornerstone attributes of thermal limits and reactivity control. The inspectors evaluated the significance of this finding using IMC 0609, Appendix A, Phase 1, where findings affecting only the fuel cladding screen out as green or of very low safety significance. This finding was also associated with the cross-cutting area of human performance because it involved operators failing to be attentive to and analyzing all of their indications of reactor power in order to maintain the power at less than or equal to the licensed limit.

Enforcement: Condition 2.C.(1) of the Kewaunee Operating License as Amended states "The NMC is authorized to operate the facility at steady-state reactor core power levels not in excess of 1772 megawatts (thermal)." Contrary to this, the 8-hour average thermal power peaked at 1772.07 MWt before being restored to below 1772 MWt. Exceeding the power limitations specified in the plant Operating License is a violation. This violation of the conditions of the plant Operating License is of low safety significance, in accordance with IMC 0609, Appendix A, Phase 1. Therefore, this violation is being treated as a NCV consistent with Section VI.A of the NRC Enforcement Policy (NCV 05000305/2005003-01). Once the 8-hour average was discovered to be in excess of that allowed in the Operating License, operators immediately lowered power to within the licensed limit and entered this issue into the corrective action program as CAP 025063, CAP 025257, and CAP 025263.

.2 Lake Water Intrusion into the Steam Generators

a. Inspection Scope

The inspectors completed one inspection sample by evaluating the licensee's actions leading up to and as a result of lake water intrusion into the steam generators. The inspectors reviewed operator actions in the control room, control room logs and strip charts, interviewed station personnel, attended briefings in the outage control center, and attended the initial event investigation team's exit meeting with plant management.

The inspectors evaluated the initiating cause of the lake water intrusion, and the control room operating team's response to the event. The inspectors also reviewed the station's CAP to determine if this event had been properly addressed. Finally, the inspectors reviewed the licensee's technical evaluation of the short and long term effects of the event. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following operability evaluations, completing two inspection samples:

- seismic qualification of the plant process computer system (PPCS) input/output racks; and
- AFW pump discharge pressure switches may not protect the pumps during a loss of suction.

Note: Two other baseline samples of this inspection requirement were conducted as part of IR 05000305/2005002, a pilot temporary instruction inspection which took place during the same time period.

The inspectors reviewed design basis information, the USAR, TS requirements, seismic evaluation work sheets, and licensee procedures to verify the technical adequacy of the operability evaluations. In addition, the inspectors verified that compensatory measures were implemented, as required, for the AFW issue. For the AFW switch issue, the inspectors also reviewed 10 CFR 50.72 Event Notification 41406 by which the licensee reported the condition. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified that will be documented in this report. For the inspection sample regarding operability of the AFW pumps, any potential findings have been addressed in IR 05000305/2005002, a pilot temporary instruction inspection which took place during the same time period.

1R16 Operator Workarounds (71111.16)

Review of Selected Operator Workarounds

a. Inspection Scope

The inspectors reviewed new emergent, risk-significant, operator compensatory action plans to determine whether they created significant adverse consequences regarding the reliability, availability, and operation of accident mitigating systems. The inspectors also assessed the effects of the workarounds on the ability to implement abnormal and emergency response procedures in a correct and timely manner, whether any unrecognized consequences were introduced, and whether human performance error probabilities were properly considered. Documents reviewed during this inspection are listed in the Attachment. The inspectors completed two samples of this inspection requirement by reviewing the following:

- planned operator actions in response to internal flooding; and
- planned operator actions in response to tornados with respect to AFW pump suction.

b. Findings

No findings of significance were identified that will be documented in this report. For the inspection samples regarding compensatory actions for internal flooding concerns and AFW pump suction concerns, any potential findings have been addressed in IR 05000305/2005002, a pilot temporary instruction inspection which took place during the same time period.

1R17 Permanent Plant Modifications

Annual Review of On-Line Modification (71111.17A)

a. Inspection Scope

The inspectors reviewed the engineering analyses, design information and modification documentation for the replacement of the PPCS. This system performs calculations on the performance of the reactor and on reactor power levels. This inspection constituted one inspection procedure sample. The inspection activities included, but were not limited to, verification and review of the following parameters associated with this modification: structural design classification; fire protection combustible loading; installation impacts on plant operation; quality classification; environmental qualification; safety classification; seismic qualification; failure mode potentials; and the associated 10 CFR 50.59 screening analysis. Additionally, the inspectors observed portions of the installation and testing of the PPCS, reviewed acceptance testing results, and reviewed CAP documents associated with the design change and subsequent operation to verify that the licensee identified and documented problems at an appropriate threshold.

Since the replacement activity resulted in a temporary loss of the Emergency Response Data System and Safety Parameter Display System, the licensee reported the initiation and completion of the outage via 10 CFR 50.72 in Event Notification 41309 on January 5 and January 20, 2005. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the post-maintenance testing activities associated with the following scheduled and emergent work activities, completing four inspection samples:

- changeout of a average reactor coolant system temperature instrumentation module;
- routine maintenance of CCW pump 1A;
- replacement of the solenoid operator for the service water supply valve to the ‘A’ diesel generator, SW-301A; and

- changeout of the plant process computer system / safety parameter display system.

The inspectors verified that the testing was adequate for the scope of the maintenance work performed. The inspectors reviewed the acceptance criteria of the tests to ensure that the criteria was clear and that testing demonstrated operational readiness consistent with the design and licensing basis documents. Documents reviewed during this inspection are listed in the Attachment.

The inspectors attended pre-job briefings to verify that the impact of the testing was appropriately characterized. The inspectors also observed the performance of testing to verify the procedure was followed and that all testing prerequisites were satisfied. Following the completion of tests, the inspectors walked down the affected equipment to verify removal of the test equipment and to ensure the equipment could perform the intended safety function following the test. The inspectors also reviewed the completed test data to ensure the test acceptance criteria were met for the post maintenance testing.

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed the licensee's performance during a forced outage which began on February 19, 2005, and continued through the end of the inspection period. This activity represented one partial inspection sample with more inspection to follow in the next inspection quarter.

The inspection consisted of reviews of outage schedules, outage risk assessments, protected equipment designation, and periodic observations of plant and control room outage activities. Specifically the inspectors determined whether the licensee effectively managed elements of shutdown risk pertaining to reactivity control, decay heat removal, inventory control, electrical power control, and containment integrity.

