

Attachment

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. J. D. Hughey
Project Manager
U.S. Nuclear Regulatory Commission
One White Flint North, Mail Stop 08 B3
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

ATTACHMENT

CONTROL ROOM HABITABILITY TECHNICAL SPECIFICATION IMPROVEMENT
(TAC NOS. MD6115 AND 6116)
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

MILLSTONE POWER STATION UNITS 2 AND 3
DOMINION NUCLEAR CONNECTICUT, INC.

PROPOSED TECHNICAL SPECIFICATION CHANGE
CONTROL ROOM HABITABILITY
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC Question 1

In Dominion Nuclear Connecticut, Inc. (DNC's) submittal dated July 13, 2007, as supplemented by letter dated December 7, 2007, DNC stated that Millstone Power Station, Unit 2 (MPS2) had a non-pressurized control room, thus paragraph (d) of the control room habitability program was not applicable. Technical Specification Task Force (TSTF)-448, "Control Room Habitability," was developed for plants with pressurized control room envelopes (CRE). DNC stated that MPS2 has a non-pressurized CRE. Note that in the "Programs and Manuals" section of the standard technical specifications (STS) as modified by TSTF-448 revision 3, paragraph (d) of Section [5.5.18], "Control Room Envelope Habitability Program," specifies a differential pressure (dp) test to be conducted between performances of inleakage testing for the purpose of providing input to a periodic assessment of the CRE boundary. The Nuclear Regulatory Commission (NRC) staff recognizes that non-pressurized CREs may not be able to conduct a dp test, nevertheless, it is the NRC staffs position that all plants requesting the adoption of TSTF-448 should include in their request, a method to collect data that will serve as input to a periodic assessment of the CRE boundary. This position is supported by the technical analysis section of TSTF-448 revision 3 on page 8 where an explanation of the basis for paragraph (d) is provided.

1. Provide a method to collect data that can be used as input to a periodic assessment of the MPS2 CRE boundary, and an explanation of how DNC intends to use the data. The method of collection should, to the extent practicable, provide information that can be used in a similar manner as the information requested by paragraph (d) of Section 5.5.18 of the "Programs and Manuals" section of the STS as modified by revision 3 of TSTF-448.

DNC Response

The MPS2 Control Room Ventilation System is designed to be at a neutral pressure. Paragraph d of Section 5.5.18 of the "Programs and Manuals" section of the STS as modified by revision 3 of TSTF-448 discusses trending the results of the pressurization tests at an 18 month frequency to assess the Control Room Envelope (CRE) boundary. A pressurization test for the CRE boundary would not be practical for a neutral pressure control room.

In lieu of a pressurization test, MPS2 conducts preventative maintenance (PM) and surveillance tests which give assurance that the boundary is maintained in a manner

that will provide protection for the operators. PMs are performed on the dampers (both air-operated and motor-operated) to check for proper operation. The dampers are also inspected to verify the integrity of the sealing devices (e.g., blade seals and other similar devices) and checked to assure the dampers stroke properly. This set of dampers includes CRE boundary dampers. Fan flows are also obtained on a periodic basis. The flows are maintained within allowable limits of the design flow rates. The charcoal filter flow rates are maintained within the TS limits. Maintaining the proper flow rates will reduce the possibility of the control room pressure changing and thereby affecting unfiltered in-leakage. Additionally, MPS2 has a penetration seal program. Penetration seals are inspected in accordance with the penetration seal program. The doors are also inspected on a periodic basis.

Any criteria that are not met while performing any of these activities are documented and resolved in accordance with the Millstone Station Corrective Action Program. Appropriate actions are identified and implemented to restore the degraded conditions and assess impact on the CRE boundary. These processes ensure that the MPS2 CRE boundary can perform its safety function in a similar manner as performing a pressurization test and trending the test data.

NRC Question 2

DNC stated that air in-leakage testing is conducted at MPS2 per ASTM E741-83, rather than ASTM E741-00, as referenced in Model Safety Evaluation – Section 2.3.

2. Please provide a detailed comparison between the two ASTM E-741 revisions (Revision 1983 and Revision 2000) and provide justification explaining why the revision DNC chose to use is acceptable.

DNC Response

MPS2 has been performing a tracer gas in-leakage test of the control room boundary on a refueling frequency since 1992. The standard at the time of the test creation was ASTM E741-83 (1990) and this version is referenced in our test procedure. A comparison of ASTM E741-83 (1990) to ASTM E741-00 was performed. The ASTM E741-00 version is worded and formatted differently in some sections, contains more details and sections, and has a greater number of test options than that presented in the E741-83 (1990) version. These differences make a point-by-point comparison of the two versions impractical. However, the basic principles are the same and the MPS2 testing in accordance with ASTM E741-83 (1990) provides comparable results to testing performed in accordance with ASTM E741-00.

