December 12, 2006

MEMORANDUM TO: Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Victor Nerses, Senior Project Manager ***/RA/***
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 2 - FACSIMILE TRANSMISSION, DRAFT REQUEST FOR ADDITIONAL INFORMATION REGARDING TECHNICAL SPECIFICATION CHANGES BASED ON USING AN ALTERNATE SOURCE TERM (TAC NO. MC2346)

The attached draft request for additional information (RAI) was transmitted by facsimile on December 12, 2006, to Mr. Paul Willoughby, at Dominion Nuclear Connecticut, Inc. (DNC or the licensee). This draft RAI was transmitted to facilitate the technical review being conducted by the Nuclear Regulatory Commission (NRC) staff and to support a conference call with DNC in order to clarify certain items in the licensee's submittal. The draft RAI is related to DNC's submittal dated June 13, 2006, regarding Technical Specification changes based on using an alternate source term. Review of the draft RAI would allow DNC to determine and agree upon a schedule to respond to the RAI. This memorandum and the attachment do not represent an NRC staff position.

Docket No. 50-336

Enclosure:
As stated

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DRAFT REQUEST FOR ADDITIONAL INFORMATION

MILLSTONE POWER STATION, UNIT NO. 2

(TAC NO. MC2346)

By letter dated June 13, 2006, Dominion Nuclear Connecticut, Inc. (DNC) submitted a license amendment request (LAR) for changes to the Technical Specifications to Facility Operating License Number DPR-65 for Millstone Power Station, Unit No. 2 (MPS2). The proposed changes are being requested based on the radiological dose analysis margins obtained by using an alternate source term consistent with Title 10 of the *Code of Federal Regulations* Section 50.67, "Accident Source Term." The Nuclear Regulatory Commission (NRC) staff requests the following additional information to complete its review.

1. Attachment 1 to the LAR indicates that the proposal is a full-scope implementation of Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors." Table 3.1.4, "Basic Data Assumptions for LOCA [loss-of-coolent accident]," of Section 3.1.5, "LOCA Analysis Assumptions & Key Parameter Values," to the attachment lists the assumptions supporting the LOCA reanalysis. The containment sump is assumed to be maintained at a pH greater than 7; however, details regarding this assumption are not provided.

   Consistent with Appendix A to RG 1.183, the NRC staff requests that the analysis supporting this assumption be provided for review. This analysis should include, at a minimum, the time-dependent changes to the pH as a result of the formation of acids and the introduction of bases to the containment during the LOCA.

2. Provide figures which support the selection of the inputs and assumptions used to calculate all of the χ/Q values. Include a figure of the general arrangement of plant structures, drawn approximately to scale and showing true north, sufficient to enable the NRC staff to make confirmatory estimates of the selected inputs and assumptions and resultant χ/Q values. For each accident, highlight the postulated release and receptor locations including control room locations that may experience unfiltered inleakage.

3. Were distance inputs into the ARCON96 calculations directly estimated as horizontal straight line distances or was another methodology (e.g., a "taut string" methodology) used to estimate the distances? If the distances were not estimated directly as the straight line horizontal distance, how were they determined? Did the procedure used to estimate the distances properly factor in differences in heights between source and receptor?

4. Although implied in the text by discussion of some specific cases, please confirm that the accident scenarios and generated χ/Q values model the limiting doses considering multiple release scenarios (e.g., including those due to loss-of-offsite power or other single failure). Which χ/Q values are used to model unfiltered inleakage to the control room?

5. The footnote to Table 1.3-4 of Attachment 1, page 10, notes that the MPS2 stack control room atmospheric dispersion factors (χ/Q values) were approved as part of MPS2 Amendment No. 228. The NRC staff agrees that these values were found acceptable for the first 24 hours of the postulated release. The χ/Q values in Table 1.3-4 for the 24-96 hour and 96-720 hour time periods are larger than the values approved as part of Amendment No. 228. Were these values calculated using the 1997-2001 (more recent) meteorological data and, since they are more limiting, are they being proposed to replace the Amendment No. 228 χ/Q values for the 24-96 hour and 96-720 hour time periods?

6. Technical Specification sections 4.3.4.2 and 3.4.3.4, related to the containment purge valve isolation signal, are proposed for deletion. Both contain the same two X/Q values. Please confirm that reference to these values are in these two sections only, that is, deletion of the X/Q values would not impact other parts of the Technical Specifications, plant procedures, etc.

7. DNC is seeking credit for an operator action. In particular, for a main steamline break outside containment (in the enclosure building or turbine building), operator action will be prompted to isolate the control room within 4 hours from the start of the event. The following information is required.

    a. What specific switch manipulations will be required to isolate the control room? Are the switches and the components they operate safety-grade and with safety-grade support systems (e.g., DC control power, AC motive power, air motive power)?

    b. Where will the switch manipulations occur?

    c. Who will perform the manipulations required to isolate the control room?

    d. What alarms/indications will be used in response to a main steamline break outside containment to prompt the action to isolate the control room? Where are these alarms and indicators located? Are these alarms and indications safety-grade and powered from safety-grade electrical power supplies?

    e. What alarms/indications will be used to verify success in isolating the control room? For example, damper position indicating lights, flow indicators, alarms occurring or clearing, etc. Where are these alarms and indications located? Are these alarms and indications safety-grade and powered from safety-grade electrical power supplies?

    f. How will the operator action to isolate the control room in response to a main steamline break outside containment be incorporated into plant procedures?

    g. How will this new operator action to isolate the control room in response to a main steamline break outside containment be incorporated into your training programs?