The inspectors performed the following activities on a daily or frequent basis:

- attended outage control center update meetings to assess whether licensee employees had adequate knowledge of outage risk activities, the effects of schedule changes on risk, and the current status of protected equipment;
- attended operating crew briefings to assess whether operators had adequate knowledge of the plant status, with emphasis on those activities which would affect shutdown risk;
- performed walkdowns of the main control room to observe the alignment of systems important to shutdown risk;
- reviewed licensee CAP documents to determine whether shutdown risk issues had been entered into the system with an appropriate characterization and

significance level, and that they were receiving the appropriate attention and priority for resolution;
- reviewed the shiftly Shutdown Safety Assessment Checklist to determine whether outage risk and defense-in-depth status had been correctly evaluated; and
- performed walkdowns of the turbine building and auxiliary building to monitor ongoing work activities.

Additionally, the inspectors performed the following specific activities:

- observed portions of the plant shutdown and establishing of the initial cooldown with AFW;
- establishing of residual heat removal operation, and continued cooldown to cold shutdown conditions;
- participated in an internal inspection of the circulating water expansion joints; and
- observed portions of draining and filling operations of the steam generators.

During the outage, the licensee implemented a number of recovery and improvement initiatives to address weaknesses, some of which led to the shutdown. The inspectors observed many of the licensee's actions and monitored progress toward resolving restart restraints. The inspectors activities included:

- attending numerous management-level briefings on aspects of the recovery plan;
- reviewing CAP documents related to the plan;
- attending a training session designed to improve licensee operability decisions and documentation; and
- attending challenge board meetings to determine whether technical issues had been adequately resolved.

Documents reviewed as part of this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed and reviewed the surveillance testing results for the following surveillances, completing four inspection samples:

- diesel generator A monthly test;
- turbine trip mechanism monthly test;
- turbine first stage pressure instruments monthly test; and
- engineered safety features train B quarterly logic channel test.

Note: Six other baseline samples of this inspection requirement were conducted as part of IR 05000305/2005002, a pilot temporary instruction inspection which took place during the same time period.

The inspectors verified that the equipment could perform the intended safety function and that the surveillance tests satisfied the requirements contained in plant TS and licensee procedures. The inspectors reviewed the surveillance tests to verify that the tests adequately demonstrated operational readiness consistent with plant design and licensing basis documents, and that the testing acceptance criteria were well documented and appropriate to the circumstances. Documents reviewed during the inspection are listed in the Attachment.

The inspectors observed portions of the test to verify the following attributes: performance of the test in accordance with prescribed procedures; completion of test procedure prerequisites; and verification that the test data was complete, appropriately verified, and met the acceptance criteria of the test. Following the completion of the tests, when applicable, the inspectors walked down the affected equipment to verify test equipment removal and to confirm the equipment tested was in an operable condition.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the modification documentation and associated 10 CFR 50.59 evaluation for temporary plant modification TCR 02-01, for installation of a travel limiter device on valve CC-302, completing one inspection procedure sample.

The inspectors verified that the temporary modification did not adversely impact other safety-related equipment and that the modification was controlled in accordance with the licensee's administrative procedures. The inspectors also verified that the modification did not affect system operability or availability. In addition, the inspectors reviewed condition reports to verify that temporary modification problems were entered into the CAP with the appropriate significance characterization.

The inspectors also reviewed Event Notification 41539, initiated by the licensee on March 28, 2005, to report that an unrecognized condition of inoperability had existed before the temporary modification had been installed.

b. Findings

No findings of significance were identified. The failure to previously report the condition of inoperability was considered a minor issue.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the USAR to identify applicable radiation monitors associated with measuring transient high and very high radiation areas including those used in remote emergency assessment. The inspectors identified the types of portable radiation detection instrumentation used for job coverage of high radiation area work including instruments used for underwater surveys, fixed area radiation monitors (ARMs) used to provide radiological information in various plant areas and continuous air monitors used to assess airborne radiological conditions and consequently work areas with the potential for workers to receive a 50 millirem or greater committed effective dose equivalent (CEDE). Contamination monitors, whole body counters and those radiation detection instruments utilized for the release of personnel and equipment from the radiologically restricted area (RRA) were also identified.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

.2 Walkdowns of Radiation Monitoring Instrumentation

a. Inspection Scope

The inspectors conducted walkdowns of selected ARMs in the Auxiliary Building and the Reactor Containment Building to verify they were located as described in the USAR and were optimally positioned relative to the potential source(s) of radiation they were intended to monitor. Walkdowns were also conducted of those areas where portable survey instruments were calibrated/repaired and maintained for radiation protection (RP) staff use to determine if those instruments designated “ready for use” were sufficient in number to support the radiation protection program, had current calibration stickers, were operable, and were in good physical condition. Additionally, the inspectors observed the licensee’s instrument calibration units and the radiation sources used for instrument checks to assess their material condition and discussed their use with RP staff to determine if they were used adequately. Licensee personnel demonstrated the methods for performing source checks of portable survey instruments and for source checking personnel contamination and portal monitors used at the egress to the RRA.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.3 Calibration and Testing of Radiation Monitoring Instrumentation

a. Inspection Scope

The inspectors selectively reviewed radiological instrumentation associated with monitoring transient high and/or very high radiation areas, instruments used for remote emergency assessment, and radiation monitors used to identify personnel contamination and for assessment of internal exposures to verify that the instruments had been calibrated as required by the licensee's procedures, consistent with industry and regulatory standards. The inspectors also reviewed alarm setpoints for selected ARMs, for personnel contamination monitors and for portal (egress) monitors to verify that they were established consistent with the USAR or TS, as applicable, and were consistent with industry practices and regulatory guidance. Specifically, the inspectors reviewed calibration procedures and the most recent calibration records and/or source output verification documents for the following radiation monitoring instrumentation and instrument calibration equipment:

- Containment High Level (Wide Range) Radiation Monitors (channels R-40/41);
- Charging Pump Room ARM (channel R-4);
- In-Core Instrument Seal Table ARM (channel R-7);
- New Fuel Pit Area Monitor (channel R-10);
- Reactor cavity Sump 'C' ARM (channel R-30);
- Portable Survey Instrument used for Neutron Surveys (Rem Ball);
- Portal Monitor used at RRA Egress;
- Personnel Contamination Monitor used at RRA egress;
- Portable Survey Instruments used for Underwater Surveys (two instruments);
- Calibrators used to Calibrate Portable Survey Instruments and ARMs (two calibrators) and the associated instruments used to measure Calibrator output; and
- Whole Body Counter.

