VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 22, 2008

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

Serial No. 08-0388
NL&OS/ETS R0
Docket Nos. 50-338/339
License Nos. NPF-4/7

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
PROPOSED LICENSE AMENDMENT REQUEST
REQUEST FOR ADDITIONAL INFORMATION
ONE-TIME RISK-INFORMED EXTENSION TO THE COMPLETION TIME
FOR EDG FUEL OIL STORAGE TANK RECOATING

In a December 17, 2007 letter (Serial No. 07-0803), Dominion requested amendments, in the form of changes to the Technical Specifications to Facility Operating License Numbers NPF-4 and NPF-7 for North Anna Power Station Units 1 and 2. The proposed change will permit a one-time extended 14-day completion time for each of the two underground diesel fuel oil storage tanks to permit removal of the current coating and recoating of the tanks in preparation for use of ultra-low sulfur diesel (ULSD) fuel oil. In a June 24, 2008 letter the NRC requested additional information to complete the review of the proposed Technical Specification.

The information provided in this letter does not affect the conclusion of the significant hazards consideration discussion provided in the December 17, 2007 Dominion letter (Serial No. 07-0803).

Should you have any questions or require additional information, please contact Mr. Thomas Shaub at (804) 273-2763.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Support Services

VICKI L. HULL
Notary Public
Commonwealth of Virginia
140842
My Commission Expires May 31, 2010

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Support Service, of Virginia Electric and Power Company. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 22nd day of July, 2008.

My Commission Expires: 5/31/10.

Vicki L. Hull
Notary Public

Commitments made in this letter:

Dominion commits to re-review the PRA model configuration control database prior to the implementation of the proposed Completion Time extension to reconfirm that the above evaluation remains valid.

Attachment

Response to Request for Additional Information -
Extended Completion Time for EDG Fuel Oil Storage Tank Recoating

cc: U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, Georgia 30303

Mr. J. E. Reasor, Jr.
Old Dominion Electric Cooperative
Innsbrook Corporate Center
4201 Dominion Blvd.
Suite 300
Glen Allen, Virginia 23060

State Health Commissioner
Virginia Department of Health
James Madison Building - 7th floor
109 Governor Street
Suite 730
Richmond, Virginia 23219

NRC Senior Resident Inspector
North Anna Power Station

Mr. S. P. Lingam
NRC Project Manager
U. S. Nuclear Regulatory Commission
One White Flint North
Mail Stop O-8 G9A
11555 Rockville Pike
Rockville, Maryland 20852

Attachment

Request for Additional Information
Extended Completion Time
For EDG Fuel Oil Storage Tank Recoating

North Anna Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

Background

In a December 17, 2007 letter (Serial No. 07-0803), Dominion requested amendments, in the form of changes to the Technical Specifications to Facility Operating License Numbers NPF-4 and NPF-7 for North Anna Power Station Units 1 and 2. The proposed change will permit a one-time extended 14-day Completion Time (CT) for each of the two underground diesel fuel oil storage tanks to permit removal of the current coating and recoating of the tanks in preparation for use of ultra-low sulfur diesel (ULSD) fuel oil. In a June 24, 2008 letter the NRC requested additional information to complete the review of the proposed Technical Specification.

NRC Question 1

The licensee's submittal identified that significant findings and observations (F&Os) from the 2001 peer review have either been resolved or found to have no impact on the proposed Technical Specification change. The licensee is requested to identify and provide its disposition of the unresolved significant F&Os with regard to this specific application.

Dominion response

The open F&Os from the 2001 peer review were reviewed to identify which of the items have the potential to impact the risk insights for the proposed Technical Specification change. There are no open "A" level items. None of the open "B" level F&Os were identified to impact the proposed Technical Specification change on the basis that the open F&Os do not affect accident sequences where the underground tanks are credited (Loss of Offsite Power events which are not recovered within the first few hours). Table D-2 below provides additional information on each open Level "B" F&O.

NRC Question 2

The licensee is requested to confirm that there are no outstanding (i.e., not incorporated into the baseline PRA model) plant modifications, procedure changes, or other outstanding deficiencies for the current PRA model such that it reasonably reflects the as-built as-operated plant. Further, since this temporary change is not date-limited, provide a commitment to review the PRA results prior to implementation of the TS change to reconfirm this item.

