

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

January 4, 2002

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Serial No.: 01-721
LR/MWH R0
Docket Nos.: 50-280/281
50-338/339
License Nos.: DPR-32/37
NPF-4/7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
SURRY AND NORTH ANNA POWER STATIONS UNITS 1 AND 2
REQUEST FOR ADDITIONAL INFORMATION
LICENSE RENEWAL APPLICATIONS

In a November 14, 2001 letter, the NRC requested additional information regarding the license renewal applications (LRAs) for Surry and North Anna Power Stations. The attachment to this letter contains the responses to the Requests for Additional Information (RAIs) associated with Sections 2.3.1 and 2.3.2 of the LRA.

Should you have any questions regarding this submittal, please contact Mr. J. E. Wroniewicz at (804) 273-2186.

Very truly yours,



David A. Christian
Senior Vice President – Nuclear Operations and Chief Nuclear Officer

Attachment

Commitments made in this letter: None

A086

cc:

U. S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Suite 23T85
Atlanta, GA 30303-8931

Mr. M. J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

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

Ms. Ellie Irons, EIR Program Manager
Virginia Dept. of Environmental Quality
629 East Main St., 6th Fl
Richmond, VA 23219

Mr. David Paylor, Program Coordinator
Virginia Dept. of Environmental Quality
P.O. Box 10009
Richmond, VA 23240-0009

Mr. Joe Hassell, Environmental Manager
Virginia Dept. of Environmental Quality
Water Division
P.O. Box 10009
Richmond, VA 23240-0009

Mr. Frank Daniel, Regional Director
Virginia Dept. of Environmental Quality
Tidewater Regional Office
5636 Southern Blvd.
Virginia Beach, VA 23462

Mr. Gregory Clayton, Regional Director
Virginia Dept. of Environmental Quality
Northern Virginia Regional Office
13901 Crown Ct.
Woodbridge, VA 22193

Mr. Frank Fulgham, Program Manager
Virginia Dept. of Agriculture & Consumer Services
Office of Plant & Pest Services
1100 Bank St.
Richmond, VA 23219

Mr. David Brickley, Agency Director
Virginia Dept. of Conservation & Recreation
203 Governor St.
Richmond, VA 23219

Mr. William Woodfin, Director
Virginia Dept. of Game & Inland Fisheries
4010 West Broad St.
Richmond, VA 23230

Mr. Robert Hicks, Director
Virginia Dept. of Health
Office of Environmental Health Services
1500 East Main St., Room 115
Richmond, VA 23219

Ms. Kathleen S. Kilpatrick, Director
Virginia Dept. of Historic Resources
State Historic Preservation Office
2801 Kensington Ave.
Richmond, VA 23221

Dr. Ethel Eaton, Archeologist Senior
Virginia Dept. of Historic Resources
State Historic Preservation Office
2801 Kensington Ave.
Richmond, VA 23221

Mr. Robert W. Grabb, Assistant Commissioner
Virginia Marine Resources Commission
2600 Washington Ave.
Newport News, VA 23607

Dr. John Olney, Associate Professor
Virginia Institute of Marine Science
School of Marine Science
Gloucester Point, VA 23062

Mr. John Simkins
Virginia Dept. of Transportation
Environmental Division
1401 East Broad St.
Richmond, VA 23219

Mr. Robert Burnley
Virginia Economic Development Partnership
901 East Byrd St.
Richmond, VA 23219

Mr. William F. Stephens, Director
Virginia State Corporation Commission
Division of Energy Regulation
1300 East Main St., 4th Fl., Tyler Bldg.
Richmond, VA 23219

Mr. Michael Cline, State Coordinator
Commonwealth of Virginia
Department of Emergency Management
10501 Trade Rd.
Richmond, VA 23236-3713

Mr. Terry Lewis, County Administrator
P.O. Box 65
Surry, VA 23883

Mr. Lee Lintecum
Louisa County Administrator
P.O. Box 160
Louisa, VA 23093

Mr. Douglas C. Walker
Acting Spotsylvania County Administrator
P.O. Box 99
Spotsylvania, VA 22553

Ms. Brenda G. Bailey, County Administrator
P.O. Box 11
Orange, VA 22960

Chairman Reeva Tilley
Virginia Council on Indians
P.O. Box 1475
Richmond, VA 23218

