Southern Nuclear

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U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 3
ITAAC Closure Notice on Completion of ITAAC 2.2.03.02a [Index Number 159]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 3 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.2.03.02a [Index Number 159]. This ITAAC requires inspections, tests, and analyses be performed and documented to ensure the Passive Core Cooling System (PXS) components and piping listed in the Combined License (COL) Appendix C, Table 2.2.3-1 and Table 2.2.3-2 that are identified as American Society of Mechanical Engineers (ASME) Code Section III, Leak Before Break (LBB), or Functional Capability Required are designed and constructed in accordance with applicable requirements. The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (NEI) 08-01, *Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52*, which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli A. Roberts at 706-848-6991.

Respectfully submitted,

Michael J. Yox
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 3
Completion of ITAAC 2.2.03.02a [Index Number 159]

MJY/JRV/sfr

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Southern Nuclear Operating Company
ND-21-0723
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 3
Completion of ITAAC 2.2.03.02a [Index Number 159]

ITAAC Statement

Design Commitment:

2.a) The components identified in Table 2.2.3-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements.

2.b) The piping identified in Table 2.2.3-2 as ASME Code Section III is designed and constructed in accordance with ASME Code Section III requirements.

3.a) Pressure boundary welds in components identified in Table 2.2.3-1 as ASME Code Section III meet ASME Code Section III requirements.

3.b) Pressure boundary welds in piping identified in Table 2.2.3-2 as ASME Code Section III meet ASME Code Section III requirements.

4.a) The components identified in Table 2.2.3-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure.

4.b) The piping identified in Table 2.2.3-2 as ASME Code Section III retains its pressure boundary integrity at its design pressure.

5.b) Each of the lines identified in Table 2.2.3-2 for which functional capability is required is designed to withstand combined normal and seismic design basis loads without a loss of its functional capability.

6. Each of the as-built lines identified in Table 2.2.3-2 as designed for LBB meets the LBB criteria, or an evaluation is performed of the protection from the dynamic effects of a rupture of the line.

Inspections, Tests, Analyses:

Inspection will be conducted of the as-built components and piping as documented in the ASME design reports.

Inspection of the as-built pressure boundary welds will be performed in accordance with the ASME Code Section III.

A hydrostatic test will be performed on the components and piping required by the ASME Code Section III to be hydrostatically tested.

Inspection will be performed verifying that the as-built piping meets the requirements for functional capability.

Inspection will be performed for the existence of an LBB evaluation report or an evaluation report on the protection from dynamic effects of a pipe break. Section 3.3, Nuclear Island Buildings, contains the design descriptions and inspections, tests, analyses, and acceptance criteria for protection from the dynamic effects of pipe rupture.

Acceptance Criteria:

The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III.

A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

A report exists and concludes that the results of the hydrostatic test of the components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

A report exists and concludes that each of the as-built lines identified in Table 2.2.3-2 for which functional capability is required meets the requirements for functional capability.

An LBB evaluation report exists and concludes that the LBB acceptance criteria are met by the as-built PXS piping and piping materials, or a pipe break evaluation report exists and concludes that protection from the dynamic effects of a line break is provided.

ITAAC Determination Basis

This ITAAC requires inspections, tests, and analyses be performed and documented to ensure the Passive Core Cooling System (PXS) components and piping listed in the Combined License (COL) Appendix C, Table 2.2.3-1 (Attachment A) and Table 2.2.3-2 (Attachment B) that are identified as American Society of Mechanical Engineers (ASME) Code Section III, Leak Before Break (LBB), or Functional Capability Required are designed and constructed in accordance with applicable requirements.

2.a and 2.b) The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III.

Each component listed in Table 2.2.3-1 as ASME Code Section III was fabricated in accordance with the VEGP Updated Final Safety Analysis Report (UFSAR) and the ASME Code Section III requirements. The ASME Code Section III certified Design Reports for these components exist and document that the as-built components conform to the approved design details. The ASME Section III Design Report for each component is documented in the component's completed ASME Section III Code Data Report. The individual component ASME Section III Code Data Reports are documented on the ASME Section III N-5 Code Data Report(s) for the applicable piping system (Reference 1).