Dominion response

Dominion PRA model configuration control process requires plant changes (plant modifications, procedure changes etc.) to be collected and reviewed and those which could potentially affect the PRA model to be entered into the PRA model configuration control database. Additionally, an estimate of the expected impact of the proposed model/documentation modifications on the relevant model is made and the implementations of the proposed change into the model are prioritized.

The proposed model changes in the PRA model configuration control database were reviewed to identify any proposed change that may impact the risk insights for the proposed UGFOST CT extension. These changes are categorized as follows:

Administrative Documentation

There were no Administrative or documentation changes related to the UGFOST.

Model logic

No changes or corrections to model logic were found related to the UGFOST. There are several open items requesting improved modeling but these will typically lower the estimated plant vulnerability to a loss of UGFOST event and will not adversely impact the proposed TS change.

Plant/model components

No model/plant component changes were found related to the UGFOST.

Investigation/Evaluation

There were no questions to investigate or evaluate for the UGFOST. There are several open items requesting improved modeling but these will typically lower the estimated plant vulnerability and will not adversely impact the proposed TS change. The consequential LOOP is under evaluation for modeling. However, given the significant margin in the figures of merit (CDF and LERF) for the proposed CT compared with the regulatory criteria for the low risk-significance threshold, as well as the conservative non-modeling of the fuel oil tank cross tie valve, it is judged that the potential inclusion of the consequential LOOP will not change the pertinent risk insights.

Self Assessments

Self Assessments did not identify any concerns or enhancements relevant to the UGFOST.

Operating Experience reviews

There were no changes identified from OE review for the UGFOST. There is an outstanding item to updating the LOOP frequency but the anticipated impact is small. The LOOP frequency already includes the northeast U.S. blackout during August 2003.

Improvements/Enhancements

No improvements or enhancements were identified.

Dominion commits to re-review the PRA model configuration control database prior to the implementation of the proposed CT extension to reconfirm that the above evaluation remains valid.

NRC Question 3

The licensee's submittal did not discuss model truncation applicable to its analysis. The licensee is requested to identify and justify the truncation level used for this application.

Dominion response

The North Anna average maintenance model truncation is set to 5 E-12 and yields a CDF of 5.4E-6/year. The unavailability of a single UGFOST results in a CDF increase of less than 6E-7/yr, more than five orders of magnitude above truncation. This margin is sufficiently high to ensure that the standard truncation is adequate. Additionally, it is judged that the model results are stable at the above mentioned truncation value.

NRC Question 4

Section 5 of Attachment 2 of the licensee's submittal (December 17, 2007) identifies sensitivity calculations performed which purportedly support the risk analysis conclusions, however, the specifics of these calculations are not discussed. The licensee is requested to identify and discuss the results of the sensitivity calculations performed.

Dominion response

These sensitivity calculations have been redone to support the risk analysis using the present North Anna model.

When integrated over the time of the proposed CT, the change in Core Damage Probability is still below the RG 1.174 and RG 1.177 limits. The table below presents the results.

Table D-1

Sensitivity Calculations Results		
Case	***CDF***	***Change in CDF from base***
Base (avg. maintenance)	*5.365 E-06/yr*	
Base (avg. maintenance) with 1-EG-TK-2A failed	*5.909 E-06/yr*	*5.44E-7/yr*
TK-2A unavailable and failure probability of TK-2B increased to 95% upper limit	*5.968 E-06/yr*	*6.03E-7/yr*
TK-2A unavailable and failure probability of TK-2B increased by a factor of 10	*6.103 E-06/yr*	*7.38E-7/yr*

The open F&Os were evaluated against the proposed CT for the Underground Fuel Oil Storage Tank. The results are summarized in the table below. The UGFOST change is potentially applicable during any Loss of Offsite Power event that lasts longer than the time required to empty the day tanks for the Emergency Diesel Generators. The F/Os were reviewed for potential impact on longer-duration LOOP mitigation.

