

March 2, 2006

Mr. Timothy O'Connor  
Vice President Nine Mile Point  
Nine Mile Point Nuclear Station, LLC  
P.O. Box 63  
Lycoming, NY 13093

SUBJECT: NINE MILE POINT NUCLEAR STATION - NRC LICENSE RENEWAL  
INSPECTION REPORT 05000220/20050011 and 05000410/2005011

Dear Mr. O'Connor:

On December 15, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection of your application for renewal of the Nine Mile Point Nuclear Station (NMPNS), Units 1 and 2 license. The enclosed inspection report documents the final inspection findings which were discussed on January 26, 2006, with Mr. James Hutton, and other members of your staff, at an exit meeting available for public observation at the Assembly Hall, Town of Scriba, 42 Creamery Road, Oswego, NY.

The inspection was conducted in accordance with NRC Manual Chapter 2516, "Policy and Guidance for the License Renewal Inspection Program," using NRC Inspection Procedure 71002, "License Renewal Inspections." The inspection evaluated the methodology you proposed to address the requirement under 10 CFR 54.4 (a)(2) to identify non-safety systems that affect the function of safety systems and to determine the efficacy of selected aging management programs referenced in your application. Our inspection found that your license renewal activities were being implemented as described in your license renewal application. The documentation supporting your application was in an auditable and retrievable form.

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

Sincerely,

*/RA/*

Duncan White, Acting Branch Chief  
Engineering Branch 1  
Division of Reactor Safety

Docket Nos. 50-220, 50-410  
License Nos. DPR-63, NPF-69

Enclosure: Inspection Report 05000220/2005011 and 05000410/2005011

Mr. Timothy O'Connor

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cc w/encl:

M. J. Wallace, President, Constellation Generation

M. Heffley, Senior Vice President and Chief Nuclear Officer

C. W. Fleming, Esquire, Senior Counsel, Constellation Energy Group, LLC

M. J. Wetterhahn, Esquire, Winston and Strawn

P. Smith, President, New York State Energy, Research, and Development Authority

J. Spath, Program Director, New York State Energy Research and Development Authority

P. D. Eddy, Electric Division, NYS Department of Public Service

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law  
Supervisor, Town of Scriba

T. Judson, Central NY Citizens Awareness Network

D. Katz, Citizens Awareness Network

J. R. Evans, LIPA

C. Adrienne Rhodes, Chairman and Executive Director, State Consumer Protection Board

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**U.S. NUCLEAR REGULATORY COMMISSION**

REGION I

Docket Nos. 50-220, 50-410

License Nos. DPR-63, NPF-69

Report No. 05000220/2005011 and 05000410/2005011

Licensee: Nine Mile Point Nuclear Station, LLC (NMPNS)

Facility: Nine Mile Point, Units 1 and 2

Location: 348 Lake Road  
Oswego, NY 13126

Dates: February 14 - 18, February 28 - March 4, 2005  
April 4 - 8, 2005, and December 12 - 15, 2005

Inspectors: M. Modes, Team Leader  
G. Meyer, Senior Reactor Engineer  
F. Bower, Senior Resident PBAPS  
T. O'Hara, Reactor Engineer  
C. Hott, Reactor Engineer  
S. Chaudhary, Reactor Engineer  
T. Burns, Reactor Engineer

Approved by: Duncan White, Acting Branch Chief  
Engineering Branch 1  
Division of Reactor Safety

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000220/2005011, 05000410/2005011; February 14 - 18, February 28 - March 4, 2005, April 4-8 and December 12-15, 2005. Nine Mile Point Nuclear Power Station, Unit 1 and Unit 2; report of inspection of the proposed aging management procedures and compliance with 10 CFR 54.4(a)(2) for the Nine Mile Point Nuclear Power Station, Unit 1 and Unit 2 application for renewed license.

This inspection of License Renewal activities was performed by six regional engineering inspectors and one resident inspector. The inspection program followed was NRC Manual Chapter 2516 and NRC Inspection Procedure 71002.

The NMPNS methodology for determining compliance with 10 CFR 54.4 (a)(2), as described in the application, appears to be rigorous enough to identify all the systems, structures, and components that should be within scope. In the case of the aging management programs, the team was able to conclude that the programs will reasonably manage the effects of aging.

This inspection did not identify any "findings" as defined in NRC Manual Chapter 0612.

## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Other

##### a. License Renewal

##### (1) Inspection Scope

This inspection was conducted by NRC Region I inspectors in order to verify that documentation, procedures, guidance, and personnel, appropriately supports the license renewal application. This inspection reviewed the proposed methodology used to comply with 10 CFR 54.4(a)(2). The efficacy of the methodology was verified by independently evaluating selected systems, structures, and components (SSCs) against the rule and comparing the results with those obtained by using the applicant's proposed methodology. The systems were selected based on insights from the staff's review of the license renewal application, uniqueness, safety impact, and risk insights. The inspection evaluated whether the scoping process adequately includes non safety-related SSCs whose failure could prevent safety-related SSCs from accomplishing a safety function. These non safety-related SSCs should be included within the scope of license renewal in order to provide protection against safety function failure in cases where the safety-related structure or component is not itself impaired by age-related degradation, but is vulnerable to failure from the failure of another structure or component that may be so impaired. Consideration of hypothetical failures that could result from system interdependencies that are not part of the current licensing bases and that have not been previously experienced is not required. It should be noted that the scoping criterion required under 10 CFR 54.4(a)(2) does not apply to functions identified in 10 CFR 54.4(a)(3) "Regulated Events."

This inspection also reviewed the proposed procedures for managing the effects of aging in the systems, components, and structures determined, previously, to be within the scope of license renewal and for which an aging effect applied. The aging management program can be either an existing program, an existing program modified for the purpose of aging management, or a new program credited with managing the aging effects on within scope systems in the Nine Mile Point Nuclear Power Station (NMPNS). The team selected a sample of aging management procedures to verify the adequacy of the applicant's documentation and to determine if adequate evaluations as well as industry experience and historical reviews were conducted to determine all the aging effects managed by an aging management program. For the selected aging management procedure, systems were reviewed to determine whether the proposed aging management procedure would adequately manage the effects of aging in that system. The inspectors interviewed applicant personnel to confirm the accuracy of the license renewal application conclusions. For a sample of plant systems and structures determined to require aging management, inspectors performed a visual examination of accessible portions of the systems to observe aging in effect in those systems. These

inspection techniques were used to conclude if there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

During the inspection period of February 14 - 18, February 28 - March 4, 2005, it was mutually concluded that the quality of the NMPNS application, supporting information, and referenced programs, needed to be improved. The NRC and NMPNS further mutually agreed to defer the next steps in the application review process in order to give NMPNS adequate time to improve the quality of their submittal. In order to assist NMPNS, the NRC inspection team issued an interim report (Inspection Report 05000220/2005006 and 05000410/2005006) recording the areas identified by the team that needed NMPNS attention. Attachment 2 of this report contains a discussion of the resolution of those areas identified in the interim report.

(2) Observations and Findings

Scoping of Non Safety-Related Systems, Structures, and Components

To assess the thoroughness and accuracy of the screening and scoping of non-safety related (NSR) SSCs, as required in 10 CFR 54.4(a)(2), the inspectors reviewed NMP program guidance procedures and summaries of results for Units 1 and 2. The inspectors determined the applicant's procedures to be consistent with the guidance in Sections 3, 4, and 5 of Appendix F to NEI 95-10, Revision 5 (related to NSR scoping for current licensing basis, NSR directly connected to safety-related, and NSR not directly connected to safety-related, respectively). Also, the inspectors determined the summary of scoping results and drawings demonstrated an appropriate application of the guidance.

