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NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 20, 2004

MEMORANDUM TO: P.T. Kuo, Program Director  
License Renewal and Environmental Impacts  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation  
*/RA/*

FROM: Dale F. Thatcher, Chief  
Quality and Maintenance Section  
Plant Support Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

SUBJECT: AUDIT TRIP REPORT REGARDING THE DOMINION NUCLEAR  
CONNECTICUT, INC., LICENSE RENEWAL APPLICATION FOR THE  
MILLSTONE POWER STATION, UNITS 2 AND 3, DATED JANUARY 22,  
2004

Plant Name: Millstone Power Station, Units 2 and 3  
Utility Name: Dominion Nuclear Connecticut, Inc.  
Docket Nos.: 50-336 (DPR-65)  
50-423 (NPF-49)  
TAC Nos.: MC1825  
MC1826  
Review Branch: Plant Support Branch  
Review Status: Pending resolution of identified issues

From May 3-7, 2004, Emergency Preparedness and Plant Support Branch performed an audit of the Dominion Nuclear Connecticut, Inc. (the applicant) license renewal scoping and screening methodology developed to support the Millstone Power Station, Units 2 and 3, license renewal application (LRA) dated January 22, 2004. The focus of the staff's audit was evaluation of the applicant's administrative controls governing implementation of the LRA scoping and screening methodology and review of the technical basis for selected scoping and screening results for various plant systems, structures, and components. The audit team also reviewed quality attributes for aging management programs. A trip report containing a summary of the audit results is attached.

Should you require additional information, please contact Robert L. Pettis, Jr., of my staff, at 415-3214.

Attachment: As stated

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(301) 415-3214

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DATE	9/20/04	9/20/04					

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Trip Report Regarding the  
Dominion Nuclear Connecticut, Inc.,  
License Renewal Application for the  
Millstone Power Station, Units 2 and 3,  
dated January 22, 2004

## I. Introduction

From May 3-7, 2004, Robert L. Pettis, Jr., Billy Rogers, and Steven Dennis of the Plant Support Branch (IPSB), and Johnny Eads, License Renewal Projects staff, audited the Dominion Nuclear Connecticut, Inc. (the applicant) license renewal scoping and screening methodology developed to support the Millstone Power Station (MPS), Units 2 and 3, license renewal application (LRA). The audit was performed at the MPS located in Waterford, Connecticut. The focus of the staff's audit was evaluation of the applicant's administrative controls governing implementation of the LRA scoping and screening methodology and review of the technical basis for selected scoping and screening results for various plant systems, structures, and components (SSCs). The audit team also reviewed quality attributes for aging management programs (AMPs).

## II. Background

Title 10 of the *Code of Federal Regulations*, Part 54 (10 CFR Part 54), "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," Section 54.21, "Contents of Application — Technical Information," requires that each application for license renewal contain an integrated plant assessment (IPA). Furthermore, the IPA must list and identify those structures and components (SCs) that are subject to an aging management review (AMR) from the SSCs that are within the scope of license renewal. Structures and components within the scope of license renewal are screened to determine if they are long-lived, passive equipment that is subject to an AMR in accordance with 10 CFR 54.21(a)(1).

## III. Scoping Methodology

The scoping evaluations for the MPS LRA were performed by the applicant's license renewal project personnel. The audit team conducted detailed discussions with the applicant's license renewal project management personnel and reviewed documentation pertinent to the scoping process. The audit team assessed if the scoping methodology outlined in the LRA and implementation procedures were appropriately implemented and if the scoping results were consistent with the current licensing basis requirements. The audit team also reviewed the system scoping and screening results for the Chemical and Volume Control System (CVCS).