The following are examples of the differences between the two versions:

1. A significant difference between ASTM E741-83(1990) and ASTM E741-00 is the detail provided in ASTM E741-00 of all three testing techniques: 1) Concentration Decay, 2) Constant Injection and 3) Constant Concentration. ASTM E741-83 (1990) details focus on one technique, that being the Concentration Decay technique. The Concentration Decay technique described in both versions is comparable. As MPS2 uses the Concentration Decay technique, the added detail on the other two techniques in the E741-00 version has no impact on the MP2 test results.
2. Some wording and formatting changed between the E741-00 version and the E741-83 (1990) version. Some sections were added for clarification and some "code" language was changed. These wording and formatting changes have no impact on the test results obtained by the two versions.
3. In the E741-00 version, Section 8.2.4.1 (which is not contained in the E741-83 (1990) version) references Table 2 entitled "Examples of Minimum Durations Between the Initial and Final Samples for the Above Assumptions" and notes that when using the regression method, the minimum test duration is often less than the values in Table 2. The MPS2 in-leakage test procedure utilizes the regression method noted in the E741-83 (1990) version. This method requires a sufficient number of data points (over a minimum of 1 hour) to obtain a near straight line of data points when the natural log (ln) of the concentration is plotted as a function of time. The uniform data plot indicates that the data points are valid (too much point scatter will require more data points be taken until the data is uniform) and thus insures an adequate test duration. The regression method also normally results in a greater number of data points which serves to reduce uncertainty. Therefore, the accuracy and uncertainty of the test results of the MPS2 test are comparable to that described in ASTM E741-00.

In summary, ASTM E741-83 (1990) utilizes similar calculation techniques and methodology as that in ASTM E741-00. The above noted evaluation demonstrates that the testing performed per ASTM E741-83 (1990) for MPS2 will provide comparable results to that noted in ASTM E741-00 as it relates to the MPS2 in-leakage test. This is further supported by the consistent results that have been obtained by the many tests performed since 1992.

NRC Question 3

DNC references NEI 99-03, Revision 1, Appendix EE, in Attachment 1, Page 7 of 11 under 'Exceptions.'

3. **The NRC staff has not reviewed NEI 99-03, Revision 1. Therefore, exceptions used in Appendix EE of NEI 99-03, Revision 1, have not been reviewed by the**

NRC staff. Please identify alternate plant-specific ASTM E741 exceptions and provide a detailed explanation justifying the acceptability of these exceptions.

DNC Response

In the October 31, 2007 safety evaluation for San Onofre's application to revise technical specifications for CRE habitability in accordance with TSTF-448, Revision 3 (ADAMS accession No. ML072890012), the NRC recognized that the exceptions included in NEI 99-03, Revision 1, Appendix EE were necessary and acceptable. The NRC recognized that the required testing methodology in ASTM E-741 was not originally intended for nuclear power plant CRE testing.

DNC is proposing the same necessary exceptions based on industry accepted practices recognized by the NRC in the San Onofre safety evaluation. Exceptions to ASTM E-741 taken by the test vendor to ensure appropriate application of this methodology to MPS2 CRE habitability in accordance with Regulatory Guide 1.197 will be documented in test reports.

DNC is not proposing any variations or deviations from the applicable parts of the NRC staff's model safety evaluation dated January 17, 2007.

NRC Question 4

DNC stated in Attachment 1, Page 7 of 11 under 'Exceptions,' that exceptions to the Regulatory Guide (RG) 1.196, and the RG's referenced therein, are consistent with the intent, but are not in verbatim compliance with the regulatory positions established in each RG.

- 4. Please provide a categorical listing of the plant specific exceptions to the Regulatory Guides referenced in RG 1.196 (i.e., RG 1.52, RG 1.78 and RG 1.183). Also, identify specific MPS2 Updated Final Safety Analysis Report (UFSAR) and Millstone Power Station, Unit 3 UFSAR sections showing where these exceptions are addressed with their proper justification.**

DNC Response

The intent of the above referenced statement was to identify that adopting TSTF-448 will not change the degree of compliance currently documented in the MPS2 and MPS3 licensing and design basis documents for compliance with RG's 1.52, 1.78, 1.95 and 1.83.