In addition to preliminary technical reviews, the applicant had confirmed the scoping and screening results during walkdowns of all applicable plant areas by qualified plant personnel. The inspectors interviewed personnel and independently inspected numerous areas within the plant to confirm that appropriate SSCs had been included within the license renewal scope that SSCs excluded from the license renewal scope had an acceptable basis, and that the boundary for within/outside scope within the systems were appropriate, including anchors. For SSCs selected from the results, the inspectors confirmed that the in-plant configuration was accurate and acceptably categorized, and for SSCs selected within the plant, the inspectors confirmed that the categorization result in program documents was appropriate. The in-plant areas and systems reviewed included the:

- Unit 1 Reactor Building;
- Turbine Building;
- Off-gas Building;
- Intake Structure;
- Rad-waste Building;
- Fire Protection System;
- Feedwater System;

- Reactor Building Ventilation System;
- Unit 2 Reactor Building;
- Turbine Building;
- Service Water Valve Pit;
- Condensate Storage Tank Building;
- Turbine Building Closed Loop Cooling System;
- Electro-hydraulic Control System;
- Radiation Monitoring System; and
- Fire Protection System.

The inspectors determined the personnel involved in the process were knowledgeable and appropriately trained, and that the applicant had implemented an acceptable method of screening and scoping of non-safety related SSCs.

#### One Time Inspection Program

The One-Time Inspection Program is a new aging management program intended to verify the effectiveness of other aging management programs, or verify an aging management program is not required, by confirming that unacceptable degradation has not occurred and the intended function of a component will be maintained during the extended period of operation. Additionally, the One-Time Inspection Program will be used to confirm that an aging effect is occurring so slowly as to not affect the component or structure's intended function. The One-Time Inspection Program will be implemented prior to the period of extended operation. Programs covered by this program:

Water Chemistry. The program applies to stagnant or low flow areas only. Samples will be aggregated based on similar characteristics.

Fuel Oil Program. This program applies to above and below ground fuel oil tanks.

Small Bore Class 1 Piping. This program applies to Class 1 piping less than four inches directly connected to the reactor coolant pressure boundary with inspections using existing non-destructive evaluation processes. This program will require further development because there is currently no completely reliable method of non-destructively examining this configuration.

Selective Leaching. This program will sample underground piping vulnerable to this aging effect. The sample size will be selected from the entire population in a manner that will provide 90% confidence that 90% of the population does not have the degradation.

The applicant plans to use American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI techniques to monitor and inspect parameters for degradation. The terminology and methodology for selecting samples are planned to be consistent with EPRI TR-107514, "Age-Related Degradation Inspection Method and Determination."

Based on discussions with applicant personnel and reviews of supporting documents, the inspectors concluded that the applicant has plans to develop adequate guidance for implementation of the One-Time Inspection Program. Therefore, the One-Time Inspection Program will provide reasonable assurance that the program will adequately manage the effects of aging.

#### Closed-Cycle Cooling Water System Program

The closed-cycle cooling water system program is an existing program that manages the loss of material and fouling of components exposed to closed-cycle cooling water environments. The applicable piping systems include: the Unit 1 and Unit 2 reactor building closed loop cooling systems; the Unit 1 control room heating, ventilation, and air-conditioning system; the Unit 2 control building chilled water system; the heat exchanger jacket water cooling portions of the Unit 1 emergency diesel generator system; the Unit 2 standby diesel generator protection system; and, a portion of the Unit 1 turbine building closed loop cooling system. The program activities included chemistry monitoring, surveillance testing, and component inspections in a manner consistent with EPRI TR-107396.

Based on discussions with applicant personnel and reviews of supporting documents, the inspectors concluded that the applicant has adequate guidance for implementation of the closed-cycle cooling water system program. Therefore, the closed-cycle cooling water system program will provide reasonable assurance that the program will adequately manage the effects of aging.

#### Open-Cycle Cooling Water System Program

The Open-Cycle Cooling Water System (OCCWS) Program is an existing program that manages aging of components exposed to raw, untreated water. The program activities included:

- (a) surveillance and control of biofouling (including biocide injection);
- (b) verification of heat transfer capabilities for components cooled by the service water system;
- (c) inspection and maintenance;
- (d) walkdown inspections; and,
- (e) review of maintenance, operating and training practices and procedures.

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Inspections could include visual, ultrasonic testing, and eddy current testing methods. The OCCWS is based on the recommendations of GL 89-13. The OCCWS Program includes checking for erosion-corrosion of system components.

The applicant plans to use functional surveillance testing and inspections as part of the OCCWS program to indirectly verify that loss of material due to corrosion has not negated the heat removal capability of the applicable systems.

Based on discussions with applicant personnel and reviews of supporting documents, the inspectors concluded that the applicant has plans to develop adequate guidance for implementation of the Open-Cycle Cooling Water System program. Therefore, the Open-Cycle Cooling Water System program will provide reasonable assurance that the program will adequately manage the effects of aging.

#### Systems Walkdown Program

The systems walkdown program (SWP) is an existing program requiring enhancement to manage the aging effects for accessible external surfaces of selected systems and structures. The SWP is credited with managing the loss of material from external surfaces (aging effect) of pumps, valves, piping, bolts, heat exchangers, tanks, expansion joints, electrical penetrations, electrical enclosures and cabinets, HVAC components, and other carbon steel components. Program activities include system engineer walkdowns (i.e., field evaluations of system components to assess system performance and material condition), evaluation of inspection results, and appropriate corrective actions.

Although the SWP is not described in the Generic Aging Lessons Learned (GALL), the program was evaluated against the ten (10) elements described in Appendix A of NUREG-1800. Procedure S-TDP-REL-0101 was revised in its entirety to address specific aging management attributes and issued August 18, 2005. The procedure includes very specific guidance related to aging management including attachments that contain system specific aging management walkdown checklists. Attachment 6, for example, gives specific periodicity guidance and Attachment 7 gives very specific guidance related to the license renewal rule.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an aging management program (AMP). The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

### Water Chemistry Control Program

The water chemistry control program is an existing program credited with managing the aging effects in the reactor vessel and internals and connected primary systems, as well as the condensate and feedwater systems at both Units. The aging effects are managed by the monitoring and control of system chemistry to minimize the effects of corrosion and crack initiation in system materials. The water chemistry program conforms to the guidelines in the boiling water reactor vessel and internals project (BWRVIP-29) and EPRI TR-103515. The inspectors reviewed the chemistry procedures and the sampling results for both Units and confirmed that the requirements of BWRVIP-29 and EPRI TR-103515 were being followed.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

### Flow-Accelerated Corrosion Program

The flow-accelerated corrosion program is an existing program modified for the purpose of aging management. The program is credited with managing the erosion and corrosion aging effects in high-energy carbon and low alloy steel piping systems at both Units. The aging effects are managed by identifying erosion and corrosion inside affected system piping and by predicting wear rates to support the proactive replacement of system piping. Additionally, the program provides for periodic system reviews and visual inspections during component disassembly for repair or replacement.

