May 2, 2005

Mr. Dennis L. Koehl
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6590 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
NRC LICENSE RENEWAL SCOPING, SCREENING, AND AGING MANAGEMENT INSPECTION REPORT 05000266/2005005(DRS); 05000301/2005005(DRS)

Dear Mr. Koehl:

On April 8, 2005, the NRC completed an inspection regarding your application for license renewal for the Point Beach Nuclear Power Plant. The enclosed report documents the inspection results, which were discussed on April 19, 2005, with members of your staff in an exit meeting open for public observation at the Two Creeks Town Hall in Two Creeks, Wisconsin.

The purpose of this inspection was an examination of activities that support the application for a renewed license for Point Beach. The inspection addressed the processes of scoping and screening plant equipment to select equipment subject to an aging management review and development and implementation of aging management programs to support a period of extended operation. As part of the inspection, the NRC examined procedures and representative records, interviewed personnel, and visually examined accessible portions of various systems, structures or components to verify license renewal boundaries and to observe any effects of equipment aging. The visual examination of systems, structures and components also included some areas not normally accessible, including inside the Unit 2 reactor containment.

The inspection concluded that the scoping, screening, and aging management license renewal activities were generally conducted as described in the License Renewal Application, as supplemented through your responses to requests for additional information from the NRC. The inspection also concluded that documentation supporting the application is generally in an auditable and retrievable form. Existing aging management programs were determined to be functioning adequately and, when all the programs are implemented as described in your License Renewal Application, there is reasonable assurance that the intended functions of vital plant systems, structures, and components will be maintained through the period of extended operation.

However, the inspection also identified two areas where insufficient information existed to make a determination as to the acceptability of the program. These areas were the scoping of non-safety-related mechanical systems or components whose failure could impact safety-related equipment and the sample size and locations for the One-Time Inspection Aging Management Program. In both cases, commitments were made via formally docketed letters to provide additional information to the Office of Nuclear Reactor Regulation. Once the staff has an opportunity to review this additional information, a decision will be made as to whether additional inspection activity will be necessary. You will be informed of that decision by separate correspondence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any response you provide will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

Docket Nos. 50-266; 50-301
License Nos. DPR-24; DPR-27

Enclosure: Inspection Report 05000266/2005005(DRS); 05000301/2005005(DRS)
w/Attachment: Supplemental Information

See Attached Distribution

a determination as to the acceptability of the program. These areas were the scoping of non-safety-related mechanical systems or components whose failure could impact safety-related equipment and the sample size and locations for the One-Time Inspection Aging Management Program. In both cases, commitments were made via formally docketed letters to provide additional information to the Office of Nuclear Reactor Regulation. Once the staff has an opportunity to review this additional information, a decision will be made as to whether additional inspection activity will be necessary. You will be informed of that decision by separate correspondence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any response you provide will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Chief
Engineering Branch 2
Division of Reactor Safety

Docket Nos. 50-266; 50-301
License Nos. DPR-24; DPR-27

Enclosure: Inspection Report 05000266/2005005(DRS); 05000301/2005005(DRS)
w/Attachment: Supplemental Information

See Attached Distribution

DOCUMENT NAME: E:\Filenet\ML051220260.wpd

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII		RIII		RIII			
NAME	PLougheed:tr		PLouden		AMStone			
DATE	04/19/05		05/02/05		05/02/05			

OFFICIAL RECORD COPY

cc w/encl: F. Kuester, President and Chief
Executive Officer, We Generation
J. Cowan, Executive Vice President
Chief Nuclear Officer
D. Cooper, Senior Vice President, Group Operations
J. McCarthy, Site Director of Operations
D. Weaver, Nuclear Asset Manager
Plant Manager
Regulatory Affairs Manager
Training Manager
Site Assessment Manager
Site Engineering Director
Emergency Planning Manager
J. Rogoff, Vice President, Counsel & Secretary
K. Duveneck, Town Chairman
Town of Two Creeks
Chairperson
Public Service Commission of Wisconsin
J. Kitsembel, Electric Division
Public Service Commission of Wisconsin
State Liaison Officer

cc w/encl: F. Kuester, President and Chief
Executive Officer, We Generation
J. Cowan, Executive Vice President
Chief Nuclear Officer
D. Cooper, Senior Vice President, Group Operations
J. McCarthy, Site Director of Operations
D. Weaver, Nuclear Asset Manager
Plant Manager
Regulatory Affairs Manager
Training Manager
Site Assessment Manager
Site Engineering Director
Emergency Planning Manager
J. Rogoff, Vice President, Counsel & Secretary
K. Duveneck, Town Chairman
Town of Two Creeks
Chairperson
Public Service Commission of Wisconsin
J. Kitsembel, Electric Division
Public Service Commission of Wisconsin
State Liaison Officer

ADAMS Distribution:
WDR
HKC
RidsNrrDipmlipb
GEG
KGO
CAA1
C. Pederson, DRS (hard copy - IR's only)
DRPIII
DRSIII
PLB1
JRK1
ROPreports@nrc.gov

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301
License Nos:	DPR-24; DPR-27
Report No:	05000266/2005005(DRS); 05000301/2005005(DRS)
Applicant:	Nuclear Management Company, LLC
Facility:	Point Beach Nuclear Plant, Units 1 and 2
Location:	6610 Nuclear Road Two Rivers, WI 54241
Dates:	March 7 through April 19, 2005
Inspectors:	P. Lougheed, Senior Engineering Inspector (lead) G. Suber, Lead Project Manager, NRR B. Jose, Engineering Inspector J. Neurauter, Engineering Inspector S. Sheldon, Engineering Inspector (first week only) C. Zoia, Engineering Inspector
Approved by:	A. M. Stone, Chief Engineering Branch 2 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000266/20005005(DRS); 05000301/20005005(DRS); 3/7/2005 - 04/19/2005; Point Beach Nuclear Plant, Units 1 and 2; License Renewal Inspection Program, Scoping, Screening, and Aging Management Programs.

This inspection of the applicant's license renewal scoping, screening and aging management processes was performed by five regional office inspectors and one staff member from the NRC's Office of Nuclear Reactor Regulation. The team used NRC Manual Chapter 2516 and NRC Inspection Procedure 71002 as guidance for performing this inspection. No “findings” as defined in NRC Manual Chapter 0612 were identified.

The team concluded that, in general, the applicant performed its license renewal scoping, screening, and aging management review in accordance with the Point Beach License Renewal Application. However, the inspection also identified two areas where insufficient information existed to allow the inspectors to make a determination as to the acceptability of the program. These areas were the scoping of non-safety-related mechanical systems or components whose failure could impact safety-related equipment and the sample size and locations for the One Time Inspection aging management program. In both cases, commitments were made via formally docketed letters to provide additional information to the Office of Nuclear Reactor Regulation. Following submittal and review of this additional information, a determination will be made as to whether additional inspection is necessary.

REPORT DETAILS

A. Inspection Scope

This inspection was conducted by NRC Region III inspectors and the lead project manager for license renewal from the Office of Nuclear Reactor Regulation (NRR). The inspection was performed in accordance with NRC Manual Chapter 2516 and NRC Inspection Procedure 71002, "License Renewal Inspection," dated February 18, 2005.

This inspection looked at both the applicant's scoping and screening methodology and the aging management programs, as described in the license renewal application (LRA), submitted to the NRC on February 25, 2004. In regard to the scoping and screening methodology, the inspection concentrated on those non-safety systems whose failure could prevent safety-related systems, structures, or components (SSCs) from accomplishing a safety function, in accordance with 10 CFR 54.4(a)(2). To verify that these non-safety systems were correctly captured within the scope of license renewal, the inspectors reviewed documents, interviewed personnel and walked down selected areas of the plant. The scoping and screening portion of the inspection also included verification of a sample of SSCs relied on to mitigate regulated events as specified in 10 CFR 54.4(a)(3).

In regard to the aging management, the inspection was intended to assess the adequate implementation of the aging management programs (AMPs) resulting from the applicant's license renewal (LR) program. This included verification that the AMPs would ensure the aging effects will be managed so that there is reasonable assurance that a SSCs intended function will be maintained throughout the period of extended operation. The inspection also consisted of walkdowns of selected in-scope SSCs to assess how plant equipment is currently being maintained and to visually observe examples of nonsafety-related equipment determined to be in scope due to their proximity to safety-related equipment and their potential for failure due to aging effects.

For those programs indicated by the applicant as being consistent with NUREG 1801, "Generic Aging Lessons Learned (GALL) Report," the inspectors confirmed that the applicant's program included the GALL attributes. For those programs which the applicant indicated were new or being enhanced, the inspectors confirmed that commitments existed and were sufficient to support future implementation. For those programs where the applicant indicated that they intended to take exception to the GALL, the inspectors reviewed the exceptions against the GALL recommendations and evaluated the acceptability of the applicant's proposal.

The attachments to this report list the applicant personnel contacted, the documents reviewed and the acronyms used.

B. Visual Observation of Plant Equipment

During this inspection, the inspectors performed walkdown inspections of portions of many of the plant SSCs, including some non-safety-related SSCs. The walkdowns were intended to determine the acceptability of the scoping boundaries, to observe the

current condition of the SSCs, and to assess the likelihood that a proposed aging management program would successfully manage any aging effects. Specific comments on the walkdown results are presented in the following sections. Portions of the following systems were walked down:

- Chemical Volume and Control System;
- Condensate and Feedwater Systems;
- Condensate Storage Tanks T-024A and T-024B;
- Electrical Power Distribution System;
- Emergency Power Distribution System;
- Fire Protection System;
- Fuel Oil Fill Tank T-173;
- Plant Air Systems (Instrument Air and Service Air);
- Reactor Protection System;
- Safety Injection System, Units 1 and 2;
- Service Water System, Units 1 and 2;
- Station Blackout Power System (Combustion Turbine); and
- Starting Air Receiver Tanks for Emergency Diesel Generators G-01 and G-02.