The inspectors determined what actions were taken when, during calibration or source checks, an instrument was found significantly out of calibration or exceeded as-found acceptance criteria. Should that occur, the inspectors verified that the licensee's actions would include a determination of the instruments's previous usages and the possible consequences of that use since the prior calibration. The inspectors also discussed with RP staff the 10 CFR Part 61 source term (radionuclide mix) to determine if the calibration sources used were representative of the plant source term and that difficult to detect nuclides were scaled into whole body count dose determinations.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.4 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed licensee CAP documents and any special reports that involved personnel contamination monitor alarms due to personnel internal exposures to verify that identified problems were entered into the CAP for resolution. Licensee self-assessments, field observations and CAPs were also reviewed to verify that problems with radiological instrumentation or self-contained breathing apparatus were identified, characterized, prioritized, and resolved effectively using the CAP.

The inspectors reviewed CAP reports related to exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area, as applicable. Members of the radiation protection staff were interviewed and corrective action documents were reviewed to verify that follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes; and
- identification and implementation of effective CAs.

The inspectors determined if the licensee's self-assessment, audit and/or field observation activities completed for the 2-year period that preceded the inspection were identifying and addressing repetitive deficiencies or significant individual deficiencies in problem identification and resolution, as applicable.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.5 Radiation Protection Technician Instrument Use

a. Inspection Scope

The inspectors selectively verified that calibrations for those instruments recently used and for those designated for use had not lapsed. The inspectors reviewed instrument logs for the first two and one-half months of 2005 to verify that response checks of portable survey instruments and checks of instruments used for unconditional release of materials and workers from the RRA were completed prior to instrument use or daily, as required by the licensee's procedure. The inspectors also discussed instrument

calibration methods and source response check practices with radiation protection staff and observed staff compete instrument source checks prior to use.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.6 Self-Contained Breathing Apparatus (SCBA) Maintenance/Inspection and User Training

a. Inspection Scope

The inspectors reviewed aspects of the licensee's respiratory protection program for compliance with the requirements of Subpart H of 10 CFR Part 20 and to determine if self-contained breathing apparatus (SCBA) were properly maintained and ready for emergency use. The inspectors reviewed the status and surveillance records of SCBAs staged for emergency use in various areas of the plant and assessed the licensee's capability for refilling and transporting SCBA air bottles to and from the control room during emergency conditions. The inspectors verified that all control room staff designated for the active on-shift duty roster including those individuals on the station's fire brigade were trained, respirator fit tested, and medically certified to use SCBAs. Additionally, the inspectors reviewed respiratory protection equipment qualification records for the emergency response organization's radiological emergency teams and for other key emergency responders and repair teams to determine if a sufficient number of staff were qualified to fulfill emergency response positions to meet the requirements of 10 CFR 50.47. The inspectors also reviewed the respiratory protection training lesson plan to assess its overall adequacy consistent with Subpart H of 10 CFR Part 20 and to verify that personal SCBA air bottle change-out was adequately covered as part of the training.

The inspectors walked down the bottled air supply rack and spare air bottle stations located outside the main control room, and inspected SCBA equipment maintained in the control room and SCBA equipment staged for emergency use in various other areas of the plant. During the walkdowns, the inspectors examined several SCBA units to assess their material condition, to verify that air bottle hydrostatic tests were current, and to verify that bottles were pressurized to meet procedural requirements. The inspectors reviewed records of SCBA equipment inspection and testing and observed an RP technician demonstrate the methods used to conduct the inspections and functional tests to determine if these activities were performed consistent with procedure and the equipment manufacturers recommendations. The inspectors also ensured that the required, periodic air cylinder hydrostatic testing was documented and up to date, and that the Department of Transportation required retest air cylinder markings were in place for several randomly selected SCBA units and spare air bottles. Additionally, the inspectors reviewed the vendor training certificate for the individual that performed the repair of SCBA pressure regulators to determine if those personnel that performed maintenance on components vital to equipment function were qualified.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that issues were entered into the licensee's CAP system at an appropriate threshold, that adequate attention was given to timely CAP resolution, and that adverse trends were identified and addressed. The inspectors also reviewed all CAP documents written by licensee personnel during the inspection quarter. Issues entered into the licensee's CAP system, directly or indirectly, as a result of the inspectors' observations or questions are included at the end of the list of documents in the Attachment.

b. Findings

There were no findings of significance

.2 Annual Sample (71152A)

Internal Flooding Modification and Operability Recommendations

Introduction

The inspectors reviewed a modification that had been issued to address internal flooding vulnerabilities documented as CAPs in the licensee's problem identification and resolution program. This sample was selected to verify that the licensee was adequately addressing CAs. Documents reviewed as part of this inspection are listed in the Attachment. This activity constituted one sample of this inspection requirement.

a. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors considered the licensee's evaluation and disposition of performance issues, and application of risk insights for prioritization of issues by reviewing the modification to install floor sweeps, sill plates and weather stripping to make specific doors "as water tight as possible."

(2) Issues

The inspectors determined that licensee CAs were based on a qualitative assessment of risk. For the issues reviewed, the inspectors did not find any discrepancies with the apparent risk and the categorization assigned by the licensee. Planned CAs did not adversely impact the immediate operability of associated equipment.

b. Effectiveness of CAs

(1) Inspection Scope

The inspectors reviewed the modification, multiple CAPs, and three revisions of the same operability recommendation for various barriers and drain paths protecting Class I structures, systems and components to determine if CAs addressed generic implications and were appropriately focused to correct the problem.

(2) Issues

The inspectors determined that planned CAs identified in the modification, CAPs and the final revision of the operability recommendation appeared to be adequate for and were focused on the specific internal flooding issues addressed. However, effectiveness of the pending CAs rely on followup assessments (i.e., 10 CFR 50.59 reviews and a comprehensive flooding analysis) to verify the adequacy of completed CAs. Finally, two additional modifications were in the process of being written and implemented to fully address remaining internal flooding issues.

On March 15, 2005, the licensee initiated Event Notification 41496 in accordance with 10 CFR 50.72 to report that it had determined that the plant design for flooding events may not mitigate the consequences of piping system failures. Any findings associated with this issue have been documented in IR 05000305/2005002, a pilot temporary instruction inspection that occurred at the same time as this inspection.

4OA3 Event Followup (71153)

.1 (Closed) Licensee Event Reports (LERs) 05000305/2004-001-00 and 05000305/2004-001-01: Blocked Lube Oil Coolers to Safety Injection Pumps Force Plant Shutdown

This event has been discussed extensively in previous IRs. The original LER was opened in IR 05000305/2004002, Section 4OA3.2. The event was the main subject of Special IR 05000305/2004003, in which it was considered Unresolved Item 05000305/2004003-01. The Unresolved Item was closed and two NCVs for findings of very low safety significance were issued in IR 05000305/2004004, Sections 4OA3.1, 4OA3.2, and 4OA3.3. At that time, the LER remained open pending issuance of a revision which discussed past operability. The revised LER was issued on September 14, 2004, and contained the expected new information. No new significant concerns not already addressed by the previous findings were identified. The original LER and its revision are both closed.

