RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.:	**176-8089**
SRP Section:	**03.11 – Environmental Qualification of Mechanical and Electrical Equipment**
Application Section:	**03.11**
Date of RAI Issue:	**08/31/2015**

Question No. 03.11-9

10 CFR 50.49 and 10 CFR 50, Appendix A, criterion 4 require that certain components important to safety be designed to withstand environmental conditions, including the effects of radiation, associated with design basis events, including normal operation, anticipated operational occurrences, and design basis accidents.

SRP Section 3.11 indicates that the applicant's safety analysis report should be sufficient to support the conclusion that all items of equipment that are important to safety are capable of performing their design safety functions under all environmental conditions that may result from any normal mode of plant operation, anticipated operational occurrence, design basis events, post-design basis events, and containment tests.

In addition, SRP Section 3.11 states that radiation dose and dose rate used to determine the radiation environment for qualification of electrical and mechanical equipment must be based on an NRC staff approved source term and methodology, as discussed in NUREG-0588 and as supplemented by Section II.B.2 of NUREG-0737, "Clarification of TMI Action Plan requirements," and NUREG-0718, "Licensing Requirements for Pending Applications for Construction Permits and Manufacturing License," or as discussed in NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants." The radiation environment must be based on the integrated effects of the normally expected radiation environment over the equipment's installed life, plus the effects associated with the most severe design basis event during or following which the equipment is required to remain functional. The effects of beta radiation must also be considered in the qualification process. The effects of radiation exposure due to re-circulatory fluid must be considered for equipment located outside the containment.

Finally, SRP Section 3.11 states that the staff will conclude that the environmental design and qualification of mechanical, electrical, and I&C equipment that are important to safety is acceptable and meet applicable regulations, based on the finding that the applicant has implemented an environmental design and qualification program that provides adequate

assurance that mechanical, electrical, and I&C equipment that are important to safety will function as intended in the event of anticipated operational occurrences, as well as in the normal, accident, and post-accident environmental conditions. The applicant's environmental design and qualification program is in accordance with the requirements and guidance described in the regulations, regulatory guides and industry standards identified in Subsection II of SRP Section 3.11.

In addition, RGs 1.89 and 1.183 provide guidance on how to do the radiological analysis related to equipment qualification. These guides indicate that assuming 1% failed fuel cladding, would be an acceptable assumption for calculating normal operation equipment qualification dose.

GENERAL ISSUES

Staff does not fully understand the applicant’s approach for assigning total integrated (TID) dose rates to plant areas and components, as described in FSAR Section 3.11 and APR1400-E-X-NR-14001-NP, Rev. 0 and needs additional clarification. In addition, it appears that there may be errors or inconsistences within the application which need to be corrected or addressed. Finally, it is unclear if the applicant is meeting all applicable guidance and acceptance criteria (specific guidance and acceptance criteria beyond the guidance referenced above, is provided below, where appropriate).

DESCRIPTION OF SPECIFIC ISSUES AND INFORMATION REQUESTED

The following questions are based on the December 2014 revision of the APR 1400 DCD application. They are based on the radiation protection review of FSAR Section 3.11. During a public conference call on June 23, 2015, the applicant informed staff that they plan to delete FSAR Table 3.11-2 and APR1400-E-X-NR-14001-NP, Table 2 (both titled, “Environmental Data”). If the applicant decides to delete these tables, the applicant should do the following:

- Provide justification for why the tables are not needed (this justification should indicate where comparable information can be found, if applicable, or why the information was not needed, and should consider not just radiological information but all information in the tables). The NRC staff, from all subject areas, will review the justification provided to determine if it is acceptable to delete the information.

- In order to identify the TID values for each component, the applicant should provide the room number in FSAR Table 3.11-3 and Table 3 of APR1400-E-X-NR-14001.

- Instead of just providing the TID in Table 4 of APR1400-E-X-NR-14001, the applicant should also provide dose contributions for neutrons, betas, and gammas individually, where applicable (this is necessary because the tables being deleted already include information on beta dose and SRP 3.11 indicates that the effects of beta dose should be considered. For neutrons, the application discusses the effects of neutron exposure, therefore, it should be clear how neutrons effect the TID values, where appropriate.

- Provide a statement in FSAR Section 3.11, where appropriate, indicating that TID information for each room can be found in Table 4 of APR1400-E-X-NR-14001.

- Table 2 of APR1400-E-X-NR-14001, includes a footnote includes a statement indicating that accident doses are based on the limiting design basis accident. Ensure that a

statement indicating that doses are based on the limiting design basis accident is retained somewhere within APR1400-E-X-NR-14001.

If the applicant decides to delete FSAR Table 3.11-2 and APR1400-E-X-NR-14001-NP, Table 2, and provide the above requested information, questions 2, 3, and 4 below need not be addressed. Other questions referencing FSAR Table 3.11-2, still need to be addressed, as appropriate, but information regarding Table 3.11-2 need not be provided if the tables have been deleted.

Based on the review, staff requests the following:

1. FSAR Section 3.11.5.2 indicates that the normal operational exposures are based on the design basis source terms presented in Section 11.1 and that the dose contribution from adjacent rooms are accounted for by adding 20 percent to the TID inside the room, except when 20 percent is not bounding, in which case the actual values are used.

    a. It is unclear which source terms in Section 11.1 the applicant is referring to. Please specify which source terms in Section 11.1 were used in the equipment qualification analysis and include this information in FSAR Section 3.11.5.2.

    b. Staff needs a better understanding of how dose rates for equipment qualification were determined in order to determine if the applicant's approach is acceptable. Please describe the approach used for calculating the normal operation one percent failed fuel TID values used for equipment qualification. Begin with the one percent failed fuel source term provided in FSAR Table 11.1-2 and provide a general description of how this source term was used to determine the dose rates in rooms and how the dose from adjacent rooms was determined (were the minimum shield wall thicknesses in Chapter 12 considered? Was 20% just added to the adjacent room regardless of shielding thickness?). Indicate any significant differences in assumptions from assumptions used in creating the Chapter 12 source terms and Chapter 12 radiation zone maps. Then describe what the TID values in FSAR Table 3.11-2 and Table 4 of APR1400-E-X-NR-14001-NP represent (e.g. is it at the maximum dose within the given room or area? Is it the dose where the maximally exposed piece of equipment is located?) Ensure that it is clear how bounding values are being applied for all equipment relevant to equipment qualification. (As part of this response, staff suggests picking a normal operation TID value from Table 3.11-2 (such as for the purification ion exchanger provided for Category C) or a room in Table 4 of APR1400-E-X-NR-14001-NP and explaining how the specific TID value was determined, what specific location was the given dose calculated at, and why it is adequate for all equipment within that region.)

    c. Update the FSAR or APR1400-E-X-NR-14001-NP, as appropriate, to provide the general methodology used to develop the normal operation TID values, including referencing relevant computer codes or special assumptions used in the calculations. Indicate if the approach used for determining normal operation source terms is similar to the approach used for developing sources in Chapter 12 (except with 1 percent failed fuel instead of with 0.25 percent). Airborne radioactivity should be considered in the TID values, where appropriate, and the basic methodology for

determining the airborne contributions to the TID values should also be included in these documents, as appropriate.

2. FSAR Table 3.11-2, Category C, provides equipment qualification parameters for the Auxiliary Building. The application identifies the following radiation areas within Category C; “accessible areas and I&C equipment,” “RTSG, DRCS,” “VCT,” and “purification ion exchanger”. It is unclear to staff what those radiation areas represent. For example, is purification ion exchanger just the purification ion exchanger room, or is it some region of the building surrounding the purification ion exchanger. The FSAR should be updated, perhaps by providing a figure, to clearly indicate which areas of the Auxiliary Building are considered within each radiation dose area.

3. As discussed in Question 2 above, FSAR Table 3.11-2 provides four different radiation areas within Category C. However, in FSAR Table 3.11-3, it is unclear which radiation area within Category C, each component belongs. For example, FSAR Table 3.11-3 (7 of 66) provides item CV-0508, “Three way valve and actuator, RCP CBO Diversion,” as being located in Category C. However, FSAR Table 3.11-3 does not specify if CV-0508 is within the “accessible areas and I&C equipment” area, the “RTSG, DRCS” area, the “VCT” area, or the “purification ion exchanger” area. Therefore, FSAR Table 3.11-3 needs to be updated to clearly indicate which radiation area each piece of equipment within Category C is within. One way to resolve this issue would be to provide the room that each component is located in FSAR Table 3.11-3. Staff recommends this approach to avoid confusion regarding which TID value applies to each component.

4. While FSAR Table 3.11-2 provides the TID values for outside the biological shield wall, it does not provide TID values inside the biological shield wall. Please include this information or provide the room that each component is located in FSAR Table 3.11-3, as discussed in item 3, above.

5. The following information regarding the volume control tank (VCT) TID provided in FSAR Table 3.11-2 and the TID for the VCT room in Table 4 of APR1400-E-X-NR-14001-NP is requested.

    a. FSAR Section 3.11.5.2 indicates that normal operational exposures from equipment qualifications are based on the 1 percent failed fuel design basis source terms provided in FSAR Section 11.1 and consistent with RG 1.89. One of the sources specifically provided in FSAR Table 3.11-2, is the VCT and the TID value for the VCT is provided in Table 4 of APR1400-E-X-NR-14001-NP. However, the VCT source term provided in FSAR Section 11.1 (Table 11.1-8) only provides the gaseous radionuclide inventory for noble gases, tritium, and iodines and does not contain the liquid inventory or source term. Please indicate if this source term was used in determining the values in Table 3.11-2 or Table 4 of APR1400-E-X-NR-14001-NP.

    b. FSAR Figures 12.3-4 and 12.3-5 provide the radiation zones for the VCT room, based on an assumed 0.25% failed fuel percentage (instead of the 1% used for equipment qualifications). Dose rates on Figures 12.3-4 and 12.3-5 show doses in the VCT room of greater than 5000 mSv/hour (approximately 5 Gray/hour). A dose rate of 5 Gray/hour, over the 60 year life of the plant, excluding 40 months for

refueling outages where dose rates would be expected to be lower during refueling(as discussed in FSAR Section 3.11.5.2), would result in a normal operation TID of greater than the 1.88 x 105 Gray provided in FSAR Table 3.11-2 and the 1.9 x 104 Gray provided in Table 4 of APR1400-E-X-NR-14001-NP (assuming the units in Table 4 are Gray, consistent with the units of radioactivity provided in other FSAR Section 3.11 tables). Please explain these apparent discrepancies and provide the units for TID in Table 4 of APR1400-E-X-NR-14001-NP.

6. FSAR Section 3.11.5.2 indicates that, “In the auxiliary building, exposures are based on the assumption that significant portion of the core fission product inventory are recirculated in the containment sump water plus other post-accident airborne radioactivities as presented in Table 12.2-20.” Table 12.2-20 provides liquid radwaste system tank source terms and not airborne source terms. In addition, the LWMS is located in the Compound Building and not the Auxiliary Building. Please explain why and how the source term information in Table 12.2-20 is being used for determining post-accident airborne sources in the Auxiliary Building.

   In addition, it is the staff’s understanding that all normal operations sources in Chapter 12, including airborne radioactivity, are based on an assumed 0.25% failed fuel fraction. RGs 1.89 and 1.183 indicate that an acceptable method for determining normal operations source terms for equipment qualification is using a 1 percent failed fuel fraction. If the applicant assumed less than a 1 percent failed fuel fraction for calculating the airborne contribution to the TID for equipment qualification, then the failed fuel percentage used needs to be justified.

7. Page 3.11-11 of the FSAR indicates that the basis for establishing an equivalent gamma source to simulate neutron radiation is provided in FSAR Table 3.11-2. However, Table 3.11-2 does not appear to provide a basis or even provide neutron dose values. Please provide;

   a. The basis for establishing an equivalent gamma source to simulate neutron radiation in the application.

   b. The neutron dose contribution in the application, as appropriate (therefore, the gamma, beta, and neutron contributions should be identified in the application, for areas and components that have gamma, beta, and neutron dose contribution).

8. Several columns in FSAR Table 3.11-3 contain listings for certain components of “N/A.” Please update the FSAR to define what a designation of “N/A” means for the columns labeled “Required Operational Time,” “Environmental Condition,” “Radiation Condition,” and “Influence of Immersion (Yes/No)”

9. SRP Section 3.11 states that, “the equipment shall be designed to have the capability of performing its design safety functions under all anticipated operational occurrences and normal, accident, and post-accident environment, and for the length of time for which its function is required.”

   Please ensure that the application is clear as to what the TID value for each component is. The specific TID value for each component should be clearly provided or the

application should clearly specify how long the accident source term is to be provided and the type of accident so that it is clear what the TID value (normal operation and accident) for each component is. For example, currently it is unclear how long components with required operational times of “varies” and “intermittent” are expected to be exposed to the post-accident source terms and what the TID for those specific components are.

10. The post-accident sampling system is considered a vital area in FSAR Section 12.3.1.9. FSAR Section 12.3.1.9 indicates that this area is irregularly accessed for samples during an accident. Therefore, it is unclear to staff why the post-accident sampling room isolation dampers (equipment numbers VK-Y0050A, VK-Y0050B, VK-Y0050C, and VKY0050D) are only required to be operational short-term following an accident, in FSAR Table 3.11-3. FSAR Section 3.11.1.3 states that short-term is for components that are required to operate one time. It would appear to staff that short-term would only be appropriate for components that need to operate one time at the initial onset of the accident, because after the initial onset of the accident, the components will be exposed to accident environmental conditions through the duration of the accident regardless of when they are required to be functional.

    Please justify why the post-accident sampling room isolation dampers are considered to have a short-term operational time following an accident or provide a different designation for the operational time with justification for the designation chosen.

11. As indicated in the previous question, regarding FSAR Table 3.11-3, staff believes that it would seem appropriate that required operational times labeled as “Short-Term,” should only apply to components that are only required to be functional in the moments immediately following the onset of an accident. If this is the case, please update the definition of “Short-Term” in FSAR Section 3.11.1.3 to indicate that it only applies to equipment needed to operate during the initial onset of the accident and ensure that all the equipment in Table 3.11-3 labeled as “Short-Term” are properly labeled.

    If the applicant believes that “Short-Term” should also apply to components needed for one time (or occasional) functionality later in the duration of the accident (following the first few initial hours of the accident), then the applicant should justify why this is acceptable.

12. FSAR Section 3.11.1.3 indicates that components whose operability times are “varies” are capable of operating throughout the design basis accident (up to 6 months) depending on the situation, but it is not needed if something else can perform the same task. However, the applicant needs to be aware how long equipment is required to be operational during the worst case design basis accident for each piece of equipment in order to ensure that the appropriate safety functions can be performed or the applicant needs to ensure it is operational for the duration of the accident. Therefore, please update the FSAR to specify that all equipment with an operability time labeled as “varies” will be operational for the duration of the most limiting design basis accident or provide specific operational times for each piece of equipment labeled as varies with justification for the times chosen.

13. For several components in FSAR Table 3.11-3, instead of providing an equipment number, the application states, “Later.” Please provide the appropriate equipment number for those components.

14. SRP Section 3.11 indicates that staff review will consider the definition of anticipated operational occurrences, normal, accident and post-accident environments.

    The application uses 6 months as the maximum amount of time any component is exposed to an accident environment. Please justify the use of 6 months for the maximum equipment operability time following an accident (instead of a year or some other operability time).

15. SRP Section 3.11 states that the staff’s position is that, a mild radiation environment for electronic equipment is a total integrated dose less than 10 Gy (1E3 rad), and a mild radiation environment for other equipment is less than 100 Gy (1E4 rad).

    APR1400-E-X-NR-14001-NP, Rev. 0, section 2.21 indicates that an area with a TID greater than 102 Gy is considered a harsh environment (10 Gy for electronic components). However, FSAR Section 3.11.1.1 indicates that an environment with a TID of greater than 100 Gy is considered a harsh environment (10 Gy for electronic components). Please correct this discrepancy and justify any deviation from the SRP.

16. FSAR Section 3.11.5.2 indicates that in the fuel handling area, exposures are based on a fuel handling accident. However, FSAR Table 3.11-2 only provides fuel handling area TID values for normal operation and for LOCA/MSLB. Please ensure that the application is consistent and verify that all design basis accidents were considered in the fuel handling area TID values. Also indicate if the limiting TID values for accident conditions in the fuel handling areas are based on a fuel handling accident.

17. APR1400-E-X-NR-14001-NP, Rev. 0 indicates that additional information on the radiation levels and how they are defined can be found in the Environmental Qualification Parameters Report (EQPR). However, the EQPR is not properly referenced in the EQ program document. Please provide the document number for the EQPR and submit it for staff review or remove all references to this document in the FSAR and APR1400-E-X-NR-14001-NP and ensure that the FSAR and APR1400-E-X-NR-14001-NP appropriately provides the methods, models, and assumptions used for determining the TID (both normal operation and accident) for the components listed in FSAR Table 3.11-3 and ensure that the TID value applicable to each component is clearly labeled or identifiable.

Response

Specific Issue 1

Since DCD Table 3.11-2 containing the radiological information was made on a building basis and not on a room basis, it does not reflect the accurate values of the exact location where equipment is installed. In addition, DCD Table 3.11-3 expresses the radiological area for equipment merely as “mild” and “harsh,” which makes it difficult to determine the actual radiation

TID values (dose contributions from neutrons, betas, and gammas) for the area where equipment is located.

In order to resolve this problem and provide more precise information and render the tables complete, KHNP has updated the environmental qualification data by supplementing the environmental information as described below.

- DCD Table 3.11-2 and APR EQP (APR1400-E-X-NR-14001-NP) Table 2 have been deleted as indicated in Attachment 1 and Attachment 2 respectively.

- DCD Table 3.11-3 and APR EQP (APR1400-E-X-NR-14001-NP) Table 3 have been changed to Table 3.11-2 and Table 2, respectively. The contents of the tables have been supplemented and updated as indicated in Attachment 1 and Attachment 2.