The inspectors reviewed selected portions of the condensate, feedwater and main steam systems which are subject to erosion and corrosion and determined that the program was monitoring the appropriate portions of these systems. The inspectors also reviewed the piping ultrasonic testing wall thickness results from previous inspections and reviewed the CHECKWORKS computer analysis of the future wall thickness forecasts. The inspectors noted that in all instances where pre-emptive piping replacement was accomplished, the replacement piping material used was more resistant to erosion and corrosion than the original piping material.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

### Boraflex Monitoring Program

The boraflex monitoring program is an existing program credited with managing the aging effects in the boraflex spent fuel storage racks in both Units. The aging effects are managed by periodic monitoring of representative samples of the boraflex material and through sampling of the spent fuel pool silica concentrations. The data from these monitoring programs are then used to verify that the required 5% sub-criticality margin is maintained in both spent fuel pools. The inspectors reviewed the operation of the spent fuel pool cooling systems and the records of silica sampling and past inspection reports from boraflex coupon examinations. Based upon this review, the inspector, concluded that the licensee had implemented an appropriate program for managing the aging of the boraflex material in the spent fuel racks.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

### Compressed Air Monitoring Program (Unit 1 only)

The compressed air monitoring program (Unit 1) is an existing program modified to manage the aging effects in Unit 1 compressed air systems. The aging effects are managed by periodic maintenance and inspection of the system compressors and air dryers and by inspections of the exterior system piping. The inspectors reviewed the results of the maintenance and inspection procedures completed on the system compressors and air dryers. The inspectors noted that the external piping inspections were not sufficient to monitor the internal condition of the system piping. Thus, the licensee has committed to develop an additional program feature to monitor the internal condition of the system piping before the period of extended operation.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

### BWR Vessel Internals Program

The BWR vessel internals program is an existing program credited with managing the material and crack growth aging affects in reactor vessel internal systems. The aging effects are managed by material inspections and by controlling the reactor water chemistry. The inspectors reviewed the inspection program for the reactor vessel internals in both Units. The inspectors reviewed the records of past inspections and numerous deviation event reports (DERs) which had been generated to document the

reporting and evaluation of past inspection results. The licensee's reactor vessel internals inspection program is based upon the BWRVIP program documents. All of the BWRVIP reports, except BWRVIP-76, have been approved by the NRC for the aging management of BWR reactor vessel internals.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### Torus Monitoring Program (Unit 1 only)

The torus monitoring program is an existing program credited with managing the degradation of the torus wall thickness aging effects. The aging effects are managed by periodically measuring the wall thickness and by comparing the results to predicted values developed from past thickness measurements.

The inspectors reviewed the data collected during the last set of torus wall measurements and the projections for future wall thickness measurements. The present thickness measurements and the present corrosion rates predict that the torus wall thickness will remain above the minimum thickness through the period of extended operation. The program commits the licensee to measuring the torus wall thickness for each outage and recalculating the time to reach minimum wall thickness.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### Non-Environmentally Qualified (EQ) Electrical Cables and Connections Program

The non-EQ electrical cables and connections program is a new program credited with managing the aging effects of in-scope cables and connections that are not subject to the environmental qualification requirements of 10 CFR 50.49. The aging effects result from exposure to adverse localized environments caused by heat, radiation, and moisture. Connections include connectors, splices, electrical penetration assembly pigtailed, terminal blocks, and fuse blocks.

The aging effects will be managed by inspecting a representative sample of cables and connections for jacket surface anomalies in each identified adverse localized environment every ten years. If unacceptable anomalies are identified, the inspection sample will be expanded and corrective actions will be implemented. The team

reviewed program bases documents, DERs, and industry guidance. The inspectors also conducted interviews and performed walkdowns with plant personnel.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### Non-EQ Fuse Holder Inspection Program

The non-EQ fuse holder inspection program is a new program credited with managing the aging effects of fuse holder metallic clamps at Nine Mile Point Nuclear Station and that is not subject to the environmental qualification requirements of 10 CFR 50.49. The aging effects result from exposure to environmental stressors such as radiation, moisture, fatigue, mechanical stress, vibration, electrical transients, oxidation, corrosion, thermal cycling, and chemical contamination.

The aging effects are planned to be managed by monitoring the condition of all in-scope fuse holder metallic clamps subject to the applicable environmental stressors every ten years. This condition monitoring is planned to be achieved by thermography, contact resistance testing, or other appropriate proven testing method. The team reviewed program bases documents, DERs, and industry guidance. The inspectors also conducted interviews and performed walkdowns with plant personnel.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### BWR Penetrations Program

The BWR penetrations' program is an existing program that is incorporated into the BWR Vessel Internals Program (BWRVIP). The BWR penetrations' program is credited with managing the crack initiation and growth aging effects in BWR penetrations by implementing chemistry controls to minimize inter-granular stress corrosion cracking.

The aging effects are managed through augmented inspection, flaw evaluation, and repair as necessary in conformance with the NRC approved guidelines of BWRVIP-49 and BWRVIP-27. The inspectors reviewed BWR penetrations' inspection results, BWR penetrations' inspection schedules, BWRVIP documents, nuclear engineering reports,

and DERs. The team also conducted interviews with plant personnel. Inspection results and DERs documented the applicant's ability to identify and evaluate BWR penetrations' flaws. The penetration schedules and scope were consistent with the guidelines of BWRVIP-49 and BWRVIP-27.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by the BWR penetrations' program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the BWR penetrations will be maintained through the period of extended operation.

#### Fire Protection Program

The fire protection program is an existing program credited with managing the fire barrier aging effects in fire protection systems. The aging effects are managed by periodic inspection of fire barrier penetration seals, fire barrier walls, ceilings, and floors, and all fire rated doors. The program is credited with managing loss of material aging effects in fuel oil lines of the diesel driven fire pump through periodic testing of the pump. This aging management program will also manage the aging effects of in-scope carbon dioxide and halon suppression systems once enhancements are made to periodically inspect these systems. The inspectors reviewed the fire protection program as well as supporting documents to verify the effectiveness of the fire protection program. The inspectors also conducted interviews and performed walkdowns of various fire protection systems with plant personnel.

The inspectors concluded the applicant had conducted adequate evaluations as well as industry experience and historical reviews to determine aging effects managed by the fire protection program. The applicant has provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the fire protection systems will be maintained through the period of extended operation.

#### Fire Water System Program

The fire water system program is an existing program modified for the purpose of aging management credited with managing the loss of material and biofouling aging effects in fire water systems in Nine Mile Point Station. The aging effects are managed by periodic maintenance, testing, and inspection of system piping and components in accordance with codes and standards.

The team reviewed program bases documents, completed testing and maintenance procedures, DERs, design documents, and industry guidance. The inspectors also conducted interviews and performed walkdowns of the fire water system with plant personnel. A large part of the fire water system is maintained in a pressurized state which provides the applicant with constant system integrity status. The piping internals are routinely inspected at various locations throughout the system for loss of material

and biofouling. Enhancements the applicant has committed to include ultrasonic wall thickness testing at representative points in the system of above grade piping, as well as inspections of below grade piping, on the basis of opportunity, in accordance with the buried piping and tanks program.

The inspectors concluded the applicant had conducted adequate evaluations, as well as industry experience and historical reviews to determine aging effects managed by the fire water system program. The applicant has provided or is planning to provide adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the fire water system will be maintained through the period of extended operation.

#### Overhead Heavy Load and Light Load Handling Systems

The overhead heavy load and light load handling systems program (crane inspection program) is an existing program that will be modified to be consistent with the requirements of NUREG-1801, Section XI.M23. The program manages loss of material due to corrosion of cranes. Program activities include periodic maintenance and pre-operational equipment inspections. The crane inspection activities are based on the applicable industry standards and NUREG-0612 guidance.

The inspectors reviewed the program described in the Program Attribute Assessment document. The crane inspection program at NMP is implemented through existing plant maintenance procedures, and are monitored in accordance with the maintenance rule requirements prescribed by 10 CFR 50.65. The inspectors also reviewed the maintenance rule implementing procedures and the inspection results to determine the effectiveness and relevance of the maintenance rule program to the aging management program. The inspectors observed that the program attributes were consistent with the GALL. Also, the team noted that the inspections have not identified any corrosion or material fatigue related degradation. Crane rails and other structural components of the crane are visually inspected on a routine basis for degradation, and functional tests are performed to assure their integrity.

The inspectors concluded the applicant had conducted adequate evaluations, as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### Selective Leaching of Materials Program

The selective leaching of materials program is a new program that is credited with managing the effects of aging in components that are susceptible to selective leaching. This program is a part of the "one time" inspection program discussed in Section B2.1.21 of the application. The program covers the aging management of potentially

susceptible components, such as valve bodies, valve bonnets, pump casings, and heat exchanger components in plant systems.

