

June 7, 2001

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

SUBJECT: KEWAUNEE NUCLEAR POWER PLANT
NRC INSPECTION REPORT 50-305/01-08(DRP)

Dear Mr. Reddemann:

On May 10, 2001, the NRC completed an inspection at your Kewaunee Nuclear Power Plant. The enclosed report documents the inspection results which were discussed on May 8, 2001, with you, Mr. K. Hoops, 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.

No findings of significance were identified.

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Sincerely,

/RA/

Roger Lanksbury, Chief
Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 50-305/01-08(DRP)

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M. Reddemann

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

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-305/01-08(DRP)

Licensee: Nuclear Management Company, LLC

Facility: Kewaunee Nuclear Power Plant

Location: N 490 Highway 42
Kewaunee, WI 54216

Dates: April 1 through May 10, 2001

Inspectors: J. Lara, Senior Resident Inspector
Z. Dunham, Resident Inspector
K. Stodter, Reactor Engineer

Approved By: Roger Lanksbury, Chief
Branch 5
Division of Reactor Projects

Summary of Findings

IR 05000305-01-08(DRP), on 04/01-05/10/2001, Nuclear Management Company, LLC, Kewaunee Nuclear Power Plant. Resident Inspector Report.

This report covers a 6-week routine inspection. The inspection was conducted by resident inspectors and a regional inspector. There were no findings identified during this inspection. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRC/ADAMS/index.html>. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation.

A. Inspector-Identified Findings

No findings of significance were identified.

B. Licensee-Identified Findings

No findings of significance were identified.

Report Details

Summary of Plant Status

The plant was operated at approximately 96 percent power throughout the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

On April 18, 2001, the inspectors reviewed the facility's design and the licensee's procedures to verify that the emergency diesel generators would remain functional when challenged by adverse weather conditions, such as high temperatures. Additionally, the inspectors walked down selected plant areas to ensure that operator actions maintained the readiness of essential systems and that accessibility of controls, indications, and equipment would be maintained during high winds and tornado weather conditions. The inspectors also reviewed the licensee's risk assessment of various plant configurations under adverse weather conditions.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed partial walkdowns of the internal containment spray system on April 27, 2001, and the control room post-accident recirculation system on April 30, 2001. The inspectors reviewed the system lineup checklists, normal operating procedures, abnormal and emergency operating procedures, and system drawings to verify the correct system lineup. Valve positions and electrical power availability were examined to verify that valve and electrical breaker positions were consistent with, and in accordance with the licensee's procedures and design documentation. The material condition of the equipment was also inspected.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

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

- Auxiliary Building Basement - April 6, 2001
- Safeguards Alley - April 19, 2001
- Cable Spreading Room - April 27, 2001

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

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Simulator Dynamic Regualification Exam

a. Inspection Scope

On May 2, 2001, the inspectors observed a simulator dynamic requalification exam to evaluate crew performance, formality of communications, and annunciator response. Additionally, the inspectors evaluated the crew's implementation of the facility's abnormal and emergency operating procedures, oversight and direction provided by the shift manager and control room supervisor, and the adequacy of identification and reporting of the event classification in accordance with the facility's emergency plan. The inspectors also compared the simulator board configuration with the actual control room board configuration for consistency between the two to ensure that the simulator environment matched the actual control room environment as closely as possible. The inspectors observed the post-scenario critique to determine whether performance issues were accurately identified and addressed.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule requirements to ensure that component and equipment failures were identified, entered, and scoped within the maintenance rule and that selected structures, systems, or components were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The appropriateness of performance criteria for (a)(2) classified systems and the adequacy of corrective actions and goals for (a)(1) classified systems were also evaluated. Additionally, the inspectors reviewed equipment and system issues to verify that problems were identified at an appropriate threshold and entered into the licensee's corrective action program.

Specific systems evaluated were:

- Steam Generator Blowdown and Treatment (System 07)
- Residual Heat Removal (System 34)
- Rod Control and Rod Position Indication (System 49)
- Engineered Safety Features (System 55)

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

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

- Bus 1 undervoltage relay out-of-specification - April 3, 2001
- Review of various open work orders which were "Approved to Start" but were not being actively worked - April 4, 2001
- Maintenance activities scheduled during week of April 9, 2001
- Maintenance activities scheduled during week of April 16, 2001

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the operability evaluations listed below to ensure that system operability was properly justified and the system remained available, such that no unrecognized increase in risk occurred. Additionally, design documentation and the Updated Safety Analysis Report were referenced during the inspection to verify that design basis and technical specifications requirements were fulfilled and met.

