July xx, 2012
NND-12-0xxx

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3
Combined License Nos. NPF-93 and NPF-94
Docket Nos. 52-027 & 52-028

Subject: Request for License Amendment: Additional Electrical Penetration Assemblies

In accordance with the provisions of 10 CFR 50.90, South Carolina Electric & Gas (SCE&G) requests an amendment to the V.C. Summer Nuclear Station (VCSNS) Units 2 and 3 combined licenses (COLs) (License Nos. NPF-93 and NPF-94, respectively). The proposed amendment will allow the installation of four new non-Class 1E Electrical Penetration Assemblies (EPAs). Because elements of the EPAs' design and construction impact the design description found in Tier 1 of the Plant-Specific DCD and Appendix C of the COL, this activity has been determined to require prior NRC approval. Also because the change requires a departure from Tier 1 information, an exemption is also requested in accordance with 10 CFR 52.63(b)(1).

The description, technical analysis, regulatory evaluation (including No Significant Hazards Consideration determination), and environmental considerations for the proposed changes in the License Amendment Request are contained in Enclosure 1 to this letter. Further justification for the associated exemption request is provided in Enclosure 2 to this letter. The proposed markups depicting the requested changes to Tier 1, COL Appendix C, and Tier 2 are contained in Enclosure 3 to this letter. This letter contains no regulatory commitments.

SCE&G requests staff approval of the license amendment by _____ __, _____, which will allow sufficient time to support its implementation prior to installation of the first ring of the containment vessel. Delayed approval of this license amendment could result in a delay in the installation of the containment vessel. This license amendment will be implemented within 30 days of approval.

In accordance with 10 CFR 50.91, SCE&G is notifying the State of South Carolina of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact Mr. Alfred M. Paglia by telephone at (803) 941-9876, or by email at apaglia@scana.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this ___ day of _____, 2012.

Sincerely,

Ronald B. Clary
Vice President
New Nuclear Deployment

JIG/RBC/jig

Enclosure 1: V.C. Summer Nuclear Station Units 2 and 3 – License Amendment Request: Additional Containment Electrical Penetration Assemblies

Enclosure 1: V.C. Summer Nuclear Station Units 2 and 3 – Exemption Request: Additional Containment Electrical Penetration Assemblies

Enclosure 3: V.C. Summer Nuclear Station Units 2 and 3 –Proposed Markup

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South Carolina Electric & Gas

NND-12-0xxx

Enclosure 1

V.C. Summer Nuclear Station Units 2 and 3

License Amendment Request:

Additional Containment Electrical Penetration Assemblies

Table of Contents

Pursuant to 10 CFR 50.90, South Carolina Electric & Gas (SCE&G) hereby requests an amendment to Combined License Nos. NPF-93 and NPF-94 for V.C. Summer Nuclear Station (VCSNS) Units 2 and 3, respectively. SCE&G requests staff approval of this license amendment by _____ __, _____ to support installation of the first ring of the Unit 2 containment vessel.

1. Summary Description

The proposed change would alter the design of the facility by adding four non-Class 1E containment electrical penetration assemblies (EPAs). This change requires a departure from Tier 2 Tables 3.2.3, 3.7.3, 3.11-1, 3I.6-3 and Figure 6.2.5.1 which also require a departure from Tier 1 Table 2.2.1-1, Figure 2.2.1-1, and Table 2.2.3-6 along with the corresponding changes to COL Appendix C. This enclosure requests approval of the license amendment and departure necessary to implement this change

2. Detailed Description

The proposed change would add four non-Class 1E containment EPAs. The new EPAs would require additional electrical penetration sleeves to be added to the containment vessel and shield building. The additional electrical penetrations would not be spares, but would facilitate the electrical loads required within the containment vessel. As design finalization details have been completed, it was determined that the currently identified number of containment vessel electrical penetrations could not support all electrical loads and instrumentation signals inside containment. Specifically, two additional non-Class 1E Low Voltage Power and Control (LVP&C) and two non-Class 1E Instrumentation and Control (I&C) EPAs would be necessary. No changes to the electrical loads or instrumentation signals have been made inside containment by this change that adds these four EPAs. This change is necessary to allow for the addition of penetrations to support current loads that were approved as part of the AP1000 Generic DCD Rulemaking.

3. Technical Evaluation

System Description

The design functions of the containment EPAs are containment integrity during design-basis accident and normal plant conditions. Therefore, the EPAs conform to ASME Code Section III, are seismic Category I, and are qualified for harsh environment. Containment EPAs provide the means to supply electrical power and instrumentation and control signals through the containment structure to connect electrical equipment inside containment with electrical equipment outside containment while maintaining containment integrity. The proposed EPAs continue to meet the same requirements as EPAs already described in the DCD. These additional EPAs will have an intended function of providing a pathway and protection for low voltage power and control and instrumentation and control signal interfacing with non-Class 1E electrical equipment.

Applicable Text, Table and Figure Changes

Tier 2 Departure

- Table 3.2-3 (Sheet 71 of 75):
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V126
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V127
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V128
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V129
- Table 3.7.3-1
  - Indicate that electrical penetrations are located in rooms 12321 and 12421
- Table 3.11-1 (Sheet 49 of 51):
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V126
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V127
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V128
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V129
- Table 3I.6-3 (Sheet 30 of 32):
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V126
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V127
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V128
  - Addition of Electrical Penetration Test Isolation Valve VUS-PL-V129
- Figure 6.2.5-1:
  - Change descriptive text for Electrical Penetration Assembly E01 from "(Typical of 25)" to "(Typical of 29)"
  - Change "Detail A – Electrical Penetration Assembly Valves' by adding details E07 (with test isolation valve V126), E17 (with V127), E19 (with V128), and E20 (with V129) adjacent to existing detail E32 (with V125) and with a similar configuration.
- Note: DCD Rev 19 Tier 2 Figure 1.2-9 (SUNSI) shows a group of five electrical penetration assemblies between column lines 7 and 7.3 near the Electrical Penetration Area (Room 12421) in the Auxiliary Building at elevation 117'-6". One of the five assemblies is considered to correspond to E07. Since that assembly is

already shown, no change to this figure is necessary. Also, new electrical penetrations E17, E19, and E20 are added in the non-Class 1E Equipment/Penetration Room 12321. These penetration assemblies will not be shown on Figure 1.2-7 because 1) as stated in Figure 1.2-7 note, the purpose of this figure is for identification of room numbers and room descriptions only and 2) other electrical penetrations in this room are not shown.

