

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 1, 2002

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

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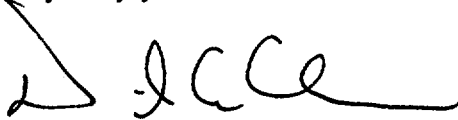
Gentlemen:

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

In an October 22, 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 Section 2.1 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

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COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by David A. Christian who is Senior Vice President and Chief Nuclear Officer of Virginia Electric and Power Company. He has affirmed before me that he 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 his knowledge and belief.

Acknowledged before me this 1st day of February, 2001.
My Commission Expires: 3-31-04.

Maggie McClure
Notary Public

(SEAL)

Attachment

**License Renewal – Response to RAI
Serial No. 01-686A**

**Response to Request for Additional Information
Dated October 22, 2001
Surry and North Anna Power Stations, Units 1 and 2
License Renewal Applications
Section 2.1**

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

Section 2.1, "Scoping and Screening Methodology"

RAI 2.1-1:

During the scoping and screening methodology audit conducted at the applicant's engineering offices from September 10-14, 2001, the audit team reviewed implementation procedures and Engineering reports which describe the scoping and screening methodology implemented by the applicant. On the basis of this review, the audit team determined that the Criterion 2 report did not provide a clear description and account of all essential activities in the scoping and screening process related to the determination of Criterion 2 systems, structures, and components (SSCs). While the audit team determined that the actual process implemented by the applicant was conducted in accordance with the requirements of 10 CFR Part 54, the team also concluded that the applicant needs to update these procedures to reflect the actual scoping and screening process upon which the applicant relies. The applicant indicated that they were continuing to develop an implementation program to address the continued use of the scoping and screening process and to incorporate the existing implementation guidance and lessons learned reports from the initial license renewal application (LRA) effort into such a process.

The applicant is requested to confirm that its engineering renewal scoping and screening procedures affected by this issue will be updated to clearly reflect the actual process used, and to specify the time-frame during which this update will be accomplished. As part of the response to this issue please summarize the actual process which was implemented for the LRA scoping and screening of Criterion 2 SSCs.

Dominion Response:

In a follow-up telephone conversation, the NRC clarified that RAI 2.1-1 relates to a statement in the Dominion Criterion 2 report that excludes certain non-safety related equipment from license renewal scope even though its failure could result in the loss of a safety-related component. The exclusionary statement was intended to be applied whenever the CLB evaluations demonstrate acceptable consequences because the safety-related function(s) have not been compromised.

For example, high-energy line failures outside of Containment have been evaluated as part of the CLB. As stated in North Anna UFSAR Section 3C.2.1, "If such an accident resulted merely in the loss of one or more components, while 100% redundancy of its function exists elsewhere, the design of the system was considered adequate." On the basis of this statement, the high-energy lines that are not subject to augmented inspections were excluded from further consideration under Criterion 2. The Surry high-energy lines outside of Containment were treated in the same manner based upon a similar statement presented in Surry UFSAR 14B.2.1.

These high-energy lines and other exclusions are addressed and have been verified to

be bounded by the revised methodology presented in the responses to RAIs 2.1-3 and 2.1-4.

Dominion has revised the Criterion 2 Report to delete reference to this exclusionary statement and has supplemented the guidance with the methodology outlined in the responses to RAIs 2.1-3 and 2.1-4.

RAI 2.1-2:

In both LRAs, Section 2.1.3.6, "Criterion 2 Report," item b, the applicant states, in part, that non-safety-related (NSR) piping that is attached to safety-related (SR) piping and that is required to be seismically designed and supported up to the first equivalent anchor point beyond the SR/NS or SR/non-seismically qualified (NSQ) boundary, has not been identified during screening. In both LRAs, Section 2.1.3.6, item c, the applicant, in part, states that "[i]t should be noted that NS and NSQ mechanical components (e.g., piping, tanks, ducting) have not been included within the scope of license renewal for Seismic II/I because the failure of this equipment during a seismic event has not been postulated in the CLB."