The inspectors reviewed the program described in the Program Attribute Assessment document, License Renewal Application, Section B2.1.21, and the draft maintenance/inspection procedure. The inspectors observed that the scope of the procedure identified areas, commodities, and components that require aging management review for one time inspection. The selective leaching of materials program includes the detection of loss of material and/or mechanical integrity due to selective leaching on internal surfaces of components made of gray cast iron, bronze, or brass that are exposed to raw water, treated water, or brackish water. The draft procedure appeared to be consistent with Section XI.M33 of the Generic Aging Lesson Learned (GALL) Report.

The inspectors concluded the applicant had conducted adequate evaluations, as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

#### Structural Monitoring and Masonry Wall Program

The structural monitoring and masonry wall program is an existing program credited with managing the aging effects in structures, including masonry walls. The masonry walls program is a part of a comprehensive 'Structural Monitoring Program' that upon enhancement will be consistent with GALL Report, Section XI.S6, "Structural Monitoring Program," and Section XI.S5, "Masonry Walls Program."

The team reviewed the License Renewal Application, Sections B2.1.27 and B2.1.28, and the program Attribute Assessment document. The team observed that the structural monitoring, including masonry walls, are covered by the 10 CFR 50.65, Maintenance Rule. The NRC Regulatory Guide 1.160, Rev.2, and NUMARC 93-01, Rev. 2, provide guidance for an acceptable structural monitoring, including masonry walls, program. Also, NRC Bulletin 80-11, "Masonry Wall Design," and NRC Information Notice 87-67, "Lessons Learned from Regional Inspections of Licensee Actions in Response to IE Bulletin 80-11" provide an acceptable basis for a masonry wall program. The team noted that the program, as detailed and discussed in the MR implementing procedures for Structural/Masonry Wall Program, was consistent with the GALL Report. The current program implemented for satisfying MR covers safety-related structures. However, a planned enhancement will include masonry fire walls in turbine buildings and screen houses in both Units. The team reviewed the historical monitoring and maintenance inspection results to determine the effectiveness of the existing program.

The inspectors concluded the applicant had conducted adequate evaluations, as well as industry experience and historical reviews to determine aging effects managed by an AMP program. The applicant provided adequate guidance to ensure aging effects are

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appropriately managed. Thus, there is reasonable assurance the effects of aging will be adequately managed and the intended function of the SSCs will be maintained through the period of extended operation.

**SUMMARY**

The NMPNS methodology for determining compliance with 10 CFR 54.4 (a)(2), as described in the application, appears to be rigorous enough to identify all the SSCs that should be within scope.

In the case of the aging management programs, the team was able to conclude that the programs will reasonably manage the effects of aging.

**ATTACHMENTS:**

1. SUPPLEMENTAL INFORMATION
2. RESOLUTION OF FINDINGS IDENTIFIED IN INSPECTION  
REPORT 05000220/2005006 AND 05000410/2005006

**ATTACHMENT 1**

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel:

M. Flaherty, Fleet Licensing Manager  
S. Leonard, NMP Licensing  
J. Dosa, Principle Engineer  
D. Shaw, Supervisor Licensing  
G. Wrobel, Ginna Licensing  
D. Wilson, Ginna Licensing  
B. Holston, Manager NMP Engineering  
P. Mazzaferro, NMP Site Lead License Renewal  
M. Fallin, NMP Anapolis Lead

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened

None

Closed

None

Discussed

None

**LIST OF DOCUMENTS REVIEWED**

Aging Management Programs

NMP2-BFX-001, Spent Fuel Rack Boraflex Degradation Monitoring Program, Revision 0,  
July 1997

Program Attribute Assessment Unit 1 Compressed Air Monitoring Program, Revision 1,  
10/14/04

NDD-VIP, Revision 3; 11/1/04; Reactor Vessel And Internals Program (VIP)

ECPN 2002, Revision 8, 2/19/04, NMP2 Flow-Accelerated Corrosion Program Carbon Steel  
Piping Review Plan High Energy Systems

Unit 2 Boraflex Monitoring Program Attribute Assessment, Revision 1, 8/5/04

NMP1 Torus Corrosion Monitoring Program (CPR-N1-T-001, Revision 3, 4/01), 4/24/01  
 N1-MPM-201-001, Revision 2, Torus Corrosion Monitoring Program  
 Torus Corrosion Monitoring Program Attribute Assessment, Revision 0, 1/27/04  
 NMP1 Water Chemistry Program Attribute Assessment, Revision 3, 11/4/04

Audits and Self-Assessments

ECPR-N1-HE-01, Revision 0, 2/5/92; NMP1 Carbon Steel and Low Alloy Piping Systems High Energy Erosion Corrosion (E/C) Review Process  
 ECPR-N2-HE-03, Revision 0, 7/26/90; NMP2 Carbon Steel and Low Alloy Piping Systems High Energy Erosion Corrosion (E/C) Review Process  
 EPCN 2002, Revision 8, 2/19/04; NMP2 Flow Accelerated Corrosion Program Carbon Steel Piping Review Plan High Energy Systems  
 EPCN N1-HE-001, Revision 5, 11/17/00; NMP1 Erosion/Corrosion Program Carbon Steel Piping Review Plan High Energy Systems

Calculations

SO-TORUS-M008, Revision 4, 7/21/97; Reduction In CO Loading NMP1 Torus  
 S18.8-94-M001, Revision 0; NMP1 Instrument Air System  
 S22.4WW198STAT09, Torus Corrosion Coupon: RFO-17, 11/3/03  
 S22.4WW198STAT01, Torus Wall Thinning Trending Analysis, Revision 13, 9/30/03  
 S22.4WW198STAT04, Torus Wall Thinning Trending Analysis, Revision 18, 2/27/05  
 S11-14-M002, 2/11/92, Vibration System 14 & 23  
 S13-65M001, Revision 0, 3/28/03

Corrective Action Reports (DERs)

DER-NM-1992-1345	DER-NM-2004-125	DER-NM-2003-1548
DER-NM-1992-3287	DER-NM-2004-374	DER-NM-2002-1713
DER-NM-1992-3964	DER-NM-2002-3270	DER-NM-2002-3213
DER-NM-1993-2250	DER-NM-2002-4223	DER-NM-2001-2546
DER-NM-1996-1943	DER-NM-2005-933	DER-NM-2001-1433
DER-NM-1997-3027	DER-NM-2001-1888	DER-NM-1991-373
DER-NM-1998-3594	DER-NM-2002-1711	DER-NM-1994-400
DER-NM-1999-770	DER-NM-2002-1712	DER-NM-1994-1918
DER-NM-1999-1454	DER-NM-2005-224	DER-NM-1998-1956
DER-NM-1999-4047	DER-NM-2005-314	DER-NM-2002-4605
DER-NM-2000-1184	DER-NM-2005-708	DER-NM-2003-3879
DER-NM-2000-1491	DER-NM-2002-4164	DER-NM-1995-1316
DER-NM-2004-1810	DER-NM-2004-4107	DER-NM-1995-1346
DER-NM-2002-5409	DER-NM-2004-4055	DER-NM-1995-1350
DER-NM-2003-1468	DER-NM-2004-3658	DER-NM-2001-62
DER-NM-2004-5065	DER-NM-2004-2174	DER-NM-2001-461
DER-NM-2004-3889	DER-NM-2004-751	DER-NM-2003-1319
DER-NM-2004-3425	DER-NM-2004-884	DER-NM-2004-5741
DER-NM-2004-1663	DER-NM-2003-915	DER-NM-2001-5745