- APR EQP (APR1400-E-X-NR-14001-NP) Table 4 has been changed to Table 3 and its contents have been updated. In addition, Table 4 has been added to supplement the information on Containment Spray Conditions as indicated in Attachment 2.

- Dose contributions from neutrons, betas, gammas have been updated in APR EQP (APR1400-E-X-NR-14001-NP), Table 3 as indicated in Attachment 2.

Specific Issue 2

The room names where each component will be located are provided in DCD Table 3.11-2 and the updated APR EQP (APR1400-E-X-NR-14001-NP) Table 2 as indicated in Attachment 1 and Attachment 2. TID values for each component including the room numbers for the equipment can be identified in the updated APR EQP (APR1400-E-X-NR-14001-NP) Table 3 as indicated in Attachment 2.

For unidentified room numbers, the COL applicant will provide the information on room numbers, which will be added as COL 3.11(7) as indicated in Attachment 7.

Specific Issue 3

The results of the TIDs values including contribution for neutrons, betas, and gammas individually are summarized in the updated Table 3 in APR1400-E-X-NR-1400-NP. A copy of the TID summary is also included as Table 8 in this response for completeness and convenience of the RAI response.

Specific Issue 4

KHNP will add a sentence in DCD Section 3.11.1 that the TID values for each component located within specific rooms can be identified in Table 3.11-2.

Specific Issue 5

The description in DCD Section 3.11.5.2 will be revised to incorporate the statement indicating that accident doses are based on the limiting design basis accident, as indicated in Attachment 3.

1. DCD Subsection 3.11.5.2 discusses that the normal operational exposures are based on the design basis source terms presented in DCD Section 11.1 and that the dose contribution from adjacent rooms (defined as indirect radiation in this response) are accounted for by adding 20% to the TID for the target room (defined as direct radiation); except for the cases, when the 20% is not bounding, the actual values (indirect radiation) are used. Additional clarifications are as follows:

   a. The source terms in Table 11.1-2 are used in calculation of the normal TIDs for equipment qualification. These source terms are the design basis source terms based upon 1.0% failed fuel with continuous gas stripping operation. This description will be updated for clarification in DCD Subsection 3.11.5.2, as indicated in the markups attached to this response, Attachment 4.

   b. The environmental qualification TIDs during normal operation of the APR1400 are analyzed in the following calculations:

      - Calculation 1-035-N378-003, Radiological E/Q Calculation (Normal) inside Containment; and
      - Calculation 1-035-N378-004, Radiological E/Q Calculation (Normal) Outside Containment.

      The approach for the above calculations for the determination of the TIDs for equipment qualification consists of three different contributing factors. These factors are summarized below and are presented in a simplified flow chart in Figure 3A-1 of Appendix 3A (provided in Attachment 5):

      - Direct doses from target radiation sources inside equipment/component rooms
      - Indirect doses from surrounding radioactive component rooms, and
      - Airborne radioactivity (also identified as submersion radiation) from equipment/piping leakage in the target source rooms

      The primary input parameters and assumptions for the normal condition TIDs determined for inside/outside containment are divided into five areas as follows:

      1) Source Term Development:

         - The components/equipment specific source terms are developed using the same methodology (including design parameters and assumptions) used to determine the shielding radiation sources for radiation zoning designation in DCD Section 12.2. The initial source term for EQ TIDs calculations is based on 1% failed fuel with continuous gas stripping in DCD Table 11.1-2 as specified in RG 1.89, Appendix D.
         - A component utilization factor of 1.0 is used.

2) Direct Dose Calculation for EQ Determination:

- Dose rates are determined at 1-foot away from equipment surface;
- Sixty years of continuous operation with full power plus one year post-accident doses (provided in Appendix 3B) is assumed. In the case of the fuel transfer tube and cask loading pit, however, the TID values are calculated based on the 40 months refueling time during the 60 year plant life assuming a one month refueling period and a refueling cycle of 18 months), since the source terms in those areas are placed only during the refueling period;
- Only gammas doses are considered in all areas or cubicles except for the reactor cavity zone based on the following:
  - Neutrons are only found adjacent to the reactor vessel during normal operation;
  - Beta rays are negligible, since they have a relatively short range, thereby resulting in the effect of the beta shielding of the internal structure and/or cable insulation/jacketing and sub-component shielding within enclosure.

3) Indirect Doss Calculation from Surrounding Room Sources:

- Evaluations are based on the actual structure wall thicknesses;
- Dose rate are determined at 1-inch away from the inside of the shield wall;
- 60 years of continuous operation with full power plus 1 year post-accident doses (provided in Appendix 3B) is assumed. In case of the fuel transfer tube and cask loading pit, however, the TID values are calculated based on the 40 months refueling term during plant life 60 years assuming one month refueling period and the refueling cycle (=18 months), since the source terms in those areas are placed only during the refueling period;
- In general, a 20% margin is applied to normal TID for consideration of dose contribution from surrounding cubicles, except when the 20% margin is not bounding; then the actual values are used;
- Due to the shielding effect from surrounding walls, only gamma doses are included.

4) Airborne Radioactivity (Submersion Dose) Calculation:

- Leakage rates from valves and flanges associated with the components in each cubicle are assumed to occur from simultaneous leakage from all valves and flanges;
- A fraction of the leakage becomes airborne (Partition Factor);

- Room volumes for the corresponding components are obtained from the general arrangement of the APR1400 layout with the volume of the components assumed to take up 20% volume of the room for conservatism;
- HVAC exhaust air flow rate is taken as the minimum air flow rates based on the fraction of derived air concentration (DAC) less than 1.0 for maximum dose calculation purpose;
- Only includes contribution from gamma similar to the Direct Dose Calculation.

5) General Factors:

- According to RG 1.89 guidance, an additional multiplication factor of 10% margin is applied to the normal TID (summation of direct, indirect, and airborne factors) for consideration of uncertainty.
- 60 years (=5.26E05 hours) of continuous operation at full power
- Dose conversion of 1 Sv/hour = 1 Grey/hour

A detailed discussion of the calculation methods (approaches, equations, basis, assumptions, and definitions), is provided in Appendix 3A (provided in Attachment 5). The following is a summary extracted from the Appendix 3A for clarity purposes:

Indirect radiation doses from adjacent and surrounding room sources

In determining the contribution of the indirect dose from surrounding room sources, the actual structure wall thicknesses are used. In most cases (96% of the rooms), the contributing indirect doses from the surrounding rooms are determined to be less than 20% of the direct dose from the source components. In these cases, a 20% margin is added to the normal TIDs.

When the contributing indirect doses from the surrounding rooms (4 rooms) are determined to be more than 20%, the actual indirect doses are added to the TIDs.

Significant differences in source terms for EQ and radiation zone designation

The EQ source term is based on 1.0% failed fuel with continuous gas stripping; the source term for radiation zone designation is based on 0.25% failed fuel with no credit for gas stripping.

Other differences between the EQ and radiation zone designation are as follows:

- In taking into account the effect of radioactive sources in the adjacent and surrounding cubicles, the minimum shielding wall thickness is used for radiation zone designation and the actual structure wall thickness for the EQ TIDs determination;

- The 20% margin from the indirect radiation doses and 10% margin for uncertainty of test from RG 1.89 are not added for radiation zone designation;
- EQ TIDs are determined based on 60 years, and radiation zoning designation are based on the contact dose rate (mSv/hr).

Discussion of TID values in the new Table 3 of APR1400-E-X-NR-14001-NP

The TID doses represent the summation of the normal operation doses and accident doses. In terms of the normal and accident doses, each consists of direct radiation doses calculated based on a distance of 1-foot away from the center of the equipment surfaces, plus the indirect doses from the surrounding rooms, and the airborne activities (submersion doses). TIDs include contributions from gammas, betas, and neutrons for each of the three radiation dose calculations, as applicable.

The following examples are used to demonstrate the calculation of the normal condition TIDs:

1) Example of Direct/Indirect TID calculation:

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Table 1 Maximum Reactor Coolant Specific Activities at Decay Time of 3.5 hours
(1.0 Fuel Failure, Continuous Gas Stripping)

Nuclide	Activity (Bq/g)	Nuclide	Activity (Bq/g)
KR-85M	1.75E+04	XE-135	1.15E+05
KR-85	7.40E+02	XE-138	6.58E-01
KR-87	4.33E+03	I-131	9.87E+04
KR-88	3.15E+04	I-132	1.42E+04
XE-131M	7.35E+03	I-133	1.25E+05
XE-133M	2.01E+03	I-134	1.05E+03
XE-133	9.46E+05	I-135	5.38E+04
XE-135M	9.24E+03	H-3	1.30E+05

Table 2 Submersion Dose Calculation from Equilibrium Airborne Activity
for 60 years of Continuous Operation

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c. Technical Report APR1400-E-X-NR-14001-NP is revised to provide the general methodology used to develop the normal operation TID values including the airborne contributions to the TID values. For the EQ TID calculation, MicroShield computer code was used. (See Attachment 5).

As discussed in the response to Item 1.b, the approach used for determining the source terms for the normal TID calculation are the same as that used to determine the shielding sources in DCD Section 12 except that:

- The source term for EQ TIDs is based on 1.0% failed fuel with continuous gas stripping in DCD Table 11.1-2 as specified in RG 1.89, Appendix D, not 0.25% failed fuel source term with no gas stripping for radiation zoning designation,

Integrated doses from the airborne radioactivity are based on leakage rates from valves and flanges, and pump associated with the target components, using the equations 2 and 3 provided in Appendix 3A. Airborne radioactivity is included in the TIDs as “Submersion dose, TID_{sub}.”

2. DCD Tier 2 Table 3.11-2 will be deleted as shown in Attachment 1; therefore, response is not required.

3. DCD Tier 2 Table 3.11-2 will be deleted as shown in Attachment 1; therefore, response is not required.

4. DCD Tier 2 Table 3.11-2 will be deleted as shown in Attachment 1; therefore, response is not required.

5. a. The VCT source term presented in Table 11.8-1 is only for calculating the source terms of variable components (e.g., GRS header drain tank, charcoal delay bed, etc.) in the Gaseous Radwaste System (GRS), which is used to determine the classification for the systems, structures, and components in the gaseous radwaste systems in accordance with the RG 1.143 guidance. In calculating the normal TID of the equipment in the VCT room, both the vapor and liquid phases in the VCT was taken into consideration. The source terms for the VCT TID calculation are given in Tables 3 and 4 below.

   b. As mentioned in the response to Item 1.a, the source term of the VCT for determining the normal TID for equipment qualifications is evaluated based on the assumption of 1.0% failed fuel and continuous operation of the gas stripper, while the corresponding source term for determining the radiation zoning was based on the assumption of 0.25% fuel failure and no operation of the gas stripper. The value of 1.06E+04 Gy presented in the new Table 3.11-3 of the DCD and APR1400-E-X-NR-14001-NP, Table 3 is therefore calculated based on the 1.0% failed fuel source term. The old DCD Table 3.11-2 will be deleted as discussed in the public conference call on June 23, 2015.

   To explain the staff's comment on the apparent discrepancy of TID based on the radiation zone map dose rate as compared to those in the old DCD Table 3.11-2 of the DCD and APR1400-E-X-NR-14001-NP, Table 4, the source term distribution based on the gas phase content presented in Table 3 below is first compared to the liquid phase content presented in Table 4 below. It is noted that the total gas phase source term from all the nuclides is about five times higher than that of the liquid phase source term, thereby leading to a significant contribution on the VCT TIDs as confirmed in Table 5 below. Thus, it is concluded that the gas phase source term is controlling for the determination of VCT TID.

   In addition, the Table 6 presents a comparison of the specific activities between both source terms for the VCT in the 0.25% and 1.0% fuel failure cases. It is noted that the specific activities for noble gases in the 0.25% source term case are significantly greater than those in the 1.0% source term case (by a difference of up to four orders of magnitude). The difference is primarily due to the reactor coolant letdown to the VCT in the 0.25% fuel failed case that is not routed to the CVCS gas stripper for removal of the hydrogen and fission gases (noble gases). A significant amount of the halogens and noble gases is recycled back to the reactor where concentration buildup continues. In the 1.0% fuel failed case, the VCT liquid (reactor coolant letdown) is routed to the CVCS gas stripper, in which the noble

gases and hydrogens are continuously removed and not recycled back to the reactor.

Consequently, the difference in gas stripping causes the TID for the VCT in the old DCD Table 3.11-2 to be significant lower than that calculated by using the radiation zone map dose rate. It follows that the TID for VCT determined from the radiation zoning is much higher than that indicated in the old DCD Table 3.11-2.

Table 3 Source Terms of VCT for Normal Operation – Vapor Phase
(1.0% Fuel Failure, Continuous Gas Stripping)

Nuclide	Activity (Bq)
H-3	2.00E+12
N-16	0.00E+00
Kr-85m	1.10E+10
Kr-85	2.90E+08
Kr-87	9.40E+09
Kr-88	2.60E+10
Xe-131m	1.60E+09
Xe-133m	4.10E+08
Xe-133	2.10E+11
Xe-135m	2.60E+09
Xe-135	2.70E+10
Xe-137	2.90E+08
Xe-138	2.10E+09

Table 4 Source Terms of VCT for Normal Operation – Liquid Phase
(1.0% Fuel Failure, Continuous Gas Stripping)

Nuclide	Activity (Bq)	Nuclide	Activity (Bq)
Br-84	2.70E-03	I-133	2.20E+10
Rb-88	1.22E+01	I-134	2.30E+09
Sr-89	1.11E-03	Cs-134	1.10E+11
Sr-90	7.57E-05	I-135	1.20E+10
Sr-91	1.62E-03	Cs-136	1.50E+10
Y-91m	4.05E-02	Cs-137	1.30E+11
Y-91	8.11E-03	Ba-140	5.00E+07
Y-93	1.86E-03	La-140	1.70E+07
Zr-95	2.03E-04	Ce-141	1.90E+06
Nb-95	1.73E-04	Ce-143	5.20E+06
Tc-99m	5.68E-02	Ce-144	5.30E+06
Mo-99	9.46E-02	Na-24	5.60E+08
Ru-103	5.95E-05	Cr-51	1.70E+08
Ru-106	2.54E-05	Mn-54	2.00E+07
Ag-110	4.32E-04	Fe-55	1.50E+07
Te-129m	1.00E-03	Fe-59	3.70E+06
Te-129	9.73E-04	Co-58	5.70E+07
I-131	4.32E-01	Co-60	6.60E+06
Te-131m	4.59E-03	Zn-65	6.40E+06
Te-131	1.51E-03	Ba-137m	1.30E+11
Te-132	3.24E-02	W-187	3.00E+07
I-132	1.08E-01	Np-239	2.70E+07

Table 5 Contribution of Dose Rate from the Vapor and Liquid Phases for VCT TS

Table 6 Comparison of Noble Gaseous Inventories between 0.25% (with no Gas Stripping) and 1.0% (with Gas Stripping) Source Terms for the VCT

Nuclide	Noble Gaseous Inventories (Bq)		Ration of (A) to (B)
	0.25% Source Term (A)	1.0% Source Term (B)	
Kr-85m	3.80E+12	1.10E+10	2.77E+02
Kr-85	1.70E+13	2.90E+08	3.08E+02
Kr-87	2.60E+12	9.40E+09	5.94E+03
Kr-88	8.00E+12	2.60E+10	1.41E+03
Xe-131m	9.50E+12	1.60E+09	2.95E+03
Xe-133m	5.80E+11	4.10E+08	2.58E+02
Xe-133	6.20E+14	2.10E+11	4.44E+02
Xe-135m	6.70E+11	2.60E+09	2.45E+02
Xe-135	1.20E+13	2.70E+10	2.62E+02
Xe-137	7.10E+10	2.90E+08	3.45E+02
Xe-138	5.50E+11	2.10E+09	5.86E+04

6. The reference to DCD Table 12.2-20 in Section 3.11.5.2 is incorrect. The referenced table in Section 3.11.5.2 will be changed to DCD Table 12.2-24, (see Attachment 6).

   As discussed in response to Item 1.b, the source terms used for determination of equipment qualification are based on the 1.0% failed fuel in accordance with the guidance from RGs 1.89 and 1.183, including the airborne source terms. Source terms for 0.25% failed fuel fraction are used for determination of radiation zone maps and minimum shield wall thicknesses, in accordance with RG 8.8.

   As addressed in the response to Item 1.b, the normal EQ TIDs for SFP SC Pump & Miniflow Heat Exchangers (Room No.: 50-A04A), which is presented as an example of the normal TID calculation, have been reproduced in Table 7 for informational purposes. The airborne contribution was estimated to be negligible compared to the total TID as indicated in Table 7 below.

Table 7 Summary of Resultant TIDs for SFP SC Pump & Miniflow Heat Exchangers TS

7. a. It is noted that the contribution from beta sources to the TIDs are generally negligible, except the reactor containment building in post LOCA conditions, during which the beta contribution is predominant. As for the neutron contribution, there are generally no neutrons in system components, except for the reactor cavity during normal operation when the neutron radiation is significant.

In conducting environmental qualification tests, the gamma test source is to be used. The gamma test generally includes the contributions from beta and neutron doses, unless specific tests are identified for the applicable components to use a neutron or beta source. In these cases, the source strengths will be identified, which forms the basis of such tests, or for establishing equivalent gamma source tests.

b. As discussed in the response to Item 1, the TIDs are determined using direct and indirect radiation and airborne radioactivity pathways for each of the individual components. Figure 1 in Appendix 3A in Attachment 5 provides a flowchart of the calculation approach for each pathway. Table 8 below summarizes the results for several mechanical and electrical equipment for illustration of the magnitudes of the impacts from gammas, betas, and neutron sources to the TIDs including contributions from each pathway (direct and indirect radiation, and airborne activity), which will be integrated into the newTable 3 of APR1400-E-NR-14001-NP.