Tier 1 Departure and COL Appendix C Amendment:

- Table 2.2.1-1:
  - Addition of Electrical Penetration P07 ECS-EY-P07X
  - Addition of Electrical Penetration P17 ECS-EY-P17X
  - Addition of Electrical Penetration P19 ECS-EY-P19Z
  - Addition of Electrical Penetration P20 ECS-EY-P20Z
- Figure 2.2.1-1:
  - Change figure text from "Electrical Penetration (Typical 1 of 25)" to "Electrical Penetration (Typical 1 of 29)"
- Table 2.2.3-6:
  - Addition of P07, P17, P19, and P20 to the row "Containment Electrical Penetrations" under the column heading "Tag No."

Supporting Technical Details

This activity does not adversely affect any SSC design function described in the plant-specific DCD or Updated FSAR. Four containment electrical penetrations and four electrical penetration test isolation valves are added. These penetrations and test valves are similar to the current non-Class 1E containment electrical penetrations and electrical penetration test isolation valves in fit, form, and function. The new EPAs will meet the same design function as current EPAs. They will conform to ASME Code Section III, will be seismic Category I, and will be qualified for harsh environment. The additional EPAs will be subject to ITAAC Tier 1 Table 2.2.1-3 Items 6.d and 8 and conform to the electrical penetration description in DCD section 8.3.1.1.6 and electrical penetration design testing described in DCD subsection 3.8.2.4.2.5. These penetrations also meet the same design requirements as other non-Class 1E penetrations which were previously reviewed by the NRC as documented in NUREG-1793 Supplement 2, Section 8.4.1.

The addition of the four new EPAs and test isolation valves does not adversely affect the containment vessel's or shield building's design functions. Because the design requirements for these penetrations are the same as the current penetrations in the AP1000 design and have been found to be an acceptable method to protect containment integrity, the activity does not affect the containment vessel's ability to prevent the containment from exceeding its design pressure following postulated design basis accidents and therefore does not affect the containment vessel's ability to contain the release of airborne radioactivity and provide shielding for the reactor core and the reactor coolant system during normal operations. The design and leakage testing requirements for these additional penetrations are the same as for the current penetrations, and therefore do not affect the containment vessel's ability to provide a high degree of leak tightness and protect against postulated missiles from external sources. The addition of the increased number of EPAs has been evaluated to ensure the containment vessel will continue to withstand the loads and load combinations described in DCD Table 3.8.2-1. No additional electrical loads have been added inside the containment building as part of this activity and the addition of electrical penetrations does not affect the Passive Containment Cooling System's (PCS) ability to provide the safety grade ultimate heat sink for the removal of the reactor coolant system sensible heat, core decay heat, and decay heat associated with accident sources. The additional EPAs meet the same requirements as current EPAs and do not adversely affect any design function of the Shield Building. The Aircraft Impact Assessment was also considered, and a review confirmed that the additional EPAs do not affect this evaluation.

The activity utilized the same codes and standards used for the original design of the containment vessel and the electrical penetration assemblies.

The four containment electrical penetrations and four electrical penetration test isolation valves being added do not constitute a change to procedures or method of control described in the UFSAR and do not constitute or change any tests or experiments. The same testing and inspection requirements for the current EPAs will be required of the additional penetrations.

The activity does not constitute a change to a method of evaluation or use of an alternate method of evaluation from that described in the plant-specific DCD, or Updated FSAR that is used in establishing design bases or in the safety analyses. The addition of the EPAs was evaluated using the same methods as were utilized in the certified AP1000 design. Design features credited in the ex-vessel severe accident assessment were reviewed and it was determined that the addition of the four EPAs had no adverse effect on those features.

Summary

As discussed above, the proposed additional EPAs meet the same requirements and design standards as current EPAs and because of this, additional EPAs do not constitute any adverse change to the design, construction, or operations of the facility and is a safe and necessary activity.

4. Regulatory Evaluation

4.1 Significant Hazards Consideration

The proposed change would revise the Combined License by adding four non-Class 1E containment electrical penetration assemblies.

An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, ~~"I~~Issuance of amendment," as discussed below:

4.1.1 Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The additional containment electrical penetration assemblies (EPAs) are an extension of containment and provide a path for communication of non-Class 1E electrical signals between the Auxiliary Building and Containment. The proposed containment electrical penetration assemblies are similar in form, fit and function to the current non-Class 1E containment electrical penetration assemblies. The new EPAs will meet the same design function as current EPAs. They will conform to American Society of Mechanical Engineers (ASME) Code Section III, will be seismic Category I, and qualified for harsh environment. The EPAs will be subject to ITAAC Tier 1 Table 2.2.1-3 Items 6.d and 8 and conform with the same electrical penetration description in the UFSAR section Containment Building Electrical Penetrations and same electrical penetration design testing described in the Updated Final Safety Analysis Report (UFSAR) section Mechanical and Electrical Penetrations. The additional containment electrical penetration assemblies are a passive extension of containment, and, therefore, do not involve a significant increase in the probability or consequences of an accident previously evaluated.

