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September 25, 2009

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. NA3-09-022RA
Docket No. 52-017
COLWDC

DOMINION VIRGINIA POWER
NORTH ANNA UNIT 3 COMBINED LICENSE APPLICATION
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 038
(COLA PART 1)

On June 4, 2009, the NRC requested additional information to support the review of certain portions of the North Anna Unit 3 Combined License Application (COLA). The letter contained one RAI. The response to the following RAI is provided in Enclosure 1:

- RAI Question 01-4 Proposed Standard License Conditions for 10 CFR Parts 30, 40, and 70

Please contact Regina Borsh at (804) 273-2247 (regina.borsh@dom.com) if you have questions.

Very truly yours,

Eugene S. Grecheck

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NRC

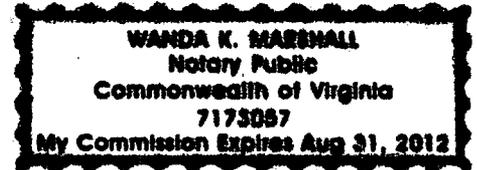
COMMONWEALTH OF VIRGINIA

COUNTY OF HENRICO

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Eugene S. Grecheck, who is Vice President-Nuclear Development of Virginia Electric and Power Company (Dominion Virginia Power). He has affirmed before me that he is duly authorized to execute and file the foregoing document on behalf of the Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 25 day of September, 2009
My registration number is 7173057 and my
Commission expires: August 31, 2012

Wanda K. Marshall
Notary Public



Enclosure:

1. Response to NRC RAI Letter No. 038, RAI Question No. 01-4

Commitments made by this letter:

1. None.

cc: U. S. Nuclear Regulatory Commission, Region II
T. A. Kevern, NRC
I. Berrios, NRC
J. Jessie, NRC
M. Eudy, NRC
J. T. Reece, NRC

ENCLOSURE 1

Response to NRC RAI Letter 038

RAI Question 01-4

NRC RAI 01-4

The purpose of this RAI is to 1) determine if the proposed standard license conditions for 10 CFR Part 30, 40, and 70 are appropriate for the North Anna Unit 3 COL application and 2) request additional information in the application to address program elements to ensure that Dominion will have in place the necessary controls to allow receipt of byproduct and source material prior to the 10 CFR 52.103(g) finding. In the North Anna Unit 3 COL application transmittal letter, dated November 26, 2007, and in Part 1, General and Administrative Information, of the application, Dominion requested such other licenses as would be required for receipt, possession and use of source, byproduct and special nuclear material in connection with the operation of Unit 3. The staff notes that such licenses would be in accordance with Commission regulations in 10 CFR Parts 30, 40, and 70. In a memorandum (ML083030065) dated December 9, 2008, the staff proposed the following standard license conditions and requirements regarding 10 CFR Parts 30, 40, and 70:

- (1) (i) Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, described in the final safety analysis report (FSAR), as supplemented and amended;
- (ii) Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D(1) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;
- (2) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required, any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (4) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

Please discuss whether the above proposed standard license conditions and requirements are considered appropriate to support the North Anna COL application.

In addition, please discuss, and provide additional information as needed, which parts of the application provide sufficient information to support compliance with the applicable portions of 10 CFR Part 30 and 40. For example, describe how you have addressed in the application the radiation protection program, security and fire protection program elements that will be in place prior to receipt of the byproduct or source material authorized by the proposed license above. Note that the staff believes that its current review of the North Anna COL application will identify the necessary controls regarding the receipt of new fuel on site in accordance with 10 CFR Part 70.

Dominion Response

The proposed license conditions described in the RAI are considered appropriate to support the North Anna Unit 3 COL.

The North Anna Unit 3 FSAR (which includes the incorporated by reference ESBWR DCD) Chapter 9, *Auxiliary Systems*, Chapter 11, *Radioactive Waste Management*, Chapter 12, *Radiation Protection*, and Chapter 13, *Conduct of Operations*, provide sufficient information to support compliance with the applicable portions of 10 CFR Parts 30, 40 and 70. The license application information requested in these parts relates to byproduct, source, and special nuclear material and its purposes, radiation safety personnel, personnel training, facilities and equipment, radiation safety program, and waste management. Specifically:

- Information related to the organizational structure of the applicant, including those responsible for source, byproduct and special nuclear material radiation safety, is provided in FSAR Sections 12.5 and 13.1.
- Information related to training of personnel, including those responsible for source, byproduct and special nuclear material radiation safety, is provided in FSAR Sections 12.5 and 13.2.
- Information related to radiation protection facilities and equipment is provided in Section FSAR 12.5.
- Information related to the radiation safety program is provided in FSAR/DCD Sections 11.5, 12.1 and 12.3, and 12.5.
- Information related to the fire protection program is provided in FSAR Section 9.5.1.

