Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511
920.388.2560

Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241
920.755.2321

NMC
Committed to Nuclear Excellence

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

(KNPP) NRC-02-045
(PBNP) NRC 2002-0043

May 16, 2002

10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Kewaunee Nuclear Power Plant
Point Beach Nuclear Plant, Units 1 And 2
Dockets 50-305, 50-266, And 50-301
License Nos. DPR-43, DPR-24 And DPR-27
NRC Bulletin 2002-01: Reactor Pressure Vessel Head Degradation And Reactor Coolant Pressure Boundary Integrity – 60-Day Response (TAC Nos. MB4552, MB4566 AND MB4567)

On March 18, 2002, the Nuclear Regulatory Commission (NRC) transmitted Bulletin (BL) 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity." By letter dated April 2, 2002, Nuclear Management Company, LLC (NMC) submitted the required 15-day response to the BL for Kewaunee Nuclear Power Plant (KNPP) and Point Beach Nuclear Plant (PBNP), Units 1 and 2. By letter dated April 18, 2002, NMC submitted a revised 15-day response to the BL for PBNP, Units 1 and 2. The NRC also required that specific information be provided within 60 days of the date of the bulletin. In accordance with this requirement, NMC is providing the 60-day response for KNPP and PBNP, Units 1 and 2.

This letter contains no new commitments and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and accurate. Executed on May 16, 2002.

A. J. Cayia

A. J. Cayia
KPB Site Director

cc Regional Administrator, USNRC, Region III
NRC Resident Inspector – KNPP
NRC Resident Inspector – PBNP
Project Manager, KNPP, USNRC, NRR
Project Manager, PBNP, USNRC, NRR

Attachments

A095

ATTACHMENT 1

NUCLEAR MANAGEMENT COMPANY, LLC
KEWAUNEE NUCLEAR POWER PLANT
DOCKET 50-305

May 2002

NRC BULLETIN 2002-01: KEWAUNEE NUCLEAR POWER PLANT 60-DAY RESPONSE

4 Pages Follow

Requested Item 3.A

3. Within 60 days of the date of this bulletin, all PWR addressees are required to submit to the NRC the following information related to the remainder of the reactor coolant pressure boundary:

A. the basis for concluding that your boric acid inspection program is providing reasonable assurance of compliance with the applicable regulatory requirements discussed in Generic Letter 88-05 and this bulletin. If a documented basis does not exist, provide your plans, if any, for a review of your programs.

Response

The Electrical Power Research Institute (EPRI) Pressurized Water Reactor (PWR) Materials Reliability Program (MRP) has provided an outline for licensees to use in assessing their individual boric acid inspection program. The response includes the following items:

1. Program Definition and Responsibility

Nuclear Management Company, LLC (NMC) implements procedures and programs to manage corrosion of carbon steel and low-alloy steel components by leaking borated water. Essential elements of the boric acid inspection program include: scope of inspections, frequency of inspections, documentation of leakage, and evaluation of any leakage indications. General requirements are provided to comply with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI and Technical Specifications. Leakage reduction activities minimize leakage of primary coolant.

Responsibilities for essential aspects of the boric acid inspection program are defined. Engineering is responsible for evaluating the acceptability of a component should degradation occur and for determining whether the item may be returned to service or if maintenance or repair is required. Engineering is responsible for scheduling and performing ASME B&PV Code, Section XI examinations to detect boric acid accumulation and evidence of leakage. Operations is responsible for conducting leakage monitoring and trending. Maintenance is responsible for correcting or repairing a component.

2. Inspection Scope and Frequency

Leakage is monitored when the plant is at power and when it is shutdown. During normal plant operation, leakage is monitored in accordance with Technical Specification surveillance requirements. Containment airborne activity and humidity are monitored to detect leakage. During plant shutdown for refueling, inspections are performed per ASME B&PV Code, Section XI on the Class 1 pressure boundary to locate leakage and evaluate boric acid accumulation and corrosion.