As discussed in the UFSAR section Total Population Dose, Release Category CI – Containment Isolation Failure is a containment isolation failure that occurs because of the postulated failure of the system or valves that close the penetrations between the containment and the environment. Containment isolation failure occurs before the onset of core damage. For such a failure, fission-product releases from the reactor coolant system can leak directly from the containment to the environment with diminished potential for attenuation. Most isolation failures occur at a penetration that connects the containment with the auxiliary building. The auxiliary building may provide additional attenuation of aerosol fission-product releases. However, this decontamination is not credited in the containment isolation failure cases. Accident sequences in which the containment does not isolate prior to core damage are binned into release category CI. As presented in the UFSAR Severe Accident Mitigation Design Alternatives (SAMDA) appendix, candidate

design alternatives were selected based upon design alternatives evaluated for other plant designs as well as suggestions from AP600 and AP1000 design personnel. Additional candidate design alternatives were selected based upon an assessment of the AP600 and AP1000 probabilistic risk assessment results. SAMDA design alternatives were finally selected for further evaluation including secondary containment filtered ventilation. This SAMDA consists of providing the middle and lower annulus (below the 135‘ – 3” elevation) of the secondary concrete containment with a passive annulus filter system for filtration of elevated releases. The passive filter system is operated by drawing a partial vacuum on the middle annulus through charcoal and High Efficiency Particulate Air (HEPA) filters. The partial vacuum is drawn by an educator with motive flow from compressed gas tanks. The secondary containment would then reduce particulate fission product release from any failed containment penetrations (containment isolation failure). In order to evaluate the benefit from such a system, this design change is assumed to eliminate the CI release category. As presented in the UFSAR section Evaluation of Potential Improvements, the value of eliminating AP1000 total risk is $21,000 as discussed in the section Value of Eliminating Risk. This value is an upper bound for any single engineered design alternative, which would actually reduce CDF and/or LRF a fraction of the values assumed in the base case for calculating the $21,000 value. For the AP1000, the SAMDA design alternative of secondary containment filtered ventilation cost was $2,200,000 and found not to be cost effective. UFSAR table Dominant Containment Event Tree (CET) Sequences provides that the frequency of CI fails is in the low to mid 10^{-10} per year range. An integrated leak rate test of the primary reactor containment is performed prior to initial plant operation, and periodically thereafter, to confirm that the total leakage from the containment does not exceed the maximum allowable leak rate. The allowable leak rate specified in the test criteria is less than the maximum allowable containment leak rate, in accordance with 10 CFR 50 Appendix J.

4.1.2 Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed containment electrical penetration assemblies are similar in form, fit, and function to the current non-Class 1E containment electrical penetration assemblies. The new electrical penetration assemblies (EPAs) will meet the same design function as current EPAs. They will conform to ASME Code Section III, will be seismic Category I, and qualified for harsh environment. The EPAs will be subject to ITAAC Tier 1 Table 2.2.1-3 Items 6.d and 8 and conform with the same electrical penetration description in the UFSAR section Containment Building Electrical Penetrations and same electrical penetration design testing described in the UFSAR section

Mechanical and Electrical Penetrations. The additional containment electrical penetration assemblies are an engineered passive extension of containment, and, therefore, do not affect containment or its ability to perform its design function. As stated in the UFSAR section Containment Functional Design, the containment system is designed such that for all break sizes, up to and including the double-ended severance of a reactor coolant pipe or secondary side pipe, the containment peak pressure is below the design pressure. Because the new EPAs are virtually identical to the current EPAs, the proposed change will not create the possibility of a new or different kind of accident. As discussed in the UFSAR section Total Population Dose, Release Category CI – Containment Isolation Failure is a containment isolation failure that occurs because of the postulated failure of the system or valves that close the penetrations between the containment and the environment. A CI failure of the new EPAs would be a new initiator of the same accident and is not a different type of accident. UFSAR table Dominant Containment Event Tree (CET) Sequences provides that the frequency of CI fails is in the low to mid 10^{-10} per year range and thus highly unlikely.

4.1.3 Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

In the Summary section of the Diffusion Flame Analysis of the UFSAR, the safety margin basis containment performance requirement is met as the loss-of-coolant accident plus 100-percent active cladding reaction hydrogen burn peak pressure provides margin to the ASME Service Level C stress limits. The proposed containment electrical penetration assemblies are similar in form, fit and function to the current non-Class 1E containment electrical penetration assemblies. The new electrical penetration assemblies (EPAs) will meet the same design function as current EPAs. They will conform to ASME Code Section III, will be seismic Category I, and qualified for harsh environment. The EPAs will be subject to ITAAC Tier 1 Table 2.2.1-3 Items 6.d and 8 and conform with the same electrical penetration description in the UFSAR section Containment Building Electrical Penetrations and same electrical penetration design testing described in the UFSAR section Mechanical and Electrical Penetrations. The additional containment electrical penetration assemblies are an engineered passive extension of containment, and, therefore, do not affect containment or its ability to perform its design function. The addition of the new EPAs does not exceed or alter a design basis or safety limit and, therefore, does not significantly reduce the margin of safety.

Based on the above, South Carolina Electric & Gas concludes that the proposed changes present no significant hazards consideration under the standards set forth in

10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.2 Applicable Regulatory Requirements/Criteria

10 CFR 52, Appendix D, VIII.B.5.a requires prior NRC approval for Tier 1 changes. This change affects Tier 2 information that involves departures from Tier 1 Table 2.2.1-1, Figure 2.2.1-1, and Table 2.2.3-6, and thus, Tier 1 information is changed and NRC approval is required.

10 CFR 50, Appendix A, General Design Criterion (GDC) 2, Design bases for protection against natural phenomena, requires structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. Adding the four new electrical penetration assemblies does not affect compliance with GDC 2.

10 CFR 50, Appendix A, General Design Criterion (GDC) 16—Containment design, requires reactor containment and associated systems be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require. Adding the four new electrical penetration assemblies does not affect compliance with GDC 16.

10 CFR 50, Appendix A, General Design Criterion (GDC) 50—Containment design basis, requires the reactor containment structure, including access openings, penetrations, and the containment heat removal system be designed so that the containment structure and its internal compartments can accommodate, without exceeding the design leakage rate and with sufficient margin, the calculated pressure and temperature conditions resulting from any loss-of-coolant accident. Adding the four new electrical penetration assemblies does not affect compliance with GDC 50.