The audit team discussed these issues with the applicant and requested specific clarification regarding the applicants approach to scoping and screening NSR SSCs in accordance with the requirements of 10CFR54.4(a)2. The audit team determined that the applicant did, in fact, bring into scope those SR/NS and SR/NSQ piping segments up through the first equivalent anchor point beyond the SR/NS or SR/NSQ boundary as part of their scoping and screening methodology implementation process, but did not uniquely identify those segments on the applicable plant drawings differently than the SR piping to which they were attached. However, the staff is requesting that the applicant document the fact that it did include SR/NS and SR/NSQ piping segments up through the first equivalent anchor point beyond the SR/NS or SR/NSQ boundary and describe the implementation process used to include those SSCs.

Dominion Response:

As stated in Section 2.1.3.6 of the LRA, NS/NSQ piping that is attached to SR piping and that is seismically designed and supported up to the first equivalent anchor point beyond the SR/NS or SR/NSQ boundary is included within the scope of the license renewal. Although these NS/NSQ piping segments are not uniquely identified during the screening process or highlighted on LR drawings, applicable aging effects on these piping segments are managed along with the adjoining SR piping.

The supports for the NS/NSQ piping segments are also included within the scope of license renewal as stated in Section 2.1.3.6 of the LRA.

RAI 2.1-3:

In addition to the SR/NS and SR/NSQ piping segments discussed above, an applicant needs to consider NSR piping systems which are not connected to SR piping, but have a spatial relationship such that their failure could adversely impact on the performance of an intended safety function. For this piping system configuration, the applicant has two options when performing its scoping evaluation; a mitigative option or a preventive option.

With respect to the mitigative approach, the applicant must demonstrate that plant mitigative features (e.g., pipe whip restraints, jet impingement shields, spray and drip shields, seismic supports, flood barriers, etc.) are provided which protect SR SSCs from a failure of NSR piping segments. When evaluating the failure modes of NSR piping segments and the associated consequences, age-related degradation must be considered. The staff notes that pipe failure evaluations typically do not consider age-related degradation when determining pipe failure locations. Rather, pipe failure locations are normally postulated based on high stress. Industry operating experience has shown that age-related pipe failures can, and do, occur at locations other than the high-stress locations postulated in most pipe failure analyses. Therefore, to utilize the mitigative option, an applicant should demonstrate that the mitigating devices are adequate to protect SR SSCs from failures of NSR piping segments at any location where age-related degradation is plausible. If this level of protection can be demonstrated, then only the mitigative features need to be included within the scope of license renewal, and the piping segments need not be included within the scope.

If an applicant SR SSCs from the consequences of NSR pipe failures, then the applicant should utilize the preventive option, which requires that the entire NSR piping system be brought into the scope of license renewal and an AMR be performed on the components within the piping system.

Finally, an applicant may determine that in order to ensure adequate protection of the SR SSC, a combination of mitigative features and NSR SSCs must be brought within scope. Regardless, it is incumbent upon the applicant to provide adequate justification for the approach taken with respect to scoping of NSR SSCs in accordance with the Rule. Therefore the applicant is requested to identify which option is used for NSR piping systems which are not connected to SR piping, but have a spatial relationship such that their failure could adversely impact on the performance of an intended safety function.

For each non-safety-related piping system which would normally be included within the scope of license renewal, but is excluded because mitigative features have been credited for protecting SR SSCs from the failure of the NSR piping system, please identify the following:

- a. the mitigative feature(s) that is credited for protection
- b. the hazard (e.g., failure mechanisms and postulated failure locations) for which the mitigative feature(s) is providing protection

- c. a summary discussion (including references, such as reports, analyses, calculations, etc.) of the basis for the conclusion that the mitigative feature(s) is adequate to protect SR SSCs.