.2 (Closed) LER 05000305/2004-003-01: Control Room Boundary Door Found Ajar - Accident Analysis Assumptions Impacted - Personnel Error

This event was previously discussed in IR 05000305/2004009, Sections 4OA3.1 and 4OA7, and was considered to be a licensee-identified NCV of very low safety significance. This issue was previously entered into the licensee's corrective action program as CAP 022205. The revision to the LER added analysis information relative to the consequences the door being open in the case of smoke or toxic gas. No new issues of significance were identified. This LER is closed.

.3 (Closed) LER 05000305/2004-004-00: Procedure Deficiency Results in Automatic Containment Ventilation Isolation Being Disabled Contrary to Technical Specifications

This event was previously discussed in IR 05000305/2004009, Section 1R20 b.3, and was considered to be a self-revealed NCV and finding of very low safety significance (NCV 05000305/2004009-07). The issue was previously entered into the licensee's corrective action program as CAP 024107. There were no new concerns identified in the LER. This LER is closed.

.4 (Closed) LER 05000305/2004-005-00: Safety Injection Accumulator Isolation Valve Position During Heatup Violates Technical Specifications - Procedure Deficiency

This event was previously discussed in IR 05000305/2004009, Section 4OA7, and was considered to be a licensee-identified NCV of very low safety significance. The issue was previously entered into the licensee's corrective action program as CAP 024241. There were no new concerns identified in the LER. This LER is closed.

.5 Conduct of an Unauthorized Test

a. Inspection Scope

On January 23, 2005, an individual conducted an unauthorized activity to determine if an oxygen deficient environment could be created if a situation were to occur involving liquid nitrogen used for radiological analysis equipment. The individual established remote monitoring for oxygen concentrations and then established conditions to allow nitrogen to fill a closed laboratory space (Radiological Analysis Facility countroom). An oxygen deficient environment was established that was immediately dangerous to life and health. Oxygen concentrations in the room fell to as low as approximately 10% (normal oxygen levels are approximately 21%).

This unauthorized activity was conducted without approve procedures. The licensee determined that conditions existed during this event which met the criteria of a Notification of Unusual Event. Once discovered, the licensee reported this condition to the NRC. The inspectors walked down the area of the unauthorized activity as well as the surrounding area, interviewed senior plant management on the details of this activity, reviewed plant documentation and reports generated as result of this activity, observed that plant personnel briefings on this activity and reviewed plant follow-up actions as a result of this activity.

In addition, based on the investigation of the above event, it was discovered that the same individual had previously released liquid nitrogen in the auxiliary building elevator, as part of the same data collection activity. This release may also have been at the levels of immediately dangerous to life and health. This previous incident occurred on January 22, 2005.

Both of these events were reported to the NRC under 10 CFR 50.72 as an after-the-fact emergency condition (Unusual Event) as Event Notification 41398 on February 10 and February 24, 2005.

b. Findings

No findings of significance were identified during this inspection. A follow-up inspection of this activity will be performed during the next Emergency Planning inspection.

.6 Technical Specification Required Shutdown due to Inoperable AFW Pumps

On February 20, 2005, the licensee initiated Event Notification 41423 in accordance with 10 CFR 50.72 when it determined that a high energy line break in the turbine building could affect the AFW pump common suction line from the condensate storage tank. The inspectors reviewed the event notification for completeness and accuracy and monitored the licensee's subsequent actions to resolve the issue. However, any findings associated with this issue have been addressed in IR 05000305/2005002 for a pilot temporary instruction inspection which was accomplished at the same time as this inspection.

.7 Reactor Protection System Actuation on Low Steam Generator Level While Shutdown

On February 20, 2005, the licensee initiated Event Notification 41425 in accordance with 10 CFR 50.72 when it experienced a valid actuation of the reactor protection system on low steam generator level due to inadequate control of temperature and level during a plant shutdown and cooldown. The reactor was already shutdown at the time. Thus the event did not involve more than minor risk and was not reviewed by this inspection beyond checking to determine that the event was properly reported and entered into the licensee's CAP.

4OA4 Cross-Cutting Aspects of Findings

The finding described in Section 1R14.1 of this report had, as its primary cause, a human performance deficiency in that the failure to adequately monitor reactor thermal power and rapidly return power to below the licensed thermal power limit when it exceeded it during transients, led to exceeding the limit for the average of an 8-hour period.

4OA6 Meetings

.1 Exit Meeting

On March 29, 2005, the resident inspectors presented the inspection results to Mr. C. Lambert and other members of licensee management. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

An interim exit meeting was conducted for:

- Occupational radiation safety program for radiation monitoring instrumentation and protective equipment with Mr. C. Lambert on March 18, 2005.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Nuclear Management Company, LLC

C. Lambert, Site Vice President
P. Harden, Improvements Programs Director
K. Hoops, Site Director
K. Davison, Plant Manager
P. Anderson, Outage & Scheduling Manager
L. Armstrong, Site Engineering Director
S. Baker, Radiation Protection Manager
L. Blocker, Operations Manager
W. Flint, Chemistry Manager
W. Hunt, Maintenance Manager
G. Salamon, Regulatory Affairs Manager

NRC Personnel

L. Kozak, Senior Reactor Analyst, DRS
J. Lara, Chief, Electrical Engineering Branch, DRS
C. Lyon, Project Manager, NRR

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000305/2005003-01	NCV	Licensed Reactor Thermal Power Exceeded During Normal Plant Operations (Section 1R14.1)

Closed

05000305/2004-001-00	LER	Blocked Lube Oil Coolers to Safety Injection Pumps Force Plant Shutdown (Section 4OA3.1)
05000305/2004-001-01	LER	Blocked Lube Oil Coolers to Safety Injection Pumps Force Plant Shutdown (Section 4OA3.1)
05000305/2004-003-01	LER	Control Room Boundary Door Found Ajar - Accident Analysis Assumptions Impacted - Personnel Error (Section 4OA3.2)

05000305/2004-004-00	LER	Procedure Deficiency Results in Automatic Containment Ventilation Isolation Being Disabled Contrary to Technical Specifications (Section 4OA3.3)
05000305/2004-005-00	LER	Safety Injection Accumulator Isolation Valve Position During Heatup Violates Technical Specifications - Procedure Deficiency (Section 4OA3.4)
05000305/2005003-01	NCV	Licensed Reactor Thermal Power Exceeded During Normal Plant Operations (Section 1R14.1)