10 CFR 50, Appendix A, General Design Criterion (GDC) 53—Provisions for containment testing and inspection, requires the reactor containment be designed to permit (1) appropriate periodic inspection of all important areas, such as penetrations, (2) an appropriate surveillance program, and (3) periodic testing at containment design pressure of the leak-tightness of penetrations which have resilient seals and expansion bellows. Adding the four new electrical penetration assemblies does not affect compliance with GDC 53.

4.3 Precedent

There is currently no precedent identified for this activity.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5. Environmental Considerations

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Specific justification is provided in Section 5 of the corresponding exemption request. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6. References

1) Westinghouse Electric Company, ~~–~~AP1000 Design Control Document,” Revision 19, June 2011.

South Carolina Electric & Gas

NND-12-0xxx

Enclosure 2

V.C. Summer Nuclear Station Units 2 and 3

Exemption Request:

Additional Containment Electrical Penetration Assemblies

1. Purpose

SCE&G requests a permanent exemption from the provisions of 10 CFR 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents," to allow a departure from elements of the certification information in Tier 1 of the generic DCD. The regulation, 10 CFR 52, Appendix D, Section III.B, requires an applicant or licensee referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certification information in DCD Tier 1. The Tier 1 information for which a plant-specific departure and exemption is being requested includes changes that identify these new containment electrical penetration assemblies (EPAs) with the same detailed information for current non-Class 1E containment EPAs.

This request for exemption will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow departures from generic Tier 1 information due to the following proposed changes to the system-based design descriptions.

- Table 2.2.1-1 Changes:
  - Addition of Electrical Penetration P07 ECS-EY-P07X
  - Addition of Electrical Penetration P17 ECS-EY-P17X
  - Addition of Electrical Penetration P19 ECS-EY-P19Z
  - Addition of Electrical Penetration P20 ECS-EY-P20Z
- Figure 2.2.1-1 Change:
  - Change figure text from "Electrical Penetration (Typical 1 of 25)" to "Electrical Penetration (Typical 1 of 29)"
- Table 2.2.3-6 Change:
  - Addition of P07, P17, P19, and P20 to the row "Containment Electrical Penetrations" under the column heading "Tag No."

This request will provide for the application of the requirements for granting exemptions from design certification information, as specified in 10 CFR Part 52, Appendix D, Section VIII.A.4, 10 CFR §52.63, §52.7, and §50.12.

2. Background

SCE&G is the holder of Combined License Nos. NPF-93 and NPF-94, which authorizes construction and operation of two Westinghouse Electric Company AP1000 nuclear plants, named V.C. Summer Nuclear Station (VCSNS) Units 2 and 3, respectively. During the detailed design phase of the non-Class 1E Low Voltage Power and Control (LVP&C) and non-Class 1E Instrumentation and Control (I&C) portions of systems within containment, it was determined that the current number of containment vessel electrical penetrations cannot support the necessary electrical loads and instrumentation signals inside containment. The requested departures are necessary to accommodate the electrical loads required within the containment vessel. Specifically, two additional non-Class 1E LVP&C and two non- Class 1E I&C EPAs are needed to support the power, control, and instrumentation requirements of the various in-containment systems. The proposed change adds four non-Class 1E containment EPAs. The additional electrical penetrations are not spares, and will facilitate the electrical loads required

within the containment vessel. This activity requires an exemption to allow a departure from the requirements of plant-specific DCD Tier 1.

An exemption from elements of the AP1000 certification (Tier 1) design information to allow a departure to a figure and tables referenced in the containment and passive core cooling system-based design descriptions and ITAAC is requested to maintain a consistent level of detail with the information that is currently provided elsewhere in Tier 1 of the plant-specific DCD.

3. Technical Justification of Acceptability

Plant-specific DCD Tier 1 Table 2.2.1-1 lists containment system components, including non-Class 1E electrical penetrations, separating the containment atmosphere from the outside environment during design basis accidents. As stated in Tier 1 Section 2.2.1, the non-Class 1E electrical penetrations identified in Table 2.2.1-1 as being qualified for a harsh environment can withstand the environmental conditions that would exist before, during, and following a design basis accident without loss of containment pressure boundary integrity. The primary purpose of listing EPAs in Table 2.2.1-1 is to identify those components which are necessary to be included in the Tier 1 design description. Since this activity would add new non-Class 1E containment EPAs, it is proposed to update this table so the new EPAs are consistent with other EPAs of a similar function.

As stated in plant-specific DCD Tier 1 Section 2.2.1, the purpose of Tier 1 Figure 2.2.1-1 is to depict the containment system, including non-Class 1E electrical penetrations. Since this activity would add new non-Class 1E EPAs, it is proposed that this figure be updated to represent the new EPAs similar to current non-Class 1E EPAs.

As stated in plant-specific DCD Tier 1 Section 2.2.3, the equipment listed in Table 2.2.3-6 must have sufficient thermal lag to withstand the effects of identified hydrogen burns associated with severe accidents. The primary purpose of listing EPAs in Table 2.2.1-1 is to identify those components which are necessary to be included in the Tier 1 design description. Since this activity would add new non-Class 1E containment EPAs, it is proposed to update this table so the new EPAs are consistent with other EPAs of a similar function.

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4. Justification of Exemption

10 CFR Part 52, Appendix D, Section VIII.A.4 and 10 CFR 52.63(b)(1) govern the issuance of exemptions from elements of the certified design information for AP1000 nuclear power plants. Because SCE&G has identified changes to the Tier 1 information related to non-Class 1E containment EPAs, an exemption to the certified design information in Tier 1 is needed.

10 CFR Part 52, Appendix D, and 10 CFR 50.12, §52.7, and §52.63 state that the NRC may grant exemptions from the requirements of the regulations provided six conditions are met: 1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, App. D, VIII.A.1].

The requested exemption to add four new containment EPAs satisfies the criteria for granting specific exemptions, as described below.

4.1 This exemption is authorized by law

The NRC has authority under 10 CFR 52.63, §52.7, and §50.12 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR 50.12 and §52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations.

Accordingly, this requested exemption is "authorized by law," as required by 10 CFR 50.12(a)(1).