The following structures were walked down:

- Auxiliary Building, Units 1 and 2;
- Block Walls in Auxiliary Building, Units 1 and 2;
- Containment, Unit 2;
- Containment Metallic Liner and Containment Penetrations, Unit 2;
- Concrete Containment Surfaces Areas, Unit 2;
- Diesel Generator Building;
- Facade, Units 1 and 2;
- Turbine Building, Units 1 and 2;
- Switchyard; and
- 138 kV Switchgear Building.

C. Review of Scoping and Screening Methodology

1. General

Prior to the start of the inspection, the applicant received a request for additional information from NRR regarding the applicant's scoping and screening methodology for 10 CFR 54.4(a)(2), which applied to mechanical systems. In a letter dated March 15, 2005, the applicant stated that a change in methodology was necessary to respond to the staff's request for additional information and that the methodology change would require additional 10 CFR 54.4(a)(2) scoping work. The applicant had scheduled this effort to be completed by the end of April 2005 and stated that a description of the revised methodology and a summary of the results would be provided to the NRC upon completion.

As the applicant was still in the process of developing the revised scoping methodology, the inspectors were not able to confirm that all non-safety components whose failure could affect a safety-related function had been

properly scoped in accordance with 10 CFR 54.4(a)(2). As discussed below, the inspectors reviewed various non-safety-related systems and discussed the applicant's planned approach; the inspectors also performed a general walkdown of the facade, and the turbine and auxiliary buildings to discuss specific areas where non-safety-related components spatially interacted with safety-related components. As a result of these walkdowns, the applicant determined that some additional non-safety-related components needed to be placed within the scope of the rule. However, final confirmation that all mechanical systems were properly scoped within the requirements of the license renewal rule will be made by NRR following the applicant's revised submittal. If necessary to support the NRR review of the applicant's final scoping methodology, an additional inspection will be scheduled and performed.

2. Auxiliary Steam Heating

The purpose of the auxiliary steam heating system is to provide heating steam to room area heat exchangers throughout the plant. The system provides steam up to 150 pounds per square inch from auxiliary boilers while both plants are shut down or from turbine extraction steam during operation. The auxiliary steam heating system does not perform any safety-related function; however the auxiliary steam heating system piping runs throughout the plant and in close proximity to some safety related equipment. Therefore, the applicant was evaluating the auxiliary steam heating system under the requirements of 10 CFR 54.4(a)(2).

The inspectors reviewed the LR boundary drawings, the application, and the final safety analysis report (FSAR), and interviewed personnel responsible for the program. The inspectors also performed system walkdowns of accessible portions of the auxiliary steam heating system, including areas the applicant was considering adding as part of their revised methodology. The inspectors concluded that, while not yet completed, the proposed boundaries for the auxiliary steam heating system appeared to comply with the requirements of the LR rule.

3. Chemical Volume and Control

The purpose of the chemical volume and control (CV) system is to control and maintain reactor coolant system inventory and purity through the process of charging and letdown, provide seal injection flow to the reactor coolant pump seals, and provide reactivity control by regulating the boric acid concentration in the reactor coolant system. The CV system contains environmentally qualified (EQ) components and is credited for use in safe shutdown following station blackout events and some plant fires.

The applicant included the sections of the CV system that performed safety-related functions, were considered primary containment boundaries or regulated event-related components, and components in proximity to safety related equipment as being within the scope of the rule. The remainder of the system was excluded because it was considered not to perform a safety-related

function, not to potentially impact the function of another safety system, and not provide a function related to one of the regulated events.

The inspectors reviewed the LR boundary drawings, the application, the FSAR and other engineering documents and performed a system walkdown of accessible portions of the CV system. The inspectors concluded that, while not yet completed, the proposed boundaries for the CV system appeared to comply with the requirements of the LR rule.

4. Electrical Commodities

The electrical commodities that are in scope for aging management are categorized into the following standard passive commodities:

- Power, instrumentation, and control insulated cables and connections, including connectors, splices, fuse holders, and terminal blocks;
- Electrical portions of electrical and instrumentation and control (I&C) penetration assemblies;
- Phase buses, including the isolated-phase bus, non-segregated-phase bus, and segregated-phase bus;
- Switchyard bus;
- Transmission conductors;
- High-voltage insulators; and
- Panels and junction boxes.

During the inspection, the inspectors interviewed the license renewal electrical and I&C project lead, reviewed plant drawings, and scoping and aging management documents. The inspectors also conducted walkdowns of the switchyard area, safety-related switchgear rooms, 13.8 kV switchgear building, emergency diesel generator rooms and the combustion turbine building to assess the current condition of in-scope electrical commodities to verify proper scoping of these commodities. The inspectors concluded that the electrical commodities groups appeared to be properly scoped for license renewal.

5. Electrical Power Distribution

The electrical power distribution at Point Beach consists of the 120 VAC vital instrument power system, the 125 VDC power system, the 4160 VAC power system, and the 480 VAC power system. The 120 VAC vital instrument system consists of sixteen buses, divided among four instrument channels and normally provides power to both safety and non-safety related systems throughout the plant. The 125 VDC power system includes six separate, independent DC distribution buses, each capable of being connected to a common “swing” bus and provides a reliable source of power for safety and non-safety related loads of both units. The 4160 VAC power system consists of a unit auxiliary transformer (19K/4160 VAC), a low voltage station auxiliary transformer (13.8K/4160 VAC), four non-safeguard buses and two safeguard buses per unit. The safeguard buses are supplied by the two low voltage non-safeguard buses

via manually closed tie breakers. The safeguard buses supply all of the safety related loads via 4160 VAC and 480 VAC transformers.

The majority of the electrical loads used for normal and emergency plant operations are powered from the 480 VAC power system. The 480 VAC power system is supplied by the 4160 VAC power system through the 4160/480 VAC station service transformers and the diesel generator building transformers. The 480 VAC power system is divided into four main buses per unit, and the safeguards equipment is connected to two of these per unit. The safeguards equipment connected to the two 480 VAC buses for each unit are powered via a normal connection path from the offsite power system (345K VAC) through the 4160 VAC power system such that no transfer is required in the event of a turbine generator trip.

The inspectors reviewed the LR boundary drawings, the application, and the FSAR, and interviewed personnel responsible for the program. The inspectors also performed system walkdowns of accessible portions of the electrical power distribution system. The inspectors concluded that the applicant had performed scoping and screening for the electrical power distribution system in accordance with the methodology described in the LR application and the rule.

6. Fuel Oil

The purpose of the fuel oil system is to provide fuel oil to the emergency diesel generators and the gas turbine to support supplying power to safe-shutdown systems. The system provides sufficient fuel capacity to allow one emergency diesel generator to operate continuously for seven days. The gas turbine (G-05) performs the following augmented quality functions: (1) provides an alternate AC power source during station blackout, and (2) supplies power to safe shutdown loads during postulated fire events. Fuel oil system piping runs from storage tanks to the emergency diesel generators and the gas turbine.

The applicant included the majority of the fuel oil system as being within the scope of the rule. The remainder of the system was excluded because it was considered to not perform a safety-related function, not to be required for a regulated event and to not potentially impact the function of another safety system.

The inspectors reviewed the LR boundary drawings, the application, and the FSAR, and interviewed personnel responsible for the program. The inspectors also performed a walkdown of the above ground fuel oil fill tank (T-173). The inspectors identified that underground fuel oil piping to and from the fuel oil fill tank (T-173) was excluded from the scope of the rule. The inspectors were concerned that fuel oil system could become contaminated with foreign matter if this piping degraded through wall. The applicant stated that it would include this piping within the scope of the rule. The inspectors concluded that, with the above change, the applicant had performed scoping and screening for the fuel oil system in accordance with the methodology described in the LR application and the rule.

7. Main Feedwater

The purpose of the main feedwater system is to reheat steam exhausted from the low-pressure turbines, and send it back to the steam generators for reuse in removing heat from the primary side. The system primarily has only a normal operation function; however, there are some portions of the feedwater system which perform a safety related function. The main feedwater system also contains EQ components and is credited for use in mitigating the regulated events of anticipated transients without scram (ATWS), station blackout, and Appendix R fires.

The applicant initially included in scope the sections of the main feedwater system that performed safety-related functions, were considered primary containment boundaries or regulated event-related components, and components in proximity to safety related equipment as being within the scope of the rule. The remainder of the system was excluded because it was considered not to perform a safety-related function, not to potentially impact the function of another safety system, and not provide a function related to one of the regulated events.

During this inspection the inspectors specifically reviewed the safety function of the main feedwater regulating and stop valves and possible failure modes of adjacent non-safety related equipment which could affect the ability of these valves to perform their intended function. The valves, which are located in the general area of the turbine building, have a safety function to close to isolate feedwater from the steam generator following certain transients. The inspectors reviewed the LR boundary drawings, the application, and the FSAR, and interviewed personnel responsible for the scoping determination. The inspectors also performed system walkdowns of the location of the main feedwater regulating and stop valves and discussed with the applicant the basis for including or excluding adjacent non-safety-related piping. Other portions of the main feedwater system were also walked down. The inspectors concluded that, while not yet completed, the proposed boundaries for the main feedwater system appeared to comply with the requirements of the rule. However, the inspectors also noted that the applicant still needed to make scoping determinations for other non-safety-related systems adjacent to the main feedwater regulating and stop valves.