Visual inspections for leakage or evidence of leakage affecting carbon steel and low-alloy steel components are conducted every refueling outage and during plant startup. Additionally, containment entries are made at regular intervals during plant operation.

3. Obstructions to Visual Inspections

Visual examinations may be scheduled based on expected plant conditions in order to reduce dose and provide a safe working environment. Plant procedures and programs specify the test conditions, which include pressure, temperature and insulation removal requirements. Insulation removal requirements are based on ASME B&PV Code, Section XI, paragraph IWA-5242.

For pressure retaining bolted connections, procedures and practices used to implement the boric acid inspection program coordinate inspections and direct when insulation must be removed to perform the examinations.

For all other components, including piping and pressure vessel shells, visual examination (VT-2) may be conducted without the removal of insulation by examining the accessible and exposed surfaces and joints of the insulation. Vertical surfaces of insulation need only be examined at the lowest elevation where leakage may be detectable per ASME B&PV Code, Section XI. Horizontal surfaces of insulation are examined at each insulation joint. For the carbon steel pressure vessels, portions of the shell are periodically exposed when performing scheduled ASME B&PV Code, Section XI examinations. This permits the location of boric acid accumulation, leakage, or damage to be discovered and additional actions to be defined as necessary.

In addition, the ASME B&PV Code, Section XI requires the examination of areas surrounding insulated components, including floor areas or equipment surfaces located underneath the components, for evidence of leakage, or other areas to which such leakage may be channeled.

Insulation is removed as needed when carbon steel and low alloy steel components are exposed to borated water, or when industry events warrant further investigation.

4. Training

Personnel that perform, evaluate, and accept code examinations for the boric acid inspection program are certified in VT-1, VT-2, or VT-3 examination methods per the requirements of ASME B&PV Code, Section XI. In addition, other site personnel (engineers, operators, mechanics, etc.) not necessarily certified to code requirements, are expected to initiate corrective actions according to plant administrative procedures upon discovery of system and component leakage during routine activities.

Applicable industry operating experience is routed to engineering personnel for assessment. The training program is enhanced by incorporating industry recommended practices.

5. Response to Leakage

A multifaceted approach is used for the prevention of boric acid accumulation and corrosion of carbon steel and low-alloy steel components. Core elements include leakage prevention, leakage detection and trending, visual inspections, evaluation and repair.

Leakage from the Reactor Coolant System (RCS) is maintained as low as reasonably possible. Review of recent plant records shows that KNPP operates with low unidentified RCS leakage. Through-wall leakage of the reactor coolant pressure boundary, excluding steam generator tubing, is not permitted per Technical Specifications. Identified through-wall leakage must be corrected.

Unidentified RCS leakage is maintained less than 1 gpm per Technical Specifications. Leak rate calculations, monitoring, and trending are performed to identify increases in RCS leakage. When a significant increase in RCS leakage is detected during normal operations, NMC implements administrative controls and investigates the source of leakage. The investigation may involve performing appropriate chemistry sampling and radiation monitoring, additional trending, conducting leak rate calculations at an increased frequency, and attempting to locate the source of RCS leakage.

When evidence of RCS leakage is discovered, such as boric acid accumulation, the practice is to identify the source of leakage, perform an evaluation to determine an appropriate disposition (repair, replace, engineering analysis, monitor, etc.), and clean up any remaining boric acid deposits. All boric acid accumulation discovered under the boric acid inspection program is categorized in accordance with ASME B&PV Code, Section XI, subparagraph IWA-5250 (b).

If leakage occurs at a pressure retaining bolted connection, the first objective is to repair the component. In accordance with subparagraph IWA-5250(a)(2), bolting is removed and a VT-3 visual exam for corrosion shall be performed and evaluated in accordance with ASME B&PV Code, Section XI paragraph IWA-3100. As an alternative to the requirements of subparagraph IWA-5250(a)(2), an evaluation can be performed to assess the integrity of the joint as approved by the Nuclear Regulatory Commission (NRC), consistent with Code Case N-566-1. Any repair or replacement of a component shall satisfy ASME B&PV Code, Section XI, Article IWA-4000 or IWA-7000, as applicable.