Table D-2
FACT/OBSERVATION REGARDING PRA TECHNICAL ELEMENTS

Observation	Summary	Applicability
OBSERVATION ID: AS-08 **/ Element AS / Sub-element 9** ***(Related Sub-elements: TH-6, ST-4)***	Several observations were identified regarding the event tree for ATWS at greater than 40% power.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: DE-01 **/ Element DE / Sub-element 3** ***(Related Sub-elements: DE-10) [Also see related F&O DE-02]***	IPE Appendix E, Internal Flooding, page E-17 establishes 511,000 gallons (44" above the Auxiliary Building basement floor elevation) as the minimum volume of water that could be allowed on this elevation before any flood damage to equipment is sustained, assuming that the level equalizes across the whole floor.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: DE-04 **/ Element DE / Sub-element 10** ***(Related Sub-elements: SY-5, SY-10, MU-4)***	Unit 2 cross-ties from Charging and Component Cooling Water were not considered in the flooding analysis, Appendix E of the IPE.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: ST-01 **/ Element ST / Sub-element 9**	The North Anna ISLOCA frequency is based on the evaluation performed in NUREG-1150 for Surry.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: ST-02 **/ Element ST / Sub-element 13** ***Also see F&O ST-01 and AS-08.***	The ATWS analysis documentation does not clearly relate the analysis performed to the corresponding requirements of the generic analysis referred to.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.

Table D-2
FACT/OBSERVATION REGARDING PRA TECHNICAL ELEMENTS

Observation	Summary	Applicability
OBSERVATION ID: QU-02 / Element QU / Sub-element 7 (Related Sub-elements: QU-34, MU-10) ALSO SEE F&O QU-09.	The limitations associated with PRA results should be clearly stated in the PRA Model Quantification calculation notes (i.e., SM-1274, Revision 0), so that their relative importance to specific applications can be determined for each application.	This is a documentation F&O. As part of the analysis in support of the proposed AOT extension, the modeling limitations were considered. These modeling limitations did not have a negative impact on the proposed UGFOST AOT extension. For example, one modeling limitation, non-modeling of the crosstie valves between UGFOSTs, was identified to have a positive impact (i.e., would decrease the delta risk).
OBSERVATION ID: L2-02 / Element L2 / Sub-element 8 (Related Sub-elements: L2-10)	The North Anna early containment failure conditional probability is based on the 1992 IPE analysis which is based on NUREG-1150 assessments. This is conservative in light of current knowledge of containment response and accident phenomenology.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: L2-03 / Element L2 / Sub-element 9 (Related Sub-elements: L2-12, L2-25, MU-4)	The North Anna early containment failure conditional probability assessment does not include consideration of operator actions that may influence LERF but do not impact the CDF. That is, only operator actions that impact the CDF are currently modeled in the PRA.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: L2-04 / Element L2 / Sub-element 22 (Related Sub-elements: L2-1)	There is no basis in the documentation for the LERF definition. The assignment of Source Term Categories to LERF is documented in SM-1090 (this is for Surry, but it was used as a surrogate for North Anna), but the basis for the assignment is missing.	The LERF model has been revised and its documentation drafted. All review comments with technical significance have been resolved. LOOP events do not involve containment bypass and are therefore not LERF limiting; thus no impact upon the proposed TS change is expected.

Table D-2
FACT/OBSERVATION REGARDING PRA TECHNICAL ELEMENTS

Observation	Summary	Applicability
OBSERVATION ID: L2 - 06 / Element L2 / Sub-element 26 (Related Sub-elements: L2-28)	The most recent LERF model for North Anna could not be located. The LERF model for Surry (SM-1090) was made available by Dominion with the guidance that the North Anna model is identical to Surry.	The LERF model has been revised and its documentation drafted. All review comments with technical significance have been resolved. LOOP events do not involve containment bypass and are therefore not LERF limiting; thus no impact upon the proposed TS change is expected.
OBSERVATION ID: L2 - 09 / Element L2 / Sub-element 22	All SGTR events and all Interfacing system LOCA events without pool scrubbing go to the LERF category. The LERF is dominated by SGTR events.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.
OBSERVATION ID: L2 - 10 / Element L2 / Sub-element 22 (Related Sub-elements: ST-9)	The reviewers noted that the interfacing system LOCA analysis uses a two inch pipe size as a screening criterion for bypass sequences, and believe that this is too high.	These findings do not negatively impact the accident sequences where UGFOSTs are credited.