8. Plant Air

The plant air system includes the instrument air and service air systems, and the emergency breathing air sub-system. Instrument and service air supply oil-free compressed air throughout the plant with the main difference being that the instrument air is dry while the service air is not dried. The emergency breathing air sub-system provides emergency breathing air to control room personnel based on fire protection criteria. The plant air system contains some EQ components and was credited for use in safe shutdown following station blackout events and some plant fires.

The applicant included the sections of the plant air system that provided primary containment boundaries and regulated event-related components within the scope of the rule. The remainder of the system was excluded because it was considered not to perform a safety-related function, not to potentially impact the function of another safety system, and not provide a function related to one of the regulated events. Failure of non-safety components in the plant air system would not affect safety-related components; therefore no components were added due to 10 CFR 54.4(a)(2).

The inspectors reviewed the LR boundary drawings, the application, the FSAR and other engineering documents. The inspectors also performed a system walkdown of accessible portions of the plant air system. The inspectors concluded that the applicant had performed scoping and screening for the plant air system in accordance with the methodology described in the LR application and the rule.

9. Reactor Protection System including ATWS Mitigating System Circuitry

The reactor protection system (RPS) monitors parameters related to safe operation and automatically trips the reactor. The RPS, as reviewed for license renewal, included in scope both the safety-related portion and the portion associated with the ATWS mitigating system actuation circuitry (AMSAC). The ATWS event is one of the five regulated events specified for inclusion in 10 CFR 54.4(a)(3). In addition, some portions of the RPS were also considered in-scope due to EQ, fire protection, or station blackout.

The inspector reviewed the application, the FSAR and other engineering documents. The inspector also performed a system walkdown of accessible portions of the RPS and AMSAC systems. The inspector concluded that the applicant had performed scoping and screening for the RPS and AMSAC systems in accordance with the methodology described in the LR application and the rule.

D. Review of Aging Management Programs

1. Bolting Integrity Program (B2.1.4)

The bolting integrity program is an umbrella program developed by the applicant for license renewal to manage the aging effects associated with bolting through the performance of periodic inspections. The program, when enhanced in accordance with the applicant's license renewal basis document, will be consistent with NUREG 1801, Section XI.M.32, "Bolting and Torquing," but will contain exceptions to the GALL. The bolting integrity program credits seven separate aging management programs for the inspection of bolting. The seven aging management programs are: (1) the ASME (American Society of Mechanical Engineers) Section XI, Subsections IWB, IWC, and IWD inservice inspection program; (2) ASME Section XI, Subsections IWE and IWL inservice inspection program; (3) ASME Section XI, Subsection IWF inservice inspection program; (4) systems monitoring program; (5) structures monitoring program;

(6) reactor vessel internals program; and (7) the periodic surveillance and preventive maintenance program. The program generally includes periodic inspection of closure bolting for indication of loss of preload, cracking, and loss of material. The program also includes repair/replacement controls for ASME Section XI related bolting and generic guidance regarding material selection, thread lubrication and assembly of bolted joints.

The inspectors reviewed license renewal program basis documentation, aging management review documents, existing procedures and specifications, condition reports and past work orders. The inspectors confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the bolting integrity program owner, and assessed current bolting conditions during walkdowns for the system monitoring program.

The inspectors requested specific searches of the plant specific operating experience and verified that the applicant performed adequate historic reviews to determine aging effects. The inspectors determined that the licensee did not have any documented occurrences of failure in high strength structural bolting. During plant walkdowns, the inspectors specifically looked for cases where structural bolting appeared loose, missing or failed; no problems were identified. Following submittal of the LRA, the licensee did identify two cases where component bolts were replaced. In one case, the licensee discovered a longitudinal crack in a reactor coolant pump seal package bolt. The licensee replaced the bolt and sent the cracked bolt off for laboratory analysis. The crack was determined to be a manufacturing defect and not related to aging degradation. The second case was replacement of all the bolting on the Unit 2 pressurizer after indications were identified during the inservice inspection. The indication disposition report and a subsequent corrective action procedure (CAP) document analyzed the indications and determined that the majority of the indications were minor, appeared most likely due to normal installation and removal of the bolts, and did not affect the integrity of the bolting. However, one bolt had two minor “crack like” indications. The licensee did not determine the cause of these indications; however as the bolts were replaced and no pressurizer leakage had occurred during the previous operating cycle, the inspectors concluded that the licensee’s inservice inspection program had adequately addressed the issue.

The inspectors noted that the applicant had taken exception to the GALL report. The GALL report relied on recommendations for a comprehensive bolting integrity program as delineated in NUREG-1339 which endorses, with exceptions, Electric Power Research Institute (EPRI) documents NP-5769 and TR-104213 for pressure retaining bolting and structural bolting. The applicant had only committed to reviewing the NUREG and EPRI documents prior to the period of extended operation and to enhancing existing plant bolting and torquing documents to reference the EPRI documents. The applicant stated that other recommendations would be incorporated as deemed appropriate.

As the applicant's bolting and torquing program did not provide a standard by which to judge acceptability of the program, the inspectors were initially unable to verify the acceptability of the aging management program. In response to this concern, the applicant reviewed the EPRI documents and developed specific commitments and exceptions, which were detailed in a letter to the NRC dated April 8, 2005. The inspectors reviewed these specific exceptions and determined that they appeared to provide a reasonable basis for deviating from the GALL report. The inspectors concluded that, if the program is implemented as planned, there should be reasonable assurance that the bolting and torquing program will adequately monitor aging management of the in-scope bolting during the period of extended operation.

2. Boraflex Monitoring Program (B2.1.5)

The Boraflex monitoring program is an existing program which is consistent with, but contains exceptions to, NUREG-1801, Section XI.M22, "Boraflex Monitoring." The program assures that no unexpected degradation of the Boraflex material would compromise the criticality analysis in support of the design of the spent fuel storage racks.

The inspectors reviewed program documentation, aging management review documents and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owners, interviewed the spent fuel pool system engineer and conducted walkdowns to assess the condition of the spent fuel pool system.

The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects and reviewed the exceptions to NUREG 1801 specified in the LRA to determine if they were consistent with current industry practice. The GALL recommended that inspection and testing be performed at a maximum of five years for typical panels and two years for accelerated samples. The applicant took exception to the two-year testing frequency for accelerated samples. The inspectors reviewed several blackness tests and found that the test conducted in August 2001 revealed 27 gaps ranging in size from 0.8 to 3.4 inches. Previous test in 1991 and 1996 found no detectable gaps over 0.5 inches. A recommendation from the 2001 test was for the applicant to consider increasing the frequency of the test.

In light of the test results and vendor recommendation, the applicant was asked: (1) if the degradation rate were linear or exponential, and (2) to justify the use of the five-year testing frequency during the period of extended operation. The applicant could not determine the degradation rate and agreed to change the testing frequency from the proposed five years to the GALL-specified testing frequency of two years for accelerated panels and five years for other panels for the period of extended operation.

The inspectors asked the applicant what corrective actions would be taken if the degradation of the Boraflex panels began to compromise the criticality analysis.

In its response to Generic Letter 96-04 [VPNPD-96-089], the applicant proposed using administrative controls to maintain the criticality analysis. New fuel assemblies and those meeting an established criterion would be placed in a designated area in the spent fuel pool in a checkerboard pattern. For the period of extended operation, the applicant's corrective actions will include actions such as repair/replacement of Boraflex panels or re-analysis utilizing controls such as increasing the pool boron concentration to compensate for the degraded Boraflex panels.

Consistent with the recommendations of the GALL Program, XI.M22, the applicant proposed using the EPRI RACKLIFE predictive code or its equivalent for trending and analysis of silica. However, the applicant did not intend to initiate the areal density testing until entering the period of extended operation. The inspectors asked what information would be used as a baseline for trending at the beginning of the period of extended operation. The applicant acknowledged that baseline information would be necessary and agreed to perform a baseline test for areal density prior to entering the period of extended operation to establish a baseline for trending.

The inspectors concluded that the Boraflex monitoring program effectively manages aging effects. With the above stated changes incorporated prior to the period of extended operation, the Boraflex monitoring program will be consistent with the GALL program and will provide reasonable assurance that the aging effects will be managed so that the Boraflex panels in the spent fuel pool cooling system will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

3. Boric Acid Corrosion Program (B2.1.6)

The boric acid corrosion program is an existing program which, with enhancements, will be comparable to NUREG-1801, Section XI.M10, "Boric Acid Corrosion." The boric acid corrosion program manages aging effects for structures and components as a result of borated water leakage. The program requires periodic visual inspection of systems that contain borated water for evidence of leakage or accumulations of dried boric acid. It includes provisions for: (1) determination of the principal location or source of the leakage; (2) examination requirements and procedures for locating small leaks; and (3) evaluations and/or corrective actions to ensure that boric acid leakage does not lead to degradation of the leakage source as well as other SSCs exposed to the leakage. The boric acid corrosion program credits the systems monitoring program for the visual inspection of other SSCs that do not contain borated water, but which might be subject to the degrading effects of borated water leakage.

The inspectors reviewed program documentation, aging management review documents, and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owners, interviewed the CV system engineer and conducted walkdowns to assess the

condition of the CV and safety injection systems. The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects as specified in the LRA are consistent with current industry practice.

The inspectors concluded that the boric acid corrosion program effectively manages aging effects for borated systems. With the enhancements to be incorporated prior to the period of extended operation and system monitoring visual inspection of other SSCs that do not contain borated water, continued implementation of the boric acid corrosion program will provide reasonable assurance that the aging effects will be managed so that susceptible components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

4. Buried Services Monitoring Program (B2.1.7)

The buried piping monitoring program is a new program that will be consistent with, but will contain exceptions to, NUREG-1801, Section XI.M34, "Buried Piping and Tanks Inspection." The program in GALL manages the aging effects on the external surfaces of carbon steel, low-alloy steel, and cast iron components that are buried in sand or soil.