The as-built piping listed in Table 2.2.3-2 including the components listed in Table 2.2.3-1 as ASME Code Section III, were subjected to a reconciliation process (Reference 2), which verifies that the as-built piping was analyzed for applicable loads (e.g. stress reports) and for compliance with all design specification and Code provisions. Design reconciliation of the as-built systems, including installed components, validates that construction completion, including field changes and any nonconforming condition dispositions, is consistent with and bounded by the approved design. All applicable fabrication, installation and testing records, as well as, those for the related Quality Assurance (QA) verification/inspection activities, which confirm adequate construction in compliance with the ASME Code Section III and design provisions, are referenced in the N-5 data report and/or its sub-tier references.

The applicable ASME Section III N-5 Code Data Report(s) (Reference 1), which include the location of the certified Design Reports for all the components listed in Table 2.2.3-1 (Attachment A) and piping listed in Table 2.2.3-2 (Attachment B) as ASME Code Section III, exist and conclude that these installed components were designed and constructed (including their installation within the applicable as-built piping system) in accordance with the ASME Code (1998 Edition, 2000 Addenda and 1989 Edition, 1989 Addenda), Section III requirements as applicable, as described in UFSAR Subsection 5.2.1 (Reference 3). The N-5 Code Data Reports (Reference 1) for the piping system(s) containing the components listed in the Table 2.2.3-1 and Table 2.2.3-2 are identified in Attachments A and B, respectively.

3.a and 3.b) A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds.

Inspections were performed in accordance with ASME Code Section III (1998 Edition, 2000 Addenda) to demonstrate that as-built pressure boundary welds in components identified in Table 2.2.3-1 as ASME Code Section III meet ASME Code Section III requirements (i.e., no unacceptable indications).

The applicable non-destructive examinations (including liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the components' pressure boundary welds are documented in the Non-destructive Examination Report(s), which support completion of the respective ASME Section III N-5 Code Data Report (Reference 1) certified by the Authorized Nuclear Inspector (ANI), as listed in Attachment A.

Per ASME Code Section III, Subarticle NCA-8300, "Code Symbol Stamps," the N-5 Code Data Report(s) (Reference 1) documents satisfactory completion of the required examination and testing of the item, which includes non-destructive examinations of pressure boundary welds. Satisfactory completion of the non-destructive examination of pressure boundary welds ensured that the pressure boundary welds in components identified in Table 2.2.3-1 as ASME Code Section III meets ASME Code Section III requirements.

An inspection was performed in accordance with Reference 2 to demonstrate that the as-built pressure boundary welds in piping identified in Table 2.2.3-2 (Attachment B) as ASME Code Section III met ASME Code Section III requirements (i.e., no unacceptable indications). This portion of the ITAAC was completed when the piping identified in Table 2.2.3-2, which is encompassed within the respective piping system Code Symbol N-Stamp and the corresponding piping system Code N-5 Data Report Form(s) (Reference 1), was completed. The non-destructive examinations (including visual inspection, liquid penetrant, magnetic particle, radiographic, and ultrasonic testing, as required by ASME Code Section III) of the piping pressure boundary welds are documented in the Non-destructive Examination Report(s) within the piping system's supporting data package, which support completion of the respective Code Stamping and Code N-5 Data Report(s). The completion of stamping the respective piping system along with the corresponding ASME Code N-5 Data Report Form(s) (certified by the Authorized Nuclear Inspector) ensure that the piping was constructed in accordance with the design specification(s) and the ASME Code Section III, and that the satisfactory completion of the non-destructive examinations of piping pressure boundary welds for the pipe lines identified in Table 2.2.3-2 met ASME Code Section III requirements and were documented in the Non-destructive Examination Report(s) within the supporting data packages.

4.a and 4.b) A report exists and concludes that the results of the hydrostatic test of the components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III conform with the requirements of the ASME Code Section III.

A hydrostatic test was performed by the vendor to demonstrate that the components identified in Table 2.2.3-1 (Attachment A) as ASME Code Section III retain their pressure boundary integrity at their design pressure. The completion of the N-5 Data Reports was governed by Reference 2.