Table 8 Summary of TIDs from Gamma, beta, and neutron radiation during Normal and Accident Conditions

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8. The use of the term “N/A” in the columns of the new Table 3.11-2 in the DCD labeled “Required Operational Time,” “Environmental Condition,” “Radiation Condition,” and “Influence of Immersion (Yes/No)” will be updated through the use of a footnote to explain the meaning. Attachment 1, page 57, footnote (10) provides the explanation of the use of N/A.

   For cable and cable assemblies which do not have tag numbers due to being supplied as bulk commodities, “N/A” will be specified in the column labeled “Tag No.” and reference to footnote (10) will be made.

9. The updated Table 3 of APR1400-E-NR-14001-NP is revised to indicate the building, and room numbers for individual components for clarity. Including dose contributions for neutrons, betas and gammas separately, the table will also delineate the normal TIDs resulting from 60 years of continuous power operation, with the exception of 40 months of refueling operation; and the accident TIDs. The accidents considered in the accident TIDs are loss of coolant accident (LOCA), main steam line break (MSLB), fuel handling accident (FHA) for components inside the reactor containment building (RCB) and inside the auxiliary building (AB), as applicable. The EQ profiles are developed for time-integrated equipment qualification based on direct radiation (which includes gamma and beta), indirect radiation (which includes gamma), and airborne radioactivity (which includes gamma and beta). The accident exposure time is based on one year of post-accident source terms (exposure time), starting and stopping as required for up to 6 months regardless of the required time of operation, during which each equipment is required to operate under the post-accident conditions to perform the its intended safety functions, including reactor trip, engineering safety features (ESF) actuation, post-accident monitoring, isolation, etc.

10. The post-accident sampling rooms are continuously exhausted and filtered by the auxiliary building controlled area emergency exhaust ACU during an accident. The post-accident sampling room isolation dampers (equipment numbers VK-Y0050A, VK-Y0050B, VK-Y0050C, and VK-Y0050D) are normally closed and are interlocked with the auxiliary building controlled area emergency exhaust ACU to be opened during the ACU operation following an accident. The post-accident sampling room isolation dampers keep their open position by receiving Class 1E emergency electric power during the ACU operation. Since operation is needed for a duration greater than the short term post-accident, the required operation time of the post-accident sampling room isolation dampers will be revised from “Short-Term” to “Continuous” as shown in Attachment 1 page 37 and Attachment 2 page 36.

11. KHNP classified components needed for only one time during an accident or in the moments immediately following the onset of the accident as “Short-Term” regardless of their operating time point. The reason is because there are certain components required to be functional in the moments immediately following the onset of an accident, while there are components whose required operation time is variable according to plant system conditions.

    In the case of isolation valve operation, for example, their operating time point can vary depending on the system condition, plant operation mode (e.g., maintaining hot

standby, proceeding to cold shutdown, etc.), or post-accident recovery as specified in the emergency operating procedures.

Therefore, KHNP defined Short-Term based on operating time (i.e., length of time that it takes the equipment to change state once activated) and the number of operating cycles; not the time point at which the component is to operate. Additionally, in terms of environmental qualification, the operating time point is not recognized as important since Class1E equipment is qualified assuming it operates continuously throughout the accident.

12. The statement “any equipment with an operability time labeled as ‘varies’ will be operational for the duration of the most limiting design basis accident” has been reflected in DCD Section 3.11.1.3 as indicated in Attachment 11 and originally provided in response to RAI 115-8066 Question 03.11-4.

13. KHNP will provide the appropriate equipment number for all components except for cables or cable assemblies which do not have tag number due to being supplied as bulk commodities as indicated in the Attachment 1.

    For the cables or the cable assemblies, “N/A” will be specified in the column labeled “Tag No.”

14. In the event of LOCA, the extended period for long-term cooling should be at least 182 days. Based on the extended period for long-term cooling, safety-related equipment or components for safe shutdown, post-accident mitigation and accident monitoring are designed to operate at least 182 days during/after LOCA.

    This is the reason 182 days was established for the maximum equipment operability time following an accident.

15. Radiation TID values described as 102 GY is a typographical error. KHNP will correct the values to 100 GY as indicated in Attachment 8.

16. All the applicable DBAs are considered in the determination of the TID values for environmental qualification for post-DBA conditions. The TID values for environmental qualification incorporate the radiation doses resulting from the postulated DBAs in the corresponding areas as follows:

    - Loss of coolant accident (LOCA) for SSCs inside/outside reactor containment building (RCB) except for main steam valve house and fuel handling area in the auxiliary building (outside containment building);

    - Main steam line break (MSLB) in the main steam valve house in the auxiliary building; and

    - Fuel handling accident (FHA) in the fuel handling area in auxiliary building.

    It is considered that these accidents bound the expected worst-case environmental conditions for the structure, system, and components in the corresponding area. KHNP

further confirms that the TID values for accident conditions in the fuel handling areas as provided in the new Table 3.11-2 in the DCD are based on a fuel handling accident.

17. KHNP will delete reference to the EQPR specified in technical report APR1400-E-X-NR-14001-NP. The applicable references will be incorporated as indicated in Attachment 9.

    The applicable references specified in place of EQPR will be added, and a list of tables and list of figures in APR1400-E-X-NR-14001-NP will be updated as well, see Attachment 10.

Impact on DCD

1 5 6 7 9 16 Descriptions in DCD Sections 3.11.1.1, 3.11.1.3 and 3.11.5.2 will be revised as indicated in Attachments 2, 3 and 11. Reference to Table 12.2-20 will be changed to Table 12.2-24 as indicated in Attachment 6.

8 DCD Table 3.11-3 will be modified as indicated in Attachment 1 which was attached to the response to RAI 115-8066 Question 03.11-4. DCD Tier 2 Table 1.8-2 and Section 3.11.7 will be changed as indicated in Attachment 7.

10 Table 3.11-3 will be modified as indicated in Attachment 1.

12 DCD Section 3.11.1.3 will be modified as indicated in Attachment 11.

13 DCD Table 3.11-3 will be modified as indicated in Attachment 1 which was attached to the response to RAI 115-8066 Question 03.11-4.

17 DCD Table 3.11-3 will be modified as indicated in the Attachment 1.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

1 5 6 7 9 16 Appendix 3A in Technical Report APR1400-E-X-NR-14001-NP will be updated as indicated in Attachment 4.

8 13 Technical Report APR1400-EX-NR-14001-NP, Table 3 will be revised as indicated in Attachment 2 which was attached to the response to RAI 115-8066 Question 03.11-4.

10 Technical Report APR1400-EX-NR-14001-NP, Table 3 will be revised as indicated in Attachment 2.

15. APR1400-E-X-NR-14001-NP, Rev. 0, section 2.21 will be revised as indicated in Attachment 8.

17 Technical Report APR1400-EX-NR-14001-NP, Table 3 will be revised and figures will be added as indicated in Attachment 10.

The implementation of the APR1400 Equipment Qualification is described in the KHNP Technical Report on the APR1400 Equipment Qualification Program (Reference 1), hereinafter referred to APR1400 EQP. Seismic qualification of the equipment is described in Section 3.10 and the APR1400 EQP in detail.

3.11.1 Equipment Location and Environmental Conditions

3.11.1.1 Equipment Location

Plant areas for equipment important to safety are divided into two based on the environmental conditions that potentially could occur within these areas as a result of a variety of plant events.

a. Harsh environment

An environment where a significant increase in pressure, temperature, relative humidity, or chemical environment occurs as a result of a design basis accident, or where a total integrated dose (TID) of greater than 100 Gy is predicted. In electronic components such as semiconductors, the total integrated dose is greater than 10 Gy. Detailed information is included in the APR1400 EQP.

b. Mild environment

An environment that would at no time be significantly more severe than the environment that would occur during normal plant operation, including anticipated operational occurrences. Any area that is not a harsh environment is a mild environment.

Each zone is subdivided into various subzones according to the severity of environmental parameters and ~~its detailed information on the identification and location is described in Table 3.11-3 and APR1400 EQP.~~

The COL applicant is to identify and qualify the site-specific mechanical, electrical, I&C, and certain accident monitoring equipment specified in RG 1.97 (COL 3.11(1)).

its detailed information on the identification and location of equipment and TID values for each room is described in Table 3 of APR1400 EQP.

Table 3.11-2 (1 of 5)

Environmental Data

Environmental Parameters (2)	Range and Duration
Containment Building – Category A-1 (LOCA)	
Temperature, °C (°F)	Figure 3.11-1
Pressure, psig	Figure 3.11-1
Relative humidity, %	100, saturated/superheated steam/air mixture
Radiation, 60-yr TID Gy plus LOCA (1), (3), (4)	< 3.4×10^5 gamma < 2×10^6 beta
Chemical spray	4,400 ppm Boron as H_3BO_3, 0~50 ppm Hydrazine as N_2H_4, pH of 4~10 up to 4 hours and 7.0 to 8.5 after 4 hours using tri-sodium phosphate
Containment Building – Category A-2 (MSLB)	
Temperature, °C (°F)	Figure 3.11-1
Pressure, psig	Figure 3.11-1
Relative humidity, %	100 saturated/superheated steam/air mixture
Radiation, 60-yr TID Gy plus Non-LOCA (1), (3)	Bounded by Category A-1
Chemical spray	4,400 ppm Boron as H_3BO_3, 0~50 ppm Hydrazine as N_2H_4, pH of 4~10 up to 4 hours and 7.0 to 8.5 after 4 hours using tri-sodium phosphate
Containment Building – Category B (Normal)	
Temperature, °C (°F)	10 – 49 (50 – 120)
Pressure, psig	atmospheric, continuous
Relative humidity, %	5 – 90
Radiation, 60-yr TID Gy (3)	< 3×10^4 gamma
Chemical spray	N/A
Auxiliary Building – Category C (Normal)	
Temperature, °C (°F)	10 – 40 (50 – 104)
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90

Deleted

Table 3.11-2 (2 of 5)

Environmental Parameters (2)	Range and Duration
Radiation, 60-yr TID Gy	< 5.25 × 10^2 gamma (accessible areas and I&C equipment) < 1.5 × 10^1 gamma (RTSG, DRCS) < 1.88 × 10^5 gamma (VCT) < 4.1 × 10^7 gamma (purification ion exchanger)
Chemical spray	N/A
Auxiliary Building – Category D (LOCA/MSLB)	
Temperature, °C (°F)	10 – 40 (50 – 104)
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, limited to 8 hours Outside normal range of Category C
Radiation, 60-yr TID Gy plus LOCA/MSLB (1), (4)	< 1.0 × 10^4 gamma (accessible areas and I&C equipment) < 1.5 × 10^1 gamma (RTSG, DRCS) < 1.88 × 10^5 gamma (VCT) < 4.1 × 10^7 gamma (purification ion exchanger)
Chemical spray	N/A
Auxiliary Building – Category E (HELB)	
Temperature, °C (°F)	54-171 (150-340), 0-1 second 171 (340), 1 second-2 hours 171-54 (340-130), 2-24 hours
Pressure, psig	5 (HELB Areas except for Turbine Driven AFWP Room/Vent, Main Steam Enclosure) 6 (Turbine Driven AFWP Room) 12 (Turbine Driven AFWP Vent) 24 (Main Steam Enclosure)
Relative humidity, %	100, 0 ~ 3 minutes; 7 – 90, after 3 minutes (limited to 8 hours outside the normal range of Category C unless otherwise specified)
Radiation, 60-yr TID Gy	same as Category C
Chemical spray	N/A

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Table 3.11-2 (3 of 5)

Environmental Parameters (2)	Range and Duration
Fuel Handling Area – Category F (Normal)	
Temperature, °C (°F)	10 – 40 (50 – 104), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{1} gamma
Chemical spray	N/A
Fuel Handling Area – Category G (LOCA/MSLB)	
Temperature, °C (°F)	10 – 40 (50 – 104) continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	20 – 90, continuous
Radiation, 60-yr TID Gy (1)	< 1.0×10^{3} gamma
Chemical spray	N/A
Emergency Diesel Generator Area – Category H (Normal)	
Temperature, °C (°F)	10 – 50 (50 – 122), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60-yr TID Gy	< 6.3×10^{-1} gamma
Chemical spray	N/A
Control Room Area – Category J (Normal/DBA)	
Temperature, °C (°F)	21 – 25 (70 – 77), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	40 – 60, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{1} gamma (control room and electrical equipment room)
Chemical spray	N/A
Outside Areas – Category K (Normal/DBA)	
Temperature, °C (°F)	-40 – 46 (-40 – 115), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	3 – 100, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{1} gamma
Chemical spray	N/A

Deleted

Table 3.11-2 (4 of 5)

Environmental Parameters (2)	Range and Duration
Main Steam Valve House – Category L (Normal)	
Temperature, °C (°F)	10 – 49 (50 – 120), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	20 – 90, continuous
Radiation, 60-yr TID Gy	$< 1.5 \times 10^{4}$ gamma
Chemical spray	N/A
Main Steam Valve House – Category M (MSLB)	
Temperature, °C (°F)	40-182 (104-360), 0-5 seconds 182 (360), 5-100 seconds 182-216 (360-420), 100-200 seconds 216 (420), 200 seconds-30 minutes 216-40 (420-104), 30 minutes-24 hours
Pressure, psig	3, 0-15 minutes, atmospheric continuous
Relative humidity, %	100, 0-15 minutes, 20-90, continuous
Radiation, 60-yr TID Gy	$< 1.0 \times 10^{4}$ gamma
Chemical spray	N/A
Turbine Building – Category N (Normal)	
Temperature, °C (°F)	10 - 40 (50 - 104), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	Relative humidity for the temperature range 60 °F - 80 °F is 95 % Relative humidity for temperatures above 80 °F is a fixed moisture content equivalent to 95 % relative humidity at 80 °F
Radiation, 60-yr TID Gy	N/A
Chemical spray	N/A
Emergency Diesel Generator Area – Category I (LOCA/MSLB)	
Temperature, °C (°F)	10 – 50 (50 – 122), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60-yr TID Gy	$< 6.3 \times 10^{-1}$ gamma
Chemical spray	N/A

Deleted

~~Table 3.11-2 (5 of 5)~~

~~Environmental Parameters~~ [2]	~~Range and Duration~~
~~Turbine Building – Category O (LOCA/MSLB)~~	
~~Temperature, °C (°F)~~	~~166 (330), 0 – 3 minutes;~~ ~~49 (120), 3 minutes to 4 hours;~~ ~~16 – 40 (60–104), continuous after 4 hours~~
~~Pressure, psig~~	~~atmospheric, continuous after 3 minutes~~
~~Relative humidity, %~~	~~Relative humidity for the temperature range 60 °F – 80 °F is 95 %~~ ~~Relative humidity for temperatures above 80 °F is a fixed moisture content equivalent to 95 % relative humidity at 80 °F~~
~~Radiation, 60-yr TID Gy~~ [1]	~~N/A~~
~~Chemical spray~~	~~N/A~~

(1) ~~Accident condition gamma radiation dose includes the normal external gamma dose plus that external dose due to the limiting DBA since these are total integrated dose values. The component design dose is the sum of internal (if applicable) plus external radiation doses.~~

(2) ~~Environment as used in this Table is defined as those conditions surrounding equipment. Equipment specifications take into consideration both the environment and those process conditions internal to the equipment.~~

(3) ~~Outside the biological shield.~~

(4) ~~The post-LOCA radiation environment in this region will vary depending on whether or not emergency core cooling operates within its design basis. If emergency core cooling operates as designed, there will be little core damage and a conservative estimate of the radiological release would be 100 percentage of the core gap activity. If emergency core cooling is assumed to fail in the short-term but is restored to operation resulting in an "arrested core damage" scenario (to be consistent with the "substantial" core melt accident postulated to satisfy 10 CFR 50.34), the radiological release is assumed to be 100 percent of the core gap activity as well as the early in-vessel core release as discussed in NRC RG 1.183. Table 3.11-1 assumes an arrested core melt scenario integrated over 6 months and is intended to provide an upper bound radiation environment for the region~~.

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Table 3.11-3 is changed to Table 3.11-2. This change is made to the remainder pages likewise.