In general, the team determined that the applicant's overall approach to license renewal SSC scoping appeared to be adequate. However, the audit team identified several issues where additional information will be required to complete the LRA review. These issues are documented in a draft request for additional information and are briefly described in this report. The audit team identified several questions associated with the applicant's methodology for performing license renewal scoping of nonsafety-related (NSR) SSCs pursuant to the requirements of 10 CFR 54.4(a)(2). Specific questions involved Section 2.1.3.6, "10CFR54.4(a)(2) Report," of the LRA, and the applicant's technical report prepared to address the (a)(2) issue regarding inclusion of piping anchors; questions regarding the definition of the term "first equivalent anchor point" as it relates to the evaluation of NSR piping attached to SR piping; a description of the methodology and documentation sources used to perform walkdowns associated with the review of NSR fluid-containing components located near SR

components (spatial interaction), and the extent to which engineering judgement was used to identify NSR components which may affect SR components.

During review of the CVCS, the staff questioned the exclusion of the Unit 3 Boric Acid Batch Tank from within the evaluation boundary. Further review by the applicant determined that the tank in question should have been included within the evaluation boundary and therefore potentially subject to an AMR. The staff verified, through discussion with the applicant, that an extent of condition review would be performed to assure that no other similar commodities were excluded from the evaluation boundaries for other in-scope SSCs and that the tank would be screened for AMR. Additionally, the staff verified that the initial exclusion of the tank from the AMR screening process will be resolved through License Renewal Project Guideline MP-LRP-GDL401, Revision 2, "Discrepancy Management."

#### IV. Screening Methodology

The audit team reviewed the methodology used by the applicant to determine if system (mechanical), structural, and electrical/instrumentation and controls components within the scope of license renewal would be subject to further AMR. The applicant provided the staff with a detailed discussion of the processes used for each discipline and provided administrative documentation that described the screening methodology. The audit team also reviewed a sample of the screening results report for the CVCS system since it meets the requirements of 10 CFR 54.4(a)(1-3). The system meets 54.4(a)(1) since it provides a borated water flow path to the reactor coolant system for reactivity control and for make-up in the event of an accident; 54.4(a)(2) because the system contains NSR components credited for mitigating the effects of a high-energy line break, and spatial interaction associated with 54.4(a)(1) components; and 54.4(a)(3) because it contains environmentally qualified equipment and supports fire protection and station blackout. The team noted that the applicants screening process was performed in accordance with their written requirements and was consistent with the guidance provided in the staff's LR-SRP and NEI 95-10, Revision 3. The audit team determined that the screening methodology appears consistent with the requirements of the Rule and should identify SCs that meet the screening criteria of 10 CFR 54.21(a)(1).

#### V. Aging Management Program Quality Assurance (QA) Attributes

The audit team evaluated the quality attributes of the applicant's AMP activities described in Appendix A, "FSAR Supplement," and Appendix B, "Aging Management Programs," of the LRA using the guidance contained in NUREG-1800, Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)." Based on the staff's evaluation, the quality attributes (corrective action, confirmation process, and administrative controls) described in Appendix B, Section B1.3, "Quality Assurance Program and Administrative Controls," of the LRA, for all programs credited for managing aging effects were determined to be consistent with Branch Technical Position IQMB-1.

#### VI. Quality Assurance Controls Applied to LRA Development

The audit team reviewed the QA controls used by the applicant to provide reasonable assurance that the LRA scoping and screening methodologies were adequately implemented. The QA requirements applied to the development of the LRA were addressed in the MP-LRP-GDL501, "License Renewal Project Guideline QA Requirements and Document Control for

Millstone Station,” which addressed the requirements of 10 CFR Part 54. The applicant stated that license renewal is a 10 CFR Part 54 activity and the requirements of 10 CFR Part 50, Appendix B, had not been imposed on the development of the LRA.