This portion of the ITAAC was complete once each component identified in Table 2.2.3-1 had their individual Code Symbol N-Stamp and corresponding Code Data Report (Reference 1) completed, and the components are installed into the respective Code Symbol N-Stamped piping system and documented on the corresponding N-5 Code Data Report(s) (Reference 1). The hydrostatic testing results of the component's pressure boundary are documented in the Hydrostatic Testing Report(s) within the supporting component's data package, which support completion of the respective Code Stamping and Code Data Report(s).

The completion of stamping the individual components and the respective piping system along with the corresponding ASME Code Data Reports (certified by the Authorized Nuclear Inspector) ensures that the components were constructed in accordance with the Design Specifications and the ASME Code Section III and that the satisfactory completion of the hydrostatic pressure testing of each component identified in Table 2.2.3-1 as ASME Code Section III were documented in the Hydrostatic Testing Report(s) within the supporting data packages and met ASME Code Section III requirements.

This ITAAC also verified that the piping identified in Table 2.2.3-2 (Attachment B) fully meets all applicable ASME Code, Section III requirements and retains its pressure boundary integrity at its design pressure.

A hydrostatic test was performed in accordance with procedures identified in Reference 1 (as applicable) that complies with the ASME Code (1998 Edition, 2000 Addenda), Section III requirements to demonstrate that the ASME Code Section III piping identified in Table 2.2.3-2 retains its pressure boundary integrity at its design pressure.

A hydrostatic test verifies that there are no leaks at welds or piping, and that the pressure boundary integrity was retained at its design pressure. The hydrostatic testing results of the pipe lines are documented in the Hydrostatic Testing Report(s). The Hydrostatic Testing Report(s) support completion of the ASME Section III N-5 Code Data Report(s) for the applicable piping system (i.e., PXS) (Reference 1).

The applicable ASME Section III N-5 Code Data Report(s) (Reference 1) identified in Attachments A and B documents that the results of the hydrostatic testing of the components and piping identified in Table 2.2.3-1 and Table 2.2.3-2 respectively conform with the requirements of the Code (1998 Edition, 2000 Addenda), Section III.

5.b) A report exists and concludes that each of the as-built lines identified in Table 2.2.3-2 for which functional capability is required meets the requirements for functional capability.

An inspection was performed of the ASME Section III as-built piping design report (Reference 4) to verify that the report demonstrates that each of the PXS piping lines identified in ITAAC Table 2.2.3-2 that requires functional capability was designed to withstand combined normal and seismic design basis loads without a loss of its functional capability. "Functional capability," in this context, refers to the capability of the piping to withstand the effects of earthquakes, without a loss of safety function (to convey fluids from one location to another). Specific functional capability requirements are defined in the VEGP UFSAR Table 3.9-11 (Reference 3).

Piping functional capability is not a specific ASME Code requirement but it was a requirement in the VEGP UFSAR (Reference 3). As such, information demonstrating that UFSAR functional capability requirements are met is included in the ASME Section III As-Built Design Reports for safety class piping prepared in accordance with ASME Section III NCA-3550 under the ASME Boiler & Pressure Vessel Code (1998 Edition, 2000 Addenda) Section III requirements. The as-built piping systems were subjected to a reconciliation process (Reference 2), which verifies that the as-built piping systems are analyzed for functional capability and for compliance with the design specification and ASME Code provisions. Design reconciliation of the as-built systems validates that construction completion, including field changes and any nonconforming condition dispositions, is consistent with and bounded by the approved design. As required by ASME Code, the As-Built Design Report includes the results of physical inspection of the piping and reconciliation to the design pipe stress report.

Inspections of the ASME Code Section III As-Built Piping Design Reports (Reference 4) for the PXS piping lines identified in Table 2.2.3-2 are completed and concluded that each of the as-built PXS piping lines for which functional capability is required meets the requirements for functional capability. The ASME Section III As-Built Piping Design Reports for each of the as-built PXS piping lines in Table 2.2.3-2 are identified in Attachment B.

6. An LBB evaluation report exists and concludes that the LBB acceptance criteria was met by the as-built PXS piping and piping materials, or a pipe break evaluation report exists and concludes that protection from the dynamic effects of a line break is provided.

Inspections were performed for the as-built lines identified in Table 2.2.3-2 (Attachment B) to verify that each of the as-built lines designed for LBB meets the LBB criteria, or an evaluation is performed of the protection from the dynamic effects of a rupture of the line. VEGP COL Appendix C, Section 3.3, Nuclear Island Buildings, contains the design descriptions and inspections, tests, analyses, and acceptance criteria for protection from the dynamic effects of pipe rupture.

