



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

March 12, 2012

LICENSEE: DOMINION NUCLEAR CONNECTICUT, INC.
FACILITY: MILLSTONE POWER STATION, UNIT NO. 2
SUBJECT: SUMMARY OF FEBRUARY 15, 2012, PRE-APPLICATION MEETING WITH DOMINION NUCLEAR CONNECTICUT, INC., TO DISCUSS A PROPOSED MILLSTONE POWER STATION, UNIT NO. 2, LICENSE AMENDMENT REQUEST CONCERNING SPENT FUEL POOL CRITICALITY RE-ANALYSIS (TAC NO. ME7943)

On February 15, 2012, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Dominion Nuclear Connecticut, Inc. (DNC or the licensee) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss a proposed Millstone Power Station, Unit No. 2, (Millstone 2) License Amendment Request (LAR) concerning spent fuel pool criticality re-analysis. Enclosed is a list of attendees.

DNC representatives presented information regarding the proposed LAR. A copy of the presentation can be found in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML120450552. During the meeting, DNC discussed the current status of the Millstone 2 spent fuel pool and the proposed changes that will be addressed in a future LAR submittal.

In addition to the information presented by DNC, NRC staff stated that the licensee should consider inclusion of the following information in their LAR:

- an analysis of a fuel assembly-misplacement accident scenario, or a probability of occurrence analysis that shows that the accident scenario is not credible with the use of cell blockers;
- an analysis showing that there will be no gas entrapment caused by Boraflex, or an analysis of the gas entrapment caused; Boraflex should be modeled appropriately based on these analyses;
- all of the qualitative data from the TRITON validation study;
- a study of isotopic modeling including a sensitivity study to demonstrate the method used is conservative;
- a new analysis of existing accident and event scenarios (e.g., fuel drop, seismic, fuel handling, etc.) or existing accident analysis should be shown to be bounding;
- an analysis of a fuel rod misplacement outside the spent fuel pool rack or demonstration that a misplacement is physically impossible;
- a discussion on how the borated stainless steel rods are modeled;
- a sensitivity study on the effect of Gadolinium in the spent fuel pool;
- specifically address any rod inserts that are currently in fuel assemblies in the spent fuel pool;
- an analysis addressing the effects of any consolidated fuel in the spent fuel pool; and,

- address whether an increase or decrease is the limiting physical tolerance factor in storage cell inside diameter, rack pitch, and cell wall thickness.

The NRC staff also discussed that the use of the Electric Power Research Institute (EPRI) fuel depletion benchmarks to validate TRITON could potentially affect the time needed to review the LAR. Normally, the EPRI fuel depletion benchmarks would have been reviewed in a Topical Report that includes conditions that must be addressed before use. A Topical Report has not yet been written for the EPRI fuel depletion benchmarks; therefore, an extensive review by the NRC staff may be needed depending on the extent DNC uses them.

The NRC staff intends to publish guidance on the validation of depletion codes in the near future. The NRC staff stated that this guidance should be taken into consideration by DNC before submitting their LAR.

During the meeting, the NRC staff reviewed Staff Guidance DSS-ISG 2010-01, "Interim Staff Guidance Regarding the Nuclear Criticality Safety Analysis for Spent Fuel Pools," to ensure that DNC understood what would be expected in the LAR. This Interim Staff Guidance can be found in ADAMS at Accession No. ML110620086.

DNC expressed interest in having another public meeting with the NRC staff before submitting the proposed LAR.

Members of the public were in attendance. One member of the public, Nancy Burton from the Connecticut Coalition Against Millstone, asked a question of the NRC staff. The question was in regard to the AREVA fuel assemblies that were discussed during the meeting and whether or not that type of fuel assembly was similar to the test assembly used at Catawba Nuclear Station (Catawba) a few years ago which encountered unexpected problems during use. The unexpected problems include an elongation of the fuel assemblies.

The AREVA fuel design to be used at Millstone 2 is significantly different than the design used at Catawba. Based on operational experience to date, there is no indication of excessive growth in the fuel bundle design planned for use in Millstone 2.

Another member of the public, Dale Lancaster from Nuclearconsultants.com, had a couple of comments for the NRC. In his first comment, Mr. Lancaster discussed NUREG/CR-6760, "Study of the Effect of Integral Burnable Absorbers for PWR [Pressurized Water Reactor] Burnup Credit," which states that it is conservative to ignore gadolinium build up when doing an analysis of the spent fuel pool. He stated that Westinghouse did studies on burnable neutron absorbers which showed that gadolinium has a negative worth which is a penalty and not a positive effect since the isotope has a large cross section.

In his second comment, Mr. Lancaster stated that the 5% burn-up uncertainty that DNC is using when doing their calculation against the EPRI fuel depletion benchmarks and fuel management is more than enough. With this uncertainty, DNC will show about 3 to 4 times as much burn-up as they will find. He stated that this should allow them to do the review without a Topical Report being completed on the EPRI fuel depletion benchmarks.

Public Meeting Feedback forms were not received.

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Please direct any inquiries to me at 301-415-1603, or Carleen.Sanders@nrc.gov.

A handwritten signature in black ink, appearing to read "Carleen J. Sanders". The signature is fluid and cursive, with a large initial "C" and "S".

Carleen J. Sanders, Project Manager
Plant Licensing Branch I-2
Division of Operating Licensing Regulation
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosure:
List of Attendees

cc w/enclosure: Distribution via Listserv

LIST OF ATTENDEES

FEBRUARY 15, 2012

MEETING WITH DOMINION NUCLEAR CONNECTICUT, INC.

MILLSTONE POWER STATION, UNIT NO. 2 PRE-SUBMITTAL MEETING

NAME	ORGANIZATION
Carleen Sanders	NRC
Meena Khanna	NRC
Jeff Whited	NRC
Kent Wood	NRC
Emma Wong	NRC
Wanda Craft	Dominion
William D. Bartron	Dominion
Tom Schleicher	Dominion
John Guerci	Dominion
Rick MacManus	Dominion
Bob Hall	Dominion
Steve Thompson	Dominion
Nancy Burton	Connecticut Coalition Against Millstone
Dale Lancaster	Nuclear Consultants.com
Glenn Adams	Xcel Energy

Enclosure

Please direct any inquiries to me at 301-415-1603, or Carleen.Sanders@nrc.gov.

/ra/

Carleen J. Sanders, Project Manager
Plant Licensing Branch I-2
Division of Operating Licensing Regulation
Office of Nuclear Reactor Regulation

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ADAMS Accession No. PKG: ML120580179

Meeting Notice: ML120320028

Meeting Summary: ML120580362

OFFICE	DORL/LPLI-2/PM	DORL/LPLI-2/PM	DSS/SRXB/SFT/TL	DORL/LPLI-2/LA	DORL/LPLI-2/BC	DORL/LPLI-2/PM
NAME	JWhited	CSanders	KWood	ABaxter	MKhanna	CSanders
DATE	03/07/2012	03/08/2012 w/ comments	03/07/2012	03/07/2012	03/12/2012 w/ comments	03/12/2012

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