Updated

Added

Added

~~Table 3.11-3~~ (1 of 51)

Equipment Qualification Equipment List

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Auxiliary Feedwater System												
AFW-PP01A	Turbine Driven Aux. Feedwater Pumps	ESF	AB	078-A15C	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP01B	Turbine Driven Aux. Feedwater Pumps	ESF	AB	078-A15D	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP02A	Motor Driven Aux. Feedwater Pumps	ESF	AB	078-A20A	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP02B	Motor Driven Aux. Feedwater Pumps	ESF	AB	078-A20B	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-V0035	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0036	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0037	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0038	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0043	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0044	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7))	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0045	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0046	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
	Auxiliary Feedwater Pump Turbine System												
AT-V0007	Globe Valve and Actuator, AFW Pump Turbine Steam Line Drain	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0008	Globe Valve and Actuator, AFW Pump Turbine Steam Line Drain	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0009	Globe Valve and Actuator, AFW Pump Turbine Steam Line Isolation	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0010	Globe Valve and Actuator, AFW Pump Turbine Steam Line Isolation	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-LP01C	AF Pump Turbine Control Panel	ESF	AB	078-A15C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AT-LP01D	AF Pump Turbine Control Panel	ESF	AB	078-A15D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
	Auxiliary Feedwater Storage and Transfer												
AX-LI003A	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI004B	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005A	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005C	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005D	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

Updated

Table 3.11-2

~~Table 3.11-3 (~~2 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AX-LI006B	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI006C	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI006D	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
	Component Cooling Water System												
CC-PP03A	Component Cooling Water Make-up Pumps	ESF	AB	078-A29C	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP03B	Component Cooling Water Make-up Pumps	ESF	AB	078-A29D	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP01A	Component Cooling Water Pumps	ESF	AB	055-A02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP01B	Component Cooling Water Pumps	ESF	AB	055-A02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP02A	Component Cooling Water Pumps	ESF	AB	055-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP02B	Component Cooling Water Pumps	ESF	AB	055-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0011	CCW Surge Tank01A Makeup Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0012	CCW Surge Tank01B Makeup Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0021	CCW Heat Exchanger HE01A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0022	CCW Heat Exchanger HE01B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0023	CCW Heat Exchanger HE02A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0024	CCW Heat Exchanger HE02B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0025	CCW Heat Exchanger HE03A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0026	CCW Heat Exchanger HE03B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0027	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	C\OL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0028	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0031	CCW Heat Exchanger HE01A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0032	CCW Heat Exchanger HE01B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0033	CCW Heat Exchanger HE02A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0034	CCW Heat Exchanger HE02B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0035	CCW Heat Exchanger HE03A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0036	CCW Heat Exchanger HE03B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0037	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0038	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0097	Containment Spray Heat Exchanger 01A Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0098	Containment Spray Heat Exchanger 01B Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (3 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V0131	Essential Chiller Condenser 2B Oulet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0132	Essential Chiller Condenser 2A Outlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0143	Train A Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0144	Train B Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0145	Train A Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0146	Train B Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0147	Train A Non-Safety Load Return Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0148	Train B Non-Safety Load Return Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0149	Train A Non-Safety Load Return Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0150	Train B Non-Safety Load Return Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0181	DG C Heat Exchanger Inlet Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0182	DG D Heat Exchanger Inlet Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0191	DG A Heat Exchanger Inlet Isolation	ESF	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0192	DG B Heat Exchanger Inlet Isolation	ESF	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0231	RCP Cooler Supply Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0249	RCP Cooler Return Containment Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0250	RCP Cooler Return Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0296	Letdown Heat Exchanger Supply Containment Isolation	ESF	AB	COL(7)	Short-Term (40sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0297	Letdown Heat Exchanger Supply Containment Isolation	ESF	RCB	COL(7)	Short-Term (40sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0301	Letdown Heat Exchanger Return Containment Isolation	ESF	RCB	COL(7)	Short-Term (40sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0302	Letdown Heat Exchanger Return Containment Isolation	ESF	AB	COL(7)	Short-Term (40sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0351	SC Heat Exchanger 01A Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0352	SC Heat Exchanger 01B Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0383	Essential Chiller Condenser 1A Outlet Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0384	Essential Chiller Condenser 1B Outlet Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0389	SFP Clooing Heat Exchanger 02A Inlet Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0390	SFP Clooing Heat Exchanger 02B Inlet Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0901	Essential Chiller Condenser 1A Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (4 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V0902	Essential Chiller Condenser 1B Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0905	Essential Chiller Condenser 2A Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0906	Essential Chiller Condenser 2B Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0937	Cross Tie Supply Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0938	Cross Tie Supply Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0939	Cross Tie Return Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0940	Cross Tie Return Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V1001	CCW Pump01A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1002	CCW Pump01B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1003	CCW Pump02A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1004	CCW Pump02B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1099	CCW Quadrant A to RCP Common Line Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1100	RCP Return Pressure Release Line Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1107	CCW Surge Tank Tank01A Vacuum Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1108	CCW Surge Tank Tank01B Vacuum Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1109	N2 Supply to CCW Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1110	N2 Supply to CCW Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1111	CCW Surge Tank Tank01A Pressure Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1112	CCW Surge Tank Tank01B Pressure Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1131	CCW Pump Pump01A Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1132	CCW Pump Pump01B Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1133	CCW Pump Pump02A Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1134	CCW Pump Pump02B Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1303	CCW Makeup Pump03A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1304	CCW Makeup Pump03B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1309	CCW Makeup Pump03A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1310	CCW Makeup Pump03B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1317	Demi Water Makeup to Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1318	Demi Water Makeup to Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1319	Demi Water Makeup to Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	

~~Table 3.11-3~~ (5 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V1320	Demi Water Makeup to Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1325	CCW Makeup Pump03A Recirculation Line Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1326	CCW Makeup Pump03B Recirculation Line Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1685	L/D Heat Exchanger Inlet Isolation 297 Bypass Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1686	L/D Heat Exchanger Outlet Line Pressure Release Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Condenser Vacuum System												
CA-CA013	Gate Valve and Actuator, CA Isolation, CIV	ESF	AB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Containment Spray System												
CS-PP01A	Containment Spray Pump & Motor	ESF	AB	050-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-PP01B	Containment Spray Pump & Motor	ESF	AB	050-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0001	Containment Spray Header Block	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0002	Containment Spray Header Block	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0003	Containment Spray Header Isolation	ESF	AB	COL(7)	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0004	Containment Spray Header Isolation	ESF	AB	COL(7)	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0005	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0006	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0007	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0008	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V1001	CS Pump Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
CS-V1002	CS Pump Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
CS-V1005	CS Heat Exchanger Heat Exchanger01A Thermal Relief To EDT	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
CS-V1006	CS Heat Exchanger Heat Exchanger01B Thermal Relief To EDT	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
CS-V1007	Containment Isolation Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CS-V1008	Containment Isolation Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CS-V1014	ECSBS Spary Header Check	BDBA	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Chemical and Volume Control System												
CV-0505	Globe Valve and Actuator, RCP Controlled Bleedoff, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

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~~Table 3.11-3~~ (6 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CV-0506	Globe Valve and Actuator, RCP Controlled Bleedoff, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0509	Gate Valve and Actuator, IRWST Makeup Line, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0515	Globe Valve and Actuator, Letdown Isolation	To isolate RCS	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0516	Globe Valve and Actuator, Letdown Isolation	To isolate RCS	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0522	Globe Valve and Actuator, Letdown Containment Isolation, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0523	Globe Valve and Actuator, Letdown Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0524	Globe Valve and Actuator, Charging Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0255	Globe Valve and Actuator, Seal Injection Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0560	Globe Valve and Actuator, RDT Effluent Containment Isolation, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0561	Globe Valve and Actuator, RDT Effluent Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0580	Gate Valve and Actuator, RSSH to RDH Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0576	Globe Valve and Actuator, Charging Flow Restricting	To Restrict charging flow	AB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0577	Globe Valve and Actuator, Charging Flow Restricting	To Restrict charging flow	AB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Emergency Diesel Generator System												
DG-DG01A	Class 1E Diesel Generator including Engine	EDG	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01B	Class 1E Diesel Generator including Engine	EDG	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01C	Class 1E Diesel Generator including Engine	EDG	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01D	Class 1E Diesel Generator including Engine	EDG	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DP01A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (7 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-DP05A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (8 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-DP06C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01A	Control Panel	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02A	Engine Panel	EDG	EDGB	100-H02A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01B	Control Panel	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02B	Engine Panel	EDG	EDGB	100-H02B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01C	Control Panel	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02C	Engine Panel	EDG	AB	100-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

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~~Table 3.11-3~~ (9 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
LP01D	Control Panel	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	○
LP02D	Engine Panel	EDG	AB	100-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	○
	Emergency Diesel Engine Cooling Water System												
DG-V4217A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230A	Preheating HT Water Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230B	Preheating HT Water Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230C	Preheating HT Water Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230D	Preheating HT Water Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231A	HT Water Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231B	HT Water Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231C	HT Water Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231D	HT Water Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Starting Air System												
DG-V4022A	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022B	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022C	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022D	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030A	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030B	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030C	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030D	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

~~Table 3.11-3~~ (10 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V4308C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039A	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039B	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039C	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039D	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040A	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040B	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040C	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040D	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023A	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023B	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023C	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023D	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031A	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 3.11-2

~~Table 3.11-3~~ (11 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V5031B	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031C	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031D	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041A	Over Speed Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041B	Over Speed Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041C	Over Speed Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041D	Over Speed Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316A	Over Speed Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316B	Over Speed Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316C	Over Speed Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316D	Over Speed Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Lube Oil System												
DG-V4114A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111A	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111B	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111C	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111D	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059A	Lube Oil Regulating Gate Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059B	Lube Oil Regulating Gate Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059C	Lube Oil Regulating Gate Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059D	Lube Oil Regulating Gate Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140A	Lube Oil Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140B	Lube Oil Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V4140C	Lube Oil Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140D	Lube Oil Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232A	Pre Lube Oil Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232B	Pre Lube Oil Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232C	Pre Lube Oil Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232D	Pre Lube Oil Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109A	Pre Lube Oil Engine Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109B	Pre Lube Oil Engine Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109C	Pre Lube Oil Engine Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109D	Pre Lube Oil Engine Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Fuel Oil System												
DO-PP01A	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01B	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01C	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01D	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02A	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02B	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02C	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02D	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 3.11-2

~~Table 3.11-3~~ (13 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Spent Fuel Pool Cooling System												
FC-PP01A	Spent Fuel Pool Cooling Pump	ESF	AB	100-A24A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
FC-PP01B	Spent Fuel Pool Cooling Pump	ESF	AB	100-A32B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
FC-V1005	SFP Cooling Pump01A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
FC-V1006	SFP Cooling Pump01B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
FC-V1145	SFP Cleanup Demineralizer Outlet Header Penetration Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
	Main Feedwater System												
FW-V0121	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0122	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0123	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0124	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0131	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0132	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0133	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0134	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0138	Feedwater Chemical Injection Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0139	Feedwater Chemical Injection Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Instrument Air System												
IA-V0020	Cylinder Valve and Actuator, CIV	ESF	AB	COL(7)	Short-Term(5 Min)	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
	In-Containment Water Storage System												
IW-V0001	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0002	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0003	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0004	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0005	BAMP Suction Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0006	BAMP Suction Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0010	IRWST Level Transmitter (LT-392D) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0011	IRWST Level Transmitter (LT-392D) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0012	HVT Wide Range Level Transmitter (LT-396D) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0013	HVT Wide Range Level Transmitter (LT-396D) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (14 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
IW-V0014	HVT Wide Range Level Transmitter (LT-397C) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0015	HVT Wide Range Level Transmitter (LT-397C) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0016	HVT Narrow Range Level Transmitter (LT-403A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0017	HVT Narrow Range Level Transmitter (LT-403A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0018	Reactor Cavity Transmitter (LT-397A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0019	Reactor Cavity Transmitter (LT-397A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0020	Reactor Cavity Transmitter (LT-398B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0021	Reactor Cavity Transmitter (LT-398B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0022	IRWST Level Transmitter (LT-393C) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0023	IRWST Level Transmitter (LT-393C) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0024	IRWST Level Transmitter (LT-391A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0025	IRWST Level Transmitter (LT-391A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0026	IRWST Level Transmitter (LT-390B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0027	IRWST Level Transmitter (LT-390B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0028	HVT Wide Range Level Transmitter (LT-394B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0029	HVT Wide Range Level Transmitter (LT-394B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0030	HVT Wide Range Level Transmitter (LT-395A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0031	HVT Wide Range Level Transmitter (LT-395A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0032	Reactor Cavity (LT-399C) Transmitter Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0033	Reactor Cavity (LT-399C) Transmitter Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0034	Reactor Cavity (LT-400D) Transmitter Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0035	Reactor Cavity (LT-400D) Transmitter Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V1003	BAMP Suction Line Pressure (Thermal) Relief	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Main Steam System												
MS-V0011	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0012	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0013	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0014	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0015	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

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~~Table 3.11-3~~ (15 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
MS-V0016	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0017	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0018	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0090	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0091	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0092	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0093	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0101	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0102	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0103	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0104	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0105	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0106	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0107	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0108	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V1301	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1302	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1303	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1304	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1305	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1306	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1307	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1308	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1309	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1310	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1311	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1312	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1313	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1314	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1315	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1316	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
MS-V1317	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1318	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1319	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1320	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Compressed Gas System												
NT-V0004	Nitrogen Supply to SITs and RDT CIV, Globe Valve and Actuator	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
	Radiation Monitoring System												
PR-RE/RT-039A	Containment Air Monitor	Leak Detection	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-040B	Containment Air Monitor	Leak Detection	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-071A	Control Room Air Intake Monitor	ESF	AB	172-A12C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-072B	Control Room Air Intake Monitor	ESF	AB	172-A12C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-073A	Control Room Air Intake Monitor	ESF	AB	172-A12D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-074B	Control Room Air Intake Monitor	ESF	AB	172-A12D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-231A	Containment Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-232B	Containment Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-233A	Containment Upper Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-234B	Containment Upper Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-241	Spent Fuel Pool Area Monitor	ESF, Accident Monitoring	AB	156-A08B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-242	Spent Fuel Pool Area Monitor	ESF, Accident Monitoring	AB	156-A08B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
	Process Sampling System												
PS-V0031	Steam Generator 1 Sample Line from Blowdown Hot Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0032	Steam Generator 2 Sample Line from Blowdown Hot Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0033	Steam Generator 1 Sample Line from Downcomer CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0034	Steam Generator 2 Sample Line from Downcomer CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

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~~Table 3.11-3~~ (17 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PS-V0035	Steam Generator 1 Sample Line from Blowdown Cold Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0036	Steam Generator 2 Sample Line from Blowdown Cold Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0257	Steam Generator 1 Primary Sample and Cooler Rack ISO Valve, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0258	Steam Generator 2 Primary Sample and Cooler Rack ISO Valve, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Primary Sampling System												
PX-V0001	RCS Hotleg Loop1 Sample CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0002	RCS Hotleg Loop1 SAMPLE CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0003	PZR Surge Line Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0004	PZR Surge Line Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0005	PZR Steam Space Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0006	PZR Steam Space Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0020	SI Tanks Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0021	SI Tanks Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0041	Containment Air Sample Line CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0042	Containment Air Sample Line CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0043	Containment Air Sample Line CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0053	Sample Return To HVT	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V1005	PASS Sample Return Line Check CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I		SR	
PX-V1020	Containment Air Sample Return Line Check CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Reactor Coolant System												
RC-V0200	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0201	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0202	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0203	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O

Table 3.11-2

~~Table 3.11-3~~ (18 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-LP01A	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01B	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01C	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01D	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
Various	Hydraulic Snubbers for Surge Line	RCPB	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
Various	Steam Generator Supports including Snubbers	RCPB	RCB	100-C02A 100-C02B	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
Various	Reactor Coolant Pump Supports including Snubbers	RCPB	RCB	100-C02A 100-C02B	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Reactor Gas Vent System												
RG-V0410	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0411	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0412	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0413	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0414	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0415	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0416	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0417	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0419	Gas Vent To IRWST	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0420	Gas Vent To IRWST	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V1421	RCGVS Vacuum Relief	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Service Air System												
SA-V0001	Cylinder Valve and Actuator, CIV	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I			
	S/G Blowdown System												
SD-V0005	S/G-1 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
SD-V0006	S/G-2 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
SD-V0007	S/G-1 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SD-V0008	S/G-2 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SD-V1115	Wet Lay Up Recir Pump A Discharge Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	

Table 3.11-2

~~Table 3.11-3~~ (19 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SD-V1116	Wet Lay Up Recir Pump B Discharge Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Safety Injection System												
SI-PP02A	Safety Injection Pumps motors	ESF	AB	050-A03A	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02B	Safety Injection Pumps motors	ESF	AB	050-A03B	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02C	Safety Injection Pumps motors	ESF	AB	050-A02C	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02D	Safety Injection Pumps motors	ESF	AB	050-A02D	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-V0300	Globe Valveand Actuator, IRWST Return Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0301	Gate Valve and Actuator, IRWST Return Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0302	Globe Valve and Actuator, SI Combined Miniflow Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0303	Globe Valve and Actuator, SI Combined Miniflow Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0304	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0305	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0308	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0309	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0321	Globe Valve and Actuator, SI Hot Leg Inject. Line Isol.	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0322	Globe Valve and Actuator, Hot Leg Check Valve Leakage Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0331	Globe Valve and Actuator, SI Hot Leg Injection Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0332	Globe Valve and Actuator, Hot Leg Check Valve Leakage Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0602	Globe Valve and Actuator, SI Low Flow Control Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0603	Globe Valve and Actuator, SI Low Flow Control Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (20 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0604	Gate Valve and Actuator, SI Hot Leg Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0609	Gate Valve and Actuator, SI Hot Leg Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0605	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0606	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0607	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0608	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0611	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0621	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0631	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0641	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0613	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0623	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0633	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0643	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0614	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

Table 3.11-2

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~~Table 3.11-3~~ (21 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0624	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0634	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0644	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0616	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0626	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0636	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0646	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0618	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0628	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0638	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0648	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0682	Globe Valve and Actuator, SIT Fill Line Isolation	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Shutdown Cooling System												
SI-PP01A	Shutdown Cooling Pump and Motor	RT	AB	050-A04A	Continuous	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP01B	Shutdown Cooling Pump and Motor	RT	AB	050-A04B	Continuous	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	

Table 3.11-2

~~Table 3.11-3~~ (22 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0310	Globe Valve and Actuator, SDCHX Outlet Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0311	Globe Valve and Actuator, SDCHX Outlet Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0312	Globe Valve and Actuator, SDCHX Bypass Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0313	Globe Valve and Actuator, SDCHX Bypass Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0314	Globe Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0315	Globe Valve and Actuator, SCS Test Return Line Isolation Valves	RT		COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0340	Gate Valve and Actuator, SCS/CSS Pump Suction Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0341	Gate Valve and Actuator, SCS/CSS Pump Discharge Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0342	Gate Valve and Actuator, SCS/CSS Pump Suction Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0343	Gate Valve and Actuator, SCS/CSS Pump Discharge Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0344	Gate Valve and Actuator, SCP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0346	Gate Valve and Actuator, SCP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0347	Gate Valve and Actuator, CSP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0348	CSP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0391	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0393	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0395	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0600	Globe Valve and Actuator, SCS Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (23 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0601	Globe Valve and Actuator, SCS Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0651	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	100-C02A	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0652	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0653	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	100-C01	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0654	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0655	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0656	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0688	Gate Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0693	Gate Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0690	Globe Valve and Actuator, SCS Warmup Line Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0691	Globe Valve and Actuator, SCS Warmup Line Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Essential Service Water System												
SX-PP01A	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP01B	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP02A	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP02B	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0045	ESW Pump 01A Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0046	ESW Pump 01B Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0047	ESW Pump 02A Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0048	ESW Pump 02B Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V1001	ESW Pump 01A Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1002	ESW Pump 01B Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	