LBB evaluations were performed as described in UFSAR subsection 3.6.3 to confirm that the as-built PXS piping (and corresponding piping materials) identified in Attachment A meet the LBB acceptance criteria described in the UFSAR, Appendix 3B, Leak-Before-Break Evaluation of the AP1000 Piping (Reference 3). In cases where an as-built PXS piping line in Attachment B cannot meet the LBB acceptance criteria, a pipe break evaluation is performed which concludes that protection from the dynamic effects of a line break is provided. The pipe break evaluation criteria is discussed in UFSAR, Section 3.6.4.1, Pipe Break Hazards Analysis (Reference 3) and is documented as a pipe rupture hazards analysis report (pipe break evaluation report).

Inspections were performed to verify that LBB as-built piping evaluation reports for the PXS piping (and corresponding piping materials) identified in Attachment B conclude that the as-built piping analysis is bounded by the applicable bounding analysis curves provide in Appendix 3B of the UFSAR (Reference 3). The results are documented in either the applicable ASME Section III as-built piping design report(s) or in separate LBB evaluation report(s). For cases where an as-built PXS piping line in Attachment B cannot meet the LBB acceptance criteria, inspections are performed to verify that a pipe rupture hazards analysis evaluation report (pipe break evaluation report) exists which concludes that protection from the dynamic effects of a line break is provided.

The applicable ASME Section III as-built piping design report(s), LBB evaluation report(s), or pipe rupture hazards analysis report(s) (pipe break evaluation report(s)) exist and are identified in Attachment B.

References 1, 4, and 7 through 14 provide the evidence that the ITAAC Acceptance Criteria requirements are met:

- The ASME Code Section III design reports exist for the as-built components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III;

- A report exists and concludes that the ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds;

- A report exists and concludes that the results of the hydrostatic test of the components and piping identified in Tables 2.2.3-1 and 2.2.3-2 as ASME Code Section III conform with the requirements of the ASME Code Section III;

- A report exists and concludes that each of the as-built lines identified in Table 2.2.3-2 for which functional capability is required meets the requirements for functional capability; and

- An LBB evaluation report exists and concludes that the LBB acceptance criteria are met by the as-built PXS piping and piping materials, or a pipe break evaluation report exists and concludes that protection from the dynamic effects of a line break is provided.

This ITAAC also verified that the required inspections for Preservice Inspection (PSI) have been completed (Reference 5) for the applicable portions of the Passive Core Cooling System (PXS) identified in Tables 2.2.3-1 and 2.2.3-2 of the Vogtle COL, Appendix C, and concludes that the results of the PSI examinations meet the acceptance standards specified in the applicable Boiler and Pressure Vessel (B&PV) Codes for the examinations performed.

Examinations are conducted for each system in accordance with Section XI of the ASME B&PV Code, Subsections IWB, IWC, and IWD to satisfy the requirements for PSI for ITAAC 2.2.03.02a [Index Number 159].

References 1, 4, and 7 through 14 are available for NRC inspection as part of the Unit 3 ITAAC 2.2.03.02a Completion Packages (Reference 6).

ITAAC Finding Review

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review, which included now consolidated ITAAC Indexes 160, 161, 162, 163, 164, 168 and 169, found seven (7) relevant ITAAC findings associated with this ITAAC.

1) Noncited Violation (NCV) 05200025/2017004-01 (Closed - ML19135A691)

2) Notice of Nonconformance (NON) 99901431/2013-201-01 (Closed - ML18152B785)

3) NON 99901377/2012-201-02 (Closed - ML18152B785)

4) NON 99901377/2012-201-03 (Closed - ML18152B785)

5) NON 99900404/2011-201-02 (Closed - ML18152B785)

6) NCV 05200025/2018002-02 (Closed - ML18226A348)

7) NCV 05200025/2019001-01 (Closed - ML19135A691)

The corrective actions for each finding have been completed and each finding is closed. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.2.03.02a (Reference 6) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.2.03.02a was performed for VEGP Unit 3 and that the prescribed acceptance criteria were met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

References (available for NRC inspection)