The inspectors reviewed program documentation, aging management review documents, work orders, and test results. The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects and reviewed a CAP that involved the inadvertent damage of protective coating during the excavation of a diesel generator fuel line. The CAP indicated that there was no corrosion on the existing piping and that the damaged coating was repaired.

The inspectors noted that the applicant's fire protection piping did not have a protective coating but instead portions of the fire protection piping were coated with a asphaltic coat for rust protection prior to installation. This was not consistent with GALL; however the application did not take any exceptions to GALL. The applicant stated that the fire protection piping was installed per "industry practice" which did not require a protective coating if the soil environment is not aggressive. The inspectors reviewed ground water chemistry test result and confirmed the applicant's statement that the ground water environment was not aggressive.

With respect to Element 4, "Detection of Aging Effects," the inspectors questioned whether opportunistic inspections of the fire protection would be sufficient since the piping was not coated. In response to the question, the applicant stated that it would revise the aging management program to perform an inspection of a 'vulnerable segment' of the fire protection prior to entering the period of extended operation and once every ten years there after. The applicant defined a vulnerable segment as a portion of the oldest installed, uncoated piping. The applicant also stated that it would include the option of using an opportunistic inspection in place of the scheduled inspection even if the

locale is not the a vulnerable location. The applicant stated that if signs of degradation were observed, the sample area and sample size would be increased.

The inspectors concluded that the buried services program, when implemented as described in the application and with the above stated changes, will adequately manage aging effects. Implementation of the buried services program will provide reasonable assurance that the aging effects will be managed so that the buried service water, fuel oil, and fire protection system components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

5. Cable Condition Monitoring Program (B2.1.8)

The cable condition monitoring program is a new program that, when it is implemented in accordance with the license renewal program basis documents, will be consistent with NUREG-1801, Section XI.E1, "Electrical Cables And Connections Not Subject To 10 CFR 50.49 Environmental Qualification Requirements." The program will also be consistent with, but will include exceptions to, GALL Sections XI.E2, "Electrical Cables Not Subject To 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits," and XI.E3, "Inaccessible Medium-Voltage Cables Not Subject To 10 CFR 50.49 Environmental Qualification Requirements."

The cable condition monitoring program manages aging of conductor insulation materials on cables and connectors, and other electrical insulation materials that are installed in adverse localized environments caused by heat, radiation, or moisture. The program includes accessible non-EQ electrical cables and connections, including control and instrumentation circuit cables, non-EQ electrical cables used in nuclear instrumentation circuits, and inaccessible non-EQ medium-voltage cables within the scope of license renewal. The program requires: (1) visual inspection of a representative sample of accessible electrical cables and connections in adverse localized environments once every 10 years for evidence of jacket surface degradation; (2) testing of nuclear instrumentation circuits once every 10 years to detect a significant reduction in cable insulation resistance; and (3) testing of a representative sample of in-scope, medium-voltage cables not designed for submergence subject to prolonged exposure to significant moisture and significant voltage once every 10 years to detect deterioration of insulation.

During the inspection, the inspectors interviewed the electrical and I&C license renewal project lead and the nuclear instrumentation system engineer. The inspectors also reviewed plant drawings, scoping and aging management documents, test results for nuclear instrumentation cables and 4160V cables found submerged in water, procurement documents for the submerged cables, and existing plant procedures. The inspectors also conducted walkdowns of the switchyard area, safety-related switchgear rooms, 13.8 kV switchgear building, emergency diesel generator rooms and the combustion turbine building to

assess the current condition of in-scope cables and to verify proper scoping of cables.

The inspectors noted that the applicant had several commitments in place to enhance the cable condition monitoring program prior to the period of extended operation. Enhancements to the cable condition monitoring program included establishing a new program that manages aging of conductor insulation materials on cables and connections, and other electrical insulation materials that are installed in adverse localized environments caused by heat, radiation, or moisture.

The inspectors concluded that the cable condition monitoring program provides reasonable assurance that the intended functions of electrical cables and connections within the scope of license renewal that are not subject to the environmental qualification requirements of 10 CFR 50.49 and are exposed to adverse localized environments caused by heat, radiation, or moisture will be maintained consistent with the current licensing basis through the period of extended operation.

6. Closed-Cycle Cooling Water System Surveillance Program (B2.1.9)

The closed-cycle cooling water (CCCW) system surveillance program is an existing program which, with enhancements will be comparable to NUREG-1801, Section XI.M21, “Closed-Cycle Cooling Water System.” However, the applicant also identified some exceptions to the GALL program. The CCCW system surveillance program manages aging effects in closed cycle cooling water systems that are not subject to significant sources of contamination, in which water chemistry is controlled and heat is not directly rejected to the ultimate heat sink. The program includes: (1) maintenance of system corrosion inhibitor concentrations to minimize degradation, and (2) periodic or one-time surveillance testing and inspections to evaluate system and component performance.

The inspectors reviewed license renewal program basis documentation, aging management review documents, historical chemistry parameter trends, and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the CCCW program owner, interviewed the component cooling water system engineer, and conducted walkdowns to assess the condition of CCCW systems within the plant. The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects and the exceptions to NUREG 1801 specified in the LRA are consistent with current industry practice.

During the inspection, the inspectors identified that the applicant credited a one-time visual inspection as a method for managing the age-related degradation of loss of material on the residual heat removal heat exchanger tubes. The inspectors were unable to verify that a visual inspection would be adequate to detect loss of material throughout the tube length. In its April 8, 2005, letter, the applicant revised its aging management program to specify that

the residual heat removal heat exchangers would either have an eddy current one-time test performed or the heat exchangers would be replaced.

The inspectors also noted that the applicant took exception to a statement in the Section XI.M21 of the GALL report. Under the Monitoring and Trending heading, the GALL stated: "Per EPRI TR-107396, performance and functional tests are performed at least every 18 months to demonstrate system operability, and tests to evaluate heat removal capability of the system and degradation of system components are performed every five years." The inspectors concurred with the applicant's conclusion that the EPRI document did not contain such a requirement. The inspectors noted that this error had been corrected in the recent revision to the GALL that was open for public comment at the time of the inspection. Therefore, the inspectors concluded this exception was acceptable. The inspectors concluded that the CCCW system surveillance program effectively manages aging effects. With the enhancements to be incorporated prior to the period of extended operation, continued implementation of the CCCW system surveillance program will provide reasonable assurance that the aging effects will be managed so that the CCCW system components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

7. Fire Protection Program (B2.1.10)

The fire protection program is an existing program that, when enhanced as indicated in the program documents, will be consistent with, but include exceptions to, NUREG-1801, Sections XI.M26, "Fire Protection," and XI.M27, "Fire Water System," as clarified by interim staff guidance ISG-04, "Aging Management of Fire Protection Systems for License Renewal." When fully implemented, the fire protection program will include: (1) fire barrier inspections; (2) electric and diesel-driven fire pump tests; (3) periodic inspection and testing of the halon fire suppression system; and (4) periodic maintenance, testing, and inspection of water-based fire protection systems.

The inspectors interviewed the applicant's fire protection program owner and the fire protection system engineer and performed an extensive walkdown of the system with the program owner, system engineer, and the Appendix R engineer to assess the current condition of various fire protection equipment. The inspectors reviewed program documentation, condition reports, aging management review documents and existing procedures and confirmed that the applicant had a commitment in place to enhance the program prior to the period of extended operation. The inspectors also verified that the applicant performed adequate historic reviews of plant specific and industry experience to determine aging effects and the exceptions to NUREG 1801 specified in the LRA are consistent with current industry practice. As a result of the inspection, the applicant clarified, in its April 8, 2005, letter, that the full flow flushing of the main fire system underground piping was to ensure system function was maintained and that no credit was being taken for corrosion control due to the flushing.

The inspectors concluded that the fire protection program effectively manages aging effects. With the enhancements to be incorporated prior to the period of extended operation, continued implementation of the fire protection program will provide reasonable assurance that the aging effects will be managed so that the fire protection components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

8. Flow-Accelerated Corrosion Program (B2.1.11)

The flow-accelerated corrosion (FAC) aging management program is an existing program credited in the LRA as being consistent with NUREG-1801, Section XI.M17, "Flow-Accelerated Corrosion." The ongoing program is used to predict, detect, and monitor FAC in plant piping and other components, such as valve bodies, elbows, and expanders. The program was credited with: (1) conducting an analysis to determine critical locations; (2) performing baseline inspections to determine the extent of thinning at these locations; and (3) performing follow-up inspections to confirm the predictions, or repairing or replacing components as necessary.

The inspectors reviewed the applicable LR evaluation, interviewed the FAC program owner, reviewed applicable procedures, reviewed the determination of critical locations, reviewed a FAC self-assessment report, and reviewed a sample of condition reports related to FAC.

During the inspection, the inspectors identified that the current program did not use a predictive method of determining when to expand the inspection scope, as indicated in the LRA element of monitoring and trending. Instead the applicant's current program designated a minimum wall thickness value and provided options for the program owner to decide whether a scope expansion was necessary if the measured wall thickness fell below this value. As the current inspection procedures appeared to differ from the method described in the application, the inspectors were unable to determine whether the program as currently implemented met the commitment in the LRA. As a result of the inspectors questions, the applicant agreed, in a letter to the NRC dated April 8, 2005, to perform expanded examinations if inspection results indicate that a component has a remaining service life less than one operating cycle. Also, the applicant committed to enhance FAC procedures to require a local thinning evaluation when the measured wall thickness is less than the code minimum allowable wall thickness.

