September 22, 2004

MEMORANDUM TO: Daniel S. Collins, Acting Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Victor Nerses, Sr. Project Manager ***/RA/***
Project Directorate I, Section 2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 3 FACSIMILE TRANSMISSION, DRAFT REQUEST FOR ADDITIONAL INFORMATION (RAI) TO BE DISCUSSED IN AN UPCOMING CONFERENCE CALL (TAC NO. MC3333)

The attached draft RAI was transmitted by facsimile on September 22, 2004, to Mr. Paul Willoughby, Dominion Nuclear Connecticut, Inc. (DNC). This draft RAI was transmitted to facilitate the technical review being conducted by the 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 May 27, 2004, regarding the implementation of a alternate source term methodology. Review of the RAI would allow DNC to determine and agree upon a schedule to respond to the RAI. This memorandum and the attachment do not convey a formal request for information or represent an NRC staff position.

Docket No. 50-423

Enclosure: Draft Request for Additional Information

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DRAFT

REQUEST FOR ADDITIONAL INFORMATION
MILLSTONE POWER STATION, UNIT NO. 3
(TAC NO. MC3333)

In a letter dated May 27, 2004 (ML041560464), Dominion Nuclear Connecticut, Inc. (the licensee) submitted a proposed license amendment based on application of an Alternative Source Term (AST) methodology for Millstone Power Station Unit 3. The staff is reviewing the submittal and has determined that the following additional information is needed to complete the review:

The license amendment request (LAR) identifies a proposed volume quench spray (QS) coverage of 49.63% starting at 72.5 sec and lasting to (or for) 7480 sec. The current QS (FSAR) coverage is 50.27%. In addition, the LAR proposes to credit the effectiveness of the recirculation spray (RS), at 840 sec (starts at 660 sec) increasing the volume coverage to 64.5% when the RS becomes effective. After the QS is secured, even through the RS continues, no credit is taken for iodine removal.

(1) It appears that the reduced QS coverage is a result of the identified change in the containment free volume from 2.32×10^6 to 2.35×10^6 ft^3 (LAR Table 2.6-1). That is the sprayed volume remains the same at about 1,166,200 ft^3 and with the increased free volume considered to be part of the unsprayed volume the QS sprayed volume percentage is reduced.

Provide a reference to the revised containment free volume calculation and summarize the basis for the new volume value and spray coverage value.

(2) The staff reviewed Quench Spray Coverage calculation 08506 US(B)-369 dated 5/19/99 as background material on how the coverage was calculated. This appears to yield a QS coverage fraction of 33.85%, as summarized in this table (with the LAR values added for clarification - QS LAR is 49.63%):

Calc Note 369: Zone	V_s = Sprayed (ft^3)	V_u = Unsprayed (ft^3)	Total (ft^3)	V_s/C_{vol}
I	465,269	253,108	718,377	0.6477
II	259,005	191,870	450,875	0.5744
III	71,097	1,109,651	1,180,748	0.0602
Total	795,371	1,554,629	2,350,000	**0.3385**
LAR forAST				
QS	1,166,200	1,183,800	2,350,000	**0.4963**[1]
QS + RS	1,515,858	834,142	2,350,000	0.6450
RS	Δ 349,658	Δ -349,568	0	n/a

[1] - 0.5027 if $C_{vol} = 2.32 \times 10^6$ ft^3. From FSAR Table 15.6-9 Assumptions Used for the Radiological Consequences of a LOCA Analysis (Rev 16)

Provide a description, or the calculation file, of the QS LAR volume coverage fraction in sufficient detail to understand the volume values and the QS coverage fractions, and to what extent, if any, the values derived are considered to be conservative for the intended use. The current FSAR calculation would be sufficient if the staff's interpretation of the reduced LAR value is correct. If the methodology employed in calculation 369 was used, describe the difference in sufficient detail to understand the new QS value.

(3) The LAR proposes to credits the RS.

Provide a description, or the calculation file, of the RS LAR volume coverage fraction in sufficient detail to understand the volume values and the RS coverage fractions, and to what extent, if any, the values derived are considered to be conservative for the intended use. If the methodology employed in calculation 369 was used, describe the difference in sufficient detail to understand the RS value.

Enclosure