1. SV3-PXS-MUR-001, Rev. 0, "AP1000 Vogtle Unit 3 ASME Section III System Code Data Report for the Passive Core Cooling System (PXS)"

2. APP-GW-GAP-139, Rev. 8, "Westinghouse/Stone & Webster ASME Code Data Report As-Built Documentation Interface Procedure"

3. VEGP 3&4 Updated Final Safety Analysis Report, Rev. 10.1:
    a. Subsection 5.2.1 - Compliance with Codes and Code Cases,
    b. Table 3.9-11 - Piping Functional Capability – ASME Class 1, 2, and 3,
    c. Subsection 3.6.3 - Leak before Break Evaluation Procedures
    d. Subsection 3.6.4.1- Pipe Break Hazards Analysis
    e. Appendix 3B - Leak-Before-Break Evaluation of the AP1000 Piping

4. SV3-PXS-S3R-001, Rev. 2, "Vogtle Unit 3 Passive Core Cooling System (PXS) ASME III As-Built Piping System Design Report"

5. APE-10-00022, "Unit 3 - Completion of Preservice Inspection for PXS Class 1, 2 and 3 Portions of Systems"

6. 2.2.03.02a-U3-CP-Rev0, ITAAC Completion Package

7. SV3-PXS-P0R-0102, Rev. 1, "AP1000 Piping for APP-PXS-PLR-010 - Vogtle Unit 3 ASME III As-Built Design Report"

8. SV3-PXS-P0R-0202, Rev. 1, "AP1000 Piping for APP-PXS-PLR-020 - Vogtle Unit 3 ASME III As-Built Design Report"

9. SV3-PXS-P0R-0302, Rev. 1, "AP1000 Piping for APP-PXS-PLR-030 - Vogtle Unit 3 ASME III As-Built Design Report"

10. SV3-PXS-P0R-0402, Rev. 1, "AP1000 Piping for APP-PXS-PLR-040 - Vogtle Unit 3 ASME III As-Built Design Report"

11. SV3-PXS-P0R-0502, Rev. 1, "AP1000 Piping for APP-PXS-PLR-050 - Vogtle Unit 3 ASME III As-Built Design Report"

12. SV3-PXS-P0R-0602, Rev. 1, "AP1000 Piping for APP-PXS-PLR-060 - Vogtle Unit 3 ASME III As-Built Design Report"

13. SV3-RCS-MUR-001, Rev. 0, "AP1000 Vogtle Unit 3 ASME Section III System Code Data Report for the Reactor Coolant System (RCS)"

14. SV3-RCS-S3R-001, Rev. 1, "Vogtle Unit 3 Reactor Coolant System (RCS) ASME III As-Built Piping System Design Report"

Attachment A

SYSTEM: Passive Core Cooling System (PXS)

Equipment Name *	Tag No. *	ASME Code Section III*	ASME III As-Built Design Report	N-5 Report
Passive Residual Heat Removal Heat Exchanger (PRHR HX)	PXS-ME-01	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator Tank A	PXS-MT-01A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator Tank B	PXS-MT-01B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Core Makeup Tank (CMT) A	PXS-MT-02A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B	PXS-MT-02B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A Inlet Isolation Motor-Operated Valve	PXS-PL-V002A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B Inlet Isolation Motor-Operated Valve	PXS-PL-V002B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A Discharge Isolation Valve	PXS-PL-V014A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B Discharge Isolation Valve	PXS-PL-V014B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A Discharge Isolation Valve	PXS-PL-V015A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B Discharge Isolation Valve	PXS-PL-V015B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A Discharge Check Valve	PXS-PL-V016A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B Discharge Check Valve	PXS-PL-V016B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A Discharge Check Valve	PXS-PL-V017A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B Discharge Check Valve	PXS-PL-V017B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator A Pressure Relief Valve	PXS-PL-V022A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator B Pressure Relief Valve	PXS-PL-V022B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001

Attachment A

SYSTEM: Passive Core Cooling System (PXS)