4.2 This exemption will not present an undue risk to the health and safety of the public

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific Tier 1 DCD to depart from the AP1000 certified (Tier 1) design information. The plant-specific Tier 1 DCD will continue to reflect the approved licensing basis for VCSNS Units 2 and 3, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Because the additional EPAs do not present any adverse impacts to the design function of containment, the containment will continue to protect the health and safety of the public in the same manner. Therefore, no adverse safety impact which would present any additional risk to the health and safety is present. The affected ITAAC in the plant-specific Tier 1 DCD will also continue to provide the detail necessary to support their performance.

Therefore, the requested exemption from 10 CFR 52, Appendix D, Section III.B would not present an undue risk to the health and safety of the public.

4.3 This exemption is consistent with the common defense and security

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific Tier 1 DCD by departing from the AP1000 certified (Tier 1) design information. The exemption does not does not alter the design, function, or operation of any plant equipment that is necessary to maintain a safe and secure status of the plant. The proposed exemption has no impact on plant security or safeguards procedures.

Therefore, the requested exemption is consistent with the common defense and security.

4.4 Special circumstances are present

10 CFR 50.12(a)(2) lists six "special circumstances" for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(iii). That subsection defines special circumstances as when “[c]ompliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated…"

Compliance with the current requirements in Tier 1 result in undue hardship and costs for SCE&G beyond what was contemplated when the regulation was adopted. Without the additional EPA, operation of the facility as described in the Generic DCD is not possible without significant redesign of other aspects of the facility described in the Generic DCD. This would result in additional departures from the Generic DCD and would therefore involve a significant schedule impact while still reducing standardization between the facility being constructed and the generic DCD.

Therefore, because of the significant impact to the construction schedule and subsequent cost to construct and ultimately operate the facility as it is currently described in Tier 1, undue hardship exists. Thus, special circumstances are present.

4.5 The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption

Based on the nature of the changes to the plant-specific Tier 1 information and the understanding that these changes are needed to support increased electrical loads inside the AP1000 containment, it is likely that this exemption will be requested by other AP1000 licensees. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the Containment System and the non-Class 1E containment EPAs associated with this request will continue to be maintained. This exemption request and the associated marked-up tables and figure demonstrate that there is a minimal change from the generic AP1000 DCD, minimizing the reduction in standardization and consequently the safety impact from the reduction. Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

4.6 The design change will not result in a significant decrease in the level of safety

The exemption revises the plant-specific DCD Tier 1 information by depicting the four new non-Class 1E containment EPAs in the appropriate Tier 1 figure and presenting these new EPAs and their key attributes in the applicable Tier 1 tables. These containment EPAs are consistent in design and application with EPAs already approved as part of the DCD as documented in NUREG-1793 Supplement 2 Section 8.4.1. A review of these design changes has determined that they will not have an adverse impact on the design functions associated with the Containment System (CNS), other Class 1E and non-Class 1E cables and equipment, or with the portions of the systems within containment that are supported by these EPAs. Because there is no adverse impact on the design function of these SSCs, there is no reduction in the level of safety.

Therefore, the design change will not result in a significant decrease in the level of safety.

5. Environmental Consideration

SCE&G has determined that the proposed departure would require a permanent exemption from the provisions of 10 CFR 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents"; however, facility construction and operation following implementation of the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, SCE&G evaluation of the proposed exemption has determined that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

(i) There is no significant hazards consideration.

As documented in Section 4.1, Significant Hazards Consideration, of the license amendment request associated with this action, an evaluation was completed to determine whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety. Based on the above, it was concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" was justified for the license amendment request. Because the Tier 1 departures from the certified design that are associated with the proposed exemption request simply reflect the Tier 1 departures in the proposed license amendment the evaluation and conclusions reached in the significant hazards consideration for the license amendment request are equally applicable to this exemption request. Therefore, it is concluded that the proposed exemption does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified for this exemption request.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed exemption to allow the addition of four new non-Class 1E containment EPAs affects features of the containment structure that are unrelated to any aspects of plant operation that would introduce any changes to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents) or affect any plant radiological or non-radiological effluent release quantities. Furthermore, the new EPAs do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the proposed exemption does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed exemption to allow the addition of four new non-Class 1E containment EPAs does not affect the containment vessel's ability to maintain the release of airborne radioactivity within limits and provide shielding, for the reactor core and the reactor coolant system during normal operations. Furthermore, the Auxiliary Building areas in which these penetrations will be connected to are non-Class 1E electrical equipment/penetration rooms, which are separate from the mechanical penetration areas, including the radioactive piping penetration areas. The four new EPAs do not introduce any new radioactive materials to these areas, nor do they adversely impact any plant controls that protect personnel from radioactive material or any radiation. monitors or alarms that alert personnel to elevated radiation conditions in these areas or conditions that could lead to increasing exposure.

Consequently, the proposed changes to add four new non-Class 1E containment EPAs are not expected to increase individual or cumulative occupational radiation exposure. Therefore, it is concluded that the proposed amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the proposed exemption, SCE&G has determined that facility construction and operation following implementation of the proposed activity does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed exemption is not required.

6. Conclusion

The proposed changes to Tier 1 are necessary to revise a figure and two tables referenced in plant-specific DCD Tier 1. The license amendment request associated with this proposed exemption revises the plant-specific DCD Tier 1 information by adding four new non-Class 1E containment EPAs. The exemption request meets the requirements of 10 CFR 52.63, 10 CFR 52.7, 10 CFR 50.12, 10 CFR 51.22, and 10 CFR 52 Appendix D. Specifically, the exemption request meets the criteria of 10 CFR 50.12(a)(1) in that the request is authorized by law, presents no undue risk to public health and safety, and is consistent with the common defense and security. Furthermore, approval of this request does not result in a significant decrease in the level of safety, presents special circumstances, does not present a significant decrease in safety as a result of a reduction in standardization, and meets the eligibility requirements for categorical exclusion.

7. References

1) Westinghouse Electric Company, “AP1000 Design Control Document,” Revision 19, June 2011.

