



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

ACRSR-2204

August 2, 2006

The Honorable Dale E. Klein
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: REPORT ON THE SAFETY ASPECTS OF THE LICENSE RENEWAL
APPLICATION FOR THE NINE MILE POINT NUCLEAR STATION, UNITS 1
AND 2

Dear Chairman Klein:

During the 534th meeting of the Advisory Committee on Reactor Safeguards, July 12–13, 2006, we completed our review of the license renewal application for the Nine Mile Point Nuclear Station (NMPNS), Units 1 and 2, and the final Safety Evaluation Report (SER) prepared by the NRC staff. Our Plant License Renewal Subcommittee also reviewed this matter during a meeting on April 5, 2006. During these reviews, we had the benefit of discussions with representatives of the staff and the applicant, Constellation Energy Group, LLC (CEG). We also had the benefit of the documents referenced. This report fulfills the requirement of 10 CFR 54.25, which requires that the ACRS review and report on all license renewal applications.

CONCLUSION AND RECOMMENDATION

1. The programs committed to and established by the applicant to manage age-related degradation provide reasonable assurance that NMPNS, Units 1 and 2, can be operated in accordance with their current licensing basis for the period of extended operation without undue risk to the health and safety of the public.
2. CEG's application for renewal of the operating licenses for NMPNS, Units 1 and 2, should be approved.

BACKGROUND AND DISCUSSION

NMPNS consists of two General Electric (GE) boiling water reactor (BWR) Units on a site six miles northeast of Oswego, NY. The current operating licenses will expire on August 22, 2009 for Unit 1 and October 31, 2026 for Unit 2. The applicant has requested renewal of these licenses for an additional 20 years.

Unit 1 uses a Mark 1 containment design consisting of a drywell, a suppression chamber in the shape of a torus, and a vent system that connects the drywell to the torus. Unit 2 uses a Mark 2 containment structure of reinforced concrete with an inner liner of carbon steel. Unit 1 is authorized to operate at 1,850 MWt, and Unit 2 at 3,467 MWt. The Unit 1 main condenser is cooled by a once-through circulating water system using cooling water from Lake Ontario. Unit 2 has a closed cooling system that uses a natural draft cooling tower.

In the final SER, the staff documented its review of the license renewal application and other information submitted by the applicant or obtained during the staff's audit and inspection at the plant site. The staff reviewed the completeness of the applicant's identification of structures, systems, and components (SSCs) that are within the scope of license renewal; the integrated plant assessment process; the applicant's identification of plausible aging mechanisms associated with passive, long-lived structures and components; the adequacy of the applicant's Aging Management Programs (AMPs); and the identification and assessment of time-limited aging analyses (TLAAs).

The application demonstrates consistency with, or justifies deviations from, the approaches specified in the Generic Aging Lessons Learned (GALL) Report. The applicant has correctly identified those SSCs from both Units that fall within the scope of license renewal. The applicant performed an aging management review of SSCs within the license renewal scope. Based on the results of this review, the applicant will apply 43 AMPs. Of these, 9 are fully consistent with the GALL Report, 27 are consistent with the GALL Report with exceptions or enhancements, and 7 are plant specific. The staff determined that the AMPs described by the applicant are appropriate and sufficient to manage aging of long-lived passive components that are within the scope of license renewal. We concur.

The staff conducted an inspection and an audit for the license renewal application. The inspection was performed to verify that the scoping and screening methodologies are consistent with the regulations and are adequately reflected in the application. The audit verified the appropriateness of the AMPs and the aging management reviews. Based on the inspection and audit, the staff concluded that these programs are consistent with the descriptions contained in the CEG license renewal application. The staff also concluded that the existing programs, to be credited as AMPs for license renewal, are generally functioning well and that an implementation plan had been established in the applicant's commitment tracking system to ensure timely completion of the license renewal commitments.

Analyses of neutron embrittlement of the reactor vessels for both units were performed by the applicant and independently verified by the staff. These analyses demonstrate that the limiting reactor vessel beltline welds and plate materials will satisfy acceptance criteria for the periods of extended operation. Both the applicant and the staff chose to use a lifetime capacity factor of 90 percent for determining neutron fluence.

The staff identified no open items or confirmatory items in the final SER. CEG has made 56 license renewal commitments for NMPNS. Of these commitments, 26 are common to both Units with 16 commitments applying only to Unit 1 and 14 commitments applying only to Unit 2. The staff has included appropriate license conditions in the final SER to satisfy the remaining documentation issues and action items. No changes in the technical specifications are required for either Unit.

The applicant's initial license renewal application was not of adequate quality. In reviewing the application, the staff generated 323 Requests for Additional Information (RAIs) and 385 audit questions. The large number of RAIs prompted the applicant to request a delay to prepare an amended license renewal application. The amended license renewal application was more complete and of higher quality.

The staff's evaluation was comprehensive and well documented in the final SER. The inspection and audit performed by the staff were effective in evaluating the applicant's proposed and existing programs and TLAAs.

No issues related to the matters described in 10 CFR 54.29(a)(1) and (a)(2) preclude renewal of the operating licenses for NMPNS, Units 1 and 2. The programs committed to and established by the applicant provide reasonable assurance that NMPNS, Units 1 and 2, can be operated in accordance with their current licensing basis for the period of extended operation without undue risk to the health and safety of the public. The application for renewal of the operating licenses for NMPNS, Units 1 and 2, should be approved.

Sincerely,

/RA/

Graham B. Wallis
Chairman

References:

1. Safety Evaluation Report-Final Related to the License Renewal of Nine Mile Point Nuclear Station, Units 1 and 2, dated May 30, 2006.
2. Nine Mile Point Nuclear Station, Units 1 and 2 — Application for Renewed Operating Licenses, dated May 26, 2004.
3. Audit and Review Report for Plant Aging Management Programs (AMPs) and Aging Management Reviews (AMRs) — Nine Mile Point Nuclear Station, dated January 5, 2006.
4. Nine Mile Point Nuclear Station Inspection Report 05000220/20050011 and 05000410/20050011, dated March 2, 2006.
5. Safety Evaluation Report with Open Items Related to the License Renewal of the Nine Mile Point Nuclear Station, Units 1 and 2, dated March 3, 2006.

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