DER-NM-2003-1055  
DER-C-2001-1377  
DER-1995-1992  
DER NM-2004-5741  
DER NM-2004-5118  
DER NM-2003-4116  
DER NM-2005-613  
DER NM-2005-635  
DER NM-2005-650  
DER NM-2005-654  
DER NM-2005-671  
DER NM-2005-674  
DER NM-2005-840  
DER NM-2005-843  
DER NM-2005-844  
DER NM-2005-867

Drawings

LR-18011-C, Sheet 1, Revision 0, 7/21/79; Breathing and Service Air Systems P&I Diagram  
LR-18011-C, Sheet 2, Revision 0, 5/12/04; Instrument Air Systems P&I Diagram  
LR-18011-C, Sheet 3, Revision 0, 5/12/04; Reactor Building Instrument Air Systems P&I  
Diagram  
LR-18011-C, Sheet 4, Revision 0, 5/12/04; Instrument Air Systems P&I Diagram Instrument Air  
Dryers 94-168, 94-169  
LR-18011-C, Sheet 5, Revision 0, 5/13/93; Turbine Building Instrument Air Systems P&I  
Diagram  
LR-18011-C, Sheet 6, Revision 0, 2/22/95; Turbine Auxiliary Extension Building And Screen  
And Pump House Instrument Air Systems P&I Diagram  
B-18042-C, Sheet 001, Revision 23, 2/5/03; City Water Piping P&I Diagram  
B-18042-C, Sheet 002, Revision 1, 10/24/02; City Water Piping P&I Diagram  
PID-50-3, Sheet 001, Revision 3, 4/11/97; Piping & Instrumentation Diagram Domestic Water  
PID-50A-25, Revision 25, 8/28/02; Piping & Instrumentation Diagram Domestic Water  
PID-50B-20, Revision 20, 5/10/01; Piping & Instrumentation Diagram Domestic Water  
Neil PXX-083, Sheet 3 of 3, Revision 0, 4/02; Nuclear Electric Insurers Limited, General  
Arrangement Insurance Plan  
Neil PXX-083, Sheet 1 of 3, Revision 0, 4/02; Nuclear Electric Insurers Limited, General  
Arrangement Insurance Plan  
Neil PXX-083, Sheet 2 of 3, Revision 0, 4/02; Nuclear Electric Insurers Limited, General  
Arrangement Insurance Plan  
PID-104B-11, Revision 11, 8/12/98; Piping & Instrumentation Diagram Standby Diesel  
Generator System  
D-81-89, Revision 7, 5/18/82; Standby Diesel Gen. Fuel Oil Stor. Tank  
D-78-158, Revision 12, 7/20/82; Miscellaneous Details, Niagara Mohawk/Stone & Webster  
D-78-157, Revision 7, 5/18/80; Standby Diesel Gen, Fuel Oil Stor. Tank Niagara  
Mohawk/Stone & Webster

C-78-114, Revision 2, 6/1/80; Internal Ladder Details, Niagara Mohawk/Stone & Webster  
12177-EM-13C, Revision 6, 8/4/85; Machine Location Section Standby Diesel Gen. Bldg.  
12177-EM-13B, Revision 5, 8/4/85; Machine Location Plans & Section Standby Diesel Gen.  
Bldg.  
C-18002-C, Sheet 1, Revision 35, 5/19/95; Steam Flow, Main Steam & High Pressure Turbine  
P & I Diagram  
C-18002-C, Sheet 2, Revision 20, 8/23/93; Steam Flow, Main Steam & High Pressure Turbine  
P & I Diagram  
C-18002-C, Sheet 3, Revision 12, 7/9/94; Steam Flow, Main Steam & High Pressure Turbine  
P & I Diagram  
C-18003-C, Revision 36, 5/1/94; Condensate Flow P & I Diagram  
C-18004-C, Revision 13, 7/13/94; Feedwater Flow Low Pressure P & I Diagram  
C-18005-C, Sheet 1, Revision 27, 5/2/93; Feedwater Flow High Pressure P & I Diagram  
C-18005-C, Sheet 2, Revision 25, 5/9/94; Feedwater Flow High Pressure P & I Diagram  
C-18017-C, Revision 46, 8/11/94; Emergency Cooling System P & I Diagram  
PID-1B-7, Revision 7, 9/18/00; Piping & Instrumentation Diagram Main Steam  
PID-1C-6, Revision 6, 7/28/95; Piping & Instrumentation Diagram Main Steam  
PID-1E-15, Revision 15, 4/11/02; Piping & Instrumentation Diagram Main Steam  
12177-PID-1D-5, Revision 5, 3/3/04; Piping & Instrumentation Diagram Main Steam  
PID-6A-21, Revision 21, 4/15/02; Piping & Instrumentation Diagram Feedwater System  
PID-6B-23, Revision 23, 11/4/02; Piping & Instrumentation Diagram Feedwater System  
12177-PID-8A-7, Revision 7, 5/10/94; Feedwater Heaters & Extraction Steam Systems  
PID-35C-25, Revision 25, 12/17/02; Piping & Instrumentation Diagram Reactor Core Isolation  
Cooling  
PID-37B-20, Revision 20, 4/1/02; Piping & Instrumentation Diagram Reactor Water Cleanup  
System  
PID-37C-17, Revision 17, 4/30/03; Piping & Instrumentation Diagram Reactor Water Cleanup  
System

### Evaluations

NER-15-016, NMP1 Torus External Walkdown Results Documentation, 9/13/02  
NER-10-021, Revision 0, 4/15/99; NMP1 Shroud Vertical Weld Reinspection Evaluation  
Guidelines  
NET-113-01, Evaluation of the NMP2 Spent Fuel Racks For The General Electric 9 X 9 and 10  
X 10 Fuel Types, Revision 1, 7/3/96  
NET-093-04, Revision 0, 11/28/94; Effect Of Boraflex Gaps And Shrinkage On The Reactivity  
State Of The NMP2 Fuel Storage Racks  
8202-00-0072, Revision 1, 7/92; Criticality Analysis For NMP1, Phase II Spent Fuel Storage  
Racks  
NET-167-01, Evaluation of the NMP2 Spent Fuel Racks for the General Electric 8 X 8, 9 X 9,  
and 10 X 10 Fuel Types, 2/6/01  
NET-212-01; Test/Inspection Report NMP1 Boraflex Surveillance Coupons S11 and S12,  
4/2/03  
NET-198-01; Test/Inspection Report NMP2 Short Length Boraflex Surveillance Coupon No. 3,  
5/24/02

NET-110-01; Evaluation of the Nine Mile Point 1 Boraflex Spent Fuel Racks for the General Electric 9 X 9 and 10 X 10 Fuel Types, 3/26/96  
NET-141-01; Test/Inspection Report NMP1 Boraflex Surveillance Coupons S7 and S8, 5/11/99  
NET-167-02; Test/Inspection Report NMP1 Boraflex Surveillance Coupons S9 and S10, 5/14/02  
NET-231-01; Test/Inspection Report NMP2 Full Length Boraflex Panel After 10 Years and Short Length Boraflex Surveillance Coupon No. 4, 3/18/04  
NET-147-01; Test/Inspection Report NMP2 Five Year Full Length Boraflex Panel and Short Length Boraflex Surveillance Coupon No. 2, 5/18/00  
SIR-03-045, Revision 0, 4/03: Evaluation of Nine Mile Point Unit 1 Top Guide  
NER-1M-081, Revision 1, 5/14/04; NMP1 Top Guide Inspection and Evaluation (BWRVIP-26) and Core Plate (BWRVIP-25) Evaluation  
NER-2M-081, Revision 1, 3/9/04; NMP2 BWR Vessel And Internals Project (BWRVIP) Top Guide Inspection and Evaluation (BWRVIP-26)  
NER-1M-075, Revision 2, 6/24/04; NMP1 In-vessel Core Spray Annulus Piping And Sparger Inspection And Evaluation  
NER-2M-074, Revision 0, 5/13/03; NMP2 BWR Vessel And Internals Project (BWRVIP) Core Spray Internals Inspection And Evaluation(s) (BWRVIP-18 and BWRVIP-48)  
NRC letter dated 12/2/99; Final Safety Evaluation Of BWR Core Spray Internals Inspection And Flaw Evaluation Guidelines (BWRVIP) (TAC No. M96219)