Dominion Response:

The methodology implemented by Dominion for scoping of systems, structures, and components (SSCs) meeting the 10CFR54.4(a)(2) criterion is described in the license renewal application in Section 2.1.2.2 "Criterion 2 - Non-Safety-Related Affecting Safety-Related" with further details provided in Section 2.1.3.6 "Criterion 2 Report". As identified in the application, the scoping for 10CFR54.4(a)(2) did not include non-safety related mechanical components, such as piping, tanks, valves, etc., that are considered Seismic II/I since the failure of these components during a seismic event is not postulated in the current licensing basis. Based on discussions with the NRC staff, the scope under 10CFR54.4(a)(2) is not limited to seismic II/I supports. Therefore, Dominion has modified the scope of license renewal for Surry and North Anna to include non-safety related SSC that have a spatial relationship with SSC within the scope of license renewal based on 10CFR54.4(a)(1) and whose failure could impact the performance of an intended safety function.

Non-safety related components have been included within the scope of license renewal using the preventive option described in the request for additional information. Components that have been considered for inclusion within the scope of license renewal in response to this RAI include piping, valves, tanks, pumps, and other mechanical system equipment.

To determine the non-safety related SSC to be added to the scope of license renewal, the plant structures and spaces that contain both safety-related and non-safety related SSC were identified. These structures are listed in Table 2.1-3-1, and are described in LRA Section 2.4.

After the structures/spaces were identified, the equipment database was reviewed to determine the mechanical systems containing non-safety related components within these structures and spaces.

From this list of systems, a determination was made whether an assumed failure of the non-safety related components within these systems could impact the performance of an intended function for any SSC in-scope for 10CFR54.4(a)(1) {Criterion 1}. Failure modes considered in the evaluation were pipe whip and jet impingement for high-energy systems and fluid leakage, fluid spray, and component displacement (such that physical contact could occur with SSC in-scope for Criterion 1) for all systems. The component-level intended functions of limited structural integrity and pressure boundary were identified for these non-safety related components. The limited structural integrity function is defined as the capability of a component to maintain sufficient integrity to prevent physical interaction with spatially oriented safety-related components. The pressure boundary function definition is applied to prevent leakage and spray that could affect safety-related components.

Table 2.1-3-1: Structures Containing Non-safety Related Components with Potential Spatial Orientation to Safety-Related Components

North Anna	Surry
Auxiliary Building	Auxiliary Building
Auxiliary Feedwater Pump House	Containment
Casing Cooling Pump House	Containment Spray Pump Building
Containment	Fuel Building
Fuel Building	Fuel Oil Pump House
Fuel Oil Pump House	High Level Intake Structure
Intake Structure	Low Level Intake Structure
Main Steam Valve House	Main Steam Valve House
Quench Spray Pump House	Service Building
Service Building	Safeguards Building
Safeguards Building	Turbine Building
Service Water Pump House	
Service Water Valve House	
Turbine Building	

Industry and site operating experience reviews have been conducted to identify potential concerns with aging of non-fluid containing components. No failures due to aging were identified in these reviews. This operating experience is consistent with the results of aging management reviews performed for in-scope components of the same material exposed to the same environments. Based on this operating experience review, it was concluded that there are no credible aging effects that would result in loss of the limited structural integrity function for non-fluid containing components. Additionally, non-fluid containing components cannot affect safety-related SSC due to leakage or spray. Therefore, since these non-fluid containing components can not affect the function of safety-related SSC, they were not included within the scope of license renewal for this review. Non-safety related components, whose failure could not impact intended functions based on their location relative to safety-related SSC, were also not included within the scope of license renewal for this review.

The mechanical systems that include components that have been determined to be within the scope of license renewal based on this approach are listed in Tables 2.1-3-2 and 2.1-3-3. Table 2.1-3-2 identifies systems that were previously within the scope of license renewal for which the license renewal evaluation boundary has been extended to include additional components as a result of this review. Table 2.1-3-3 identifies the systems added to the scope of license renewal as a result of this review.