South Carolina Electric & Gas

NND-12-0xxx

Enclosure 3

V.C. Summer Nuclear Station Units 2 and 3

Licensing Basis Proposed Changes

DCD Tier 1 Table 2.2.1-1

VCSNS Unit 2 COL, Appendix C, Table 2.2.1-1

VCSNS Unit 3 COL, Appendix C, Table 2.2.1-1

Table 2.2.1-1 (cont.)

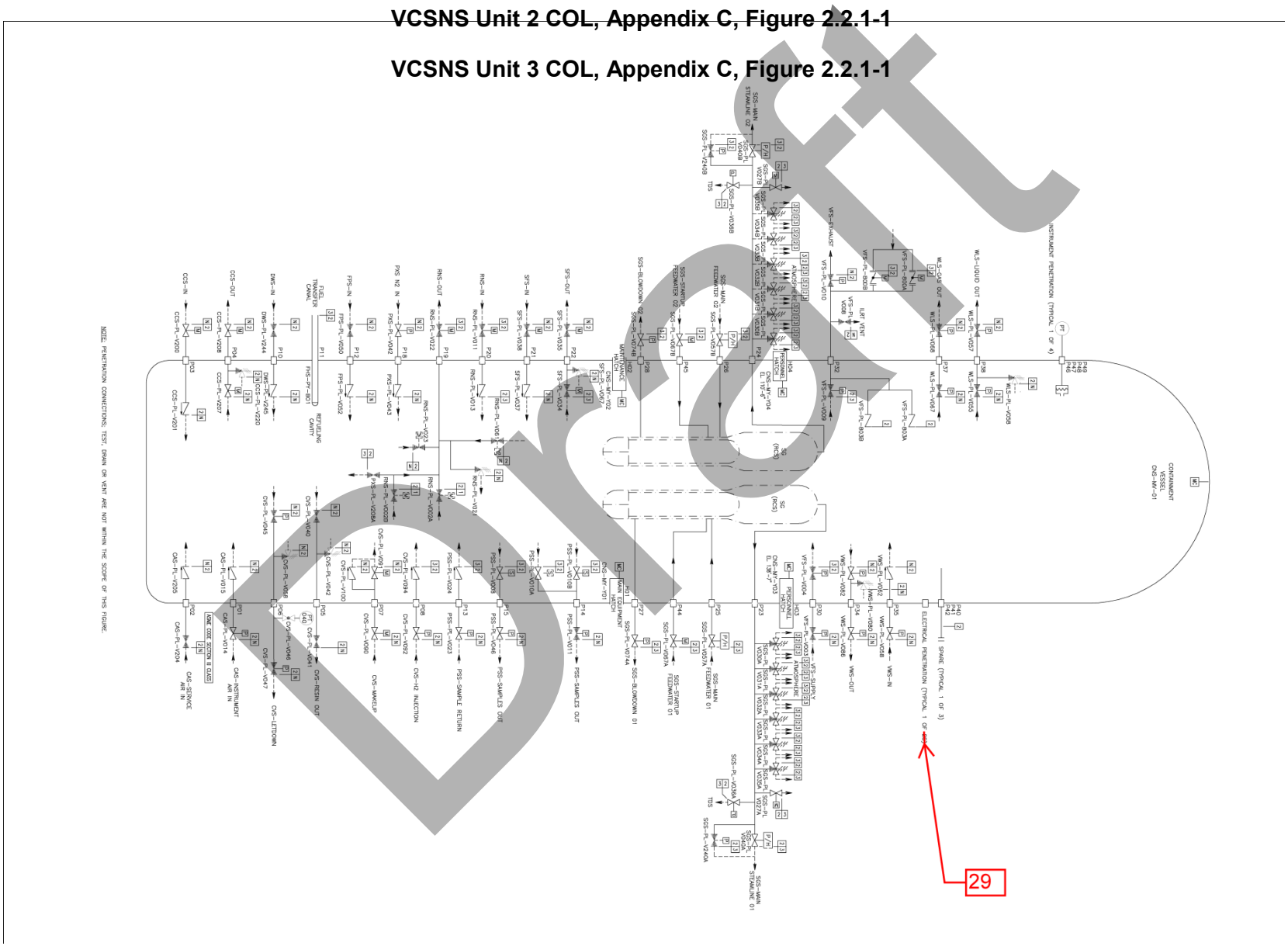
Equipment Name	Tag No.	ASME Code Section III	Seismic Cat. I	Remotely Operated Valve	Class 1E/ Qual. for Harsh Envir.	Safety-Related Display	Control PMS/ DAS	Active Function	Loss of Motive Power Position
Electrical Penetration P02	ECS-EY-P02X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P06	ECS-EY-P06Y	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P09	ECS-EY-P09W	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P07	ECS-EY-P07X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P11	IDSA-EY-P11Z	Yes	Yes	-	Yes/Yes	-	-/-	-	-
Electrical Penetration P12	IDSA-EY-P12Y	Yes	Yes	-	Yes/Yes	-	-/-	-	-
Electrical Penetration P17	ECS-EY-P17X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P15	IDSD-EY-P15Y	Yes	Yes	-	Yes/Yes	-	-/-	-	-
Electrical Penetration P16	IDSD-EY-P16Y	Yes	Yes	-	Yes/Yes	-	-/-	-	-
Electrical Penetration P18	ECS-EY-P18X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P21	EDS-EY-P21Z	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P22	ECS-EY-P22X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P23	ECS-EY-P23X	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P19	ECS-EY-P19Z	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P20	ECS-EY-P20Z	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P26	ECS-EY-P26W	Yes	Yes	-	No/Yes	-	-/-	-	-
Electrical Penetration P27	IDSC-EY-P27Z	Yes	Yes	-	Yes/Yes	-	-/-	-	-

Note: Dash (-) indicates not applicable.