NDE Inspection Data Sheets

NDE Report 2-2.07-04-0009, 3/31/04, NMP2  
NDE Report 2-2.07-04-0010, 3/31/04, NMP2  
NDE Report 2-2.07-04-0011, 3/30/04, NMP2  
NDE Report 2-2.07-04-0012, 3/31/04, NMP2  
NDE Report 2-2.07-04-0013, 4/1/04, NMP2  
NDE Report 2-2.07-04-0014, 3/31/04, NMP2  
NDE Report 2-2.07-04-0015, 3/31/04, NMP2  
NDE Report 2-2.07-04-0016, 3/30/04, NMP2  
NDE Report 2-2.07-04-0017, 3/30/04, NMP2  
NDE Report 2-2.07-04-0018, 3/31/04, NMP2  
NDE Report 2-2.07-04-0019, 3/31/04, NMP2  
NDE Report 2-2.07-04-0020, 4/3/04, NMP2  
NDE Report 2-2.07-04-0021, 4/3/04, NMP2  
NDE Report 2-2.07-04-0022, 4/5/04, NMP2  
NDE Report 2-2.07-04-0023, 4/3/04, NMP2  
NDE Report 2-2.07-04-0024, 4/5/04, NMP2  
NDE Report 2-2.07-04-0025, 4/3/04, NMP2  
NDE Report 2-2.07-04-0046, 3/24/04, NMP2  
NDE Report 2-2.07-04-0048, 3/28/04, NMP2  
NDE Report 2-2.07-04-0050, 4/3/04, NMP2  
NDE Report 2-2.07-04-0218, 4/9/04, NMP2  
NDE Report 2-2.07-04-0223, 4/3/04, NMP2  
NDE Report 2-2.07-04-0049, 4/3/04, NMP2  
NDE Report 2-2.07-04-0217, 4/9/04, NMP2

NDE Report 2-2.07-04-0222, 4/3/04, NMP2  
NDE Report 2-2.07-04-0044, 4/3/04, NMP2  
NDE Report 2-2.07-04-0045, 3/28/04, NMP2  
NDE Report 2-2.07-04-0047, 3/24/04, NMP2  
NDE Report 2-2.07-04-0029, 4/3/04, NMP2  
NDE Report 2-2.07-04-0030, 4/3/04, NMP2  
NDE Report 2-2.07-04-0031, 4/3/04, NMP2  
NDE Report 2-2.07-04-0032, 4/3/04, NMP2  
NDE Report 2-2.07-04-0033, 4/3/04, NMP2  
NDE Report 2-2.07-04-0026, 3/30/04, NMP2  
NDE Report 2-2.07-04-0027, 4/3/04, NMP2  
NDE Report 2-2.07-04-0028, 3/30/04, NMP2  
NDE Report 2-2.07-04-0039, 3/30/04, NMP2  
NDE Report 2-2.07-04-0040, 3/29/04, NMP2  
NDE Report 2-2.07-04-0041, 3/29/04, NMP2  
NDE Report 2-2.07-04-0034, 4/3/04, NMP2  
NDE Report 2-2.07-04-0035, 4/3/04, NMP2  
NDE Report 2-2.07-04-0036, 4/3/04, NMP2  
NDE Report 2-2.07-04-0037, 4/3/04, NMP2  
NDE Report 2-2.07-04-0038, 4/3/04, NMP2  
NDE Report 2-2.07-04-0042, 3/29/04, NMP2  
NDE Report 2-2.07-04-0043, 3/31/04, NMP2

Operating Experience

OE19775  
OE19741  
WOE1370  
OE19623  
PE41228  
OE19295

Requests for Additional Information

RAI B2.1.33-1  
RAI B2.1.33-2  
RAI B2.1.23-3  
RAI B2.1.33-4  
RAI B2.1.23-5

Miscellaneous

Commitment Tracking System Item 504533-23, Enhance the NMP1 Systems Walkdown Program, in accordance with LRA Sections A1.1.35 and B2.1.33 to Ensure the Applicable Aging Effects Are Discovered and Evaluated for License Renewal

Commitment Tracking System Item 504533-24, Enhance the NMP2 Systems Walkdown Program, in accordance with LRA Sections A1.1.35 and B2.1.33 to Ensure the Applicable Aging Effects Are Discovered and Evaluated for License Renewal NMPNS License Renewal Aging Management Program (LR-AMP) Basis Document, Unit 1 and 2, Systems Walkdown Program Attribute Assessment, Revision 1, dated August 6, 2004

S-TDP-REL-0101, Systems Walkdown Program, Revision 00, dated August 17, 2004

EAI-REL-01, Conduct of System Engineers and Component Specialists/FIN Engineers, Revision 01, dated February 17, 2005

NEP-DES-03, Plant Condition Monitoring, Revision 05, dated February 8, 2003

DER NM-2004-5741, License Renewal drawings, reports and documents need to be corrected and updated before project closeout to reflect the "As-NRC-Approved," dated December 22, 2004

DER NM-2004-5118, Issues Raised as a Result of the NRC License Renewal Audit, dated November 8, 2004

DER NM-2005-787, Incomplete Adherence to Procedural Requirements of S-TDP-REL-0101, dated February 25, 2005

TCO ENG-2003-71, Develop Training for the Identification and Detection of Aging Issues, dated September 18, 2003

DER-NM-2005-842, LR AMR Inspection: LRA Credits System Walkdown Program for Components Not Covered by the Program, dated March 2, 2005 (status: unscreened)

NMP1 Open-Cycle Cooling Water System Program Attribute Assessment, Revision 1, dated October 25, 2004

ECPR-N1-SWP-001, Nine Mile Point Unit 1 Service Water Systems Erosion Corrosion Review Program, Revision 0, dated January 23, 1992

N2-TDP-REL-0104, Service Water System Problems Affecting Safety-Related Equipment Program Plan, Revision 00, dated July 8, 1994

N1-TTP-033, Reactor Building Closed Loop Cooling Heat Exchanger Performance Test, Revision 2, dated September 23, 1994

DER-NM-2002-4792, RBCLC Heat Exchanger Performance Test (N1-TTP-033) Calculations Utilize Incorrect Values for Design Heat Exchanger Shell Flow and LMTD, dated November 7, 2002 (status: closed)

DER-NM-2004-5028, N2-TDP-REL-0104 Procedure Does Not Accurately Reflect the Current Program at NMP2 to Address GL 89-13 Issues and No Equivalent Unit 1 Document Exists, dated November 2, 2004 (status: screened)

DER-NM-2004-5135, Lack of an Adequate Heat Exchanger Program has Led to Some Heat Exchangers Being Adversely Impacted by Fouling and Corrosion, dated November 8, 2004, (status: screened)

DER-NM-2005-841, LR AMR Inspection Identified that GL 89-13 Program Commitments Are Not Referenced and Associated Procedure Steps Are Not Protected As Required by the Procedure Writers Guide, dated March 2, 2005 (status: unscreened)

Response to Audit Item 85, in NMPNS Letter (NMP1L-1880), dated October 29, 2004

Commitment Tracking System Item 504533-09, Develop and Implement a One-Time Inspection Program for NMP1 Consistent with NUREG-1801, Section XI.M32, as Credited for License Renewal in LRA Sections A1.1.28 and B2.1.20. Enhance the NMP1 Systems Walkdown Program, in accordance with LRA Sections A1.1.35 and B2.1.33, to Ensure the Applicable Aging Effects Are Discovered and Evaluated for License Renewal