The inspectors also identified a current FAC program concern. For non-safety-related piping, applicant procedure NP 7.7.23 (NMC procedure FP-PE-FAC-01) stated that, if the wall thickness attributed to FAC was less than 60 percent of pipe nominal wall, the piping shall have an engineering analysis performed in accordance with site-specific engineering analysis procedures. The inspectors requested justification for not requiring an engineering evaluation whenever the measured wall thickness due to FAC is less than 87.5 percent of pipe nominal wall (piping design code allowable pipe wall thickness tolerance). The applicant produced a technical study that established criteria to eliminate the need to evaluate required piping wall thickness for piping stress in the axial direction (the

inspectors confirmed that required piping wall thickness for piping stress in the circumferential direction due to internal pressure, T-min, is determined by the FAC program). The applicant wrote CAP00532 to determine if this technical study provided adequate FAC program acceptance limits that would be applicable to all non-safety-related piping across the entire NMC fleet of nuclear plants. The inspectors relayed the concern to the responsible reviewer in NRR, and it will be followed up as part of their review of this program.

The inspectors concluded that the flow-accelerated corrosion program was in place, had been implemented, was an ongoing program subject to NRC review, and generally included the elements identified in the LRA. As it is a current program subject to periodic NRC review and inspection, there is reasonable assurance that adequate inspections required by the program will be performed through the period of extended operation. The issue identified above will be addressed during the NRR review and does not require further inspection effort.

9. Fuel Oil Chemistry Control Program (B2.1.12)

The fuel oil chemistry control program is an existing program that, when enhanced as specified in the application, will be consistent, with exceptions, with NUREG-1801, Section XI.M30, “Fuel Oil Chemistry.” The fuel oil chemistry control program mitigates and manages aging effects on the internal surfaces of fuel oil storage tanks and associated components in systems that contain fuel oil. The program includes: (1) surveillance and monitoring procedures for maintaining fuel oil quality by controlling contaminants in accordance with applicable American Society for Testing and Materials (ASTM) Standards; (2) periodic draining of water from fuel oil tanks; (3) periodic or conditional visual inspection of internal surfaces or wall thickness measurements (e.g., by ultrasonic testing) from external surfaces of fuel oil tanks; and (4) one-time inspections of a representative sample of components in systems that contain fuel oil.

The inspectors reviewed license renewal program basis documentation, aging management review documents. The inspectors also interviewed the chemistry personnel and the fuel oil system engineer and reviewed historical fuel oil chemistry parameter trends, and existing procedures. The inspectors confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects and the exceptions to NUREG 1801 specified in the LRA are consistent with current industry practice.

The inspectors noted that the one-time inspection program was credited for managing aging effects as part of the fuel oil chemistry program. As discussed during review of the one-time inspection program, the applicant had not yet determined the number of samples, the exact location, or the methodology for these one-time inspections. Additionally, the applicant had a single commitment to prepare procedures which were described in the aging management program document as having different scopes.

The inspectors concluded that the fuel oil chemistry system program effectively manages aging effects. Providing the enhancements are incorporated as specified by the applicant's application and commitments, continued implementation of the fuel oil chemistry system program will provide reasonable assurance that the aging effects will be managed so that the fuel oil system components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

10. One-Time Inspection Program (B2.1.13)

The one-time inspection program is a new program being implemented to address potentially long incubation periods for certain aging effects. When implemented as described in the application, it will provide a means of verifying that an aging effect is either not occurring or progressing so slowly as to have negligible effect on the intended function of the structure or component. It will also verify the effectiveness of existing programs, such as water chemistry. The program elements include: (1) determination of appropriate inspection sample size; (2) identification of inspection locations; (3) selection of examination technique, with acceptance criteria; and (4) evaluation of results to determine the need for additional inspections or other corrective actions.

As stated in the application, this program is used to: (1) verify the effectiveness of water chemistry control for managing the effects of aging in stagnant or low-flow portions of piping, or occluded areas of components, exposed to a treated water environment; (2) verify the effectiveness of fuel oil chemistry control for managing the effects of aging of various components in systems that contain fuel oil; and (3) verify aging effects are not occurring in various components (e.g., reactor vessel internals hold-down spring, letdown orifices, steam traps, and miscellaneous heat exchangers). The applicant also credits the one-time inspection program as managing the aging effects due to loss of material due to galvanic corrosion and selective leaching and in infrequently accessed areas, such as high radiation, high temperature, confined spaces, and submerged areas. The one-time inspection program is required to be implemented and completed prior to the period of extended operation.

At the time of the inspection, the applicant had not yet identified the number of samples, the locations, or the examination techniques for the majority of the one-time inspections. As these elements are necessary in order to evaluate the effectiveness of the one-time program, the inspectors were unable to verify that the one-time inspection program was acceptable for continued operation. In its April 8, 2005, letter, the applicant committed that it would provide additional information regarding the number of samples and methodology to NRR, once that information had been developed. Upon receipt of that information, NRR and the regional inspection staff will determine if additional inspection effort is necessary to verify the effectiveness of the applicant's one-time inspection program.

11. Open-Cycle Cooling (Service) Water System Surveillance Program (B2.1.14)

The open-cycle cooling (service) water system surveillance program is an existing program which, with enhancements will be comparable to, NUREG-1801, Section XI.M20, “Open-Cycle Cooling Water System.” However, the applicant also identified some exceptions to the GALL program. The open-cycle cooling water system surveillance program manages aging effects caused by exposure of internal surfaces of metallic components in water systems (e.g., piping, valves, heat exchangers) to raw, untreated (e.g., service) water. The aging effects are managed through: (1) surveillance and control of biofouling; (2) verification of heat transfer by testing; and (3) routine inspection and maintenance program activities to ensure that aging effects do not impair component intended function.

The inspectors reviewed program documentation, aging management review documents and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owners, interviewed the service water system engineer and conducted walkdowns to assess the condition of the service water system. The inspectors verified that the applicant performed adequate historic reviews of plant specific experience to determine aging effects and that the exceptions to NUREG 1801 specified in the LRA are consistent with current industry practice.

The inspectors concluded that the open-cycle cooling water system surveillance program effectively manages aging effects. With the enhancements to be incorporated prior to the period of extended operation, continued implementation of the open-cycle cooling water system surveillance program will provide reasonable assurance that the aging effects will be managed so that the service water system components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

12. Periodic Surveillance and Preventative Maintenance Program (B2.1.15)

The periodic surveillance and preventive maintenance (PSPM) program is an existing plant-specific program that manages aging effects for certain SSCs within the scope of license renewal. The program provides for inspection, examination, or testing of selected structures and components, including fasteners, for evidence of age-related degradation on a specified frequency based on operating experience or other requirements, such as technical specification or ASME code requirements. Additionally, the program provides for replacement of certain components on a specified frequency based on operating experience.

The PSPM program is also used to verify the effectiveness of other aging management programs. Various surveillance and preventive maintenance activities are relied on to replace or manage the age-related degradation of structures and components within the scope of license renewal. The frequency of these predefined or recurring surveillance and preventive maintenance

activities are specified by “callups” maintained in a computerized program which records work performed on plant SSCs.

The inspectors reviewed program documentation, aging management review documents and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owner and LR team members regarding the ability to ensure that all deferred or canceled callups would be retrievable and auditable. As a result, the applicant committed in its April 8, 2005, letter to revising its PSPM program so that deferred or canceled callups would be retrievable and auditable. The effective implementation of the applicant’s proposed additional commitment would ensure that any proper deferrals or cancellations within the PSPM program were consistent with current industry practices and requirements.

The inspectors concluded that the PSPM program, with proposed enhancements to be incorporated prior to the period of extended operation, will effectively manage aging effects. Continued implementation of the PSPM program will provide reasonable assurance that the aging effects will be managed so that monitored components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

13. Structures Monitoring Program (B2.1.20)

The structures monitoring program is an existing program which, with enhancements will be comparable to Sections XI.M23, “Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems,” XI.S5, “Masonry Wall Program,” XI.S6, “Structures Monitoring Program,” and XI.S7, “RG 1.127, Inspection of Water-Control Structures Associated with Nuclear Power Plants,” of the GALL report. However, the applicant also identified some exceptions to the GALL program. The structures monitoring program includes steel (including fasteners) concrete (including masonry block and grout), earthen berms, and elastomers. The structures monitoring program provides for periodic visual examinations and examination of accessible surfaces of the structures and components and identifies the aging effects that impact the material of construction.

The inspectors reviewed the applicable LR evaluation, interviewed the structures monitoring program owner, reviewed applicable procedures, reviewed the facilities monitoring program annual report for year 2004, reviewed a sample of corrective action documents related to degraded structural components, and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also conducted plant wide walkdowns to assess the condition of structural components.

The inspectors identified a concern in LRA Section B2.1.20, “Structures Monitoring Program,” acceptance criteria. Specifically, the LRA would reclassify a structure found “unable to perform its function” as (a)(1) under the

Maintenance Rule. The inspectors were concerned that a structure unable to perform its function would not be promptly repaired or replaced. The applicant committed to re-word the LRA to reclassify a structure found unable to "meet its design basis" as (a)(1) under the Maintenance Rule. The inspectors also verified that components identified to be degraded were entered into the applicant's corrective action program, promptly evaluated, and appropriate corrective actions specified.