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~~Table 3.11-3~~ (24 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SX-V1003	ESW Pump 02A Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1004	ESW Pump 02B Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1051	CCW Heat Exchanger Outlet Common Header Vacuum Relief	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
SX-V1052	CCW Heat Exchanger Outlet Common Header Vacuum Relief	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Equipment and Floor Drainage System												
DE-V0005	Containment Drain Sump Pump Discharge Line, CIV	ESF	RCB	COL(7)	Short-Term (20sec)	Harsh	Harsh	Mechnical EQ	No	I	(3)	SR	O
DE-V0006	Containment Drain Sump Pump Discharge Line, CIV	ESF	AB	COL(7)	Short-Term (20sec)	Mild	Harsh	Mechnical EQ	No	I	(3)	SR	O
	Gaseous Radwaste System												
GW-V0001	Reactor Drain Tank Gas Space to GWMS CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechnical EQ	No	I	(3)	SR	O
GW-V0002	Reactor Drain Tank Gas Space to GWMS CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechnical EQ	No	I	(3)	SR	O
	Control Room Area HVAC System												
VC-HV01A	Supply AHU	Cooling	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-HV01B	Supply AHU	Cooling	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-HV01C	Supply AHU	Cooling	AB	174-A23C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-HV01D	Supply AHU	Cooling	AB	174-A23D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-AU01A	Emergency Makeup ACU	ESF	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-AU01B	Emergency Makeup ACU	ESF	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0011A	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0011B	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0012A	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0012B	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0013A	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0013C	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0014B	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0014D	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0015A	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0015C	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0016B	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0016D	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0017A	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (25 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VC-Y0017C	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0018B	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0018D	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0019A	ACU Return Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0019C	ACU Return Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0020B	ACU Return Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0020D	ACU Return Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0021A	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0021C	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A23C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VC-Y0022B	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0022D	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A23D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VC-Y0023A	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0023C	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0024B	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0024D	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0027	Kitchen & Toilet Isolation Damper (PSR)	ESF	AB	157-A02C	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-Y0028	Kitchen & Toilet Isolation Damper (PSR)	ESF	AB	195-A09C	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-Y0029	Smoke Removal Duct Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0030	Smoke Removal Duct Isolation Damper (PSR)	ESF	AB	174-A03D	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
	Emergency Diesel Generator Area HVAC System												
VD-HV10A	EDG Control Room Cubicle Cooler	Cooling	EDGB	100-H01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10B	EDG Control Room Cubicle Cooler	Cooling	EDGB	100-H01B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10C	EDG Control Room Cubicle Cooler	Cooling	AB	100-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10D	EDG Control Room Cubicle Cooler	Cooling	AB	100-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV11A	EDG Room Normal Supply AHU	Cooling	EDGB	135-H03A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11B	EDG Room Normal Supply AHU	Cooling	EDGB	135-H03B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11C	EDG Room Normal Supply AHU	Cooling	AB	174-A14C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11D	EDG Room Normal Supply AHU	Cooling	AB	174-A14D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV12A	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13A	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 3.11-2

~~Table 3.11-3~~ (26 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VD-HV12B	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13B	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV12C	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13C	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV12D	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13D	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02A	EDG Room Exhaust Fan	Ventilation	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02B	EDG Room Exhaust Fan	Ventilation	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02C	EDG Room Exhaust Fan	Ventilation	AB	174-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02D	EDG Room Exhaust Fan	Ventilation	AB	174-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05A	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05B	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05C	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05D	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06A	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06B	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06C	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06D	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07A	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07B	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07C	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	AB	120-A04C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07D	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	AB	120-A04D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HC01A	EDG Room Electric Duct Heater	Heating	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC01B	EDG Room Electric Duct Heater	Heating	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02A	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02B	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02C	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02D	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O

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~~Table 3.11-3~~ (27 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Electrical and I&C Equipment Areas HVAC System												
VE-HV01A	Class 1E Switchgear 01C Room Cubicle Cooler	Cooling	AB	078-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV01B	Class 1E Switchgear 01D Room Cubicle Cooler	Cooling	AB	078-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV02A	Class 1E Load Center 01C Room Cubicle Cooler	Cooling	AB	078-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV02B	Class 1E Load Center 01D Room Cubicle Cooler	Cooling	AB	078-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV03A	Train - A DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A56A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV03B	Train - B DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A56B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV04A	Train - C DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A05C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV04B	Train - D DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A05D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV06A	480V Class 1E MCC 01A Room Cubicle Cooler	Cooling	AB	100-A12A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV06B	480V Class 1E MCC 01B Room Cubicle Cooler	Cooling	AB	100-A12B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV07A	Class 1E Switchgear 01A Room Cubicle Cooler	Cooling	AB	078-A25A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV07B	Class 1E Switchgear 01B Room Cubicle Cooler	Cooling	AB	078-A25B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV08B	Swing Load Center Room Cubicle Cooler	Cooling	AB	078-A58B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV09A	Electrical Penetration Room C Cubicle Cooler	Cooling	AB	120-A09C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV09B	Electrical Penetration Room D Cubicle Cooler	Cooling	AB	120-A09D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV10A	480V Class 1E MCC 03C Room Cubicle Cooler	Cooling	AB	137-A10C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV10B	480V Class 1E MCC 03D Room Cubicle Cooler	Cooling	AB	137-A10D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV11A	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV11B	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV12A	Penetration. Mux Room A Cubicle Cooler	Cooling	AB	137-A17A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV12B	Penetration Mux Room B Cubicle Cooler	Cooling	AB	137-A17B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV13A	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A18A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV13B	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A18B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV14A	480V Class 1E MCC 03A Room Cubicle Cooler	Cooling	AB	137-A23A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV14B	480V Class 1E MCC 03B Room Cubicle Cooler	Cooling	AB	120-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV15A	480V Class 1E MCC 04A Room Cubicle Cooler	Cooling	AB	137-A15A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV15B	480V Class 1E MCC 04B Room Cubicle Cooler	Cooling	AB	137-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV16A	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A25C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV16B	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV17A	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A19C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

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~~Table 3.11-3~~ (28 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VE-HV17B	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-19D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV18A	Remote Shutdown Room Cubicle Cooler	Cooling	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV18B	Remote Shutdown Room Cubicle Cooler	Cooling	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20A	Train - A Battery Room Supply Fan	Ventilation	AB	100-A11A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20B	Train - B Battery Room Supply Fan	Ventilation	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20C	Train - C Battery Room Supply Fan	Ventilation	AB	078-A06C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20D	Train - D Battery Room Supply Fan	Ventilation	AB	078-A06D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21A	Train - A Battery Room Exhaust Fan	Ventilation	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21B	Train - B Battery Room Exhaust Fan	Ventilation	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21C	Train - C Battery Room Exhaust Fan	Ventilation	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21D	Train - D Battery Room Exhaust Fan	Ventilation	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH22A	Remote Shutdown Room Supply Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH22B	Remote Shutdown Room Supply Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH23A	Remote Shutdown Room Exhaust Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH23B	Remote Shutdown Room Exhaust Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HC01A	Train - A Battery Room Electrical Duct Heater	Heating	AB	100-A11A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01B	Train - B Battery Room Electrical Duct Heater	Heating	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01C	Train - C Battery Room Electrical Duct Heater	Heating	AB	078-A06C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01D	Train - D Battery Room Electrical Duct Heater	Heating	AB	078-A07D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC02A	Class 1E Switchgear 01A Room Electrical Duct Heater	Heating	AB	078-A25A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC02B	Class 1E Switchgear 01B Room Electrical Duct Heater	Heating	AB	078-A25B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC03A	Remote Shutdown Room Electrical Duct Heater	Heating	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC03B	Remote Shutdown Room Electrical Duct Heater	Heating	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC04A	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A25C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC04B	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC05C	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A19C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC05D	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A19D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC06A	Elect Penetration A Room Electrical Duct Heater	Heating	AB	137-A18A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC06B	Elect Penetration B Room Electrical Duct Heater	Heating	AB	137-A18B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC07A	480V Class 1E MCC 03A Room Elec. Duct Heater	Heating	AB	137-A23A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC07B	480V Class 1E MCC 03B Room Elec. Duct Heater	Heating	AB	120-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O

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~~Table 3.11-3~~ (29 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VE-HC08A	480V Class 1E 04A MCC 04A Room Elec. Duct Heater	Heating	AB	137-A15A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC09A	Penetration Mux A Room Electrical Duct Heater	Heating	AB	137-A17A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC09B	Penetration Mux B Room Electrical Duct Heater	Heating	AB	137-A17B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC10B	Swing Load Center Room Electrical Duct Heater	Heating	AB	078-A58B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
	Fuel Handling Area HVAC System												
VF-AU02A	Emergency Exhaust ACU	ESF	FHA	120-A24A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VF-AU02B	Emergency Exhaust ACU	ESF	FHA	120-A25A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VF-HV02A	SFP HX Room Cubicle Cooler	Cooling	FHA	100-A24A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VF-HV02B	SFP HX Room Cubicle Cooler	Cooling	FHA	100-A32B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VF-Y0001A	Air Intake Isolation Damper (PSR)	ESF	FHA	100-A36B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0002B	Air Intake Isolation Damper (PSR)	ESF	FHA	100-A36B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0003A	Normal Exhaust ACU Isolation Damper (PSR)	ESF	FHA	100-A38A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0004B	Normal Exhaust ACU Isolation Damper (PSR)	ESF	FHA	100-A38A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0005A	Emergency Exhaust ACU Isolation Damper (ESR)	Open	FHA	137-A25A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0006B	Emergency Exhaust ACU Isolation Damper (ESR)	Open	FHA	120-A24A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0007A	Emergency Exhaust Flow Control Damper (ESR)	Modulation	FHA	137-A25A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0008B	Emergency Exhaust Flow Control Damper (ESR)	Modulation	FHA	120-A24A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
	Auxiliary Building Controlled Area HVAC System												
VK-AU01A	Aux. Bldg Controlled Area I Emergency Exhaust ACU	ESF	AB	120-A21A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01C	Aux. Bldg Controlled Area I Emergency Exhaust ACU	ESF	AB	120-A32A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01B	Aux. Bldg Controlled Area II Emergency Exhaust ACU	ESF	AB	120-A29B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01D	Aux. Bldg Controlled Area II Emergency Exhaust ACU	ESF	AB	120-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-HV10A	CS Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV10B	CS Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV11A	SI Pump Room Cubicle Cooler	Cooling	AB	050-A02C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV11B	SI Pump Room Cubicle Cooler	Cooling	AB	050-A02D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV12A	SI Pump Room Cubicle Cooler	Cooling	AB	050-A03A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV12B	SI Pump Room Cubicle Cooler	Cooling	AB	050-A03B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV13A	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV13B	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 3.11-2

~~Table 3.11-3~~ (30 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VK-HV14A	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV14B	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV15A	CS Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV15B	CS Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV16A	SC Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A04A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV16B	SC Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A04B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV17A	SC Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A30A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV17B	SC Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV18A	Charging Pump Room Cubicle Cooler	Cooling	AB	055-A42A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV18B	Charging Pump Room Cubicle Cooler	Cooling	AB	055-A55B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV19A	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	100-A13A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV19B	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	100-A13B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV20A	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	120-A16A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV20B	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	120-A16B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV21B	Aux. Charging Pump Room Cubicle Cooler	Cooling	AB	055-A54B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV22A	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A21A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV22B	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A29B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV23A	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A32A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV23B	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-Y0001A	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A21A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
VK-Y0001B	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A29B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0001C	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A32A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0001D	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A30B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002A	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A32A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002B	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A29B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O

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~~Table 3.11-3~~ (31 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VK-Y0002C	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A21A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002D	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A30B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0017A	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	100-A20A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0018A	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	137-A29B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0019B	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	100-A20A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0020B	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	137-A29B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0021A	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	156-A14A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0022A	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	195-A08B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0023B	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	156-A14A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0024B	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	195-A08B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050A	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050B	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050C	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050D	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
	Auxiliary Building Clean Area HVAC System												
VO-HV31A	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV31B	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV32A	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV32B	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV33A	Motor- Driven AFW Pump Room Cubicle Cooler	Cooling	AB	078-A20A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV33B	Motor- Driven AFW Pump Room Cubicle Cooler	Cooling	AB	078-A20B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Reactor Containment Purge System												
VQ-V0012	High Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
VQ-V0011	High Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VQ-V0013	High Volume Containment Purge System Exhaust CIV, Butterfly Valve Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VQ-V0014	High Volume Containment Purge System Exhaust CIV, Butterfly Valve Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VQ-V0031	Low Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VQ-V0032	Low Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
VQ-V0033	Low Volume Cont. Purge System Exhaust CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
VQ-V0034	Low Volume Cont. Purge System Exhaust CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
	Hydrogen Monitoring System												
Various	Hydrogen Analyzers	ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I			
	Plant Chilled Water System												
WI-V013	PCW Supply to Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	AB	100-A16C	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
WI-V014	PCW Supply to Containment Ventilation Units CIV, Check Valve	Relief	RCB	114-C01A	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
WI-V015	PCW Return from Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	RCB	114-C01A	Short-Term (60sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
WI-V012	PCW Return from Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	AB	100-A16C	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
	Essential Chilled Water System												
WO-CH01A	Essential Chiller	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH01B	Essential Chiller	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH02A	Essential Chiller	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH02B	Essential Chiller	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-PP01A	Essential Chilled Water Pump	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP01B	Essential Chilled Water Pump	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP02A	Essential Chilled Water Pump	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP02B	Essential Chilled Water Pump	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP03A	Essential Chilled Water Make-up Pump	Cooling	AB	120-A10C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP03B	Essential Chilled Water Make-up Pump	Cooling	AB	120-A10D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V1001A	ECW Compression Tank Relief valve	Relief	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V1001B	ECW Compression Tank Relief valve	Relief	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