Commitment Tracking System Item 504533-10, Develop and Implement a One-Time Inspection Program for NMP1 Consistent with NUREG-1801, Section XI.M32, as Credited for License Renewal in LRA Sections A1.1.28 and B2.1.20. Enhance the NMP2 Systems Walkdown Program, in accordance with LRA Sections A1.1.35 and B2.1.33, to Ensure the Applicable Aging Effects Are Discovered and Evaluated for License Renewal NMPNS License Renewal Aging Management Program (LR-AMP) Basis Document, Unit 1 and 2, One Time Inspection Program Attribute Assessment, Revision 2, dated October 25, 2004

EPRI TR-107514, Age-Related Degradation Inspection Method and Determination NEI 95-10, Appendix F, Industry Guidance on Revised 54.4(a)(2) Scoping Criterion (Non-Safety Affecting Safety), Revision 4

NMP License Renewal Guideline (LRG)-02, License Renewal Scoping & Screening, Revision 4 LRG-04, Aging Management Review for Electrical Commodities, Revision 2, dated September 10, 2003

NMP License Renewal Guideline, License Renewal Aging Management Review, Revision 1, February 6, 2003

NMP Unit 1, Scoping & Screening and Aging Management Review of NSR Piping, Revision 1, dated March 26, 2004

NMP Unit 2, Scoping & Screening and Aging Management Review of NSR Piping, Revision 1, dated March 26, 2004

Main Turbines and Auxiliary Systems (MT) Scoping & Screening for NMP1, dated November 27, 2005

Reheat Steam System Scoping and Screening for NMP1, dated February 24, 2003

Electric Steam Boiler (ESB) Scoping and Screening for NMP1, dated December 17, 2002

Screen and Pump House HVAC Scoping & Screening for NMP1, dated January 31, 2003

480 VAC Scoping & Screening for NMP1, dated March 25, 2004

Control Room Miscellaneous Scoping & Screening for NMP1, dated October 14, 2003

Yard (YDS) Scoping & Screening for NMP1, dated October 20, 2003

Spares System (Spares) Component Screening for NMP1, dated January 7, 2003

Unknown System (UNK) Screening for NMP1, dated November 21, 2002

Main Steam Line Isolation Valve Seals (MSI) Scoping & Screening for NMP2, Revision 1, dated February 11, 2004

Radioactive Liquid Waste (LWS) Scoping & Screening for NMP2, Revision 0, dated September 18, 2003

Radwaste Building Scoping & Screening for NMP2, Revision 3, dated March 2, 2004

Drywell Cooling (DRS) Scoping & Screening for NMP2, Revision 0, dated September 11, 2004

Service Water Chemical Treatment System (SCT) Scoping & Screening for NMP2, Revision 1, dated September 17, 2004

Turbine Main System (TMS) Scoping & Screening for NMP2, Revision 0, dated December 9, 2003

Moisture Separators and Reheat System Scoping & Screening for NMP2, dated January 31, 2003

Yard Structures Ventilation System (HVY) Scoping & Screening for NMP2, Revision 1, dated September 14, 2004

Condensate System (CNM, CNS, CND, CAN, CNO) Scoping & Screening for NMP2, Revision 0, dated September 5, 2003

Leak Detection System (LDS) Scoping & Screening for NMP2, Revision 1,  
dated September 14, 2004  
Turbine Building Closed Loop Cooling System (CCS) Scoping & Screening for NMP2,  
Revision 1, dated September 17, 2004  
Auxiliary Boiler System (AB) Scoping & Screening for NMP2, Revision 0, dated  
September 15, 2003  
Extraction Steam & Feedwater Heater Drains Scoping & Screening for NMP2, dated  
January 31, 2003  
Residual Heat Removal System (RHS) Scoping & Screening for NMP2, Revision 0,  
dated September 18, 2003  
EPRI 1003057 License Renewal Electrical Handbook  
EPRI TR-109619 Guideline for Management of Adverse Localized Environments  
EPRI TR-1011223 Aging Identification and Assessment Checklist  
BWRVIP-49-A Instrument Penetration Inspection and Flaw Evaluation Guidelines  
BWRVIP-27-A Standby Liquid Control System/Core Plate Inspection and Flaw Evaluation  
Guidelines

#### Procedures

N1-FST-FPP-C001 rev 6 Fire Barrier/Penetration Sealing Inspection  
N1-FST-FPP-D002 rev 0 Daily Fire Door Inspection  
N2-FST-FPP-R001 rev 3 Fire Rated Assemblies and Watertight Penetration Visual Inspection  
S-SMP-SD rev 12 Site Doors  
S-TDP-REL-0101 rev 0 System Walkdown Program  
NIP-FPP-01 rev 15 Fire Protection Program  
N2-FST-FPE-A001 rev 1 Fire Protection Water Pre-operational Test  
N1-FST-FPE-A001 rev 1 Fire Protection Equipment Annual Inspection  
S-FPM-FPM-V001 rev 2 Fire Protection System Nozzle/Piping inspection  
N2-FSP-FPW-R006 rev 1 Deluge Sprinkler System Piping Inspection and Functional Test  
N2-FSP-FPW-3A001 rev 4 FPW System Flow Test  
GAP-HSC-02 rev 13 System Cleanliness Controls

#### Aging Management Reports

NMP1 & NMP2 Fire Detection and Protection System AMR rev 6  
NMP1 Cables and Terminations AMR rev 7  
NMP2 Cables and Terminations AMR rev 7  
NMP1 & NMP2 Fire Water System Program Attribute Assessment rev 0  
Non-EQ Cables and Connections Program Attribute Assessment rev 7  
NMP1 & NMP2 Non-EQ Fuse Holder Inspection Program Attribute Assessment rev 7  
NMP1 & NMP2 Reactor Vessel Internals Program Attribute Assessment rev 0

#### Reports/Self-Assessments

LER 88-09 S1 Non-Functional Fire Barrier Penetrations  
FSA-2004-71 Self Assessment Fire Protection Programs  
NMP1-RVIP-003 rev 1 NMP1 Reactor Vessel and Internals Inspection Plan and Schedule

NER-1M-079 rev 1 Reactor Vessel Instrument Penetration and Nozzle Welds Report  
NDE Report 1-2.01-03-0140 ASME XI Visual Examination  
NDE Report 2-2.01-04-0192 ASME XI Visual Examination

**LIST OF ACRONYMS**

AMP	Aging Management Program
BWRVIP	Boiling Water Reactor Vessel Internals Program
DER	Deviation Event Report
EDG	Emergency Diesel Generator
GALL	Generic Aging Lessons Learned
LRA	License Renewal Application
NMPNS	Nine Mile Point Nuclear Power Station
OCCWS	Open-Cycle Cooling Water System
RAI	Requests for Additional Information
RBCLC	Reactor Building Closed Loop Cooling
SSCs	Systems, Structure and Components
SWP	Systems Walkdown Program

**ATTACHMENT 2**

**RESOLUTION OF FINDINGS IDENTIFIED IN INSPECTION REPORT 05000220/2005006  
AND 05000410/2005006**

**SUPPLEMENTAL INFORMATION**

Scoping of Non-Safety Related Systems, Structures, and Components

NMPNS revised this portion of their application by starting over using the currently agreed to guidance: NEI 95-10, "Industry Guidance on Revised 54.4(a)(2) Scoping Criterion (Non-Safety Affecting Safety)." Since the methodology used by NMPNS was no longer a custom or graded approach it displayed an appropriate level of rigor in identifying the SSCs that fall within the scope of 10 CFR 54.4(a)(2). In addition to revising their application and the methodology, the applicant completed actions on deviation reports NM-2004-5741, 5118, NM-2005-613, 654, 650, 671, 674, 840, 843, 844, and 867.