- Information related to the relevant waste management processes is provided in FSAR/DCD Section 11.4.
- Information related to plant procedures, including those used to control source, byproduct and special nuclear material, is provided in FSAR Sections 12.5 and 13.5.
- Information related to security, including safeguards of special nuclear material, is provided in FSAR/DCD Section 13.6.

FSAR Table 13.4-201 provides milestones for implementation of various operational programs. Important milestone dates for various operational programs that support issuance of the license and requirements relative to 10 CFR Parts 30, 40, and 70 include the following:

- Radiation Protection Program (including ALARA principles): The Standards for Protection Against Radiation in 10 CFR Part 20 apply to persons licensed by the Commission to receive, possess, use, transfer, or dispose of byproduct, source, or special nuclear material or to operate a production or utilization facility under parts 30, 40, and 70. The milestones for implementation of the Radiation Protection Program provided in FSAR Table 13.4-201 implement the provisions of 10 CFR Part 20 on a timetable adequate to ensure compliance with the 10 CFR Parts 30, 40 and 70 licenses.
- Fire Protection Program: As described in FSAR Table 13.4-201, elements of the Fire Protection Program are conservatively implemented in a phased manner by first implementing the elements of the program necessary to support receipt and storage of fuel onsite and then implementing additional elements necessary to support fuel load and plant operation.
- Security Program including physical security, safeguards contingency programs, training and qualification program – prior to receipt of fuel onsite. Other than fuel, no sources containing SNM that would require implementation of the Physical Security Program or Safeguards Contingency Program have been identified.

In particular, the Radiation Protection Program, which incorporates NEI 07-03 with certain supplemental information (as stated in Appendix 12BB) provides that:

Prior to initial receipt of byproduct, source, or special nuclear materials (excluding Exempt Quantities as described in 10 CFR 30.18), and thereafter, when such radioactive materials are possessed under this license, the following Radiation Protection Program elements will be in place:

- a. Organization – A radiation protection supervisor and at least one radiation protection technician, each selected, trained and qualified consistent with the guidance in Regulatory Guide 1.8.
- b. Facilities – A facility or facilities to support the receipt, storage and control of non-exempt radioactive sources in accordance with 10 CFR 20.1801, 20.1802, and 20.1906.
- c. Instrumentation and Equipment – Adequate types and quantities of instrumentation and equipment will be selected, maintained, and used to provide for the appropriate detection capabilities, ranges, sensitivities, and accuracies to conduct radiation surveys and monitoring (in accordance with 10 CFR 20.1501 and 20.1502) for the types and levels of radiation anticipated for the non-exempt sources possessed under this license.
- d. Procedures – Procedures will be established, implemented and maintained sufficient to maintain adequate control over the receipt, storage, and use of radioactive materials possessed under this license and as necessary to assure compliance with 10 CFR 19.11 and 19.12 and the applicable portions of 10 CFR Part 20, commensurate with the types and quantities of radioactive materials received and possessed under this license.
- e. Training – Initial and periodic training will be provided to individuals responsible for the receipt, control or use of non-exempt radioactive sources possessed under this license in accordance with 10 CFR 19.12 and consistent with the guidance in Regulatory Guides 1.8, 8.13, 8.27, and 8.29.

These provisions provide adequate controls for the receipt, possession and use of sources containing byproduct, source and special nuclear material. In particular, the program elements above addressing 10 CFR 20.1801 and 20.1802 provide adequate security, control and surveillance of such sources. These program elements also ensure that such sources are used only by properly trained, authorized users.

No fire protection requirements have been identified in 10 CFR Parts 30 or 40, except as part of emergency planning requirements 10 CFR 30.32(i) and 40.31(j). 10 CFR 30.32(i) applies to byproduct material "in unsealed form, on foils or plated sources, or sealed in glass" in excess of the quantities in 30.72 Schedule C. No sources have been identified that meet this description. 10 CFR 40.31(j) relates to an application to possess uranium hexafluoride and therefore is also not applicable.

Proposed COLA Revision

None