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~~Table 3.11-3~~ (33 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
WO-V0906A	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
WO-V0906B	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
WO-V0906C	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A23C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0906D	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A23D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0917A	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A14C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0917B	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A14D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0918A	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	135-H03A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0918B	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	135-H03B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-LP01A	Essential Chilled Water System Control Panel	Control	AB	078-A11C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01B	Essential Chilled Water System Control Panel	Control	AB	078-A11D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01C	Essential Chilled Water System Control Panel	Control	AB	078-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01D	Essential Chilled Water System Control Panel	Control	AB	078-A12D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LI003C	Field Indicator Device	Cooling	AB	174-A06C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LI003D	Field Indicator Device	Cooling	AB	174-A06D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
	Electric System												
PF-SW01A	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01B	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01C	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A02C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01D	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A02D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG-LC01A	480V Load Center	Power Supply (PS)	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG-LC01B	480V Load Center	Power Supply (PS)	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC01C	480V Load Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC01D	480V Load Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC02	480V Load Center	Power Supply (PS)	AB	078-A58B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH-MC01A	480V Motor Control Center	Power Supply (PS)	AB	100-A12A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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~~Table 3.11-3~~ (34 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PH -MC02A	480V Motor Control Center	Power Supply (PS)	AB	081-W01A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03A	480V Motor Control Center	Power Supply (PS)	AB	137-A23A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04A	480V Motor Control Center	Power Supply (PS)	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC05A	480V Motor Control Center	Power Supply (PS)	AB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01B	480V Motor Control Center	Power Supply (PS)	AB	100-A12B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02B	480V Motor Control Center	Power Supply (PS)	AB	081-W01B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03B	480V Motor Control Center	Power Supply (PS)	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04B	480V Motor Control Center	Power Supply (PS)	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC05B	480V Motor Control Center	Power Supply (PS)	AB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01C	480V Motor Control Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02C	480V Motor Control Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03C	480V Motor Control Center	Power Supply (PS)	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04C	480V Motor Control Center	Power Supply (PS)	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01D	480V Motor Control Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02D	480V Motor Control Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03D	480V Motor Control Center	Power Supply (PS)	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04D	480V Motor Control Center	Power Supply (PS)	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01A	Local Starter	Power Supply (PS)	AB	137A18A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02A	Local Starter	Power Supply (PS)	AB	137A18A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ03C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ03D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (35 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02C	Local Starter	Power Supply (PS)	AB	100A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02D	Local Starter	Power Supply (PS)	AB	120A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ02C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ02D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CV-SQ01B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
VK-SQ01	Local Starter	Power Supply (PS)	AB	055A50B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
Various	Local Control Station	Power Supply (PS)	AB	Various	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01A	125Vdc Battery with Rack	Power Supply (PS)	AB	100-A11A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01B	125Vdc Battery with Rack	Power Supply (PS)	AB	100-A11B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01C	125Vdc Battery with Rack	Power Supply (PS)	AB	078-A07C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01D	125Vdc Battery with Rack	Power Supply (PS)	AB	078-A07D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01A	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01B	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01C	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01D	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02A	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02B	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02C	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02D	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01A	125Vdc Control Center	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01B	125Vdc Control Center	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01C	125Vdc Control Center	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01D	125Vdc Control Center	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01A	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01B	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01C	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01D	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01A	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (36 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
IP-IN01B	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01C	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01D	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02C	125Vdc Local Starter	Power Supply (PS)	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02D	125Vdc Local Starter	Power Supply (PS)	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
AF-SQ01C	125Vdc Local Starter	Power Supply (PS)	AB	120-A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
AF-SQ01D	125Vdc Local Starter	Power Supply (PS)	AB	120-A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
Various	Electrical Penetration Assemblies - Medium Voltage Power	Power Supply (PS)	RCB	136-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Penetration Assemblies - Low Voltage Power & Control	Power Supply (PS)	RCB	136-C01A,B 114-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Penetration Assemblies – Low Voltage Instrumentation	Power Supply (PS)	RCB	136-C01A,B 114-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Conductor Sealing Assemblies	Power Supply (PS)	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	5kV Power Cables	Power Supply (PS)	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Power Cables	Power Supply (PS)	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Control Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Instrumentation Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	Thermocouple Extension Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	Coaxial Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	RSPT Type I & II Cable Assemblies	RT	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI Cable Assemblies	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	HJTC Cable Assemblies	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	RSPT Type I, II Cable	RT	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	Reed Switch Position Transmitter	RT	RCB	Various	Continuous	Mild	Mild	Electrical EQ	No	I		SR	
N/A(10)	HJTC MI Cables & Connectors	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	HJTC Probe	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI MI Cable & Connectors	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI Assembly	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
	Instrumentation and Control System											SR	
AFW-FT-0047A	AFW Flow Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-FT-0048B	AFW Flow Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (37 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AFW-FT-0049C	AFW Flow Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-FT-0050D	AFW Flow Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0053A	AFW Line Back Leakage Temp. Element, Ch. A	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0054B	AFW Line Back Leakage Temp. Element, Ch. B	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0053C	AFW Line Back Leakage Temp. Element, Ch. C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0054D	AFW Line Back Leakage Temp. Element, Ch. D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0005A	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0006B	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0007C	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0008D	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0023A	AFW Pump Discharge Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0024B	AFW Pump Discharge Pressure Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0025C	AFW Pump Discharge Pressure Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0026D	AFW Pump Discharge Pressure Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0035A	AFW Flow Modulating Valve Position Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0036B	AFW Flow Modulating Valve Position Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0037C	AFW Flow Modulating Valve Position Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0038D	AFW Flow Modulating Valve Position Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-LT-0003C	AFW Turbine Steam Drip Leg Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-LT-0004D	AFW Turbine Steam Drip Leg Level, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-PT-0013C	AFW Turbine Inlet Steam Pressure Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-PT-0014D	AFW Turbine Inlet Steam Pressure Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-S'(3)035C	AFW Pump Turbine Speed Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-S'(3)036D	AFW Pump Turbine Speed Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0003A	AFWST 1 Level Transmitter Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0004B	AFWST 2 Level Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (38 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AX-LT-0005A	AFWST 2 Level Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0005C	AFWST 2 Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0005D	AFWST 2 Level Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006B	AFWST 1 Level Transmitter Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006C	AFWST 1 Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006D	AFWST 1 Level Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CC-FT-0071A	CCW Flow Transmitter, Channel A	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-FT-0071B	CCW Flow Transmitter, Channel B	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-TE-069A	CCW Temperature Element, Channel A	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-TE-070B	CCW Temperature Element, Channel B	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CE-SW-01A	RTSS Cabinet (2), Channel A	RT	AB	137-A36C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01B	RTSS Cabinet (2), Channel B	RT	AB	137-A38C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01C	RTSS Cabinet (2), Channel C	RT	AB	137-A35C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01D	RTSS Cabinet (2), Channel D	RT	AB	137-A37C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP01A	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	120-A20A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP01B	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	120-A36B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP02A	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP02B	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-PT-351A	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-351B	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-351C	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CM-PT-351D	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352A	Cont. Pressure Protective (WR) Transmitter	RT/ESF/ PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352B	Cont. Pressure Protective (WR) Transmitter	RT/ESF/ PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352C	Cont. Pressure Protective (WR) Transmitter	RT/ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352D	Cont. Pressure Protective (WR) Transmitter	RT/ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-TE-031A	Containment Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
CM-LT-027A	CONTAINMENT WATER LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CM-LT-028B	CONTAINMENT WATER LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CS-FT-338C	Containment Spray Pump Flow Transmitter	Accident Monitoring	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-FT-348D	Containment Spray Pump Flow Transmitter	Accident Monitoring	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-TE-071C	Containment Spray Temperature Element, HX	Containment Spray	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-TE-072D	Containment Spray Temperature Element, HX	Containment Spray	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
DG-LI'(3)001A	HT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001B	HT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001C	HT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001D	HT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010A	LT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010B	LT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010C	LT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010D	LT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001A01	HT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001B01	HT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001C01	HT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001D01	HT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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~~Table 3.11-3~~ (40 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-LS'(3)001A02	HT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001B02	HT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001C02	HT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001D02	HT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010A01	LT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010B01	LT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010C01	LT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010D01	LT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010A02	LT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010B02	LT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010C02	LT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010D02	LT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086A	Over Speed Air Receiver Pressure Indicator Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086B	Over Speed Air Receiver Pressure Indicator Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086C	Over Speed Air Receiver Pressure Indicator Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086D	Over Speed Air Receiver Pressure Indicator Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142A	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142B	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142C	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142D	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176A	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176B	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176C	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176D	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177A	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-PI'(3)177B	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177C	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177D	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060A	Crankcase Gas Pressure Measurement Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060B	Crankcase Gas Pressure Measurement Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060C	Crankcase Gas Pressure Measurement Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060D	Crankcase Gas Pressure Measurement Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182A	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182B	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182C	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-PS'(3)182D	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183A	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183B	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183C	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183D	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110A	LT Water Pump Discharge Pressure Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110B	LT Water Pump Discharge Pressure Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110C	LT Water Pump Discharge Pressure Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110D	LT Water Pump Discharge Pressure Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004A	HT Water Pump Suction Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004B	HT Water Pump Suction Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004C	HT Water Pump Suction Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004D	HT Water Pump Suction Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007A	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007B	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007C	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007D	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008A	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008B	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008C	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008D	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044A	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044B	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-TT'(3)044C	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044D	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045A	Lube Oil Engine Inlet Temperature Transmitter High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045B	Lube Oil Engine Inlet Temperature Transmitter High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045C	Lube Oil Engine Inlet Temperature Transmitter High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045D	Lube Oil Engine Inlet Temperature Transmitter High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-TE-350	IRWST Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
IW-TE- 351	IRWST Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
IW-LT-390B	IRWST LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-LT-391A	IRWST LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
MS-PT-1013A	SG 1 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013B	SG 1 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013C	SG 1 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013D	SG 1 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023A	SG 2 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023B	SG 2 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023C	SG 2 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023D	SG 2 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
NR-RW-001A	ENFMS Safety Channel Detector, Channel A	RT/PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001B	ENFMS Safety Channel Detector, Channel B	RT/PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001C	ENFMS Safety Channel Detector, Channel C	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001D	ENFMS Safety Channel Detector, Channel D	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PA-PA03A	ESF-CCS GC Cabinet (2)	ESF	AB	157-A25C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03B	ESF-CCS GC Cabinet (2)	ESF	AB	157-A01D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03C	ESF-CCS GC Cabinet (2)	ESF	AB	157-A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03D	ESF-CCS GC Cabinet (2)	ESF	AB	157-A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA04A	MTP/ITP Cabinet (2), Channel A	RT/ESF Test and Maintenance	AB	158-A01C	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04B	MTP/ITP Cabinet (2), Channel B	RT/ESF Test and Maintenance	AB	158-A01D	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04C	MTP/ITP Cabinet (2), Channel C	RT/ESF Test and Maintenance	AB	158-A19C	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04D	MTP/ITP Cabinet (2), Channel D	RT/ESF Test and Maintenance	AB	158-A19D	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA06C	ESF-CCS LC Cabinet (2)	ESF	AB	157-A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA06D	ESF-CCS LC Cabinet (2)	ESF	AB	157-A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA14A	PPS Cabinet (2), Channel A	RT/ESF	AB	158-A01C	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14B	PPS Cabinet (2), Channel B	RT/ESF	AB	158-A01D	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14C	PPS Cabinet (2), Channel C	RT/ESF	AB	158-A19C	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14D	PPS Cabinet (2), Channel D	RT/ESF	AB	158-A19D	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15A	CPCS Cabinet (2), Channel A	RT	AB	158-A01C	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15B	CPCS Cabinet (2), Channel B	RT	AB	158-A01D	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15C	CPCS Cabinet (2), Channel C	RT	AB	158-A19C	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15D	CPCS Cabinet (2), Channel D	RT	AB	158-A19D	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA16A	QIAS-P Cabinet (2) , Channel A	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA16B	QIAS-P Cabinet (2) , Channel B	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA18A	APC Cabinet (2), Channel A	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18B	APC Cabinet (2), Channel B	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18C	APC Cabinet (2), Channel C	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18D	APC Cabinet (2), Channel D	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA29C	DRCS Remote I/O Cabinet (2)s (Associated Circuit)	Isolating non-safety I&C equipment from safety I&C equipment.	AB	157A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PA-PA29D	DRCS Remote I/O Cabinet (2)s (Associated Circuit)	Isolating non-safety I&C equipment from safety I&C equipment.	AB	157A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA47A	BOP Radiation Monitoring Cabinet (2)	ESF, AMI	AB	157-A01D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA47B	BOP Radiation Monitoring Cabinet (2)	ESF, AMI	AB	157-A25C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA48A	ENFMS Cabinet (2), Channel A	RT/PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48B	ENFMS Cabinet (2), Channel B	RT/PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48C	ENFMS Cabinet (2), Channel C	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48D	ENFMS Cabinet (2), Channel D	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PE-LX01A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX04A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04C	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04D	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (46 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PE -LX05B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05C	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05D	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX06B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX07A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX07B	ESF-CCS LC Cabinet (2)	ESF	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX08A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX08B	ESF-CCS LC Cabinet (2)	ESF	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX09A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX09B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX10A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX10B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX11A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX11B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX12A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX12B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX13B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PM-PM01	MCR RO Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM02	MCR TO/EO Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM03	MCR SS Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM04	MCR STA Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O

Table 3.11-2

~~Table 3.11-3~~ (47 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PM -PM05	MCR Safety Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM-UC-19	PPS/CPCS/ESF-CCS Operator Module, Channel A	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-20	PPS/CPCS/ESF-CCS Operator Module, Channel B	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-21	PPS/CPCS/ESF-CCS Operator Module, Channel C	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-22	PPS/CPCS/ESF-CCS Operator Module, Channel D	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC'(3)9	QIAS-P Display, Channel A	PAM	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PM-UC-40	QIAS-P Display, Channel B	PAM	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115A	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115B	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115C	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115D	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125A	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125B	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125C	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125D	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102A	Pressurizer Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102B	Pressurizer Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102C	Pressurizer Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102D	Pressurizer Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-103A	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-104B	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-105C	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-106D	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-190A	RCS Pressure (Cold Leg-Pump Discharge)Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-190B	RCS Pressure (Cold Leg-Pump Discharge)Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (48 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-SE-113A	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113B	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113C	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113D	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123A	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123B	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123C	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123D	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133A	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133B	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133C	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133D	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123A	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123B	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123C	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123D	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133A	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133B	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133C	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133D	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143A	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143B	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143C	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143D	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113A	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113B	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113C	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113D	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123A	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123B	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	

Table 3.11-2

~~Table 3.11-3~~ (49 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-ST-123C	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123D	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133A	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133B	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133C	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133D	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143A	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143B	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143C	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143D	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-TE-112A	RCS, Hot Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112B	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112C	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112D	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113A	RCS, Hot Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113B	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113C	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113D	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122A	RCS, Cold Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122B	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122C	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122D	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123A	RCS, Cold Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123B	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123C	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O

Table 3.11-2

~~Table 3.11-3~~ (50 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-TE-123D	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-132A	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-132B	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-133A	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-133B	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-142A	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-142B	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-143A	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-143B	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ (EMC)	No	I		SR	O
RS-RU01	Remote Shutdown Console	Plant Status Monitoring and Control	AB	137-A06D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	o
SI-FT-302A	SCS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-305B	SCS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-311D	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT(3)1B	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT- 321B	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-341A	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-390D	Hot Leg Injection Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-391C	Hot Leg Injection Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-311D	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT- 321B	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-331C	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-341A	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-300A	SDCHX 1 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-301A	SDCHX 1 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-302A	SDCHX Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o

Table 3.11-2

~~Table 3.11-3~~ (51 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-TE-303B	SDCHX 2 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
SI-TE-304B	SDCHX 2 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
SI-TE-305B	SDCHX Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
QN-PA17N	QIAS-N Cabinet (2)	Plant Status Monitoring	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(8)	NSR	O

(1) See EQP Table 3 for definition of environmental categories.

(2) Equipment located within a cabinet (2) is qualified allowing for temperature increase inside cabinet (2).

(3) Non-metallic consumable parts (as O-Ring, Packing and Gasket) are contained.

(4) Radiation environmental qualification requirements for individual components are developed as discussed in Subsection 3.11.5.

(5) Only Channels A and B are qualified for accident environment.

(6) EQP Table 3 provides the worst case upper bound radiation environment in the region where the component is located.

(7) RO, and TO/EO consoles include ESF-CCS soft control modules (ESCMs) which are Class 1E devices. SS and STA consoles include ESCMs which are Class 1E devices and QIAS-N FPDs which are Non-Class 1E devices. Safety Console includes Class 1E and Non-Class 1E devices. Class 1E devices are QIAS-P FPD, operator modules, Class 1E switches, ESCM. Non-Class 1E devices are QIAS-N FPDs. Remote shutdown console includes ESCMs which are Class 1E devices and QIAS-N FPDs which are Non-Class 1E devices.

(8) QIAS-N Cabinet (2) is designed by the associated circuit in accordnace with the IEEE Std.384, since it performs a non-safety function, but the hardware is qualified.

(9) Piping design determines room number that valves or other equipment will be installed in and is applied to graded approach. Therefore, room number specified in the "E" column will be defined after piping design is completed. COL applicant will provide information on the room numbers.

(10) For cables or cable assemblies which do not have tag number due to being supplied as bulk, “N/A” will be specified in the Column labeled “Tag No”

Table 2 (1 of 5)

Environmental Data

Environmental Parameters [2]	Range and Duration
Containment Building – Category A-1 (LOCA)	
Temperature, °C (°F)	Figure 3.11-1
Pressure, psig	Figure 3.11-1
Relative humidity, %	100, saturated/superheated steam/air mixture
Radiation, 60-yr TID Gy plus LOCA [1], [3], [4]	< 3.4×10^5 gamma < 2×10^6 beta
Chemical spray	4,400 ppm Boron as H_3BO_3, 0~50 ppm Hydrazine as N_2H_4, pH of 4~10 up to 4 hours and 7.0 to 8.5 after 4 hours using tri-sodium phosphate
Containment Building – Category A-2 (MSLB)	
Temperature, °C (°F)	Figure 3.11-1
Pressure, psig	Figure 3.11-1
Relative humidity, %	100 saturated/superheated steam/air mixture
Radiation, 60-yr TID Gy plus Non-LOCA [1], [3]	Bounded by Category A-1
Chemical spray	4,400 ppm Boron as H_3BO_3, 0~50 ppm Hydrazine as N_2H_4, pH of 4~10 up to 4 hours and 7.0 to 8.5 after 4 hours using tri-sodium phosphate
Containment Building – Category B (Normal)	
Temperature, °C (°F)	10 – 49 (50 – 120)
Pressure, psig	atmospheric, continuous
Relative humidity, %	5 – 90
Radiation, 60-yr TID Gy [3]	< 3×10^4 gamma
Chemical spray	N/A
Auxiliary Building – Category C (Normal)	
Temperature, °C (°F)	10 – 40 (50 – 104)
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90

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~~Table 2 (2 of 5)~~

~~Environmental Parameters~~ [2]	~~Range and Duration~~
~~Radiation, 60-yr TID Gy~~	~~< 5.25 × 10^2 gamma (accessible areas and I&C equipment)~~ ~~< 1.5 × 10^4 gamma (RTSG, DRCS)~~ ~~< 1.88 × 10^5 gamma (VCT)~~ ~~< 4.1 × 10^7 gamma (purification ion exchanger)~~
~~Chemical spray~~	~~N/A~~
~~Auxiliary Building – Category D (LOCA/MSLB)~~	
~~Temperature, °C (°F)~~	~~10 – 40 (50 – 104)~~
~~Pressure, psig~~	~~atmospheric, continuous~~
~~Relative humidity, %~~	~~7 – 90, limited to 8 hours Outside normal range of Category C~~
~~Radiation, 60-yr TID Gy plus LOCA/MSLB~~ [1], [4]	~~< 1.0 × 10^4 gamma (accessible areas and I&C equipment)~~ ~~< 1.5 × 10^4 gamma (RTSG, DRCS)~~ ~~< 1.88 × 10^5 gamma (VCT)~~ ~~< 4.1 × 10^7 gamma (purification ion exchanger)~~
~~Chemical spray~~	~~N/A~~
~~Auxiliary Building – Category E (HELB)~~	
~~Temperature, °C (°F)~~	~~54-171 (150-340), 0-1 second 171 (340), 1 second-2 hours 171-54 (340-130), 2-24 hours~~
~~Pressure, psig~~	~~5 (HELB Areas except for Turbine Driven AFWP Room/Vent, Main Steam Enclosure)~~ ~~6 (Turbine Driven AFWP Room)~~ ~~12 (Turbine Driven AFWP Vent)~~ ~~24 (Main Steam Enclosure)~~
~~Relative humidity, %~~	~~100, 0 ~ 3 minutes;~~ ~~7 – 90, after 3 minutes (limited to 8 hours outside the normal range of Category C unless otherwise specified)~~
~~Radiation, 60-yr TID Gy~~	~~same as Category C~~
~~Chemical spray~~	~~N/A~~

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Table 2 (3 of 5)

Environmental Parameters (2)	Range and Duration
Fuel Handling Area – Category F (Normal)	
Temperature, °C (°F)	10 – 40 (50 – 104), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{1} gamma
Chemical spray	N/A
Fuel Handling Area – Category G (LOCA/MSLB)	
Temperature, °C (°F)	10 – 40 (50 – 104) continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	20 – 90, continuous
Radiation, 60-yr TID Gy (1)	< 1.0×10^{3} gamma
Chemical spray	N/A
Emergency Diesel Generator Area – Category H (Normal)	
Temperature, °C (°F)	10 – 50 (50 – 122), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60-yr TID Gy	< 6.3×10^{-1} gamma
Chemical spray	N/A
Control Room Area – Category J (Normal/DBA)	
Temperature, °C (°F)	21 – 25 (70 – 77), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	40 – 60, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{-1} gamma (control room and electrical equipment room)
Chemical spray	N/A
Outside Areas – Category K (Normal/DBA)	
Temperature, °C (°F)	-40 – 46 (-40 – 115), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	3 – 100, continuous
Radiation, 60-yr TID Gy	< 1.5×10^{-1} gamma
Chemical spray	N/A

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Table 2 (4 of 5)

Environmental Parameters (2)	Range and Duration
Main Steam Valve House – Category L (Normal)	
Temperature, °C (°F)	10 – 49 (50 – 120), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	20 – 90, continuous
Radiation, 60 yr TID Gy	< 1.5×10^{-1} gamma
Chemical spray	N/A
Main Steam Valve House – Category M (MSLB)	
Temperature, °C (°F)	40-182 (104-360), 0-5 seconds 182 (360), 5-100 seconds 182-216 (360-420), 100-200 seconds 216 (420), 200 seconds-30 minutes 216-40 (420-104), 30 minutes-24 hours
Pressure, psig	3, 0-15 minutes, atmospheric-continuous
Relative humidity, %	100, 0-15 minutes, 20-90, continuous
Radiation, 60 yr TID Gy	< 1.0×10^{4} gamma
Chemical spray	N/A
Turbine Building – Category N (Normal)	
Temperature, °C (°F)	10 - 40 (50 - 104), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	Relative humidity for the temperature range 60 °F - 80 °F is 95 % Relative humidity for temperatures above 80 °F is a fixed moisture content equivalent to 95 % relative humidity at 80 °F
Radiation, 60-yr TID Gy	N/A
Chemical spray	N/A
Emergency Diesel Generator Area – Category I (LOCA/MSLB)	
Temperature, °C (°F)	10 – 50 (50 – 122), continuous
Pressure, psig	atmospheric, continuous
Relative humidity, %	7 – 90, continuous
Radiation, 60 yr TID Gy	< 6.3×10^{-1} gamma
Chemical spray	N/A

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Table 2 (5 of 5)

Environmental Parameters (2)	Range and Duration
Turbine Building – Category O (LOCA/MSLB)	
Temperature, °C (°F)	166 (330), 0 – 3 minutes; 49 (120), 3 minutes to 4 hours; 16 – 40 (60~104), continuous after 4 hours
Pressure, psig	atmospheric, continuous after 3 minutes
Relative humidity, %	Relative humidity for the temperature range 60 °F – 80 °F is 95 % Relative humidity for temperatures above 80 °F is a fixed moisture content equivalent to 95 % relative humidity at 80 °F
Radiation, 60-yr TID Gy (1)	N/A
Chemical spray	N/A

(1) Accident condition gamma radiation dose includes the normal external gamma dose plus that external dose due to the limiting DBA since these are total integrated dose values. The component design dose is the sum of internal (if applicable) plus external radiation doses.