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04 Equipment Alignment

N-CC-31-CL; Component Cooling System Prestart Checklist; Revision AA

Inspection Report 50-305/02-07; Condition Reports Written as a Result of the Inspection; February 21, 2003

N-DGM-10-CLB; Diesel Generator B Prestartup Checklist; Revision J

1R05 Fire Protection

Fire Protection Program Analysis; Revision 5

Fire Protection Program Plan; Revision 5

Individual Plant Examination for External Events; Section 9.0; Fire Analysis; Revision 0403

FPP 08-08; FP - Control of Combustible Materials; Revision E

NRC Event Report 41326; 24-Hour Condition of License Report Regarding Halon System Actuator Port Connection Error; January 12, 2004

CAP 20118; Possible Fire Plan Typographical Error; February 23, 2004

PMP-08-22; FP - Operability Test of Fire Dampers (Fusible Linked Style); Revision F

Drawing PFP-15; CBT Hold Up Tanks and Waste Neutralizing Tank Area

1R06 Flood Protection Measures

E-0-5; Response to Natural Events; Revision M

USAR Section 2.6; Hydrology; Revision 18

CAP 3187; Flooding Issue Screenhouse; February 22, 2002

CAP 13154; Potential Screenhouse Flooding Paths; October 1, 2002

1R07 Heat Sink Performance

PMP 17-13; ACA - Auxiliary Building Basement Fan Coil Unit Performance Monitoring (QA-1); Revision E

CAL C11157; Auxiliary Building Basement Post Accident Area Heat Gain

Aux Bldg Basement Fan Coil Unit 1A (155-101) Fan Coil Unit Performance Monitoring Service Water Data Sheet

1R11 Licensed Operator Requalification Program

Simulator Dynamic LRC-05-DY201 Cycle 04-05

1R12 Maintenance Effectiveness

Maintenance Rule System Basis; System No. 50 Incore Instrumentation; Revision 4

Maintenance Rule Scoping Questions; System No. 50 Incore Instrumentation; Revision 0

SSC Performance Criteria Sheet; System No. 50 Incore Instrumentation; Revision 0

Maintenance Rule Quarterly Assessment; April 1, 2004, through June 30, 2004

Maintenance Rule Quarterly Assessment; July 1, 2004, through September 30, 2004

Maintenance Rule Periodic Assessment; January 1, 2003, through December 31, 2003

Maintenance Rule Expert Panel Meeting Minutes; May 12, 2004

Maintenance Rule Expert Panel Meeting Minutes; June 24, 2004

CAP 2821; Upgrade or Replace Incore Condition Monitoring System Electronics and Displays; May 12, 2000

CAP 20666; Maintenance Rule 50-02 (a)(1) Evaluation; April 2, 2004

Foxboro H-Line Replacement Study; Proto-Power Corporation; January 28, 2005

CAP 25314; Inaccurate Maintenance Rule Evaluations; February 3, 2005

CAP 23217; Load Rejection Steam Dump Controller TC-401W Found Out of Tolerance; October 12, 2004

CAP 23219; Load Rejection Steam Dump Controller TC-401S Found Out of Tolerance; October 12, 2004

CAP 20367; Foxboro Alarm Unit Found Out of Spec (FC-134); March 9, 2004

CAP 23216; Load Rejection Steam Dump Controller TC-401J Found Out of Tolerance; October 12, 2004

CAP 17645; Reactor Coolant Pump Thermal Barrier Component Cooling Temperature High Alarm Found Out of Spec; August 13, 2003

CAP 23976; Component Cooling Surge Tank Level Bistable Alarms High and Low, Out of Spec; November 11, 2004

CAP 17652; Reactor Coolant Pump Thermal Barrier Component Cooling High Temp Alarm Reset Point Out of Tolerance; August 13, 2003

CAP 20165; Pressurizer Relief Tank High Pressure Bistable Low Out of Service During ICP 36-38; February 26, 2004

CAP 23923; Foxboro Alarm Box TC-405F Found Out of Tolerance More Than 2.2 millivolts; November 10, 2004

CAP 23798; Foxboro Alarm Box TC-405O Found Out of Tolerance More Than 2.29 millivolts; November 3, 2004

CAP 22681; Apparent Failure of Duplex Alarm Module for Component Cooling Surge Tank Level; November 13, 2004

CAP 21336; Bistable LC-428A (Pressurizer Level High Reactor Trip) was Found Out of Tolerance High; May 25, 2004

CAP 20669; Control Rods Stepped IN Automatically on Three Steps; April 2, 2004

CAP 20578; Automatic Rod Insertion with No Plant Transient in Progress; March 27, 2004

CAP 19003; Identification of Rework on Pressurizer Relief Tank High Temp Alarms; November 25, 2003

CAP 18864; Bistable Out of Tolerance While Performing SP 14-314.31; November 10, 2003

CAP 17454; Pressurizer High Pressure Reactor Trip Bistable High Out of Service During SP 47-316C; July 29, 2003

CAP 03434; Assess Options Concerning the Foxboro Boxes-Availability of Replacement; October 28, 1999

CAP 02257; Please Determine the “Extent of Condition” of All the Foxboro Model 694 AC; May 4, 2001

CAP 11818; Kewaunee has had Increasing Difficulty with Maintaining Calibration of all Foxboro Process Instrumentation; June 6, 2002

CAP 12025; Foxboro 63U Maintenance Rule (a)(1) Evaluation Required; June 25, 2002

CAP 20720; Review (a)(1) Action Plans for 49-02, Dor-01 and Foxboro Boxes; April 6, 2004

Work Request 00-004462; System 14 Function 04, Isolate Areas of the Plant to Protect Safety Related Equipment from the Effects of a High Energy Pipe Rupture has Exceeded Its Maintenance Rule Performance Criteria and is a Potential Candidate for Maintenance Rule Category (a)(1); December 18, 2000

1R13 Maintenance Risk Assessments and Emergent Work Control

CAP 25318; Both Trains Control Room Post Accident Recirculation Declared Inoperable; February 3, 2005

CAP 25339; Degraded Bolt Found When Repairing Control Room Air Conditioning Backdraft Damper; February 4, 2005

CAP 25376; Switching Control Room Air Conditioning Units with Diesel Generator Out of Service; February 8, 2005