Table 2.1-3-2: Systems with Increased License Renewal Boundary Due to Expansion of Criterion 2 Scope

North Anna	Surry
Auxiliary Steam (AS)	Auxiliary Steam (AS)
Boron Recovery (BR)	Bearing Cooling (BC)
Component Cooling (CC)	Boron Recovery (BR)
Chilled Water (CD)	Component Cooling (CC)
Chemical and Volume Control (CH)	Chemical and Volume Control (CH)
Condensate (CN)	Condensate (CN)
Containment Vacuum (CV)	Containment Spray (CS)
Circulating Water (CW)	Containment Vacuum (CV)
Drains Aerated (DA)	Circulating Water (CW)
Drains – Building Services (DB)	Drains Aerated (DA)
Drains Gaseous (DG)	Drains Gaseous (DG)
Fuel Pit Cooling (FC)	Fuel Pit Cooling (FC)
Feedwater (FW)	Feedwater (FW)
High Radiation Sampling (HRS)	Gaseous Waste (GW)
Liquid Waste (LW)	Heating (HS)
Main Steam (MS)	Main Steam (MS)
Primary Grade Water (PG)	Primary Grade Water (PG)
Quench Spray (QS)	Plumbing (PL)
Reactor Coolant (RC)	Reactor Coolant (RC)
Residual Heat Removal (RH)	Residual Heat Removal (RH)
Radwaste (RW)	Recirculation and Transfer (RT)
Steam Drains (SD)	Steam Drains (SD)
Safety Injection (SI)	Safety Injection (SI)
Sampling (SS)	Sampling (SS)
Secondary Vents (SV)	Secondary Vents (SV)
Service Water (SW)	Service Water (SW)
Vents Gaseous (VG)	Vents Aerated (VA)
Vacuum Priming (VP)	Vents Gaseous(VG)
Water Treatment (WT)	Vacuum Priming (VP)
	Ventilation (VS)

Table 2.1-3-3: Systems Added to the Scope of Licensing Renewal Due to Expansion of License Renewal Scope

North Anna	Surry
Bearing Cooling (BC)	Chilled Water (CD)
Decontamination (DC)	Decontamination (DC)
Extraction Steam (ES)	Extraction Steam (ES)
Gaseous Waste (GW)	Liquid Waste (LW)
	Water Treatment (WT)

An aging management evaluation was performed for the non-safety related mechanical components that were determined to be within the scope of license renewal. This review consisted of an evaluation of the effects of aging and identification of activities credited for managing the applicable aging effects based on the results of aging management reviews performed for components of the same material and exposed to the same internal and external environments. This evaluation concluded that the aging effects of loss of material and/or cracking require management and that there are no additional material and environment combinations beyond those currently considered in the application.

The following aging management activities are credited to manage aging effects on external surfaces of in-scope components added as a result of this review:

- Boric Acid Corrosion Surveillance (LRA Section B2.2.3)
- General Condition Monitoring Activities (LRA Section B2.2.9)
- Infrequently Accessed Area Inspection Activities (LRA Section B2.1.2)

The following aging management activities are credited to manage aging effects on internal surfaces of in-scope components added as a result of this review:

- Chemistry Control Program for Primary Systems (LRA Section B2.2.4)
- Chemistry Control Program for Secondary Systems (LRA Section B2.2.5)
- Secondary Piping and Component Inspection (LRA Section B2.2.16)
- Service Water System Inspections (LRA Section B2.2.17)
- Work Control Process (LRA Section B2.2.19)

The aging management activities credited with managing these aging effects are currently described in the license renewal application in the indicated section. These aging management activities are adequate to manage the effects of aging for components within the expanded scope of license renewal for Criterion 2.

A summary of the results of the aging management evaluation for the systems within the scope of license renewal as a result of the expansion of scope for Criterion 2 are provided in Table 2.1-3-4 for North Anna and 2.1-3-5 for Surry.