6. Review of Program Effectiveness

The Nuclear Oversight Department performs periodic reviews of the procedures and activities used to implement the boric acid inspection program.

When instances of boric acid accumulation or leakage are encountered under the boric acid inspection program, the recommended corrective actions receive oversight through the work order, inservice inspection, post refueling outage startup checklist, and corrective action processes. The review process includes review of indications recorded, corrective actions initiated, and status of corrective actions.

Any degraded condition in excess of ASME B&PV Code, Section XI limits requires that an engineering analysis be performed. If a degraded condition is not corrected and dispositioned to use-as-is, then an independent review and evaluation is performed prior to returning the component to service. This process ensures appropriate management involvement and oversight.

Industry experience is reviewed in accordance with the Industry Operating Experience Review Program and incorporated into the boric acid inspection program and procedures as necessary.

NMC's evaluation, as indicated herein, supports the conclusion that there is reasonable assurance of compliance with the applicable regulatory requirements discussed in Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," and NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity" for KNPP.

ATTACHMENT 2

NUCLEAR MANAGEMENT COMPANY, LLC
POINT BEACH NUCLEAR PLANT
DOCKETS 50-266 AND 50-301

May 2002

NRC BULLETIN 2002-01: POINT BEACH NUCLEAR PLANT 60-DAY RESPONSE

4 Pages Follow

Requested Item 3.A

3. *Within 60 days of the date of this bulletin, all PWR addressees are required to submit to the NRC the following information related to the remainder of the reactor coolant pressure boundary:*

   A. *the basis for concluding that your boric acid inspection program is providing reasonable assurance of compliance with the applicable regulatory requirements discussed in Generic Letter 88-05 and this bulletin. If a documented basis does not exist, provide your plans, if any, for a review of your programs.*

Response

The Electrical Power Research Institute (EPRI) Pressurized Water Reactor (PWR) Materials Reliability Program (MRP) has provided an outline for licensees to use in assessing their individual boric acid inspection program. The response includes the following items:

1. Program Definition and Responsibility

Nuclear Management Company, LLC (NMC) implements procedures and programs to manage corrosion of carbon steel and low-alloy steel components by leaking borated water. Essential elements of the boric acid inspection program include: scope of inspections, frequency of inspections, documentation of leakage, and evaluation of any leakage indications. General requirements are provided to comply with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI and Technical Specifications. Leakage reduction activities minimize leakage of primary coolant.

Responsibilities for essential aspects of the boric acid inspection program are defined. Engineering is responsible for evaluating the acceptability of a component should degradation occur and for determining whether the item may be returned to service or if maintenance or repair is required. Engineering is responsible for scheduling and performing ASME B&PV Code, Section XI examinations to detect boric acid accumulation and evidence of leakage. Operations is responsible for conducting leakage monitoring and trending. Maintenance is responsible for correcting or repairing a component.

2. Inspection Scope and Frequency

Leakage is monitored when the plant is at power and when it is shutdown. During normal plant operation, leakage is monitored in accordance with Technical Specification surveillance requirements. Containment airborne activity and humidity are monitored to detect leakage. During plant shutdown for refueling, inspections are performed per ASME B&PV Code, Section XI on the Class 1 pressure boundary to locate leakage and evaluate boric acid accumulation and corrosion.

Visual inspections for leakage or evidence of leakage affecting carbon steel and low-alloy steel components are conducted every refueling outage and during plant startup. Additionally, containment entries are made at regular intervals during plant operation.