Operations Department Instruction Book; Protected Equipment; Revision 7

Protected Equipment Log; February 27, 2005

CAP 25635; Protected Equipment Process Issues; February 22, 2005

CAP 25124; No Definite Basis for AFW Pump Discharge Pressure Trips; January 24, 2005

CAP 25341; AFW Discharge Pressure Trips do not Meet Licensing Basis Requirements; February 4, 2005

CAP 25716; Potential Inappropriately Evaluated Configuration Change - Temporary Berms; February 24, 2005

CAP 26338; Flooding Modifications May Increase Risk Associated With Certain Floods; March 18, 2005

Flour Daniel Review; System Design Criteria Topic G Internal Flooding; October 16, 1990

1R14 Operator Performance During Non-Routine Evolutions and Events

NMC Reactivity Management Event (CAP 25263); February 8, 2005

CAP 25263; TLA-11 Reactor Thermal Power High; February 1, 2005

NRC Correspondence; Discussion of "Licensed Power Level"; August 22, 1980

CAP 25257; PPCS Return to Operation during Instrument and Controls Surveillance; January 31, 2005

CAP 25258; Reactor Thermal Output Questionable During SP-05A-34C-1; January 31, 2005

Shift Manager's Log 025248; January 31, 2005

CAP 25296; Issues Associated with Reactor Thermal Eight Hour Average; February 2, 2005

CAP 025606; Uncontrolled Increase in Steam Generator Level Due to Service Water Flow Through SW-502; February 21, 2005

FP-OP-COO-01; Conduct of Operations; Revision 1; July 31, 2003

GNP-08.02.16; Emergent Issue Response; Revision B; December 16, 2004

GNP-08.04.02; Outage Scope Control; Revision F; February 1, 2005

GNP-08.04.03; Forced Outage Guidelines; Revision B; June 19, 2003

GNP-04.04.01; 50.59 Applicability Review and Pre-Screening; Revision D; November 30, 2004

FP-PA-HU-01; Human Performance Program; Revision 1; March 10, 2005

GNP-03.01.03; Procedure Use and Adherence; Revision R; September 14, 2004

CALC/EVAL No: X10064; Technical Evaluation of Effects of February 2005 Service Water Intrusion of the Steam Generator Secondary Side, Revision 0

1R15 Operability Evaluations

OPR 000081; Evaluate Seismic Qualifications of PPCS Input/Output Racks; December 30, 2004

CAP 24764; Evaluate Seismic Qualifications of PPCS Input/Output Racks; December 30, 2004

NRC Letter; Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46 (Generic Letter 87-02); February 19, 1987

Screening Evaluation Work Sheet RR182; Relay Rack - RR182 - Computer Low Level Interface Unit; February 14, 1992

Screening Evaluation Work Sheet RR183; Relay Rack - RR183 - Computer Low Level Interface Unit; February 14, 1992

NMC Operability Reccomendation Form; PPCS Input/Output Racks; January 3, 2005

G. Ashley Correspondence; DCR 1174 Project Description; February 24, 1992

G. Ashley Correspondence; DCR 1174, Temporary Mounting Honeywell P.I.U. Cabinets

W. White Correspondence; DCR 1174, Mountings for Honeywell I/O Cabinets; March 5, 1984

Stevenson & Associates Letter 05Q4501-LSC-002; Tornado/Wind Assessment of Condensate Storage Tank Supply System; February 11, 2005

Stevenson & Associates Letter 05Q4501-LSC-003; Seismic Evaluation of Condensate Storage Tanks; February 11, 2005

1R16 Operator Workarounds

CAP 24957; Potential Vulnerabilities Due To Internal Flooding

CAP 25725; Flooding Concerns From Condensate Storage Tanks and Reactor Makeup Storage Tanks Failure and From Main Feed Line Break; February 24, 2005

CAP 26343; OPR 000089 Did Not Address Instrument Inaccuracies; March 19, 2005

CAP 26344; OPR 000089 Limits Available Inventory in Reactor Makeup Storage Tanks and Condensate Storage Tanks; March 19, 2005

OPR 000087; AFW Pump Discharge Pressure Switches; Revision 3, February 13, 2005

OPR 000089; Operability Recommendation; February 25, 2005

Night Order Book; Limits on Condensate Storage Tank Levels; February 15, 2005

Annunciator Response Procedure ARP 47064-Q; Condensate Storage Tank Level; Revision G

Operating Procedure E-0-05; Response to Natural Events; Revision M

Operating Procedure A-MDS-30; Miscellaneous Drains and Sumps Abnormal Operation; Revision 0

Operating Procedure A-SW-02; Abnormal Service Water System Operation; Revision V

Operating Procedure N-CD-03; Condensate System; Revision S

Operating Procedure N-FW-05B; AFW System; Revision AG

Emergency Operating Procedure ECA-0.0; Loss of All AC Power; Revision AF

1R17 Permanent Plant Modifications

CAP 25164; Identified Computer Point Issues Following PPCS Replacement; January 26, 2005

DCR 3255-3; Replacement of Plant Process Computer Systems - Technical Service Center Computer Room/Emergency Operations Facility Cutover; Revision O

50.59 Applicability Review of DCR 3255-3; December 14, 2004

DCR 3255-9; Plant Process Computer System Replacement - Relay Room; Revision 1; December 22, 2004

DCR 3255-5; Replacement of Plant Process Computer - Control Room Cutover; Revision 0; October 19, 2004

SOP-CP-46-01; Compensatory Actions for Operations During Honeywell PPCS Cutover Period; December 30, 2004

NRC Event Notification 41309; Modification to Process Computer that will Impact Emergency Response Data System and Safety Parameter Data System; January 5, 2005

1R19 Post-Maintenance Testing

CAP 24990; Unexpected Rod Motion During Steady State Power; January 15, 2005

CAP 24837; Unexpected Control Rod Step While at Steady State Power; January 6, 2005

KNPP Tracking and Processing Record; Reactor Coolant Pump - Tavg, Delta T, and Rod Insertion Miscellaneous and Deviation Alarms Instrument Calibration; October 22, 2004

50.59 Applicability Review; Revise ICP 47-06 - COLR for Cycle 27 Has Changed the Rod Insertion limits For “C” Control Cank; October 22, 2004

TRM 2.1 Core Operating Limits Report Cycle 27; Revision 5

ICP 47-06; Reactor Coolant Pump - Tavg, Delta T, and Rod Insertion Miscellaneous and Deviation Alarms Instrument Calibration; Revision M

50.59 Applicability Review; ICP 47-04; Perform Partial Procedure to Replace and Calibrate TM-401 H per WO 05-1919; January 19, 2005

