April 13, 2004

MEMORANDUM TO: John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Stephen Monarque, Project Manager, Section 1
Project Directorate II /RA/
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - FACSIMILE TRANSMISSION OF REQUEST FOR ADDITIONAL INFORMATION ON PROPOSED TECHNICAL SPECIFICATION CHANGES TO IMPLEMENT ALTERNATE SOURCE TERM (TAC NOS. MC0776 AND MC0777)

A facsimile of the attached questions was transmitted on April 8, 2004, to Mr. Tom Shaub of Virginia Electric and Power Company (VEPCO). These questions will be discussed in a conference call with the licensee at a future date concerning the licensee's proposed license amendment dated September 12, 2003. This memorandum and the attached questions do not convey or represent an NRC staff position regarding the licensee's request.

Docket Nos. 50-338 and 50-339

Attachment: Request for Additional Information

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ADAMS Accession No. ML041040866

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REQUEST FOR ADDITIONAL INFORMATION
NORTH ANNA POWER STATION, UNITS 1 AND 2
PROPOSED IMPLEMENTATION OF ALTERNATIVE SOURCE TERM

In its letter dated September 12, 2003 (ML032670821), Virginia Electric and Power Company (the licensee) proposed a license amendment and corresponding technical specification (TS) changes based on the application of an Alternative Radiological Source Term (AST) methodology for North Anna Power Station, Units 1 and 2. In order to complete its review, the NRC staff has requested that the licensee provide a response to the questions listed below.

Dose Assessment

1. Although you use FGR-11 internal dose conversion factors in the dose calculations of design basis accidents (DBAs), you used Regulatory Guide (RG) 1.109 thyroid dose conversion factors in the calculation of iodine appearance rate for iodine spiking and in the revised definition of dose equivalent I-131 in the TS. Why did you not use the same dose conversion factors for both cases? Why is this formulation acceptable?

2. How were the break flow rates calculated for the steam generator tube rupture? How were the steaming rates calculated?

3. How were the steaming rates calculated for the main steamline break?

4. How were the steaming rates calculated for the locked rotor accident?

5. For the fuel handling accident (FHA), the pool decontamination factor (DF) was modeled as a 99.8-percent efficient filter for elemental iodine. You state that this corresponds to an elemental iodine DF of 500. Does this also correspond to an overall effective iodine DF of 200?

6. To support revisions to TS 3.9.4, "Containment Penetrations," you assume no containment closure exists at the time of the FHA. You state in the submittal that closure of the containment after radiological release from dropped fuel may not occur based on the level of radioactivity in containment and the impact on personnel who would be required to close openings from inside the containment. The NRC staff has previously required licensees to provide for quick closure of the containment after an FHA with radioactivity release to contain the release and provide defense-in-depth protection of the public. Understanding that the principles of ALARA may be fulfilled by not requiring closure of containment, how does this compensate for the loss of the ability to contain a radioactivity release?

7. The revisions to the requirements for the emergency core cooling system (ECCS) pump room exhaust air cleanup system (PREACS) operability in TS 5.5.2 are based on controlling the ECCS PREACS filtered leakage and ECCS PREACS unfiltered leakage based on the most recent evaluation of the control room unfiltered inleakage and maximizing the control room calculated dose. How does this assure that ECCS leakage is what is assumed in the DBA dose calculations?

8. In the loss-of-coolant accident, you assume control room isolation for the first hour, with up to an assumed 500 cfm unfiltered inleakage. Have you performed testing of your control room envelope to confirm this value? If not, please explain how you determined this value is bounding for your control room envelope.

Heating Ventilation Air Conditioning

1. With respect to the requested change to TS 3.7.10, this change may not meet the single-failure criterion. Discuss how the requested change is consistent with the single failure criterion and the function of providing circulating air to support equipment operability and human habitability.

2. If the requested change to TS 3.7.10 is not acceptable, then what is the justification for eliminating Surveillance Requirement (SR) 3.7.10.3?

3. With respect to TS 3.7.12, sufficient justification has not been provided to support this change. This change will be based on a curve that will be developed from an evaluation that has not been conducted. With this request, there is sufficient uncertainty for the NRC staff to be concerned with the lack of reasonable assurance. What is the technical justification to support your request?

4. With respect to TS 5.5.10, in accordance with the TS, North Anna should be in compliance with RG 1.52, Rev 2. As such, the requested change is not consistent with the RG. See RG 1.52, Table 2. What is the technical justification for the requested change?

5. With respect to SR 3.7.13.4, sufficient technical justification has not been provided for eliminating make-up flow. Please provide your rationale and adequate technical justification.