

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

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

Serial No. 06-200A
NL&OS/GDM R1
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATIONS CHANGE
REDEFINITION OF EXCLUSION AREA BOUNDARY
SUPPLEMENTAL RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

By letter dated April 7, 2006 (Serial No. 06-200), Virginia Electric and Power Company (Dominion) responded to an NRC request for additional information associated with a proposed Technical Specifications (TS) change to redefine the exclusion area boundary (EAB) as the site boundary in the TS. In that letter, we stated that the site boundary dimensions indicated on the Surry site plan drawing were being validated to ensure accurate distances were being used for determining the source-to-receptor distances, and that Dominion would provide recalculated EAB X/Qs and minimum sector distances based on RG 1.145 guidance by May 31, 2006, to facilitate NRC review of the proposed TS change. These two activities have been completed, and the results are provided in the attachment.

If you have any questions or require additional information regarding this TS change request, please contact Mr. Gary Miller at (804) 273-2771.

Very truly yours,



E. S. Grecheck
Vice President – Nuclear Support Services

Attachment

Commitments made in this letter: None

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Proposed Technical Specifications Change
Redefinition of Exclusion Area Boundary
Supplemental Response to Request for Additional Information

By letter dated September 13, 2005 (Serial No. 05-601), Virginia Electric and Power Company (Dominion) submitted proposed license amendments for Surry Power Station, Unit Nos. 1 and 2. These proposed changes would redefine the exclusion area boundary (EAB) as the site boundary in Technical Specification 5.1, Site. In a letter dated February 22, 2006, the NRC requested additional information to facilitate their review. Specifically, the NRC requested: 1) confirmation of Dominion's authority to control various activities associated with the redefined EAB, and 2) justification for why Regulatory Guide (RG) 1.145 methodology was not used to determine the minimum distances from potential release points to the EAB in each wind direction. By letter dated April 7, 2006 (Serial No. 06-200), Dominion responded to the NRC request and addressed item 1 in total and item 2 in part. In that letter, we stated that the site boundary dimensions indicated on the Surry site plan drawing were being validated to ensure accurate distances were being used for determining the source-to-receptor distances, and that recalculated EAB X/Qs and minimum sector distances would be provided based on RG 1.145 guidance.

Consequently, new X/Q values have been prepared that are consistent with the RG 1.145 guidance. Following the guidance, the minimum distance from each release point to the EAB within a 45-degree sector centered on each compass direction was determined. In general, the minimum EAB distance decreased slightly from what was determined previously using a 22.5-degree wide sector criterion.

In addition to selecting minimum distances in accordance with the RG 1.145 guidance, the Surry site plan drawing was revised to adjust the position of several segments of the property line in order to correct the conversion from a property survey to a drawing. In general, the adjustment slightly increased distances to the EAB in the North, South, and West, but decreased distances in the Northeast and Southeast. Figure 1 is the revised site map that was used to determine the minimum distances from the potential source release locations to the closest point on the site boundary for each wind sector based on the RG 1.145 guidance. The attached Figure 1 replaces the Figure 1 included with our letter dated September 13, 2005.

Table 1 contains the minimum distances for each wind sector from the various source release locations to the site boundary based on the RG 1.145 guidance. Table 1 below replaces the Table 1 included in our September 13, 2005 submittal. The minimum distance values in Table 1 were determined in the same manner as described in that letter. In addition to the source release locations included in the September 13, 2005 letter, Table 1 includes minimum distance information from the Unit 1 and Unit 2 steam generator (SG) power operated relief valves (PORVs). With the addition of the distance data for the Unit 1 and Unit 2 SG PORV's, the distance values in Table 1 are the minimum distances from the potential source release locations for the Loss of Coolant Accident (LOCA), Fuel Handling Accident (FHA), Steam Generator Tube Rupture

(SGTR), Main Steam Line Break (MSLB) and Locked Rotor Accident (LRA) to the site boundary in each wind sector.

The new EAB distances from Table 1 were used to modify the PAVAN input decks submitted in our September 13, 2005 submittal. Table 2 contains the results of the PAVAN runs completed using the seven sets of source-to-receptor distances from Table 1, and joint frequency distribution tables based on meteorological data from 1994-1998 that were also included in the September 13, 2005 letter. By explicitly modeling the SGTR, MSLB and LRA source release locations, the qualitative argument in our September 13, 2005 submittal regarding the applicability of the limiting X/Q to those source release locations is replaced by quantitative results that support the same conclusion.