3. Obstructions to Visual Inspections

Visual examinations may be scheduled based on expected plant conditions in order to reduce dose and provide a safe working environment. Plant procedures and programs specify the test conditions, which include pressure, temperature and insulation removal requirements. Insulation removal requirements are based on ASME B&PV Code, Section XI, paragraph IWA-5242.

For pressure retaining bolted connections, procedures and practices used to implement the boric acid inspection program coordinate inspections and direct when insulation must be removed to perform the examinations.

For all other components, including piping and pressure vessel shells, visual examination (VT-2) may be conducted without the removal of insulation by examining the accessible and exposed surfaces and joints of the insulation. Vertical surfaces of insulation need only be examined at the lowest elevation where leakage may be detectable per ASME B&PV Code, Section XI. Horizontal surfaces of insulation are examined at each insulation joint. For the carbon steel pressure vessels, portions of the shell are periodically exposed when performing scheduled ASME B&PV Code, Section XI examinations. This permits the location of boric acid accumulation, leakage, or damage to be discovered and additional actions to be defined as necessary.

In addition, the ASME B&PV Code, Section XI requires the examination of areas surrounding insulated components, including floor areas or equipment surfaces located underneath the components, for evidence of leakage, or other areas to which such leakage may be channeled.

Insulation is removed as needed when carbon steel and low alloy steel components are exposed to borated water, or when industry events warrant further investigation.

4. Training

Personnel that perform, evaluate, and accept code examinations for the boric acid inspection program are certified in VT-1, VT-2, or VT-3 examination methods per the requirements of ASME B&PV Code, Section XI. In addition, other site personnel (engineers, operators, mechanics, etc.) not necessarily certified to code requirements, are expected to initiate corrective actions according to plant administrative procedures upon discovery of system and component leakage during routine activities.

Applicable industry operating experience is routed to engineering personnel for assessment. The training program is enhanced by incorporating industry recommended practices.

5. Response to Leakage

A multifaceted approach is used for the prevention of boric acid accumulation and corrosion of carbon steel and low-alloy steel components. Core elements include leakage prevention, leakage detection and trending, visual inspections, evaluation and repair.

Leakage from the Reactor Coolant System (RCS) is maintained as low as reasonably possible. Review of recent plant records shows that PBNP operates with low unidentified RCS leakage. Through-wall leakage of the reactor coolant pressure boundary, excluding steam generator tubing, is not permitted per Technical Specifications. Identified through-wall leakage must be corrected.

Unidentified RCS leakage is maintained less than 1 gpm per Technical Specifications. Leak rate calculations, monitoring, and trending are performed to identify increases in RCS leakage. When a significant increase in RCS leakage is detected during normal operations, NMC implements administrative controls and investigates the source of leakage. The investigation may involve performing appropriate chemistry sampling and radiation monitoring, additional trending, conducting leak rate calculations at an increased frequency, and attempting to locate the source of RCS leakage.

When evidence of RCS leakage is discovered, such as boric acid accumulation, the practice is to identify the source of leakage, perform an evaluation to determine an appropriate disposition (repair, replace, engineering analysis, monitor, etc.), and clean up any remaining boric acid deposits. All boric acid accumulation discovered under the boric acid inspection program is categorized in accordance with ASME B&PV Code, Section XI, subparagraph IWA-5250 (b).

If leakage occurs at a pressure retaining bolted connection, the first objective is to repair the component. In accordance with subparagraph IWA-5250(a)(2), bolting is removed and a VT-3 visual exam for corrosion shall be performed and evaluated in accordance with ASME B&PV Code, Section XI paragraph IWA-3100. As an alternative to the requirements of subparagraph IWA-5250(a)(2), an evaluation can be performed to assess the integrity of the joint as approved by the Nuclear Regulatory Commission (NRC), consistent with Code Case N-566-1. Any repair or replacement of a component shall satisfy ASME B&PV Code, Section XI, Article IWA-4000 or IWA-7000, as applicable.

6. **Review of Program Effectiveness**

The Nuclear Oversight Department performs periodic reviews of the procedures and activities used to implement the boric acid inspection program.