Table 2.1-3-4: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – North Anna

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
BR, DG, HRS, RH, SS, VG, CH, FC, PG, QS, RC, SI, WT, DA, DB, DC, LW, RW, AS, BD, FW, ES, MS, SD, CC, CN, CW, SW, CD, CV, GW, RC, SV, VP, BC	LSI, PB	Stainless Steel (external surfaces)	Air	Loss of Material	General Condition Monitoring Activities Infrequently Accessed Area Inspection Activities
WT, AS, BD, FW, ES, MS, SD, CC, CN, DB, CW, SW, CD, CV, VA ¹ , GW, RC, SV, VP, BC	LSI, PB	Carbon Steel, Low-alloy Steel, and Cast Iron (external surfaces)	Air Borated Water Leakage	Loss of Material	Boric Acid Corrosion Surveillance ² General Condition Monitoring Activities Infrequently Accessed Area Inspection Activities
WT, DB, AS, BD, FW, ES, MS, SD, CN, CC, CW, SW, CD, CV, GW, RC, SV, VP, BC	LSI, PB	Copper Alloys (external surfaces)	Air Borated Water Leakage	Loss of Material	Boric Acid Corrosion Surveillance ² General Condition Monitoring Activities Infrequently Accessed Area Inspection Activities

¹ Subsystem of the DA system.

² For components inside Containment only

Table 2.1-3-4: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – North Anna

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
BR, DG, HRS, RH, SS, VG	LSI, PB	Stainless Steel (internal surfaces)	Treated Water	Cracking (>140° F)	Chemistry Control Program for Primary Systems Work Control Process
				Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
CH, FC, PG, QS, RC, SI, WT	LSI, PB	Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
WT	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Raw (Potable) Water Treated Water (Chemical mixing and injection)	Loss of Material	Work Control Process
DA, DB, DC, LW, RW	LSI, PB	Stainless Steel (internal surfaces)	Raw Water	Loss of Material	Work Control Process
DB	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron and Copper Alloys (internal surfaces)	Raw Water	Loss of Material	Work Control Process

Table 2.1-3-4: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – North Anna

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
AS, BD, FW, ES, MS, SD, CN	LSI, PB	Stainless Steel (internal surfaces)	Treated Water / Steam	Cracking (>140° F)	Chemistry Control Program for Secondary Systems Work Control Process
				Loss of Material	Chemistry Control Program for Secondary Systems Work Control Process
AS, BD, FW, ES, MS, SD, CN	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; and Copper Alloys (internal surfaces)	Treated Water / Steam	Loss of Material	Chemistry Control Program for Secondary Systems Secondary Piping and Component Inspection Work Control Process
CC	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
CW, SW	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Raw (Lake) Water	Loss of Material	Service Water System Inspections Work Control Process

Table 2.1-3-4: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – North Anna

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
CD	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems ¹ Chemistry Control Program for Secondary Systems ² Work Control Process
CV, VA ³ , GW, RC ⁴ , SV, VP	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Air / Gas (with potential for liquid or steam)	Loss of Material	Work Control Process
BC	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Secondary Systems Work Control Process

¹ For CD components in support of Containment Air Coolers

² For CD components in support of Control Room Cooling

³ Subsystem of the DA system.

⁴ Normally isolated RC system components

Table 2.1-3-5: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – Surry

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
BR, DG, RH, SS, VG, CH, FC, PG, CS, RC, SI, WT, DA, DC, LW, VA, AS, BD, FW, ES, MS, SD, CC, CN,, CW, SW, RT, CD, CV, GW, RC, SV, VP, BC, HS, PL	LSI, PB	Stainless Steel (external surfaces)	Air	Loss of Material	General Condition Monitoring Activities
					Infrequently Accessed Area Inspection Activities
WT, PL, AS, BD, CN, FW, ES, HS, MS, SD, CC, CD, CV, GW, RC, VS, VA, VP, BC, CW, SW, SV	LSI, PB	Carbon Steel, Low-alloy Steel, and Cast Iron (external surfaces)	Air Borated Water Leakage	Loss of Material	Boric Acid Corrosion Surveillance ¹ General Condition Monitoring Activities Infrequently Accessed Area Inspection Activities
WT, PL, AS, BD, CN, FW, ES, HS, MS, SD, CC, CD, CV, GW, RC, VS, VA, VP, BC, CW, SW, SV	LSI, PB	Copper Alloys (external surfaces)	Air Borated Water Leakage	Loss of Material	Boric Acid Corrosion Surveillance ¹ General Condition Monitoring Activities Infrequently Accessed Area Inspection Activities
BR, DG, RH, SS, VG	LSI, PB	Stainless Steel (internal surfaces)	Treated Water	Cracking (>140° F)	Chemistry Control Program for Primary Systems Work Control Process