In Table 2, the worst-case 0-2 hour X/Q ($1.76\text{E-}03 \text{ sec/m}^3$) at the redefined EAB occurred in the north direction as a result of release from the Unit 1 Containment. In comparison to the value of $1.79\text{E-}03 \text{ sec/m}^3$ from our September 13, 2005 letter, the limiting result from Table 2 indicates that there was no significant impact by not initially using the guidance of RG 1.145 to determine the minimum distance to the site boundary.

It is intended that the highest valued 0-2 hour X/Q in Table 2 ($1.76\text{E-}03 \text{ sec/m}^3$) will be used in all future EAB dose assessments as an approved change to an element of a methodology. Pursuant to 10 CFR 50.59, prior NRC review and approval of this change in the EAB X/Q is required because the new value will result in a significant increase in margin to the limit by changing an element of the methodology. The dose consequence accident analyses were not submitted with this change because the EAB results listed in the UFSAR are conservative with respect to consequences that would be calculated using this new EAB X/Q.

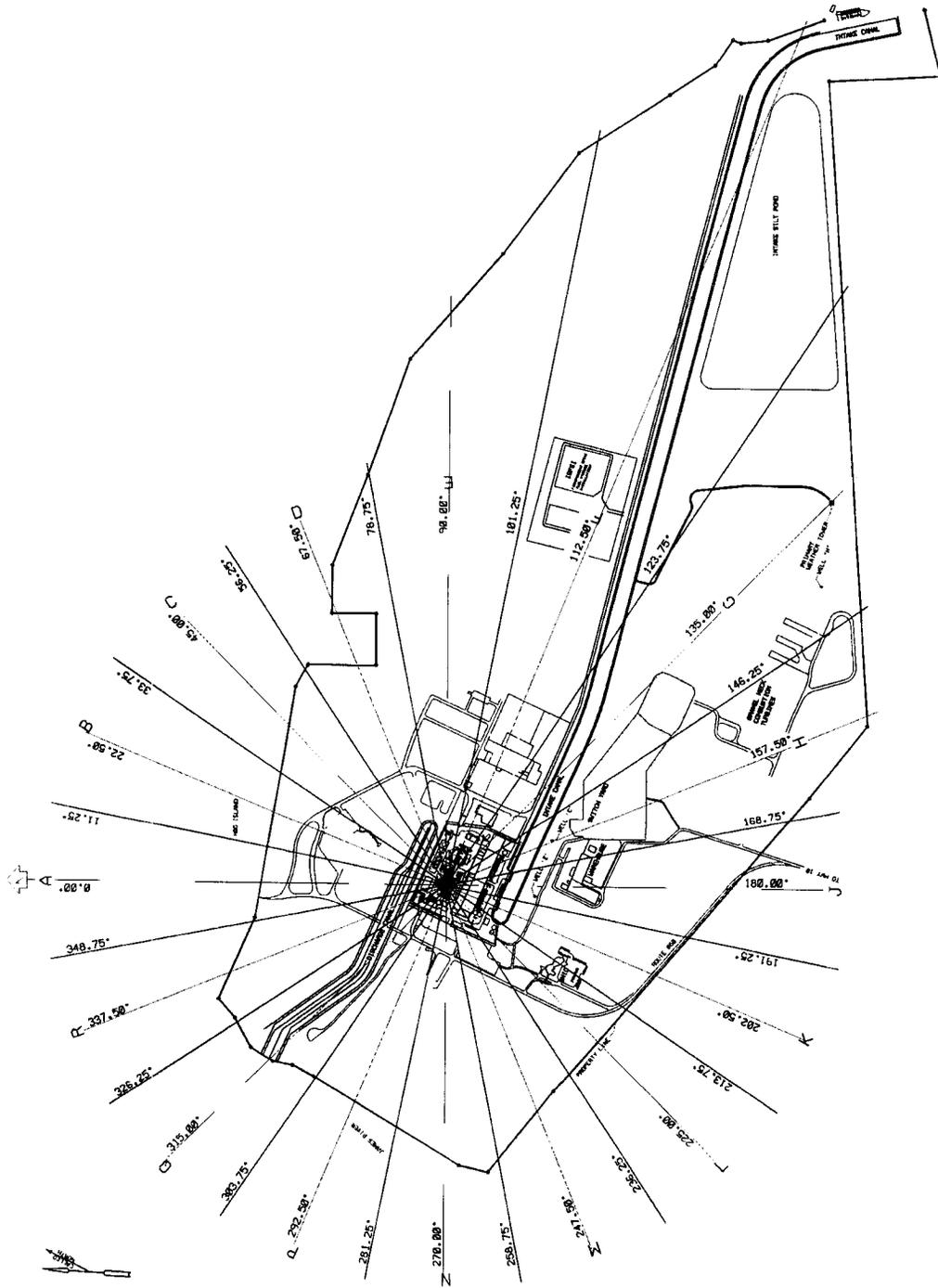
**Table 1: Surry EAB Source to Receptor Minimum Distance* by Sector
(Following the Guidance of Regulatory Position C.1.2 of RG 1.145 with Sectors Defined with respect to
Each Source Release Location)**