The inspectors reviewed the following operability evaluations:

- Auxiliary Feedwater Pump Lube Oil Levels Below Minimum Required - April 3, 2001
- Diesel Generator 1A Motor Operated Pot Remained Energized After Fuses Removed - April 27, 2001
- Environmental Qualification of Paul Munroe Hydraulic Linear Actuator Assembly - April 27, 2001

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (71111.16)

a. Inspection Scope

On April 19, 2001, the inspectors accompanied a Nuclear Auxiliary Operator during his rounds to determine whether there were any field activities or equipment degradations which may constitute an operator work-around that had not been identified by the licensee. Additionally, the inspectors focused on potential equipment problems which could impact the ability of operators to implement abnormal and emergency operating procedures.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- Component Cooling Water Pump Discharge Low Pressure Switch Instrument Maintenance - April 2, 2001
- Control Room Post-Accident Ventilation Maintenance - April 18, 2001
- Damper ASV-91B Solenoid Replacement - May 7, 2001

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

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

- Reactivity Anomalies and Core Performance Test - April 9, 2001
- Turbine Driven Auxiliary Feedwater Pump and Auxiliary Steam System Pressure Test - April 10, 2001

- Safety Injection Pump and Valve In-Service Test - April 17, 2001
- Service Water Pump and Valve In-Service Test - April 18, 2001
- Reactor Protection Logic Train 'A' Monthly Test - April 23, 2001
- Reactor Protection Channel Instrumentation Test - May 1, 2001

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

.2 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

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

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

Exit Meeting Summary

On May 8, 2001, the inspectors presented the inspection results to Mr. M. Reddemann, Mr. K. Hoops, and other members of the Nuclear Management Company staff. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Nuclear Management Company, LLC

R. Farrell, Superintendent, Radiation Protection
J. Fletcher, Security Manager
G. Harrington, Licensing
K. Hoops, Plant Manager, Kewaunee Plant
M. Kwitek, Assistant Plant Manager, Maintenance
M. Reddemann, Site Vice President
J. Schweitzer, Manager, Engineering and Technical Support
J. Stoeger, Superintendent, Operations
T. Taylor, Assistant Plant Manager, Operations
T. Webb, Nuclear Licensing Director

Nuclear Regulatory Commission - RIII

R. Lanksbury, Branch Chief, DRP, Branch 5

LIST OF ACRONYMS USED

| | |
|------|--|
| CFR | Code of Federal Regulations |
| DRP | Division of Reactor Projects, Region III |
| KAP | Kewaunee Assessment Process |
| NRC | Nuclear Regulatory Commission |
| URI | Unresolved Item |
| USAR | Updated Safety Analysis Report |

LIST OF DOCUMENTS REVIEWED

1R01 Adverse Weather Protection

| | | |
|------------------------|---|------------|
| USAR, Section 9.6.2 | Service Water System | |
| USAR, Section 8.2.3 | Emergency Power | |
| GNP 08.21.01 | Risk Assessment for Plant Configuration | Revision B |
| E-0-05 | Natural Disaster | Revision I |

1R04 Equipment Alignment

| | | |
|--------------------|---|-------------|
| N-ACC-24-CL | Control Room Air Conditioning System Prestartup Checklist | Revision V |
| N-ICS-23-CL | Containment Spray System Prestartup Checklist | Revision AA |
| USAR, Section 9.64 | Control Room Air Conditioning System | |
| USAR, Section 6.4 | Containment Vessel Internal Spray System | |

1R05 Fire Protection

| | | |
|------------|---|-------------|
| FPP 08-07 | Control of Ignition Sources | Revision D |
| FPP 08-01 | Fire Plan Operability, Surveillance, and Contingency Requirements | Revision C |
| FPP 08-08 | Control of Transient Combustibles | Revision A |
| FPP 08-12 | Fire Prevention Tour | Revision B |
| N-FP-08-CL | Fire Protection System Checklist | Revision AL |
| | Kewaunee Fire Protection Program Plan | Revision 4 |