The inspectors noted that LRA states that periodic ground water level measurements and chemical analysis of ground water and lake water will be performed to verify the associated chemistry remains nonaggressive. However, the structural monitoring program only states that the initial frequency for ground water level measurement will be once every quarter and the initial frequency for ground water and lake water chemistry (pH, chlorides, and sulfates) will be once every nine months. No information was provided about inspections over the extended operating period. The inspectors also questioned what ground water level and chemistry information would provide the baseline for trending at the beginning of the period of extended operation. The applicant acknowledged that baseline information would be necessary and agreed that groundwater sampling would be initiated prior to the period of extended operation. The applicant also agreed that the maximum frequency for the sampling would be at least once every 10 years.

The inspectors also questioned whether periodic inspections would be performed on normally inaccessible concrete. In response to the question, the applicant stated that it would revise the aging management program to perform an inspection of a representative inaccessible concrete samples prior to entering the period of extended operation and then at some prescribed interval (once every ten years) thereafter. The applicant also stated that it would include the option of using an opportunistic inspection in place of the scheduled inspection.

The inspectors concluded that the structures monitoring program effectively manages aging effects. With the enhancements to be incorporated prior to the period of extended operation, continued implementation of the structures monitoring program will provide reasonable assurance that the aging effects will be managed so that the program components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

14. Systems Monitoring Program (B2.1.21)

The systems monitoring program is an existing plant specific program. The systems monitoring program consists of those activities that manage the aging effects for components in various systems and structures, including normally accessible surfaces of piping, tanks, and other components and equipment within the scope of license renewal. Aging effects are managed through visual inspection and monitoring of external surfaces for leakage and evidence of material degradation. The program also includes visual inspections of the external surfaces of carbon steel tanks, and, as such, claims consistency, with

exceptions, to NUREG-1801, Section XI.M.29, “Above Ground Carbon Steel Tanks.” The NUREG-1801 program for above ground carbon steel tanks states that the program consists of “preventive measures to mitigate corrosion by protecting the external surfaces of carbon steel tanks protected with paint or coatings.” However, the applicant does not take credit for any coating or paint for mitigating corrosion even though the tanks may be painted or coated. According to the LRA, inspections of the coating or paint will provide an indication of the condition of the material underneath the coating or paint.

The inspectors reviewed program documentation, aging management review documents and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owners, interviewed several system engineers and conducted several walkdowns to assess the current status of system monitoring. The inspectors also discussed with LR team members the need for additional management verification that all accessible portions of applicable systems are walked down as required and that any inaccessible portions of systems are evaluated. The applicant committed to providing the additional management verification and evaluation in a letter to the NRC dated April 8, 2005.

The inspectors noted that the operating experience section of the LRA indicated that the applicant had performed a review of walkdown results for seven systems and that walkdowns usually resulted in the initiation of corrective work orders for needed repairs. The inspectors determined that the review apparently consisted of reviewing the system notebooks for both units for three systems and for a single unit on the remaining system. Additionally, the inspectors determined that a single system engineer had responsibility for the three systems where both units were reviewed. Therefore, the actual review only involved two system engineers and did not appear to provide a thorough representation of system walkdown operating experience. Nevertheless, using the supporting documentation for the LRA, additional data provided by the applicant, and system notebook reviews for systems walked down during this inspection, the inspectors verified that the applicant performed adequate reviews of plant specific experience to determine and manage aging effects as specified in the LRA and consistent with current industry practice.

The inspectors concluded that the system monitoring program, with the proposed enhancements to be incorporated prior to the period of extended operation, will effectively manage aging effects. Continued implementation of the system monitoring program will provide reasonable assurance that the aging effects will be managed so that monitored systems and components will continue to perform their intended function per the current licensing basis for the period of extended operation.

15. Tank Internal Inspection Program (B2.1.22)

The tank internal inspection program is a new program that will be completed prior to the period of extended operation. The program will be comparable to the

elements described Branch Technical Position RLSB-1, “Aging Management Review – Generic,” which is included in Appendix A of NUREG-1800, “Standard Review Plan for Review of License renewal Applications for Nuclear Power Plants.” The tank internal inspection program is limited to starting air receiver tanks for emergency diesel generators G-01 and G-02 and condensate storage tanks T-024A and T-024B. Periodic inspections will determine the extent of corrosion occurring in the program tanks to ensure that aging effects are effectively managed during the period of extended operation. The internal tank surfaces will be visually inspected. Wall thinning may be detected by ultrasonic examinations from inside and/or outside the tank to ensure minimum wall thickness is maintained until the next scheduled inspection.

The inspectors reviewed the LR evaluation and Branch Technical Position RLSB-1, interviewed the tank internal inspection program owner, visually examined exterior components of the G-01/G-02 starting air receiver tanks and condensate storage tanks for signs of aging related degradation, and reviewed corrective actions related to the degradation of the protective coating identified inside T-024A. The inspectors concluded that, if the tank internals inspection program is implemented as described in the LRA and program basis document, there should be reasonable assurance that the program would adequately evaluate the effects of aging.

16. Water Chemistry Control Program (B2.1.24)

The water chemistry control program is an existing program that is consistent with, but includes exceptions to, NUREG-1801, Section XI.M2, “Water Chemistry.” The water chemistry control program manages aging effects by controlling the internal environment of systems and components. Primary, borated and secondary water systems are included in the scope of the program. The program conforms to the guidelines in EPRI TR-105714 and TR-102134. The aging effects are managed by controlling concentrations of known detrimental chemical species such as halogens, sulfates and dissolved oxygen below the levels known to cause degradation. The program includes specifications for chemical species, sampling and analysis frequencies, and corrective actions for control of water chemistry. For low-flow or stagnant portions of a system, a one-time inspection of selected components at susceptible locations provides verification of the effectiveness of the water chemistry control program.

The inspectors reviewed program documentation, aging management review documents, historical chemistry parameter trends, and existing procedures and confirmed that the applicant had commitments in place to enhance the program prior to the start of the period of extended operation. The inspectors also interviewed the program owners. The inspectors verified that the applicant performed adequate historic reviews of plant specific and industry experience to determine aging effects and the exceptions to NUREG 1801 specified in the LRA are consistent with current industry practice.

The inspectors concluded that the water chemistry control program effectively manages aging effects. With the enhancements to be incorporated prior to the period of extended operation, continued implementation of the water chemistry control program will provide reasonable assurance that the aging effects will be managed so that the primary and secondary system components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

17. Environmental Qualification Program (B3.1)

The EQ program is an on-going program which manages component thermal, radiation and cyclical aging, as applicable, through the use of aging evaluations based on 10 CFR 50.49(f) qualification methods. As required by 10 CFR 50.49, EQ components not qualified for the current license term are to be refurbished, replaced, or have their qualification extended prior to reaching the aging limits established in the evaluation. Aging evaluations for EQ components that specify a qualification of at least 40 years are considered time limited aging analyses (TLAA) for license renewal. The EQ Program ensures that these EQ components are maintained within the bounds of their qualification bases. The program is consistent with NUREG-1801, Section X.E1, "Environmental Qualification of Electric Components."

The inspectors interviewed the program owner, reviewed several program documents, corrective action documents and various inter-departmental interfacing documents. The inspectors verified that the applicant performed adequate historic reviews of plant specific and industry experience to determine aging effects of plant components managed by the EQ program. The inspectors also noted that the applicant had made several enhancements to the program, including completion of the EQ backlog elimination project and addressing recommendations from an independent assessment of the program.

The inspectors concluded that the EQ program effectively manages aging effects. With continued implementation and effective management, the EQ program will provide reasonable assurance that the aging effects will be managed so that the environmentally qualified plant components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

18. Fatigue Monitoring Program (B3.2)

The fatigue monitoring program is an existing program which, with enhancements, will be comparable to Section X.M1, "Metal Fatigue of the Reactor Coolant Pressure Boundary," of the GALL report. The fatigue monitoring program is a confirmatory program that monitors loading cycles due to thermal and pressure transients and cumulative fatigue usage for selected reactor coolant and other component locations. Metal fatigue analyses are considered to be TLAA under 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." The program provides an analytical basis for confirming that the actual number of cycles does not exceed

the number of cycles used in the design analysis and that the cumulative usage will be maintained below the allowable limit, or that appropriate corrective actions are taken to maintain component cumulative fatigue usage below the allowable limit during the period of extended operation. Enhancements to the fatigue monitoring program include monitoring the effects of reactor water environment.

The inspectors reviewed the applicable LR evaluation, interviewed the fatigue monitoring program owner, reviewed applicable procedures, confirmed the fatigue monitoring program included fatigue sensitive locations for older vintage Westinghouse plants identified in NUREG/CR-6250, "Application of NUREG/CR-5999 Interim Fatigue Curves of Selected Nuclear Power Plant Components," reviewed a sample of fatigue monitoring analytical calculations to confirm that the evaluations included the period of extended operation and the effects of reactor water environment if applicable, and reviewed a sample of operating experience related to fatigue monitoring.

The inspectors concluded that the fatigue monitoring program effectively manages aging effects. With the program enhancements already incorporated, continued implementation of the fatigue program will provide reasonable assurance that the aging effects will be managed so that the monitored components will continue to perform their intended function consistent with the current licensing basis for the period of extended operation.

E. Exit Meeting Summary

The results of this inspection were discussed on April 19, 2005, with Messrs. Douglas Cooper and Dennis Koehl and other members of the Wisconsin Electric and Nuclear Management Corporation staff in an exit meeting open for public observation at the Two Creeks Town Hall in Two Creeks, Wisconsin. The applicant acknowledged the inspection results and presented no dissenting comments.