DCD Tier 1 Figure 2.2.1-1, Containment System

VCSNS Unit 2 COL, Appendix C, Figure 2.2.1-1

VCSNS Unit 3 COL, Appendix C, Figure 2.2.1-1



DCD Tier 1 Table 2.2.3-6

VCSNS Unit 2 COL, Appendix C, Table 2.2.3-6

VCSNS Unit 3 COL, Appendix C, Table 2.2.3-6

Table 2.2.3-6		
Equipment	**Tag No.**	**Function**
Hot Leg Sample Isolation Valves	PSS-PL-V001A/B	Transfer open
Liquid Sample Line Containment Isolation Valves IRC	PSS-PL-V010A/B	Transfer open
Containment Pressure Sensors	PCS-012, 013, 014	Sense pressure
RCS Wide Range Pressure Sensors	RCS-191A, B, C, D	Sense pressure
SG1 Wide Range Level Sensors	SGS-011, 012, 015, 016	Sense level
SG2 Wide Range Level Sensors	SGS-013, 014, 017, 018	Sense level
Hydrogen Monitors	VLS-001, 002, 003	Sense concentration
Hydrogen Igniters	VLS-EH-01 through 64	Ignite hydrogen
Containment Electrical Penetrations	P01, P02, P03, P06, P09, P10, P11, P12, P13, P14, P15, P16, P18, P21, P22, P23, P24, P25, P26, P27, P28, P29, P30, P31, P32	Maintain containment boundary

P07,

P17,

P19, P20,

Table 3.2-3 (Sheet 71 of 75)
AP1000 Classification of Mechanical and Fluid Systems, Components, and Equipment

Tag Number	Description	AP1000 Class	Seismic Category	Principal Construction Code	Comments
Containment Leak Rate Test System (Continued)					
VUS-PL-V116	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V117	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V118	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V119	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V120	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V121	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V122	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V123	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V124	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V125	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V140	Spare Penetration Test	B	I	ASME III-2	
VUS-PL-V126	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V127	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V128	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
VUS-PL-V129	Electrical Penetration Test Isolation Valve	B	I	ASME III-2	
n/a	Pumps	D	NS	Manufacturer Std.	
n/a	Tanks	D	NS	ASME VIII	

Table 3.7.3-1 (Sheet 2 of 3)
Seismic Category I Equipment Outside Containment by Room Number

Room No.	Room Name	Equipment Description
12303	Remote shutdown room	Divisional cabling
12304	Division B I&C/penetration room	Divisional I&C/electrical penetrations
12305	Division D I&C/penetration room	Divisional I&C/electrical penetrations
12306	Valve/piping penetration room	CCS/CVS/DWS/FPS/SGS containment isolation valves
12311	Corridor	Divisional cabling
12312	Division C RCP trip switchgear room	RCP trip switchgear
12313	Division C I&C/penetration room	Divisional I&C/electrical penetrations
12321	Non-1E equipment/penetration room	Divisional cabling
12341	Middle annulus	Class 1E electrical penetrations Various mechanical piping penetrations
12351	Maintenance floor staging area	Divisional cabling (ceiling)
12352	Personnel hatch	Personnel airlock (interlocks)
12354	Middle annulus access room	PSS/SFS containment isolation valves
12362	RNS HX room	RNS pressure boundary
12365	Waste monitor tank room B	SFS piping
12400	Control room vestibule	Control room access
12401	Main control room	Dedicated safety panel VBS HVAC dampers VES isolation valves Lighting circuits Mounting for lighting fixtures
12404	Lower MSIV compartment B	SGS containment isolation valves, instrumentation and controls
12405	Lower VBS B and D equipment room	VWS/PXS/CAS containment isolation valves
12406	Lower MSIV compartment A	SGS containment isolation valves, instrumentation and controls
12412	Electrical penetration room Division A	Divisional electrical penetrations

/electrical penetrations

Table 3.7.3-1 (Sheet 3 of 3)
Seismic Category I Equipment Outside Containment by Room Number

Room No.	Room Name	Equipment Description
12421	Non 1E equipment/penetration room	Divisional cabling /electrical penetrations
12422	Reactor trip switchgear II	Reactor trip switchgear
12423	Reactor trip switchgear I	Reactor trip switchgear
12452	VFS penetration room	VFS containment isolation valves, divisional cabling
12454	VFS/SFS/PSS penetration room	SFS/PSS/VFS containment isolation valves, RNS pressure boundary
12462	Cask washdown pit	SFS piping
12504	Upper MSIV compartment B	SGS CIVs, instrumentation and controls
12506	Upper MSIV compartment A	SGS CIVs, instrumentation and controls
12541	Upper annulus	PCS piping and cabling PCS air baffle
12553	Personnel access area	Personnel airlock (interlocks)
12555	Operating deck staging area/VES air storage	VES high pressure air bottles
12651	VAS Equipment Room	VFS containment isolation valves
12562	Fuel handling area	Spent fuel storage racks
12701	PCS valve room	PCS isolation valves/instrumentation
12703	PCS water storage tank	PCS piping, level and temperature instrumentation

Table 3.11-1 (Sheet 49 of 51)
Environmentally Qualified Electrical and Mechanical Equipment

Description	AP1000 Tag No.	Envir. Zone (Note 2)	Function (Note 1)	Operating Time Required (Note 5)	Qualification Program (Note 6)
Electrical Penetration Test Isolation Valve	VUS-PL-V109	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V110	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V111	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V112	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V113	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V114	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V115	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V116	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V117	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V118	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V119	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V120	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V121	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V122	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V123	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V124	4	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V125	2	PB	1 yr	M
Spare Penetration Test Connection	VUS-PL-V140	6	PB	1 yr	M **
Electrical Penetration Test Isolation Valve	VUS-PL-V126	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V127	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V128	2	PB	1 yr	M
Electrical Penetration Test Isolation Valve	VUS-PL-V129	2	PB	1 yr	M

Table 3I.6-3 (Sheet 29 of 32)
List of AP1000 Safety-Related Electrical and Mechanical Equipment Not High Frequency Sensitive