Equipment Name *	Tag No. *	ASME Code Section III*	ASME III As-Built Design Report	N-5 Report
Accumulator A Discharge Isolation Valve	PXS-PL-V027A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator B Discharge Isolation Valve	PXS-PL-V027B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator A Discharge Check Valve	PXS-PL-V028A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator B Discharge Check Valve	PXS-PL-V028B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator A Discharge Check Valve	PXS-PL-V029A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator B Discharge Check Valve	PXS-PL-V029B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Nitrogen Supply Containment Isolation Valve	PXS-PL-V042	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Nitrogen Supply Containment Isolation Check Valve	PXS-PL-V043	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
PRHR HX Inlet Isolation Motor-operated Valve	PXS-PL-V101	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
PRHR HX Control Valve	PXS-PL-V108A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
PRHR HX Control Valve	PXS-PL-V108B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation A Isolation Motor-operated Valve	PXS-PL-V117A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation B Isolation Motor-operated Valve	PXS-PL-V117B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation A Squib Valve	PXS-PL-V118A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation B Squib Valve	PXS-PL-V118B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001

Attachment A

SYSTEM: Passive Core Cooling System (PXS)

Equipment Name *	Tag No. *	ASME Code Section III*	ASME III As-Built Design Report	N-5 Report
Containment Recirculation A Check Valve	PXS-PL-V119A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation B Check Valve	PXS-PL-V119B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation A Squib Valve	PXS-PL-V120A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment Recirculation B Squib Valve	PXS-PL-V120B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection A Check Valve	PXS-PL-V122A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection B Check Valve	PXS-PL-V122B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection A Squib Valve	PXS-PL-V123A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection B Squib Valve	PXS-PL-V123B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection A Check Valve	PXS-PL-V124A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection B Check Valve	PXS-PL-V124B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection A Squib Valve	PXS-PL-V125A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Injection B Squib Valve	PXS-PL-V125B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Gutter Isolation Valve	PXS-PL-V130A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST Gutter Isolation Valve	PXS-PL-V130B	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001
RNS Suction Leak Test Valve	PXS-PL-V208A	Yes	SV3-PXS-S3R-001	SV3-PXS-MUR-001

*Excerpts from COL Appendix C Table 2.2.3-1

Attachment B

SYSTEM: Passive Core Cooling System (PXS)

Line Name*	Line Number*	ASME Code Section III*	Leak Before Break*	Functional Capability Required*	LBB Evaluation/ Pipe Break Evaluation	ASME III As-Built Design Report	N-5 Report
PRHR HX inlet line from hot leg and outlet line to steam generator channel head	RCS-L134, PXS-L102, PXS-L103, PXS-L104A, PXS-L104B, PXS-L105, RCS-L113	Yes	Yes	Yes	SV3-PXS-P0R-0302, & SV3-PXS-P0R-0402	SV3-RCS-S3R-001 SV3-PXS-S3R-001	SV3-RCS-MUR-001 SV3-PXS-MUR-001
	PXS-L107	Yes	Yes	No	SV3-PXS-P0R-0302	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT A inlet line from cold leg C and outlet line to reactor vessel direct vessel injection (DVI) nozzle A	RCS-L118A, PXS-L007A, PXS-L015A, PXS-L016A, PXS-L017A, PXS-L018A, PXS-L020A, PXS-L021A	Yes	Yes	Yes	SV3-PXS-P0R-0102, & SV3-PXS-P0R-0502	SV3-RCS-S3R-001 SV3-PXS-S3R-001	SV3-RCS-MUR-001 SV3-PXS-MUR-001
	PXS-L070A	Yes	Yes	No	SV3-PXS-P0R-0602	SV3-PXS-S3R-001	SV3-PXS-MUR-001
CMT B inlet line from cold leg D and outlet line to reactor vessel DVI nozzle B	RCS-L118B, PXS-L007B, PXS-L015B, PXS-L016B, PXS-L017B, PXS-L018B,	Yes	Yes	Yes	SV3-PXS-P0R-0202, SV3-PXS-P0R-0302, & SV3-PXS-P0R-0602	SV3-RCS-S3R-001 SV3-PXS-S3R-001	SV3-RCS-MUR-001 SV3-PXS-MUR-001

Attachment B

SYSTEM: Passive Core Cooling System (PXS)