Sector	Sector considered for minimum distance	Unit 1 Containment		Unit 2 Containment		Ventilation Vent No. 2		Auxiliary Building East - louver		Auxiliary Building West - louver		Unit 1 PORVs		Unit 2 PORVs	
		(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)	(ft)	(m)
	(degrees)														
N	337.5 - 22.5	1642	500	1740	530	1721	525	1762	537	1735	529	1715	523	1787	545
NNE	0 - 45	1642	500	1740	530	1721	525	1762	537	1735	529	1715	523	1787	545
NE	22.5 - 67.5	1683	513	1760	536	1759	536	1808	551	1778	542	1757	536	1787	545
ENE	45 - 90	2005	611	1880	573	1945	593	1991	607	2077	633	2089	637	1938	591
E	67.5 - 112.5	2064	629	1994	608	1945	593	2063	629	2077	633	2117	645	2162	659
ESE	90 - 135	5060	1542	4941	1506	4993	1522	4942	1506	5009	1527	5066	1544	4881	1488
SE	112.5 - 157.5	4091	1247	3942	1202	3973	1211	3923	1196	3982	1214	4031	1229	3883	1184
SSE	135 - 180	2578	786	2670	814	2615	797	2540	774	2513	766	2481	756	2577	785
S	157.5 - 202.5	2052	625	2127	648	2079	634	2028	618	1999	609	1977	603	2046	624
SSW	180 - 225	1953	595	2019	615	1979	603	1929	588	1907	581	1878	572	1944	593
SW	202.5 - 247.5	1953	595	2019	615	1979	603	1929	588	1907	581	1878	572	1944	593
WSW	225 - 270	1953	595	2019	615	1979	603	1929	588	1907	581	1878	572	1944	593
W	247.5 - 292.5	2111	643	2250	686	2209	673	2142	653	2119	646	2096	639	2163	659
WNW	270 - 315	2087	636	2383	726	2279	695	2282	696	2183	665	2093	638	2360	719
NW	292.5 - 337.5	2087	636	2122	647	2132	650	2202	671	2183	665	2093	638	2360	719
NNW	315 - 0	1662	507	1740	530	1741	531	1780	543	1763	537	1738	530	1812	552

* The distances in Table 1 are approximations, based on a computer-aided design (CAD) drawing. The distance of 1642 ft used for the Unit 1 Containment release to the N and NNE sectors is bounding and represents a best approximation for the defined minimum distance in Technical Specification 5.1 of 1650 ft.

**Table 2: PAVAN Results
(Limiting 0.5% Sector-Dependent X/Q Values , 1994-98 Meteorological Data)**

Source Location	Receptor	Downwind Direction/Sector	Downwind Distance (m)	0-2 hr (sec/m ³)
Unit 1 Containment	EAB	N/348.75-11.25	500	1.76E-03
Unit 2 Containment	EAB	N/348.75-11.25	530	1.59E-03
Ventilation Vent No. 2	EAB	N/348.75-11.25	525	1.62E-03
West Auxiliary Building Louvers	EAB	N/348.75-11.25	529	1.60E-03
East Auxiliary Building Louvers	EAB	N/348.75-11.25	537	1.56E-03
Unit 1 SG PORVs	EAB	N/348.75-11.25	523	1.63E-03
Unit 2 SG PORVs	EAB	N/348.75-11.25	545	1.52E-03



REVISED SURRY POWER STATION SITE BOUNDARY MAP
WITH WIND SECTORS DEFINED AROUND UNIT 1

FIGURE 1

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