These actions satisfactorily close this item.

One-Time Inspection Program

The basis documents for the One-Time Inspection Program were complete and up-to-date and identified the specific scope. The SSCs covered by this program were identified. The inspection program appropriately identified preventive actions. Therefore the required actions to resolve deficiency reports NM-2004-5741 and 5118 were completed for this program.

These actions satisfactorily close this item.

Closed-Cycle Cooling Water System Program

This program was refined since the original review by the NRC. The program manages the effects of aging in the Control Room HVAC (CRAC) System, Jacket water cooling portion of the Emergency Diesel Generator jacket cooling portion system (DG), and the Reactor Building Closed Loop Cooling Water (RBCLC) System. The aging effects managed by the program are: Crevice Corrosion, Galvanic Corrosion, General Corrosion, Microbiologically Influenced Corrosion, Pitting Corrosion, and Stress Corrosion Cracking.

In the revised application, Section B2.1.11, per NUREG 1801 XI.M21, the applicant is implementing a program for the Reactor Building Closed Loop Cooling Systems, Unit 1 Control Room HVAC, and Unit 2 Control Building Ventilation Chilled Water System in direct conformance with EPRI TR-107396. Consequently, the program does not take exception to NUREG 180, by using oxygen injection in selected systems, and is now in conformance with the endorsed EPRI program.

License Renewal Basis Documents now comprehensively identify all the implementing documents and the revisions that are necessary to bring the program into alignment with the previously identified acceptable practices in GALL. This includes, for example, revising N1-IPM-210-004 "Control Room Chillers Preventive Maintenance" to provide inspection of tube OD, and tube wall thinning inspection test (EC). Criteria have been identified for key parameters that are managed by the closed-cycle cooling water system closing DER 2005-848. This also closes the closed-cycle cooling water system program portion of DER NM-2004-5741 and NM- 2004-5118.

These actions satisfactorily close this item.

#### Service Water System Erosion/Corrosion Program

This item was an observation made as part of the Open Cycle Cooling Water System Program: "The inspectors noted that the Unit 1 service water systems erosion-corrosion review program document was administratively out-of-date."

Per revised application section B2.1.10 the service water systems erosion-corrosion review program is an existing program to manage aging of components exposed to raw, untreated (e.g., service) water. For Unit 1, this consists of portions of the Service Water (SW) System associated with the emergency SW pumps internal components of the RBCLC heat exchangers; the raw cooling water portions of the Emergency Diesel Generator (EDG) and Containment Spray (CTN-SP) systems; portions of the Circulating Water (CW) system required to support the raw water supply; as well as other components within the scope of license renewal wetted by SW that are credited in the aging management review. The Unit 2 OCCWS scope includes a portion of the Alternate Decay Heat (ADH) system with associated portions of the SW system, the Residual Heat Removal (RHS) heat exchangers, Diesel Generator (EGS) jacket water coolers, and Control Room Chillers (HVK). Also included are components within the scope of license renewal that are wetted by the SW system and credited in the aging management review.

DER NMP-2005-841 was administratively corrected to 888. The interfacing procedure was never approved and issued even though it was referenced in the application. The procedure reference was removed because the program responsibilities were rolled into Nuclear Engineering Procedure NEP-DES-03, "Plant Condition Monitoring." The program document referred to in the interim report was issued in 1992 and remains technically valid. Some editorial changes are required (i.e., references to Niagara Mohawk have to be removed for example) which are scheduled for the third quarter of 2006.

Change Notice 002255 was issued to remove the reference. Subsequently, a license renewal challenge board identified other administrative errors that should have been corrected (i.e., reference to Niagara Mohawk).

These actions satisfactorily close this item.

### Open-Cycle Cooling Water System Program

Eddy Current testing to detect aging effects was an issue raised in the original team inspection. The solution implemented by the applicant was to supersede the previous program documents with new ones issued in November 2005. Although the GALL recognizes eddy current as an effective means of managing aging in the heat exchangers it is not necessarily the only method. NMPNS has evaluated the various heat exchangers in the 89-13 program for applicability. This resolves DER NM-2004-5028 and 5135.

NMPNS opened corrective action NM-2005-2719 and discovered the wrong procedure was given to the NRC in February 2005. The procedure reviewed by the inspector did not include procedure change evaluation of October 2003 since the online document system is not required to contain all the latest changes. Procedure change evaluations may be hand written and attached to the master copy maintained by the owner department.

DER NM-2002-4792 was closed when the values were reviewed for the heat exchanger calculations and it was found the wrong design values had been used for the shell flow and log mean temperature difference.

These actions satisfactorily close this item.

### Systems Walkdown Procedure

Procedure S-TDP-REL-0101 was revised in its entirety to 02 and issued August 18, 2005. This procedure now includes very specific guidance related to aging management including attachments that contain system specific aging management walk down checklists. Attachment 6 gives specific periodicity guidance and Attachment 7 gives very specific guidance related to the license renewal rule. The basis documents were revised as part of NM DER-2004-5741 and 5118. NM DER-2005-787 was closed after the question of periodicity was resolved. DER-NM-2005-842 was closed as a consequence of the revision to S-TDP-REL-0101.

These actions satisfactorily close this item.

### Non EQ Electrical Cables and Connections

The Non-EQ Electrical Cables and Connections Program is a new program that manages aging of cables and connectors exposed to adverse localized temperature, moisture, or radiation environments. Program activities include visual inspection of susceptible cables for evidence of cable and connection jacket surface anomalies. Inspections are conducted at least once every ten years, with the first representative sample of susceptible cables inspected prior to expiration of the current NMPNS licenses. Unit 1 identified only one area where the environment was adverse (200 degrees F). The cables located in that area were all found, through search of the vendor literature, to tolerate the environment. The procedure for walking down Unit 2

has been drafted and will be applied in a similar manner. Proposed procedures are in place that include the necessary essential parameters for a reasonable aging management system.

These actions satisfactorily close this item.

#### Non EQ Fuse Holder Program

For the purposes of license renewal fuse holders/blocks are classified as a specialized type of terminal block. The fuse holders are typically constructed of blocks of rigid insulating material, such as phenolic resins. Metallic clamps are attached to the blocks to hold each end of the fuse. The clamps can be spring-loaded clips that allow the fuse ferrules or blades to slip in, or they can be bolt lugs, to which the fuse ends are bolted. The clamps are typically made of copper. The aging of the fuse holder insulation material is going to be managed under the program for Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements (see above). The Fuse Holder Inspection Program includes the following aging stressors: moisture, fatigue, ohmic heating, mechanical stress, vibration, thermal cycling, electrical transients, chemical contamination, oxidation, and corrosion.

These actions satisfactorily close this item.

#### Fire Door frame clearance inspection periodicity

Revised application B2.1.16 "FIRE PROTECTION PROGRAM" very clearly identifies the exception taken to the current GALL guidance. NMPNS takes exception to the program described in NUREG-1801, Section M26, where it requires that hollow metal fire doors be inspected at least once bimonthly, and that halon/carbon dioxide suppression system valve line up inspections be performed on a monthly basis. Rather, NMPNS is consistent with ISG-04 on both issues. It should be noted that Revision 1 of the GALL is not as prescriptive and this would not have to be identified as an exception.

These actions satisfactorily close this item.

#### Turbine Building and Screen House Masonry Wall

A review of the NMPNS Maintenance Rule Scope procedure S-MRM-REL-0104, Revision 00 revealed that the Turbine Building and Screenwell Building are within the scope of 10 CFR 50.65 (Maintenance Rule) and therefore an enhancement is not required. The implementing procedure S-MRM-REL-102 requires inspection of the masonry walls. CR NM-2005-4899 was initiated to document this.

These actions satisfactorily close this item.