The applicant noted that the inputs which provided the information used to perform the Part 54 activities were gathered from existing sources (Design Basis Summaries, Production Maintenance Management System, Maintenance Rule Summary Reports, Final Safety Analysis Report, station drawings, and procedures) that had been subjected to the appropriate QA requirements when developed. In addition, during development of the LRA, if the applicant identified a need to generate a design input, perform or revise a calculation, modify plant hardware, generate or revise a drawing, update a database, or initiate a corrective action, the organization, processes and procedures that were already in place, and conformed to the applicant’s 10 CFR Part 50, Appendix B, QA program, were used to complete the work. To ensure that the license renewal work performed in accordance with 10 CFR Part 54, was consistent with the applicant’s engineering practices, and was performed in a quality manner, the following QA measures were implemented during the development of the LRA:

- License renewal project team members received training to ensure that they were qualified to perform license renewal reviews and evaluations. Areas reviewed included 10 CFR Part 54, industry documents such as NEI 95-10, the license renewal project plan, project guidelines, resource tools, design engineering procedures, and processes related to license renewal.
- License renewal activities were governed by written procedures and guidelines such as the project plan, project guidelines, positions papers, technical reports, technical evaluations, and engineering records correspondence.
- License renewal documents were prepared by persons qualified in accordance with MP-LRP-GDL101, received a technical review, and were approved by a supervisor.
- The results of the license renewal reviews and evaluations were documented in technical reports that are maintained in records management.

The audit team concluded that these QA activities, which exceeded current regulatory requirements, provided additional assurance that LRA development activities were performed consistently with the LRA descriptions.

## VII. Training for License Renewal Project Personnel

The audit team reviewed the implementation of the applicant’s training process to ensure the guidelines and methodology for the scoping and screening activities would be performed in a consistent and appropriate manner. The applicant’s LRA team consisted of several engineers, shift managers (senior licensed operators), and contractors. Several of the team members had gained previous license renewal experience working on the North Anna and Surry LRAs. The purpose of the training was to provide a framework for ensuring that the staff assigned to the technical portion of the LRA acquired a fundamental level of knowledge of the license renewal process and associated regulatory requirements.

The training program for the staff consisted of on-the-job training and mentoring provided by team members with prior LRA experience supplemented by required reading of selected documents, lectures by staff experienced in various LRA topics, and continuing training. On-the-job training consisted of senior engineers mentoring the less-experienced staff members on

the implementation process, described in written instructions, related to scoping, screening, and boundary development. The applicant's license renewal team also developed an index of applicable license renewal documentation, including industry and regulatory guidance, some of which the license renewal staff members were required to learn through self-study. Engineers with prior experience on the LRA preparation provided lectures on such topics as scoping, AMPs, boundaries, screening, AMRs, and Time-Limited Aging Analysis. A comprehensive training qualification record for each of the staff was compiled and maintained by the applicant as part of the application development process, as delineated in MP-LRP-GDL101. The audit team reviewed resumes and qualification and training records of several of the applicants license renewal staff, including both experienced and non-experienced members, that performed scoping and screening activities.

On the basis of discussions with the applicant's license renewal project team responsible for the scoping and screening process, and a review of selected design documentation in support of the process, the audit team concluded that the applicant's staff were knowledgeable of the license renewal process requirements and the specific technical issues within their areas of responsibility, and that the staff adequately implemented the scoping and screening methodology established in the LRA. The audit team did not identify any concerns regarding the training of the applicant's license renewal project team.

#### VIII. Exit Meeting

A public exit meeting was held with the applicant on May 7, 2004, to discuss the results of the scoping and screening methodology audit. The audit team provided an overview of the areas reviewed during the audit and identified areas where additional information was needed to support the staff's LRA review. The staff concluded that on the basis of this review, and pending acceptable resolution of the requests for additional information, there is reasonable assurance that the applicant's methodology for identifying SSCs within the scope of license renewal and SCs requiring an AMR is consistent with the requirements of 10 CFR 54.4 and 10 CFR 54.21(a)(1). A draft request for additional information has been forwarded by IPSB to the NRR License Renewal and Environmental Impacts Program Director.