R11 Licensed Operator Regualification

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|------------|--|------------|
| IPEOP E-0 | Reactor Trip or Safety Injection | Revision Q |
| IPEOP E-3 | Steam Generator Tube Rupture | Revision R |
| EPIP AD-02 | Emergency Class Determination | Revision Z |
| | Operations Department Communication Standard | Revision A |

1R12 Maintenance Rule Implementation

| | | |
|--------------|---|------------|
| NAD 08.20 | Maintenance Rule Implementation | Revision A |
| GNP 08.20.01 | Maintenance Rule Scoping and Performance Criteria | Revision B |

| | | |
|--|--|-------------|
| GNP 08.20.2 | Maintenance Rule Data Evaluation and Goal Setting | Revision A |
| <u>1R13 Maintenance Risk Assessment and Emergent Work Evaluation</u> | | |
| NAD 08.21 | Configuration Risk Management | Revision A |
| GNP 08.02.01 | Work Request/Work Order Processing | Revision F |
| GNP 08.20.01 | Maintenance Rule Scoping and Performance Criteria | Revision B |
| <u>1R15 Operability Evaluations</u> | | |
| A-FW-05B | Abnormal Auxiliary Feedwater System Operation | Revision AA |
| Calculation C10492 | Qualified Life and Post-DBE [Design Basis Earthquake] Aging Calculation for the Paul Munroe Hydraulic Linear Actuator Assembly | Revision 2 |
| KAP WR 01-002883 | Unacceptable Methodology Used to Extend the Qualified Life of the Potentiometer | |
| KAP WR 00-001059 | Diesel Generator 1A Motor Operated Pot Remained Energized After Fuses Removed | |
| KAP WR 01-002143 | Auxiliary Feedwater Oil Level Questioned | |
| KAP WR 01-002132 | Oil Level Below Vendor Recommended Low Level on Turbine Driven AFW [Auxiliary Feedwater] Turbine Bearing | |
| <u>1R16 Operator Work-Arounds</u> | | |
| KAP WO 01-007147 | Breaker for High Radiation Sample Room Condensing Unit Found in Off Position | |
| <u>1R19 Post-Maintenance Testing</u> | | |
| SP 14-026B | Auxiliary Building Special Ventilation Train B Operability Test | Revision E |
| PMP-25-01 | ACC-Control Room Air Conditioning Inspection and Maintenance | Revision R |
| SP 25-263 | Control Room Post Accident Recirculation Monthly Test | Revision K |
| KNPP ES No. 8001 | Specification for Installation of Instrument and Control Piping & Tubing | Revision 5 |
| KAP WO 01-005331 | Leaking Input Line to Component Cooling Water Pump Low Discharge Pressure Instrument | |

| | | |
|--|---|---|
| USAR, Section 9.6.4 | Control Room Air Conditioning | |
| KAP WO 00- 003167 | Replace SOV [Solenoid-Operated Valve] on ASV 91-B Auxiliary Building Ventilation Damper | |
| <u>1R22 Surveillance Testing</u> | | |
| SP 05B-037 | Turbine Driven Auxiliary Feedwater Pump and Auxiliary Steam System Pressure Test | Revision E |
| SP 02-138 | Service Water Pump and Valve IST [Inservice Testing] | Revision AU |
| SP 47-316B | Channel 2 (White) Instrument Channel Test | Revision H |
| SP 33-098 | Safety Injection Pump and Valve Test - IST | Revision AT |
| PMP-39-15 | EHV-4160V Vacuum Breaker Maintenance | Revision E |
| SP 47-062A | Reactor Protection Logic Train A Monthly Test | Revision N |
| Section XI | American Society of Mechanical Engineers | 1989 Edition |
| USAR, Section 6.2 | Safety Injection Systems | |
| USAR, Section 9.6.2 | Service Water System | |
| <u>4OA1 Performance Indicator Verification</u> | | |
| LER 2000-009 | Manual Trip Initiated - Failure of Reactor Coolant Pump Temperature Indication Required Action to Trip the Pump | July 6, 2000 |
| KAP WO 01- 000160 | Document November 2000 Power Backdowns for Performance Indicator | |
| | Reactor Operator and Shift Manager Logs | April 1, 2000 through April 1, 2001 |