The inspectors noted that proprietary documents were reviewed during the course of the inspection. The applicant confirmed that all such proprietary documents were returned and the likely content of the report would not involve the proprietary material.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Applicant

A. Capristo, Regulatory Affairs Manager
F. Flentje, Regulatory Affairs Principal Analyst
W. Herrman, Strategic Programs - Senior Technical Advisor
D. Johnson, NMC Director, License Renewal
J. Knorr, Manager, License Renewal
D. Koehl, Site Vice President
M. Lorek, Plant Manager
J. McCarthy, Site Director
T. Mielke, LR Lead - Mechanical
M. Ortmeyer, LR Lead - Structural/Civil
S. Schellin, LR Lead - Electrical
J. Schweitzer, Engineering Director
G. Sherwood, Programs Engineering Manager
J. Thorgerson, LR Lead - Programs

Nuclear Regulatory Commission

R. Krsek, Senior Resident Inspector, Point Beach
P. Louden, Chief, Reactor Projects, Branch 5
M. Morris, Resident Inspector, Point Beach
A. Stone, Chief, Engineering Branch 2

Public

J. Kitsembel, Wisconsin Public Service Commission

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

The following is a list of applicant documents reviewed during the inspection, including documents prepared by others for the applicant. Inclusion of a document on this list does not imply that NRC inspectors reviewed the entire documents, but, rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. In addition, inclusion of a document on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

License Renewal Application

License Renewal Application Point Beach Nuclear Plant Units 1 and 2; dated February 25, 2004

License Renewal Aging Management Program Basis Documents

LR-AMP-001-WCHEM; Water Chemistry Control Program Basis Document For License Renewal; Revision 2; dated April 5, 2004

LR-AMP-002-FOCHEM; Fuel Oil Chemistry Control Program Basis Document for License Renewal; Revision 2; dated April 5, 2004

LR-AMP-004-PSPM; Periodic Surveillance and Preventive Maintenance Program Basis Document for License Renewal; Revision 3; dated February 24, 2005

LR-AMP-005-BAC; Boric Acid Corrosion Program Basis Document for License Renewal; Revision 2; dated April 14, 2004

LR-AMP-007-SYSMON; Systems Monitoring Program Basis Document for License Renewal; Revision 3; dated February 23, 2005

LR-AMP-009-FAC; Flow Accelerated Corrosion Program Basis Document for License Renewal; Revision 3; dated April 14, 2004

LR-AMP-010-FP; Fire Protection Program Basis Document for License Renewal; Revision 2; dated February 24, 2005

LR-AMP-012-EQ; Environmental Qualification Program Basis Document for License Renewal; Revision 3; dated November 2, 2004

LR-AMP-014-CCMON; Cable Condition Monitoring Program Basis Document for License Renewal; Revision 4; dated February 23, 2005

LR-AMP-018-BSMON; Buried Services Monitoring Program Basis Document for License Renewal; Revision 3; dated February 25, 2005

LR-AMP-019-TNKINT; Tank Internal Inspection Program Basis Document for License Renewal; Revision 2; dated April 14, 2004

LR-AMP-020-BORMON; Boraflex Monitoring Program Basis Document for License Renewal; Revision 2; dated February 23, 2005

LR-AMP-021-OCCW; Open-Cycle Cooling (Service) Water System Surveillance Program Basis Document For License Renewal; Revision 2; dated April 14, 2004

LR-AMP-022-STRMON; Structures Monitoring Program Basis Document for License Renewal; Revision 3; dated February 22, 2005

LR-AMP-023-CCCW; Closed-Cycle Cooling (Service) Water System Surveillance Program Basis Document For License Renewal; Revision 2; dated April 14, 2004

LR-AMP-024-OTINSP; One-time Inspection Program Basis Document for License Renewal; Revision 3; dated February 24, 2005

LR-AMP-025-FATMON; Fatigue Monitoring Program Basis Document for License Renewal; Revision 3; dated November 12, 2004

LR-AMP-032-BOLTINT; Bolting Integrity Program Basis Document for License Renewal; Revision 2; dated April 14, 2004

LR-AMR-124-E; Aging Management Review of Electrical Commodities; Revision 0; dated February 25, 2004

License Renewal Drawings

LR-110E017; Safety Injection System Unit 1, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-110E018; Auxiliary Coolant System Unit 1, Sheets 1 to 4; Revision 1; dated October 17, 2003

LR-110E029; Auxiliary Coolant System Unit 2, Sheets 1 to 3; Revision 1; dated October 17, 2003

LR-110E035; Safety Injection System Unit 2, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-541F092; Chemical and Volume Control System; Revision 1; dated October 17, 2003

LR-541F448; Chemical and Volume Control System; Revision 1; dated October 17, 2003

LR-684J741; Chemical and Volume Control System, Sheets 2 and 3; Revision 1; dated October 17, 2003

LR-685J175; Chemical and Volume Control System, Sheets 2 and 3; Revision 1; dated October 17, 2003

LR-M-201; Main and Reheat Steam and Steam Generator Blowdown, Sheets 1 and 3; Revision 1; dated October 17, 2003

LR-M-202; Condensate and Feedwater System, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-M-207; Service Water, Unit 1, Sheets 1, 1A, 2, 3, and 4; Revision 1; dated October 17, 2003

LR-M-208; Fire Water Unit 2, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-M-209; Plant Air System, Sheets 2, 7, 8, 11, and 13; Revision 1; dated October 17, 2003

LR-M-214; Units 1 and 2 Auxiliary Steam Heating System, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-M-219; Fuel Oil System, Unit 1, Sheets 1 - 3; Revision 1; dated October 17, 2003

LR-M-227; Glycol Cooling System, Diesel Generating Building Units 1 and 2, Sheets 1 and 2 ; Revision 1; dated October 17, 2003

LR-M-2201; Main and Reheat Steam System Unit 2, Sheet 1; Revision 1; dated October 17, 2003

LR-M-2201; Condensate and Feedwater System, Sheet 3; Revision 1; dated October 17, 2003

LR-M-2202; Condensate and Feedwater System, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-M-2207; Service Water Unit 2, Sheets 1 and 2; Revision 1; dated October 17, 2003

LR-M-2214; Unit 2 Auxiliary Steam Heating System; Revision 1; dated October 17, 2003

LR-PBM-231; Chemical and Volume Control System, Sheet 1; Revision 1; dated October 17, 2003

License Renewal Procedures, Processes, and Miscellaneous Documents

CMP 2004-01; Change Management Plan, Implementation of a Renewed License; Revision 0

LR-TR-510-TLAA; License Renewal Technical Report, Time Limited Aging Management Report; Revision 0

LR-TR-517-IMPLAN; Implementation Plan for License Renewal; Revision 1; dated December 8, 2004

LR-TR-505-QAPELE; Evaluation of Quality Assurance Program Elements for License Renewal; Revision 0; dated January 12, 2004

LR-TR-512-EQAGING; Evaluation of Thermal, Radiation, Cyclic, and Mechanical Aging of Environmentally Qualified Equipment for License Renewal; Revision 2; dated March 8, 2005

LRPG 1-3; Operating Experience Data Collection; Revision 7; dated August 17, 2004

NP 7.7.25; Renewed License Program; Revision 0; dated January 26, 2005

Flow Accelerated Corrosion Program Implementing Documents; Revision 3

List of Components Where One-Time Inspection Program Credited; dated March 11, 2005

Structures Monitoring Program Implementing Documents; Revision 3

Tank Internal Inspection Program Implementing Documents; Revision 2

Corrective Action Documents and Searches

CA 053303; NSSS System Engineer Review Recommendations of EPRI Report 1001017; dated October 20, 2003

CA 053320; Review EPRI Report for RC and CV Systems; dated October 21, 2003

CA 060248; Intake Structure Damage; dated October 29, 2004

CA 060251; Request an OE Evaluation of NSAL-04-5, Pressurizer Insurge; dated November 1, 2004

CAP 000532[1]; Flow Accelerated Corrosion Program Fleet Procedure Issue; dated March 24, 2005

CAP 004037; Condensate Storage Tank Inner Coating Degrading; dated January 11, 2000

CAP 006035; Corrosion Prevention Coating on Underground Services Water and Fuel Oil Piping; dated October 7, 1993

CAP 012984; Gaps in Boraflex Found During Spent Fuel Pool Boraflex Testing

CAP 033423; Track Resolution of Actions for Business Excellence Plan EQ-16-0030; dated June 9, 2003

---

[1] Written as a result of the inspection

CAP 051077; Bolting Replacement May Not Have Been Required; dated October 15, 2003

CAP051481; Degraded Coatings on SW Pipes Near Sump B Screens; dated October 28, 2003

CAP 056042; Longitudinal Surface Crack Discovered in 1P-1B Seal Package; dated April 4, 2004

CAP 056366; Replace the First Elbow Downstream of 1CV-02085 on the Main Steam Line to Main Steam Reheater "D"; dated May 4, 2004

CAP 056681; Non-EQ Motor Leads (Teflon) Were Installed on CAF Motor 2W-001B1-M; dated May 13, 2004

CAP 056695; Intake Structure Damage; dated May 14, 2004

CAP 060849; Concrete Broken Out by Door 159 in Boiler Room; dated December 2, 2004

CAP 061625; Water Dripping on G-03 and G-04 EDG Common Room; dated January 22, 2005

CAP 062958[1]; Water Seeping Through Ceiling in Diesel Generator Building Above 2A06 Switchgear; dated March 22, 2005

CE 14044; Intake Structure Damage; dated May 15, 2004

CR-00-0125; Loose Rust Observed on Floor Inside South Condensate Storage Tank T-24A; dated January 10, 2000

CR-00-0129; Localized Deterioration/Rust of Tank Lining Identified Inside Condensation Storage Tank T-024A; dated January 12, 2000

EWR 057871; Intake Structure Damage; dated June 2, 2004

MRE 000299; Concrete Broken Out by Door 159 in Boiler Room; dated December 6, 2004