(2) Environment as used in this Table is defined as those conditions surrounding equipment. Equipment specifications take into consideration both the environment and those process conditions internal to the equipment.

(3) Outside the biological shield.

(4) The post-LOCA radiation environment in this region will vary depending on whether or not emergency core cooling operates within its design basis. If emergency core cooling operates as designed, there will be little core damage and a conservative estimate of the radiological release would be 100 percentage of the core gap activity. If emergency core cooling is assumed to fail in the short-term but is restored to operation resulting in an “arrested core damage” scenario (to be consistent with the “substantial” core melt accident postulated to satisfy 10 CFR 50.34), the radiological release is assumed to be 100 percent of the core gap activity as well as the early in-vessel core release as discussed in NRC RG 1.183. Table 3.11-1 assumes an arrested core melt scenario integrated over 6 months and is intended to provide an upper-bound radiation environment for the region.

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Table 3 is changed to Table 2.
This change is made to the remainder pages likewise.

Updated

Added

Added

~~Table 3~~ (1 of 51)

Equipment Qualification Equipment List

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Auxiliary Feedwater System												
AFW-PP01A	Turbine Driven Aux. Feedwater Pumps	ESF	AB	078-A15C	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP01B	Turbine Driven Aux. Feedwater Pumps	ESF	AB	078-A15D	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP02A	Motor Driven Aux. Feedwater Pumps	ESF	AB	078-A20A	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-PP02B	Motor Driven Aux. Feedwater Pumps	ESF	AB	078-A20B	Continuous	Harsh	Mild	Mechanical EQ	No	I	(3)	SR	
AFW-V0035	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0036	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0037	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0038	Globe Valve and Actuator, AFW Modulating	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0043	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0044	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0045	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AFW-V0046	Gate Valve and Actuator, AFW Isolation, CIV	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
	Auxiliary Feedwater Pump Turbine System												
AT-V0007	Globe Valve and Actuator, AFW Pump Turbine Steam Line Drain	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0008	Globe Valve and Actuator, AFW Pump Turbine Steam Line Drain	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0009	Globe Valve and Actuator, AFW Pump Turbine Steam Line Isolation	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-V0010	Globe Valve and Actuator, AFW Pump Turbine Steam Line Isolation	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
AT-LP01C	AF Pump Turbine Control Panel	ESF	AB	078-A15C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AT-LP01D	AF Pump Turbine Control Panel	ESF	AB	078-A15D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
	Auxiliary Feedwater Storage and Transfer												
AX-LI003A	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI004B	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005A	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005C	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI005D	Field Indicator Device, AFWST 2	ESF	AB	100-A07D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

Updated

Table 2

~~Table 3~~ (2 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AX-LI006B	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI006C	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
AX-LI006D	Field Indicator Device, AFWST 1	ESF	AB	100-A07C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
	Component Cooling Water System												
CC-PP03A	Component Cooling Water Make-up Pumps	ESF	AB	078-A29C	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP03B	Component Cooling Water Make-up Pumps	ESF	AB	078-A29D	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP01A	Component Cooling Water Pumps	ESF	AB	055-A02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP01B	Component Cooling Water Pumps	ESF	AB	055-A02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP02A	Component Cooling Water Pumps	ESF	AB	055-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-PP02B	Component Cooling Water Pumps	ESF	AB	055-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0011	CCW Surge Tank01A Makeup Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0012	CCW Surge Tank01B Makeup Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0021	CCW Heat Exchanger HE01A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0022	CCW Heat Exchanger HE01B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0023	CCW Heat Exchanger HE02A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0024	CCW Heat Exchanger HE02B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0025	CCW Heat Exchanger HE03A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0026	CCW Heat Exchanger HE03B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0027	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0028	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0031	CCW Heat Exchanger HE01A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0032	CCW Heat Exchanger HE01B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0033	CCW Heat Exchanger HE02A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0034	CCW Heat Exchanger HE02B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0035	CCW Heat Exchanger HE03A Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0036	CCW Heat Exchanger HE03B Outlet	ESF	CCWHXB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0037	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0038	CCW Heat Exchanger Bypass Isolation	ESF	CCWHXB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0097	Containment Spray Heat Exchanger 01A Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0098	Containment Spray Heat Exchanger 01B Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O

Table 2

~~Table 3~~ (3 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V0131	Essential Chiller Condenser 2B Outlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0132	Essential Chiller Condenser 2A Outlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0143	Train A Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0144	Train B Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0145	Train A Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0146	Train B Non-Safety Load Supply Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0147	Train A Non-Safety Load Return Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0148	Train B Non-Safety Load Return Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0149	Train A Non-Safety Load Return Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0150	Train B Non-Safety Load Return Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0181	DG C Heat Exchanger Inlet Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0182	DG D Heat Exchanger Inlet Isolation	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0191	DG A Heat Exchanger Inlet Isolation	ESF	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0192	DG B Heat Exchanger Inlet Isolation	ESF	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0231	RCP Cooler Supply Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0249	RCP Cooler Return Containment Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0250	RCP Cooler Return Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0296	Letdown Heat Exchanger Supply Containment Isolation	ESF	AB	COL(7)	Short-Term (40sec)	Mild	Mild	Mechanical E	No	I	(3)	SR	O
CC-V0297	Letdown Heat Exchanger Supply Containment Isolation	ESF	RCB	COL(7)	Short-Term (40sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0301	Letdown Heat Exchanger Return Containment Isolation	ESF	RCB	COL(7)	Short-Term (40sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0302	Letdown Heat Exchanger Return Containment Isolation	ESF	AB	COL(7)	Short-Term (40sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0351	SC Heat Exchanger 01A Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0352	SC Heat Exchanger 01B Inlet Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0383	Essential Chiller Condenser 1A Outlet Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0384	Essential Chiller Condenser 1B Outlet Isolation	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0389	SFP Clooing Heat Exchanger 02A Inlet Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0390	SFP Clooing Heat Exchanger 02B Inlet Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CC-V0901	Essential Chiller Condenser 1A Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O

Table 2

~~Table 3~~ (4 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V0902	Essential Chiller Condenser 1B Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0905	Essential Chiller Condenser 2A Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0906	Essential Chiller Condenser 2B Outlet Control	ESF	AB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0937	Cross Tie Supply Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0938	Cross Tie Supply Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0939	Cross Tie Return Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V0940	Cross Tie Return Header Isolation	ESF	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
CC-V1001	CCW Pump01A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1002	CCW Pump01B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1003	CCW Pump02A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1004	CCW Pump02B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1099	CCW Quadrant A to RCP Common Line Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1100	RCP Return Pressure Release Line Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1107	CCW Surge Tank Tank01A Vacuum Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1108	CCW Surge Tank Tank01B Vacuum Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1109	N2 Supply to CCW Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1110	N2 Supply to CCW Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1111	CCW Surge Tank Tank01A Pressure Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1112	CCW Surge Tank Tank01B Pressure Relief	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
CC-V1131	CCW Pump Pump01A Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1132	CCW Pump Pump01B Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1133	CCW Pump Pump02A Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1134	CCW Pump Pump02B Recirculation Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1303	CCW Makeup Pump03A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1304	CCW Makeup Pump03B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1309	CCW Makeup Pump03A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1310	CCW Makeup Pump03B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1317	Demi Water Makeup to Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1318	Demi Water Makeup to Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1319	Demi Water Makeup to Surge Tank01A Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CC-V1320	Demi Water Makeup to Surge Tank01B Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1325	CCW Makeup Pump03A Recirculation Line Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1326	CCW Makeup Pump03B Recirculation Line Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
CC-V1685	L/D Heat Exchanger Inlet Isolation 297 Bypass Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CC-V1686	L/D Heat Exchanger Outlet Line Pressure Release Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Condenser Vacuum System												
CA-CA013	Gate Valve and Actuator, CA Isolation, CIV	ESF	AB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Containment Spray System												
CS-PP01A	Containment Spray Pump & Motor	ESF	AB	050-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-PP01B	Containment Spray Pump & Motor	ESF	AB	050-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0001	Containment Spray Header Block	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0002	Containment Spray Header Block	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0003	Containment Spray Header Isolation	ESF	AB	COL(7)	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0004	Containment Spray Header Isolation	ESF	AB	COL(7)	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0005	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0006	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0007	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V0008	CS Heat Exchanger to IRWST Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
CS-V1001	CS Pump Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
CS-V1002	CS Pump Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
CS-V1005	CS Heat Exchanger Heat Exchanger01A Thermal Relief To EDT	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
CS-V1006	CS Heat Exchanger Heat Exchanger01B Thermal Relief To EDT	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
CS-V1007	Containment Isolation Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CS-V1008	Containment Isolation Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
CS-V1014	ECSBS Spary Header Check	BDBA	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Chemical and Volume Control System												
CV-0505	Globe Valve and Actuator, RCP Controlled Bleedoff, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CV-0506	Globe Valve and Actuator, RCP Controlled Bleedoff, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0509	Gate Valve and Actuator, IRWST Makeup Line, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0515	Globe Valve and Actuator, Letdown Isolation	To isolate RCS	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0516	Globe Valve and Actuator, Letdown Isolation	To isolate RCS	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0522	Globe Valve and Actuator, Letdown Containment Isolation, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0523	Globe Valve and Actuator, Letdown Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0524	Globe Valve and Actuator, Charging Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0255	Globe Valve and Actuator, Seal Injection Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0560	Globe Valve and Actuator, RDT Effluent Containment Isolation, CIV	CIV	RCB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0561	Globe Valve and Actuator, RDT Effluent Containment Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0580	Gate Valve and Actuator, RSSH to RDH Isolation, CIV	CIV	AB	COL(7)	CONT	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0576	Globe Valve and Actuator, Charging Flow Restricting	To Restrict charging flow	AB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
CV-0577	Globe Valve and Actuator, Charging Flow Restricting	To Restrict charging flow	AB	COL(7)	CONT	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Emergency Diesel Generator System												
DG-DG01A	Class 1E Diesel Generator including Engine	EDG	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01B	Class 1E Diesel Generator including Engine	EDG	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01C	Class 1E Diesel Generator including Engine	EDG	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DG01D	Class 1E Diesel Generator including Engine	EDG	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
DG-DP01A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-DP05A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10A	Control Panels & Cubicles	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10B	Control Panels & Cubicles	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-DP06C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10C	Control Panels & Cubicles	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP01D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP02D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP03D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP04D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
DG-DP05D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP06D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP07D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP08D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP09D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
DG-DP10D	Control Panels & Cubicles	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01A	Control Panel	EDG	EDGB	100-H01A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02A	Engine Panel	EDG	EDGB	100-H02A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01B	Control Panel	EDG	EDGB	100-H01B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02B	Engine Panel	EDG	EDGB	100-H02B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP01C	Control Panel	EDG	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O
LP02C	Engine Panel	EDG	AB	100-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
LP01D	Control Panel	EDG	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	○
LP02D	Engine Panel	EDG	AB	100-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(3)	SR	○
	Emergency Diesel Engine Cooling Water System												
DG-V4217A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4217D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4250D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230A	Preheating HT Water Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230B	Preheating HT Water Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230C	Preheating HT Water Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4230D	Preheating HT Water Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231A	HT Water Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231B	HT Water Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231C	HT Water Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4231D	HT Water Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Starting Air System												
DG-V4022A	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022B	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022C	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4022D	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030A	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030B	Starting Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030C	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4030D	Starting Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V4308C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4308D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4309D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4312D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043A	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043B	Starting Air Common Header Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043C	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4043D	Starting Air Common Header Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039A	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039B	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039C	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4039D	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040A	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040B	Starting Air Outlet Regulating Globe Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040C	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4040D	Starting Air Outlet Regulating Globe Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023A	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023B	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023C	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5023D	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031A	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V5031B	Starting Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031C	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V5031D	Starting Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041A	Over Speed Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041B	Over Speed Air Receiver Relief Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041C	Over Speed Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4041D	Over Speed Air Receiver Relief Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316A	Over Speed Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316B	Over Speed Air Receiver Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316C	Over Speed Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4316D	Over Speed Air Receiver Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Lube Oil System												
DG-V4114A	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114B	3-Way Thermostatic Control Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114C	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4114D	3-Way Thermostatic Control Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111A	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111B	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111C	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4111D	Lube Oil/Preheating Water Heat Exchanger Outlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059A	Lube Oil Regulating Gate Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059B	Lube Oil Regulating Gate Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059C	Lube Oil Regulating Gate Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4059D	Lube Oil Regulating Gate Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140A	Lube Oil Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140B	Lube Oil Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-V4140C	Lube Oil Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4140D	Lube Oil Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232A	Prelube Oil Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232B	Prelube Oil Pump Inlet Isolation Valve	EDG	EDGB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232C	Prelube Oil Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4232D	Prelube Oil Pump Inlet Isolation Valve	EDG	AB	COL(7)	Short-Term	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109A	Prelube Oil Engine Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109B	Prelube Oil Engine Inlet Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109C	Prelube Oil Engine Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DG-V4109D	Prelube Oil Engine Inlet Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Emergency Diesel Engine Fuel Oil System												
DO-PP01A	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01B	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01C	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP01D	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02A	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02B	Emergency Diesel Fuel Oil Transfer Pumps	EDG	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02C	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-PP02D	Emergency Diesel Fuel Oil Transfer Pumps	EDG	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1005D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1006D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007A	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007B	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007C	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
DO-V1007D	Diesel Fuel Transfer Pump Discharge Check Valve	EDG	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Spent Fuel Pool Cooling System												
FC-PP01A	Spent Fuel Pool Cooling Pump	ESF	AB	100-A24A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
FC-PP01B	Spent Fuel Pool Cooling Pump	ESF	AB	100-A32B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
FC-V1005	SFP Cooling Pump01A Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
FC-V1006	SFP Cooling Pump01B Discharge Check	ESF	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
FC-V1145	SFP Cleanup Demineralizer Outlet Header Penetration Check	ESF	AB	COL(7)	Continuous	Mild	Harsh	Mechanical EQ	No	I		SR	
	Main Feedwater System												
FW-V0121	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0122	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0123	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0124	Economizer Main Feedwater Isolation Valve	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0131	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0132	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31C	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0133	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0134	Downcomer Main Feedwater Isolation Valves	ESF	AB	137-A31D	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0138	Feedwater Chemical Injection Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
FW-V0139	Feedwater Chemical Injection Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Instrument Air System												
IA-V0020	Cylinder Valve and Actuator, CIV	ESF	AB	COL(7)	Short-Term(5 Min)	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
	In-Containment Water Storage System												
IW-V0001	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0002	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0003	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0004	Reactor Cavity Flooding Isolation	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0005	BAMP Suction Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0006	BAMP Suction Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0010	IRWST Level Transmitter (LT-392D) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0011	IRWST Level Transmitter (LT-392D) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0012	HVT Wide Range Level Transmitter (LT-396D) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0013	HVT Wide Range Level Transmitter (LT-396D) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O