Line Name*	Line Number*	ASME Code Section III*	Leak Before Break*	Functional Capability Required*	LBB Evaluation/ Pipe Break Evaluation	ASME III As-Built Design Report	N-5 Report
	PXS-L020B, PXS-L021B						
	PXS-L070B	Yes	Yes	No	SV3-PXS-P0R-0602	SV3-PXS-S3R-001	SV3-PXS-MUR-001
RNS A discharge line to PXS from RNS check valve RNS-PL-V017A to DVI line A	PXS-L019A	Yes	Yes	Yes	SV3-PXS-P0R-0102	SV3-PXS-S3R-001	SV3-PXS-MUR-001
RNS B discharge line to PXS from RNS check valve RNS-PL-V017B to DVI line B	PXS-L019B	Yes	Yes	Yes	SV3-PXS-P0R-0202	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator A discharge Line to DVI line A	PXS-L025A, PXS-L027A, PXS-L029A	Yes	Yes	Yes	SV3-PXS-P0R-0202	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Accumulator B discharge line to DVI line B	PXS-L025B, PXS-L027B, PXS-L029B	Yes	Yes	Yes	SV3-PXS-P0R-0202	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST injection line A to DVI line A	PXS-L123A, PXS-L125A, PXS-L127A	Yes	Yes	Yes	SV3-PXS-P0R-0102	SV3-PXS-S3R-001	SV3-VES-MUR-001

Attachment B

SYSTEM: Passive Core Cooling System (PXS)

Line Name*	Line Number*	ASME Code Section III*	Leak Before Break*	Functional Capability Required*	LBB Evaluation/ Pipe Break Evaluation	ASME III As-Built Design Report	N-5 Report
	PXS-L124A, PXS-L118A, PXS-L117A, PXS-L116A, PXS-L112A	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
	PXS-L133A, PXS-L134A	Yes	Yes	No	SV3-PXS-P0R-0102	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST injection line B to DVI line B	PXS-L123B, PXS-L125B, PXS-L127B	Yes	Yes	Yes	SV3-PXS-P0R-0202	SV3-PXS-S3R-001	SV3-PXS-MUR-001
	PXS-L124B, PXS-L118B, PXS-L117B, PXS-L116B, PXS-L114, PXS-L112B, PXS-L120	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
	PXS-L133B, PXS-L134B	Yes	Yes	No	SV3-PXS-P0R-0202	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST screen cross-connect line	PXS-L180A, PXS-L180B	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001

Attachment B

SYSTEM: Passive Core Cooling System (PXS)

Line Name*	Line Number*	ASME Code Section III*	Leak Before Break*	Functional Capability Required*	LBB Evaluation/ Pipe Break Evaluation	ASME III As-Built Design Report	N-5 Report
Containment recirculation line A	PXS-L113A, PXS-L131A, PXS-L132A	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Containment recirculation line B	PXS-L100, PXS-L101, PXS-L106, PXS-L113B, PXS-L131B, PXS-L132B	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
IRWST gutter drain line	PXS-L142A, PXS-L142B PXS-L183A, PXS-L183B, PXS-L184A, PXS-L184B, PXS-L185A, PXS-L185B	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
	PXS-L141A+, PXS-L141B+	Yes	No	No	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001
Downspout drain lines from polar crane girder and internal stiffener to	PXS-L301A, PXS-L302A, PXS-L303A,	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001

Attachment B

SYSTEM: Passive Core Cooling System (PXS)

Line Name*	Line Number*	ASME Code Section III*	Leak Before Break*	Functional Capability Required*	LBB Evaluation/ Pipe Break Evaluation	ASME III As-Built Design Report	N-5 Report
collection box A	PXS-L304A, PXS-L305A, PXS-L306A, PXS-L307A, PXS-L308A, PXS-L309A+, PXS-L310A+						
Downspout drain lines from polar crane girder and internal stiffener to collection box B	PXS-L301B, PXS-L302B, PXS-L303B, PXS-L304B, PXS-L305B, PXS-L306B, PXS-L307B, PXS-L308B, PXS-L309B+, PXS-L310B+	Yes	No	Yes	N/A	SV3-PXS-S3R-001	SV3-PXS-MUR-001

*Excerpts from COL Appendix C, Table 2.2.3-2

+For girth fillet welds between piping and socket welded fittings, valves and flanges, refer to VEGP UFSAR Section 5.2.1.1 (Reference 3).