KNPP Tracking and Processing Record; Reactor Coolant Pump - Tavg Rod Speed Dynamic Compensator Calibration; January 19, 2005

ICP 47-04; Reactor Coolant Pump - Tavg Rod Speed Dynamic Compensator Calibration; Revision K

50.59 Applicability Review; ICP 47-01; Perform Partial Procedure ICP 47-01 to Calibrate Meter 41213 in Support of WO 05-191; January 19, 2005

KNPP Tracking and Processing Record; Reactor Coolant Pump - Rod Control Error Signal Summer TM-401 M Calibration; January 19, 2005

ICP 47-01; Reactor Coolant Pump - Rod Control Error Signal Summer TM-401M Calibration; Revision L

KNPP Preventive WO 04-010402-000; Vibration Monitoring; January 20, 2005

KNPP Preventive WO 04-011490-000; Sample/Change Oil; January 20, 2005

PMP 31-07; CC - Component Cooling Pump Mechanical Maintenance (QA-1); Revision A

SP 55-177; Inservice Testing of Pumps Vibration Measurements; Revision AB

KNPP Drawing XK100-552; Instrument Block Diagram Temperature Diff - Tavg Rod Insert

KNPP Drawing XK100-553; Instrument Block Diagram Rod Control RR109 (RSC) Layout

SP-42-312A; Diesel Generator A Availability Test; Revision T

1R20 Refueling and Outage Activities

Operating Procedure N-0-03; Plant Operation Greater Than 35% Power; Revision AB

Operating Procedure N-0-04; 35% Power to Hot Shutdown Condition; Revision Z

Operating Procedure N-0-05; Plant Cooldown from Hot Shutdown to Cold Shutdown Condition; Revision BB

KNPP Letter NRC-05-035; Kewaunee Improvement Initiatives - Commitments; March 18, 2005

Presentation to NRC Region III; Kewaunee Improvement Initiatives; March 3, 2005

CAP 25768; Develop Forced Outage Response; February 26, 2005

1R22 Surveillance Testing

SP-42-312A; Diesel Generator A Availability Test; Revision T

Pre-Job Brief Checklist; Turbine Trip Mechanism Test; January 14, 2005

SP-54-063; Turbine Trip Mechanism Tests; Revision AC

N-HD-11-CL; Heater and Moisture Separator Drain and Bleed Steam System Prestartup Checklist; March 21, 2004

KNPP Temporary Change Form; Engineered Safeguards Train B Logic Channel Test; June 17, 2004

50.59 Applicability Review; GNP 03.01.03; Temporary Change to SP 55-155B to Delete Steps That Verify Status of Light 796 “Test Switch in Test Position”; June 17, 2004

SP 55-155B; Engineered Safeguards Train B Logic Channel Test; Revision Q

SP 54-058; Turbine First Stage Pressure Instruments Channel Test; Revision S

KNPP Tracking and Processing Record; Turbine First Stage Pressure Loop Calibration; November 11, 2004

50.59 Applicability Review; SP 54-59; Close the Switch that was Opened During the Procedure November 11, 2004

SP 54-059; Turbine First Stage Pressure Loop Calibration; Revision V

1R23 Temporary Plant Modifications

DCR 3482; Permanent Installation of a Travel Limiter Device on CC-302

CAP 26416; CCW Runout CAP 000074 Reportability Challenged; March 23, 2005

Control Room Log; January 23, 2002

CAP 000074; CCW Pump Performance; January 23, 2002

CAP 002965; a Review of the Design Basis of the CCW System Should be Performed; January 30, 2002

OTH 008401; TCR 02-01 into Plant Mod; August 19, 2002

CA 007725; Determine if TCR 02-01 is to be a Permanent Installation; May 28, 2002

CA 000072; Initiate and Implement a Design Change to Limit Travel of Actuator 31100; February 7, 2002

DCR 009807; CC-302/CV-31100 Valve Travel Limiter Installation; December 20, 2002

OBD 000041; CCW Pumps Operable But Degradable Determination - CAP 74; January 9, 2003

CE 002192; Component Cooling Flow Thru Letdown Heat Exchanger; January 25, 2002

Shift Manager's Log; January 23, 2002

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

HP-07.077; Instrument Calibration Procedure, Multi-Source Gamma Calibrator; Revision B

HP-07.040; Instrument Calibration Procedure, J. L. Shepherd Model 89-400 Source Characterization Verification; Revision A

HP-01.006; Quality Assurance for Radiocounting Equipment; Revision L

HP-07.009; Instrument Calibration Procedure, PM-7 Portal Monitor; Revision G

HP-07-072; Instrument Calibration Procedure, PCM-1B/1C Contamination Monitor; Revision D

ICP 45-04A; Record of Reactor Cavity Sump C Channel R-30 Calibration; September 8, 2004

ICP 45-28; Record of Channel R-7 In-Core Instrument Seal Table ARM Calibration and Functional Test; June 2, 2004, and August 17, 2004

ICP-45-31; Record of Channel R-10 New Fuel Pit ARM Calibration and Functional Test; January 26, 2005

Portable Survey Instrument Calibration Record; Model RO-7 (serial no. 125); October 23, 2005

Portable Survey Instrument Calibration Records; Model AM-29 (serial nos. 202-1291 and 233-990); October 27, 2004, and November 18, 2004

Portable Survey Instrument Calibration Record; Model PNR-4 (serial no. 2233); December 20, 2004

ICP-45-25; Channel R-4 Charging Pump Room ARM Calibration and Functional Test; February 22, 2005

Instrument Calibration Record for Personnel Contamination Monitor (PCM) Model 1C (serial no. 144); July 31, 2004

ICP-45-14; Containment High Level Radiation R-40 and R-41 Channel Calibration; September 12, 2002, and April 1, 2004

ICP-45-34; Containment High Level Radiation Detector Functional Test; November 8, 2001, and October 31, 2004

Instrument Calibration Record for Portal Monitor Model PM-7 (serial no. 463); February 18, 2005

Calibration Record for Eberline Model 1000 and J. L. Shepherd Model 89 Instrument Calibrators; March 20, 2003, and April 24, 2003

HP-02.002; Respiratory Protective Equipment; Revision M

Record of Monthly Inventory, Inspection and Functional Testing of SBA Equipment; Records Reviewed for January 2004 - February 2005

HP-2.01; Personnel Respiratory Protection; Revision A

Mine Safety Appliances Certificate of Training for a Specified (Licensee Contractor) Technician; November 5, 2001