When instances of boric acid accumulation or leakage are encountered under the boric acid inspection program, the recommended corrective actions receive oversight through the work order, inservice inspection, post refueling outage startup checklist, and corrective action processes. The review process includes review of indications recorded, corrective actions initiated, and status of corrective actions.

Any degraded condition in excess of ASME B&PV Code, Section XI limits requires that an engineering analysis be performed. If a degraded condition is not corrected and dispositioned to use-as-is, then an independent review and evaluation is performed prior to returning the component to service. This process ensures appropriate management involvement and oversight.

Industry experience is reviewed in accordance with the Industry Operating Experience Review Program and incorporated into the boric acid inspection program and procedures as necessary.

NMC's evaluation, as indicated herein, supports the conclusion that there is reasonable assurance of compliance with the applicable regulatory requirements discussed in Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," and NRC Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity" for PBNP.

NMC
Committed to Nuclear Excellence

Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511
920.388.2560

Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241
920.755.2321

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC 2002-0045

10 CFR 50.55a

May 15, 2002

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Docket 50-301
Point Beach Nuclear Plant, Unit 2
<u>Reactor Vessel Closure Head Inspection</u>
<u>Request for Withdrawal of Relief Requests MR 02-004-1 and MR 02-004-2</u>

Ladies/Gentlemen:

In accordance with 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(g)(5)(iii), Nuclear Management Company, LLC (NMC), licensee for the Point Beach Nuclear Plant (PBNP) Unit 2, submitted Relief Requests MR 02-004-1 and MR 02-004-2 on April 17, 2002. This action is related to NMC's response dated April 2, 2002, to NRC Bulletin 2002-001, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity."

The associated inspection of the Unit 2 reactor vessel head commenced on April 21, 2002. The visual inspection showed that the head is in very good condition, with no evidence of leakage. As a result, PBNP will not be performing any reactor vessel head repairs. Therefore, Relief Requests MR 02-004-1 and MR 02-004-2 are no longer required and their withdrawal is hereby requested.

Sincerely,

Tom Webb

Thomas J. Webb
Regulatory Affairs Manager

LAS/kmd

cc: NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
PSCW

Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511
920.388.2560

Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241
920.755.2321

NMC
Committed to Nuclear Excellence

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC 2002-0044

10 CFR 50.55a

May 15, 2002

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dockets 50-266 and 50-301
Point Beach Nuclear Plant, Units 1 and 2
Fourth Ten-Year Snubber Testing Interval
Request for Withdrawal of Relief Request SP-1

Ladies/Gentlemen:

In accordance with 10 CFR 50.55a(f)(6)(i), Nuclear Management Company, LLC (NMC), licensee for the Point Beach Nuclear Plant (PBNP) Units 1 and 2, submitted Relief Request SP-1 on March 11, 2002. SP-1 requested to seek an alternate to the requirements of the OM Code Subsection ISTD 7.5.3 of the 1995 edition, 1996 addenda of the OM Code.

On May 13, 2002, a telephone conference was held between NMC staff and Mr. Arnold Lee of the NRC staff to clarify the basis for the Relief Request. Following this telephone conference, we have decided that snubber testing will be performed to IWF-5000 of ASME Section XI 1995 Edition with 1996 Addenda, which in turn references ANSI/ASME OM, Part 4, 1988 Addenda. We have also decided to perform the Hydraulic Shock Suppressor (Snubber) Testing Program upgrade in accordance with ASME Section XI 1995 Edition, 1996 Addenda of ASME Section XI, which is the applicable edition of ASME Section XI per 10 CFR 50.55a(b)(2). Therefore, Relief Request SP-1 is no longer required and its withdrawal is hereby requested.

Sincerely,

Thomas J. Webb
Regulatory Affairs Manager

LAS/kmd

cc: NRC Regional Administrator
NRC Resident Inspector
NRC Project Manager
PSCW