Mr. Don Lillywhite, Director
Economics Information Services
Virginia Employment Commission
State Data Center
703 East Main St., Room 213
Richmond, VA 23219

Mr. Alan Zoellner
Government Information Department
Swem Library
College of William and Mary
Landrum Dr.
P.O. Box 8794
Williamsburg, VA 23187-8794

Mr. Walter Newsome
Government Information Resources
Alderman Library
University of Virginia
160 McCormick Rd.
P.O. Box 400154
Charlottesville, VA 22904-4154

Attachment

**License Renewal – Response to RAI
Serial No. 01-721**

**Response to Request for Additional Information
Dated November 14, 2001
Surry and North Anna Power Stations, Units 1 and 2
License Renewal Applications
Sections 2.3.1 and 2.3.2**

**Virginia Electric and Power Company
(Dominion)**

RAI 2.3.1-1:

In both LRAs, Section 2.3.1, the applicant states that two concentric, hollow, metallic O-rings between the closure head flange and the reactor vessel flange form an inner and outer seal. Furthermore, it was stated in the UFSAR that leakage through the reactor vessel head flange will leak between the double O-ring seal to the leakoff provided. Leakage into this leakoff path will cause high temperature in this line, which will actuate an alarm in the control room. On the bases of the staffs experience with license renewal, the staff has generally concluded that the inner O-ring, the leakoff lines, and the outer O-ring all support the reactor vessel closure head flange pressure boundary. Although in select cases the staff has accepted a site-specific technical justification, in general, the leakoff lines require an aging management review. Please provide a site-specific technical justification for both NAS and SPS as to why aging management is not required, or perform an aging management review for these components.

Dominion Response:

As discussed in the UFSAR, the reactor vessel closure head and shell flanges are sealed by inner and outer hollow metallic o-rings. Any leakage through this seal arrangement is directed to the leakage detection system through 1/4" holes in the vessel flange. The leakage detection system consists of 1" tubes connected to the vessel flange that reduce to 3/8" tubing a short distance from the flange. These leak detection lines do not provide a license renewal intended function. Leakage flow past the inner o-ring is limited in the event of failure since the 1/4" diameter hole in the flange is smaller than the inside diameter of the leak detection line. Additionally, the potential flowrate through the 1/4" diameter hole in the flange is within the normal make-up capability of the charging system. Since the reactor vessel flange seal leakage detection function of these components does not meet the criteria of 10CFR54.4(a) as an intended function, the leak detection components are not within the scope of license renewal.

The license renewal drawings referenced in the application (11448-LRM-086A, sh. 1 and 11548-LRM-086A, sh. 1 for Surry and 11715-LRM-093A, sh. 1 and 12050-LRM-093A, sh. 1 for North Anna) incorrectly indicate that leak detection components are within the scope of license renewal. As described above, these components are not within scope. The affected license renewal drawings will be revised consistent with this conclusion.

RAI 2.3.2.4-1:

It was stated in the UFSAR that a modified design incorporating vortex suppressing devices was developed so that the containment sump will be free of any harmful vortices for any postulated operating conditions. The modifications made to the sump involved the installation of two layers of floor grating in the sump and the installation of perforated vortex breakers inside the cylindrical screens (Sections 3A.79 and 6.2.2.4.3 of the North Anna UFSAR). These components do not appear to have been described in the LRA, and are not included within the scope of license renewal. The staff requests that the applicant provide a technical justification for its exclusion, or that the applicant submit an aging management review for these components. In addition, if similar components (screens/vortex suppressors) are employed inside tanks at pump suction lines, then the applicant should also identify those components, and submit an AMR for those components.

Dominion Response:

The perforated vortex breakers were considered an integral part of the cylindrical sump screens since they are constructed of the same material and exposed to the same environment as the sump screens. Applicable aging effects for the cylindrical sump screens (including the perforated vortex breakers) are managed by the Infrequently Accessed Area Inspection Activity as indicated in Table 3.2-3 of the license renewal application.

The two layers of floor grating installed in the sump function as vortex suppressors and will be included in the scope of License Renewal. These vortex suppressors are subject to loss of material and this aging effect will be managed by the Infrequently Accessed Area Inspection Activity.

A review of Surry and North Anna tanks has concluded that there are no other vortex suppression devices installed at pump suction lines that should be included within the scope of license renewal.