OE 014511; Operability Evaluation of Feedwater Piping Failure at Mihama Unit 3; dated August 12, 2004

OE 047677; Operability Evaluation E11541 - Reactor Coolant System Drain Line Leak; dated March 27, 2002

OTH 013726; Analysis of the Unit 1 B Reactor Coolant Pump Seal Housing Bolt; dated June 21, 2004

OTH 058923; Review EPRI Report 1001017; dated August 12, 2004

OTH 058924; Review EPRI Report 1001017; dated August 12, 2004

OTH 058925; Review EPRI Report 1001017; dated August 12, 2004

Multiple Keyword Searches on “Bolt” Plus “Crack,” “Corrosion” Plus “Bolt,” “Leak” Plus “Bolt,” and “Stress Corrosion Cracking”; dated March 11, 2005

Current Procedures, Processes, and Miscellaneous Documents

Boric Acid Leakage and Corrosion Monitoring Program; Revision 2; dated February 25, 2005

CAMP 022; Chemistry Data Trending Program; Revision 2

CAMP 101; Daily Routine Sampling Schedule for Operating, Refueling, or Shutdown Units; Revision 59

CAMP 241; Analysis and Control of Diesel Generator Cooling Water Corrosion Inhibitor; Revision 11

DG-M18; Fastener Design Guideline, Pages 1, 2, and 12; Revision 0; dated May 26, 2004

EQ-15-012.5; Final Report of Utility Vault Inspection for Point Beach Nuclear Plant; Earth Tech, Inc; dated August 2003

FP-E-MOD-04; QF-0515A and B; Design Input Checklist, Part A - Engineering Programs and Departmental Reviews; Revision 2 and Part B - Design Considerations, Requirements, and Standards; Revision 0

Fuel Oil Particulate Trend Results Graph; provided March 21, 2005

Generic Letter 89-13 Program Document; Revision 4

MI 29.1; Use of Thread Lubricants and Sealants; Revision 4; dated August 13, 2003

MI 32.1; Flange and Closure Bolting; Revision 12; dated February 16, 2005

NP 3.2.2; Primary Water Chemistry Monitoring Program; Revision 12

NP 3.2.3; Secondary Water Chemistry Monitoring Program; Revision 16

NP 7.4.14; Boric Acid Leakage and Corrosion Monitoring (BALCM); Revision 2; dated March 2, 2005

NP 7.7.1; Administrative Procedure: Environmental Qualification of Electrical Equipment; Revision 4; dated June 23, 2004

NP 7.7.9; Facilities Monitoring Program; Revision 3

NP 7.7.19; Fatigue Monitoring Program; Revision 1

NP 7.7.23; Flow Accelerated Corrosion Inspection Program; Revision 1

NP 10.2.5; TS Surveillance Administration; Revision 7; dated January 26, 2005

OI 92A; Fuel Oil Ordering, Receipt Sampling and Offloading; Revision 12; dated August 9, 2004

RMP 9021-1; Gas Turbine Generator G-05 and Auxiliary Equipment Mechanical Preventive Maintenance, Pages 27 and 98; Revision 6; dated December 15, 2004

RMP 9043-33; Emergency Diesel Generator G-03 Mechanical Inspection; Revision 5; dated November 3, 2004

RMP 9057; Fire Barrier Penetration Fire Seal Surveillance; Revision 4; dated May 12, 2004

SEM 1.0; System Engineering Handbook; Revision 4; dated May 16, 2003

SEM 7.8.3; Flow Accelerated Corrosion Program Basis Document; Revisions 4 and 5

TS 80; Sampling of Emergency Fuel Oil Tanks (Quarterly); Revision 15; dated June 3, 2002

Reports

2003-004; Indication Disposition Report for Pressurizer Manway Bolts; dated October 13, 2003

2003-013; Condition Assessment of Several Primary Cables; DTE Energy Technologies; dated May 2003

Analytical Results for Soil Boring Activities, Coleman Engineering; dated November 27, 1991

Evaluation of Blackness Testing of the Boraflex in the Point Beach Spent Fuel Pool from Holtec International to Wisconsin Electric Power Company; dated August 31, 1991

HI-961559; Blackness Testing of Boraflex in Selected Spent Fuel Storage Rack Cells of the Point Beach Nuclear Plant, Holtec Project 60615; dated November 1996

HI-2012756; Blackness Testing of Boraflex in Selected Spent Fuel Storage Rack Cells of the Point Beach Nuclear Plant, Holtec Project 1153; dated October 2001

NMC-03Q-301; Point Beach Nuclear Plant Units 1 and 2, Metal Fatigue Aging Management Program, Environmental Fatigue Calculations; Revision 4

NMC-03Q-307; Point Beach Metal Fatigue Aging Management Program, Surge Line and Pressurizer Lower Head Fatigue Analysis; Revision 0

PBCH-05Q-302; Historical Baselining for Point Beach Units 1 and 2, FatiguePro Baseline for Point Beach Nuclear Plant 1 and 2 through August 2003; Revision 3

Record of Eddy Current Inspection of Unit 1 Residual Heat Removal Heat Exchanger; dated December 15 - 16, 1983

Record of Eddy Current Inspection of Unit 2 Residual Heat Removal Heat Exchanger 011B; dated October 22, 1990

SIR-02-058; Baselining and Projections for Plant Cycles and Fatigue Usage for Point Beach Nuclear Plant Units 1 and 2; Revision 3

Technical Study, Criteria for the Elimination of the Axial Stress Check in the Structural Evaluation of Wall Thinning Due to Erosion/Corrosion

WCAP-13509; Structural Evaluation of the Point Beach Units 1 and 2 Pressurizer Surge Lines Considering the Effects of Thermal Stratification; dated October 1992

Correspondence

NPM 2004-0591; Completion of the License Renewal Environmental Qualification Program Backlog Elimination Project; dated September 3, 2004

NPM 2005-0081; Subject: Facilities Monitoring Program Annual Report for the Year 2004; dated January 31, 2005

NPM 2005-0150; Generic Letter 89-13 Summary Report of Heat Exchanger Inspections; dated February 22, 2005

NPM 2005-0152; Biofouling Tracking; dated February 22, 2005

NPM 2005-0112; Generic Letter 89-13 Program: 2004 SW System Engineer Report; dated February 10, 2005

NRC 2005-0037; Clarification to Information Regarding the Point Beach Nuclear Plant License Renewal Application; dated April 8, 2005

VPNPD-87-386; Response to IE Bulletin 87-01, Point Beach Nuclear Plant, Units 1 and 2; dated September 10, 1987

VPNPD-89-220; Boraflex Surveillance Program; dated April 13, 1989

VPNPD-90-027; Point Beach Nuclear Plant Response to Generic Letter 89-13; dated January 12, 1990

VPNPD-96-089; Response to NRC Generic Letter 96-04 “Boraflex Degradation in Spent Fuel Pool Storage Racks”; dated October 23, 1996

System and Program Health Reports

Chemical and Volume Control System Health Report; dated January 24, 2005

Component Cooling Water System Health Report; dated January 31, 2005

Condensate and Feedwater System Health Report; dated January 13, 2005

Reactor Protection System Health Report; dated February 25, 2005

Service Water System Health Report; dated January 11, 2005

Flow Accelerated Corrosion Program Health Status; dated February 28, 2005

Work Orders

WO 9701617; G-04 Exhaust Structure Allows Water to Drip into the Mechanical Equipment Room; dated February 5, 1997

WO 9948308; Boric Acid Accumulation at Containment Sump B Screens; dated October 19, 2003

WO 0216258; Valve Has Bonnet and Packing Gland Area Leak; dated October 19, 2003

WO 0302909; G-04 Room Ceiling Has Crack, Which Is Leaking Water from Heat Exchanger Area to G-04 Emergency Diesel Generator Room Floor; dated February 16, 2003

WO 0309879; Unit 2 Piping, HB-19, Clean and Repair; dated February 3, 2005

WO 0400324; Install Temporary Modification 04-001 for Removal of Butterfly Valve and Installation of Blind Flange; dated June 2, 2004

WO 0406951; Ground Water Monitoring Well Samples; dated October 3, 2004

WO 0407371; Roof Leaking in North End of Second Floor of G-03/04 Building; dated March 26, 2004

WO 0408515; Ground Water Monitoring Well Samples; dated December 15, 2004

WO 0500468; Snow Leaking into G-03 and G-04 Building Common Room with Strong East Wind with Heavy Snow Fall; dated January 22, 2005

LIST OF ACRONYMS USED

ADAMS	Agency Wide Access Management System
AMSAC	ATWS Mitigation System Actuating Circuitry
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	Anticipated Transient Without Scram
BAC	Boric Acid Corrosion
CAP	Corrective Action Program Document
CCCW	Closed Cycle Cooling Water
CFR	Code of Federal Regulations
CV	Chemical Volume and Control System
DRS	Division of Reactor Safety
EPRI	Electric Power Research Institute
EQ	Environmental Qualification
FAC	Flow Accelerated Corrosion
FSAR	Final Safety Analysis Report
GALL	Generic Aging Lessons Learned
I&C	Instrumentation and Controls
IMC	Inspection Manual Chapter
IR	Inspection Report
ISG	Interim Staff Guidance
kV	kiloVolt (1000 Volts)
LR	Licenese Renewal
LRA	License Renewal Application
NMC	Nuclear Management Company, LLC
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
PARS	Publically Available Records System
PSPM	Periodic Surveillance and Performance Monitoring
RPS	Reactor Protection System
SSC	System, Structure, or Component
TLAA	Time Limited Aging Analyses
VAC	Alternating Current (AC) Voltage
VDC	Direct Current (DC) Voltage