Description	AP1000 Tag Number	Comment
Electrical Penetration Test Isolation Valve	VUS-PL-V101	2
Electrical Penetration Test Isolation Valve	VUS-PL-V102	2
Electrical Penetration Test Isolation Valve	VUS-PL-V103	2
Electrical Penetration Test Isolation Valve	VUS-PL-V104	2
Electrical Penetration Test Isolation Valve	VUS-PL-V105	2
Electrical Penetration Test Isolation Valve	VUS-PL-V106	2
Electrical Penetration Test Isolation Valve	VUS-PL-V107	2
Electrical Penetration Test Isolation Valve	VUS-PL-V108	2
Electrical Penetration Test Isolation Valve	VUS-PL-V109	2
Electrical Penetration Test Isolation Valve	VUS-PL-V110	2
Electrical Penetration Test Isolation Valve	VUS-PL-V111	2
Electrical Penetration Test Isolation Valve	VUS-PL-V112	2
Electrical Penetration Test Isolation Valve	VUS-PL-V113	2
Electrical Penetration Test Isolation Valve	VUS-PL-V114	2
Electrical Penetration Test Isolation Valve	VUS-PL-V115	2
Electrical Penetration Test Isolation Valve	VUS-PL-V116	2
Electrical Penetration Test Isolation Valve	VUS-PL-V117	2
Electrical Penetration Test Isolation Valve	VUS-PL-V118	2
Electrical Penetration Test Isolation Valve	VUS-PL-V119	2
Electrical Penetration Test Isolation Valve	VUS-PL-V120	2
Electrical Penetration Test Isolation Valve	VUS-PL-V121	2
Electrical Penetration Test Isolation Valve	VUS-PL-V122	2
Electrical Penetration Test Isolation Valve	VUS-PL-V123	2
Electrical Penetration Test Isolation Valve	VUS-PL-V124	2
Electrical Penetration Test Isolation Valve	VUS-PL-V125	2
Electrical Penetration Test Isolation Valve	VUS-PL-V126	2
Electrical Penetration Test Isolation Valve	VUS-PL-V127	2
Electrical Penetration Test Isolation Valve	VUS-PL-V128	2
Electrical Penetration Test Isolation Valve	VUS-PL-V129	2

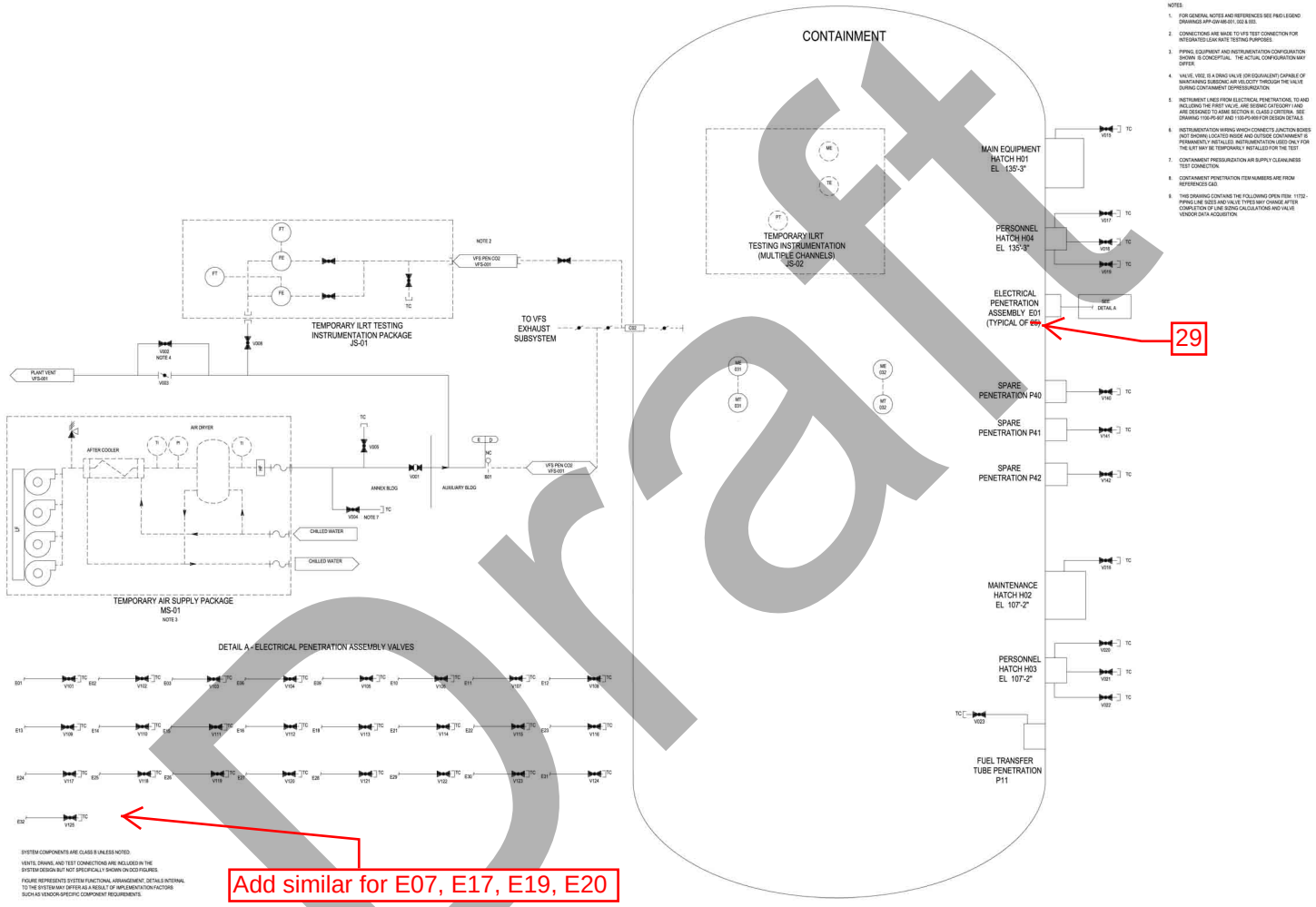


Figure 6.2.5-1
Containment Leak Rate Test System Piping and Instrumentation Diagram

RN-12-002

Figure represents system functional arrangement. Details internal to the system may differ as a result of implementation factors such as vendor-specific component requirements.