Respirator Qualification Training Matrix; March 15 and March 18, 2005

Laboratory Guide No. IS-01-LG SBA; Kewaunee Lesson Plan for Respiratory Protection Continuing Training; Revision A

Fire Protection Engineering Evaluation No. 042; Minimum Number of Air Cylinders for Fire Protection; Revision 0

Snap Shot Self-Assessment Report No. SA 002641; Radiation Protection Department Instrument Calibration Qualification Process; November 29, 2004

Snap Shot Self-Assessment Report No. SA 002641; Overview of Radiation Protection Department Self-Identified Problems and Actions Taken; January 27, 2004

Focused Area Self-Assessment Report No. KSA-RP-03-01; RP Organizational Effectiveness, Radioactive Material Controls, Contamination Controls, Control of HRA/LHRA and SOER 2001-01 Response; October 2, 2003

CAP 021807; Cannot Calibrate Area Monitors R-1 through R-10; July 8, 2004

CAP 022987; Portable Radiation Instrument Checks; October 4, 2004

CAP 020617; Multiple Source Gamma Calibrator; March 31, 2004

Root Cause Evaluation Report No. 000647; Bypassing the Interlock on the Eberline Model 1000 Instrument Calibrator; May 27, 2004

CAP 014683; Radiation Monitor R-7 Maintenance Rule Function (a)(1) Evaluation; February 10, 2003

CAP 014936; Routine Daily Source Check of Free Release Instruments Not Performed as Required; February 26, 2003

CAP 021203; Investigate SCBA Training Needs; May 17, 2004

CAP 020727; Emergency Response Organization Personnel Not Medically Approved for Use of SCBAs; April 6, 2004

CAP 018067; Evaluate the Storage Location of the SCBAs in the Control Room; September 16, 2003

CAP 020029; Reevaluate Operations Staff Qualifications for SCBA Use; February 17, 2004

CAP 020221; SCBA Qualifications for Environmental Team; March 1, 2004

ETD 01A; Emergency Response Organization Tracker Continuing Training Report; Revision C

NAD-01.14; Respiratory Protection Program; Revision K

NAD-01.15; Medical Examination Program; Revision I

4OA2 Identification and Resolution of Problems

Modification Number 3571; Title: Install floor sweeps, sill plates and weather stripping on the following doors, 4, 6, 14, 15, 16 and 401; Revision Original

OPR 000083; Operability Recommendation Form for Various barriers and drain paths protecting Class I SSCs; Revisions 0, 1, and 2

USAR Section B.5; Protection of Class I Items; Revision 16

CAP 24365; Turbine Building Flooding Concern with AFW Trench; December 12, 2004

CAP 24848; Vulnerability due to Internal Floods; January 7, 2005

CAP 24957; Potential Vulnerabilities due to Internal Flooding; January 13, 2005

CAP 25203; Need to Revise OPR 00083 on Internal Flooding; January 27, 2005

4OA3 Event Followup

CAP 25439; NRC Event Notification for Missed Unusual Event Declaration; February 10, 2005

CAP 25595; Steam Generator Levels Low During Plant Cooldown; February 20, 2005

CAP 25600; Event Notification Required for Low Low Water Level B Steam Generator; February 20, 2005

CAP 25601; Individual Rod Position Indications did not go to Zero When Reactor Was Tripped; February 20, 2005

CAP 25728; NRC Event Notification Update to EN 41398 - Missed Unusual Event Declaration; February 24, 2005

CAP 25465; Event Notification 41406 Unanalyzed Condition - AFW Pump Low Pressure Discharge Trip With Loss of Condensate Storage Tanks; February 12, 2005

CAP 25588; The Condensate Makeup Line to AFW Pumps is Vulnerable to a Feedwater Line Break; February 19, 2005

CAP 25766; Administrative Hold on E-0-05; February 26, 2005

Corrective Action Program Documents Initiated as a Result of NRC Observations or Questions

CAP 26441; NRC Comments About Radioactive Calibration and Check Sources; March 24, 2005

CAP 26446; Containment High Radiation Monitors (R-40/41) Corrective Maintenance Not Timely; March 24, 2005

CAP 26481; 10 CFR 50.72 and 10 CFR 50.73 Event Reporting; March 25, 2005

CAP 26488; Evaluate Effects of Flooding on Steam Supply to Turbine-Driven AFW Pump; March 26, 2005

CAP 26490; Reportability for Emergency Diesel Generator Exhaust Duct Operability Concern; March 26, 2005

CAP 26528; Past Reportability Issue Identified by NRC Resident; March 28, 2005

CAP 26544; National Weather Alert System Weather Alerts; March 29, 2005

CAP 26332; Portal Radiation Monitor (PM-7) Out of Service for Extended Period of Time; March 18, 2005

CAP 26333; Radiation Instrument Calibrators are Overdue/Due Soon for Verification; March 18, 2005

CAP 26337; NRC Suggested Enhancements to NAD-01.14; March 18, 2005

CAP 26409; Past Operability Not Accounted For By Plant or Fleet Procedures; March 23, 2005

CAP 26416; Component Cooling Water Runout CAP000074 Reportability Challenged; March 23, 2005

CAP 26014; 50.59 Screening 05-026-00 Failed to Identify an Adverse Impact; March 8, 2005

CAP 25725; Flooding Concerns From Condensate Storage Tank and Reactor Makeup Storage Tank Failure and From Main Feed Line Break; February 24, 2005

CAP 25806; USAR Change Approved Without 50.59 Applicability Review Completed; February 28, 2005

CAP 25486; Contingency Actions for CAP 25465 did not Account for Station Blackout; February 14, 2005

CAP 25487; 50.59 not Properly Implemented for Contingency Actions; February 14, 2005

CAP 25079; NRC Questions the Operability Check of Air Operated Check Valves; January 20, 2005

CAP 25203; Need to Revise OPR 00083 on Internal Flooding; January 27, 2005

CAP 24908; NRC Question Relative to Waterbox Inlet Expansion Joints; January 11, 2005

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
AFW	Auxiliary Feedwater
ARM	Area Radiation Monitor
CA	Corrective Action
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
IMC	Inspection Manual Chapter
IR	Inspection Report
KNPP	Kewaunee Nuclear Power Plant
LER	Licensee Event Report
MWt	Megawatts (thermal)
NCV	Non-Cited Violation
NMC	Nuclear Management Company
NRC	Nuclear Regulatory Commission
PARS	Public Availability Records
PPCS	Plant Process Computer System
RP	Radiation Protection
RRA	Radiologically Restricted Area
SCBA	Self-Contained Breathing Apparatus
TS	Technical Specification
USAR	Updated Safety Analysis Report