¹ For components inside Containment only

Table 2.1-3-5: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – Surry

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
BR, DG, RH, SS, VG	LSI, PB	Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
CH, CS, FC, PG, RC, RT, SI, WT	LSI, PB	Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
WT	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Raw Water (Potable) Treated Water (Chemical mixing or injection)	Loss of Material	Work Control Process
DA, DC, LW	LSI, PB	Stainless Steel (internal surfaces)	Raw Water	Loss of Material	Work Control Process
PL	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Raw Water	Loss of Material	Work Control Process
AS, BD, CN, FW, ES, HS, MS, SD	LSI, PB	Stainless Steel (internal surfaces)	Treated Water / Steam	Cracking (>140° F)	Chemistry Control Program for Secondary Systems Work Control Process

Table 2.1-3-5: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – Surry

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
AS, BD, CN, FW, ES, HS, MS, SD	LSI, PB	Stainless Steel (internal surfaces)	Treated Water / Steam	Loss of Material	Chemistry Control Program for Secondary Systems Work Control Process
AS, BD, CN, FW, ES, HS, MS, SD	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; and Copper Alloys (internal surfaces)	Treated Water / Steam	Loss of Material	Chemistry Control Program for Secondary Systems Secondary Piping and Component Inspection Work Control Process
CC, CD	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Primary Systems Work Control Process
CV, GW, RC ¹ , SV, VA, VP	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Air / Gas (with potential for liquid or steam)	Loss of Material	Work Control Process

¹ Normally isolated RC system components

Table 2.1-3-5: Aging Management Evaluation Results for Systems within the Expanded Scope of License Renewal – Surry

System(s)	Intended Function	Material Group(s)	Environment	Aging Effect	Aging Management Activity
BC, VS	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel (internal surfaces)	Treated Water	Loss of Material	Chemistry Control Program for Secondary Systems Work Control Process
CW, SW	LSI, PB	Carbon Steel, Low-alloy Steel, Cast Iron; Copper Alloys; and Stainless Steel	Raw (Brackish) Water	Loss of Material	Service Water System Inspections Work Control Process

RAI 2.1-4:

Given the methodology used to identify piping systems that meet the 10 CFR 54.4(a)(2) scoping criterion, the staff is concerned that there may be other non-safety-related mechanical or structural components which would normally be included within the scope of license renewal, but are excluded because mitigative features have been credited for protecting SR SSCs from the failure of the NSR mechanical or structural component. If such credit is being taken, please identify these NSR mechanical or structural components and indicate:

- a. the mitigative feature(s) that is credited for protection
- b. the hazard (e.g., failure mechanisms and postulated failure locations) for which the mitigative feature(s) is providing protection
- c. a summary discussion (including references, such as reports, analyses, calculations, etc.) of the basis for the conclusion that the mitigative feature(s) is adequate to protect SR SSCs

Dominion Response:

As identified in the application, the scoping for 10CFR54.4(a)(2) did not include non-safety related mechanical components, such as piping, tanks, valves, etc., that are considered Seismic II/I since the failure of these components during a seismic event is not postulated in the current licensing basis. For details of the changes made to the scoping results for non-safety related SSC meeting the 10CFR54.4(a)(2) scoping criterion, refer to the response to RAI 2.1-3, which is inclusive of mechanical components other than piping.

Non-safety related structural components have been identified for inclusion within the scope of license renewal as described in the license renewal application in Section 2.1.2.2 "Criterion 2 - Non-Safety-Related Affecting Safety-Related" with further details provided in Section 2.1.3.6 "Criterion 2 Report".