Table 2

~~Table 3~~ (14 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
IW-V0014	HVT Wide Range Level Transmitter (LT-397C) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0015	HVT Wide Range Level Transmitter (LT-397C) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0016	HVT Narrow Range Level Transmitter (LT-403A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0017	HVT Narrow Range Level Transmitter (LT-403A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0018	Reactor Cavity Transmitter (LT-397A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0019	Reactor Cavity Transmitter (LT-397A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0020	Reactor Cavity Transmitter (LT-398B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0021	Reactor Cavity Transmitter (LT-398B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0022	IRWST Level Transmitter (LT-393C) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0023	IRWST Level Transmitter (LT-393C) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0024	IRWST Level Transmitter (LT-391A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0025	IRWST Level Transmitter (LT-391A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0026	IRWST Level Transmitter (LT-390B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0027	IRWST Level Transmitter (LT-390B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0028	HVT Wide Range Level Transmitter (LT-394B) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0029	HVT Wide Range Level Transmitter (LT-394B) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0030	HVT Wide Range Level Transmitter (LT-395A) Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0031	HVT Wide Range Level Transmitter (LT-395A) Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0032	Reactor Cavity (LT-399C) Transmitter Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0033	Reactor Cavity (LT-399C) Transmitter Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0034	Reactor Cavity (LT-400D) Transmitter Upper Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V0035	Reactor Cavity (LT-400D) Transmitter Lower Tap Isolation	ESF	AB	COL(7)	Varies	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
IW-V1003	BAMP Suction Line Pressure (Thermal) Relief	ESF	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Main Steam System												
MS-V0011	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0012	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0013	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0014	Main Steam Isolation Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0015	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
MS-V0016	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0017	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0018	Main Steam Isolation Bypass Valve	ESF	AB	COL(7)	Short-Term(5 sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0090	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0091	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0092	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0093	Main Steam Drip Leg Isolation Valve	ESF	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	
MS-V0101	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0102	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0103	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0104	MSADV and Actuator	Dump	AB	COL(7)	Intermittent	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0105	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0106	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0107	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V0108	MSADV Isolation Valve and Actuator	Isolation	AB	COL(7)	Varies	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
MS-V1301	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1302	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1303	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1304	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1305	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1306	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1307	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1308	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1309	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1310	Main Steam Safety Valve	Safety Valve	AB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1311	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1312	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1313	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1314	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1315	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1316	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
MS-V1317	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1318	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1319	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
MS-V1320	Main Steam Safety Valve	Safety Valve	AB	137-A31D	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Compressed Gas System												
NT-V0004	Nitrogen Supply to SITs and RDT CIV, Globe Valve and Actuator	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
	Radiation Monitoring System												
PR-RE/RT-039A	Containment Air Monitor	Leak Detection	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-040B	Containment Air Monitor	Leak Detection	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-071A	Control Room Air Intake Monitor	ESF	AB	172-A12C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-072B	Control Room Air Intake Monitor	ESF	AB	172-A12C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-073A	Control Room Air Intake Monitor	ESF	AB	172-A12D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-074B	Control Room Air Intake Monitor	ESF	AB	172-A12D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-231A	Containment Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-232B	Containment Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-233A	Containment Upper Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-234B	Containment Upper Operating Area Monitor	ESF, Accident Monitoring	RCB	156-C01	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
PR-RE/RT-241	Spent Fuel Pool Area Monitor	ESF, Accident Monitoring	AB	156-A08B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PR-RE/RT-242	Spent Fuel Pool Area Monitor	ESF, Accident Monitoring	AB	156-A08B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
	Process Sampling System												
PS-V0031	Steam Generator 1 Sample Line from Blowdown Hot Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0032	Steam Generator 2 Sample Line from Blowdown Hot Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0033	Steam Generator 1 Sample Line from Downcomer CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0034	Steam Generator 2 Sample Line from Downcomer CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PS-V0035	Steam Generator 1 Sample Line from Blowdown Cold Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0036	Steam Generator 2 Sample Line from Blowdown Cold Leg CIV, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0257	Steam Generator 1 Primary Sample and Cooler Rack ISO Valve, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
PS-V0258	Steam Generator 2 Primary Sample and Cooler Rack ISO Valve, Gate Valve and Actuator	Accident Monitoring	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
	Primary Sampling System												
PX-V0001	RCS Hotleg Loop1 Sample CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0002	RCS Hotleg Loop1 SAMPLE CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0003	PZR Surge Line Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0004	PZR Surge Line Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0005	PZR Steam Space Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0006	PZR Steam Space Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0020	SI Tanks Sample CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0021	SI Tanks Sample CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0041	Containment Air Sample Line CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0042	Containment Air Sample Line CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0043	Containment Air Sample Line CIV	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V0053	Sample Return To HVT	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
PX-V1005	PASS Sample Return Line Check CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I		SR	
PX-V1020	Containment Air Sample Return Line Check CIV	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Reactor Coolant System												
RC-V0200	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0201	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0202	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O
RC-V0203	Pilot Operated Safety Relief Valve (POSRV)	Overpressure Protection	RCB	136-C02	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)		O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-LP01A	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01B	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01C	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-LP01D	POSRV Master Control Cabinet (2)	POSRV Signal Interface	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
Various	Hydraulic Snubbers for Surge Line	RCPB	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
Various	Steam Generator Supports including Snubbers	RCPB	RCB	100-C02A 100-C02B	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
Various	Reactor Coolant Pump Supports including Snubbers	RCPB	RCB	100-C02A 100-C02B	short-term	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Reactor Gas Vent System												
RG-V0410	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0411	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0412	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0413	PZR Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0414	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0415	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0416	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0417	RX Vessel Gas Vent	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0419	Gas Vent To IRWST	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V0420	Gas Vent To IRWST	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
RG-V1421	RCGVS Vacuum Relief	ESF	RCB	COL(7)	Varies	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
	Service Air System												
SA-V0001	Cylinder Valve and Actuator, CIV	ESF	AB	COL(7)	Short-Term	Mild	Harsh	Mechanical EQ	No	I			
	S/G Blowdown System												
SD-V0005	S/G-1 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
SD-V0006	S/G-2 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
SD-V0007	S/G-1 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SD-V0008	S/G-2 Blowdown Containment Isolation	ESF	AB	COL(7)	Intermittent	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SD-V1115	Wet Lay Up Recir Pump A Discharge Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SD-V1116	Wet Lay Up Recir Pump B Discharge Check	ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Mechanical EQ	No	I		SR	
	Safety Injection System												
SI-PP02A	Safety Injection Pumps motors	ESF	AB	050-A03A	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02B	Safety Injection Pumps motors	ESF	AB	050-A03B	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02C	Safety Injection Pumps motors	ESF	AB	050-A02C	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP02D	Safety Injection Pumps motors	ESF	AB	050-A02D	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-V0300	Globe Valveand Actuator, IRWST Return Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0301	Gate Valve and Actuator, IRWST Return Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0302	Globe Valve and Actuator, SI Combined Miniflow Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0303	Globe Valve and Actuator, SI Combined Miniflow Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0304	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0305	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0308	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0309	Gate Valve, IRWST Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0321	Globe Valve and Actuator, SI Hot Leg Inject. Line Isol.	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0322	Globe Valve and Actuator, Hot Leg Check Valve Leakage Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0331	Globe Valve and Actuator, SI Hot Leg Injection Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0332	Globe Valve and Actuator, Hot Leg Check Valve Leakage Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0602	Globe Valve and Actuator, SI Low Flow Control Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0603	Globe Valve and Actuator, SI Low Flow Control Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0604	Gate Valve and Actuator, SI Hot Leg Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0609	Gate Valve and Actuator, SI Hot Leg Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0605	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0606	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0607	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0608	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0611	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0621	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0631	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0641	Globe Valve and Actuator, SIT Fill & Drain Isolation	ESF	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0613	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0623	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0633	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0643	Globe Valve and Actuator, SIT Atmospheric Vent Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0614	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0624	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0634	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0644	Gate Valve, SIT Discharge Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0616	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0626	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0636	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0646	Globe Valve and Actuator, SI Line Isolation Valves	ESF	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0618	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0628	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0638	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0648	Globe Valve and Actuator, Check Valve Leakoff Isolation Valves	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0682	Globe Valve and Actuator, SIT Fill Line Isolation	ESF	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Shutdown Cooling System												
SI-PP01A	Shutdown Cooling Pump and Motor	RT	AB	050-A04A	Continuous	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	
SI-PP01B	Shutdown Cooling Pump and Motor	RT	AB	050-A04B	Continuous	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0310	Globe Valve and Actuator, SDCHX Outlet Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0311	Globe Valve and Actuator, SDCHX Outlet Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0312	Globe Valve and Actuator, SDCHX Bypass Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0313	Globe Valve and Actuator, SDCHX Bypass Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0314	Globe Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0315	Globe Valve and Actuator, SCS Test Return Line Isolation Valves	RT		COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0340	Gate Valve and Actuator, SCS/CSS Pump Suction Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0341	Gate Valve and Actuator, SCS/CSS Pump Discharge Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0342	Gate Valve and Actuator, SCS/CSS Pump Suction Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0343	Gate Valve and Actuator, SCS/CSS Pump Discharge Cross Connect Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0344	Gate Valve and Actuator, SCP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0346	Gate Valve and Actuator, SCP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0347	Gate Valve and Actuator, CSP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0348	CSP Suction Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0391	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0393	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0395	Gate Valve and Actuator, Reactor Cavity Isolation Valves	RT	RCB	COL(7)	short-term	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0600	Globe Valve and Actuator, SCS Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-V0601	Globe Valve and Actuator, SCS Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0651	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	100-C02A	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0652	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0653	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	100-C01	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0654	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	RCB	COL(7)	Intermittent	Harsh	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0655	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0656	Gate Valve and Actuator, SCS Suction Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0688	Gate Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0693	Gate Valve and Actuator, SCS Test Return Line Isolation Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0690	Globe Valve and Actuator, SCS Warmup Line Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
SI-V0691	Globe Valve and Actuator, SCS Warmup Line Flow Control Valves	RT	AB	COL(7)	Intermittent	Mild	Harsh	Mechanical EQ, Electrical EQ	No	I	(3)	SR	O
	Essential Service Water System												
SX-PP01A	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP01B	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP02A	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-PP02B	Essential Service Water Pump	ESF	ESWPB	081-W01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0045	ESW Pump 01A Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0046	ESW Pump 01B Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0047	ESW Pump 02A Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V0048	ESW Pump 02B Discharge	ESF	ESWPB	COL(7)	Varies	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
SX-V1001	ESW Pump 01A Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1002	ESW Pump 01B Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SX-V1003	ESW Pump 02A Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1004	ESW Pump 02B Discharge Check	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
SX-V1051	CCW Heat Exchanger Outlet Common Header Vacuum Relief	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
SX-V1052	CCW Heat Exchanger Outlet Common Header Vacuum Relief	ESF	ESWPB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Equipment and Floor Drainage System												
DE-V0005	Containment Drain Sump Pump Discharge Line, CIV	ESF	RCB	COL(7)	Short-Term (20sec)	Harsh	Harsh	Mechnical EQ	No	I	(3)	SR	O
DE-V0006	Containment Drain Sump Pump Discharge Line, CIV	ESF	AB	COL(7)	Short-Term (20sec)	Mild	Harsh	Mechnical EQ	No	I	(3)	SR	O
	Gaseous Radwaste System												
GW-V0001	Reactor Drain Tank Gas Space to GWMS CIV	ESF	RCB	COL(7)	Short-Term (15sec)	Harsh	Harsh	Mechnical EQ	No	I	(3)	SR	O
GW-V0002	Reactor Drain Tank Gas Space to GWMS CIV	ESF	AB	COL(7)	Short-Term (15sec)	Mild	Harsh	Mechnical EQ	No	I	(3)	SR	O
	Control Room Area HVAC System												
VC-HV01A	Supply AHU	Cooling	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-HV01B	Supply AHU	Cooling	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-HV01C	Supply AHU	Cooling	AB	174-A23C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-HV01D	Supply AHU	Cooling	AB	174-A23D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-AU01A	Emergency Makeup ACU	ESF	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-AU01B	Emergency Makeup ACU	ESF	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0011A	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0011B	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0012A	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0012B	Air Intake Isolation Damper (ESR)	ESF	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0013A	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0013C	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0014B	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0014D	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0015A	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0015C	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24C	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0016B	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0016D	AHU Inlet Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0017A	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VC-Y0017C	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0018B	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0018D	ACU Inlet Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0019A	ACU Return Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0019C	ACU Return Isolation Damper (ESR)	Open	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0020B	ACU Return Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0020D	ACU Return Isolation Damper (ESR)	Open	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0021A	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0021C	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A23C	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VC-Y0022B	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0022D	AHU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A23D	Continuous	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VC-Y0023A	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0023C	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24C	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0024B	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0024D	ACU Discharge Flow Control Damper (ESR)	Modulation	AB	174-A24D	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VC-Y0027	Kitchen & Toilet Isolation Damper (PSR)	ESF	AB	157-A02C	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-Y0028	Kitchen & Toilet Isolation Damper (PSR)	ESF	AB	195-A09C	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VC-Y0029	Smoke Removal Duct Isolation Damper (PSR)	ESF	AB	174-A24D	Short-Term (5sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VC-Y0030	Smoke Removal Duct Isolation Damper (PSR)	ESF	AB	174-A03D	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
	Emergency Diesel Generator Area HVAC System												
VD-HV10A	EDG Control Room Cubicle Cooler	Cooling	EDGB	100-H01A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10B	EDG Control Room Cubicle Cooler	Cooling	EDGB	100-H01B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10C	EDG Control Room Cubicle Cooler	Cooling	AB	100-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV10D	EDG Control Room Cubicle Cooler	Cooling	AB	100-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV11A	EDG Room Normal Supply AHU	Cooling	EDGB	135-H03A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11B	EDG Room Normal Supply AHU	Cooling	EDGB	135-H03B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11C	EDG Room Normal Supply AHU	Cooling	AB	174-A14C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV11D	EDG Room Normal Supply AHU	Cooling	AB	174-A14D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VD-HV12A	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13A	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VD-HV12B	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13B	EDG Room Emergency Cubicle Cooler	Cooling	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV12C	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13C	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV12D	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HV13D	EDG Room Emergency Cubicle Cooler	Cooling	AB	100-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02A	EDG Room Exhaust Fan	Ventilation	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02B	EDG Room Exhaust Fan	Ventilation	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02C	EDG Room Exhaust Fan	Ventilation	AB	174-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH02D	EDG Room Exhaust Fan	Ventilation	AB	174-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05A	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05B	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05C	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH05D	Diesel Fuel Oil Storage Tank Room Supply Fan	Ventilation	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06A	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06B	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06C	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH06D	Diesel Fuel Oil Storage Tank Room Exhaust Fan	Ventilation	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07A	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07B	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07C	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	AB	120-A04C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-AH07D	Diesel Fuel Oil Day Tank & L.O. Makeup Tank Room Exhaust Fan	Ventilation	AB	120-A04D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VD-HC01A	EDG Room Electric Duct Heater	Heating	EDGB	100-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC01B	EDG Room Electric Duct Heater	Heating	EDGB	100-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02A	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	EDGB	063-H02A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02B	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	EDGB	063-H02B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02C	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	AB	065-A01C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VD-HC02D	Diesel Fuel Oil Storage Tank Room Electric Duct Heater	Heating	AB	065-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
	Electrical and I&C Equipment Areas HVAC System												
VE-HV01A	Class 1E Switchgear 01C Room Cubicle Cooler	Cooling	AB	078-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV01B	Class 1E Switchgear 01D Room Cubicle Cooler	Cooling	AB	078-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV02A	Class 1E Load Center 01C Room Cubicle Cooler	Cooling	AB	078-A03C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV02B	Class 1E Load Center 01D Room Cubicle Cooler	Cooling	AB	078-A03D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV03A	Train - A DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A56A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV03B	Train - B DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A56B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV04A	Train - C DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A05C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV04B	Train - D DC&IP Equip. Room Cubicle Cooler	Cooling	AB	078-A05D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV06A	480V Class 1E MCC 01A Room Cubicle Cooler	Cooling	AB	100-A12A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV06B	480V Class 1E MCC 01B Room Cubicle Cooler	Cooling	AB	100-A12B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV07A	Class 1E Switchgear 01A Room Cubicle Cooler	Cooling	AB	078-A25A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV07B	Class 1E Switchgear 01B Room Cubicle Cooler	Cooling	AB	078-A25B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV08B	Swing Load Center Room Cubicle Cooler	Cooling	AB	078-A58B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV09A	Electrical Penetration Room C Cubicle Cooler	Cooling	AB	120-A09C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV09B	Electrical Penetration Room D Cubicle Cooler	Cooling	AB	120-A09D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV10A	480V Class 1E MCC 03C Room Cubicle Cooler	Cooling	AB	137-A10C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV10B	480V Class 1E MCC 03D Room Cubicle Cooler	Cooling	AB	137-A10D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV11A	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV11B	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV12A	Penetration. Mux Room A Cubicle Cooler	Cooling	AB	137-A17A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV12B	Penetration Mux Room B Cubicle Cooler	Cooling	AB	137-A17B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV13A	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A18A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV13B	Electrical Penetration Room Cubicle Cooler	Cooling	AB	137-A18B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV14A	480V Class 1E MCC 03A Room Cubicle Cooler	Cooling	AB	137-A23A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV14B	480V Class 1E MCC 03B Room Cubicle Cooler	Cooling	AB	120-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV15A	480V Class 1E MCC 04A Room Cubicle Cooler	Cooling	AB	137-A15A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV15B	480V Class 1E MCC 04B Room Cubicle Cooler	Cooling	AB	137-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV16A	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A25C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV16B	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV17A	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-A19C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VE-HV17B	I&C Equipment Room Cubicle Cooler	Cooling	AB	157-19D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV18A	Remote Shutdown Room Cubicle Cooler	Cooling	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HV18B	Remote Shutdown Room Cubicle Cooler	Cooling	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20A	Train - A Battery Room Supply Fan	Ventilation	AB	100-A11A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20B	Train - B Battery Room Supply Fan	Ventilation	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20C	Train - C Battery Room Supply Fan	Ventilation	AB	078-A06C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH20D	Train - D Battery Room Supply Fan	Ventilation	AB	078-A06D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21A	Train - A Battery Room Exhaust Fan	Ventilation	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21B	Train - B Battery Room Exhaust Fan	Ventilation	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21C	Train - C Battery Room Exhaust Fan	Ventilation	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH21D	Train - D Battery Room Exhaust Fan	Ventilation	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH22A	Remote Shutdown Room Supply Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH22B	Remote Shutdown Room Supply Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH23A	Remote Shutdown Room Exhaust Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-AH23B	Remote Shutdown Room Exhaust Fan	Ventilation	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VE-HC01A	Train - A Battery Room Electrical Duct Heater	Heating	AB	100-A11A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01B	Train - B Battery Room Electrical Duct Heater	Heating	AB	100-A11B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01C	Train - C Battery Room Electrical Duct Heater	Heating	AB	078-A06C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC01D	Train - D Battery Room Electrical Duct Heater	Heating	AB	078-A07D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC02A	Class 1E Switchgear 01A Room Electrical Duct Heater	Heating	AB	078-A25A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC02B	Class 1E Switchgear 01B Room Electrical Duct Heater	Heating	AB	078-A25B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC03A	Remote Shutdown Room Electrical Duct Heater	Heating	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC03B	Remote Shutdown Room Electrical Duct Heater	Heating	AB	137-A43D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC04A	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A25C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC04B	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A01D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC05C	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A19C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC05D	I&C Equipment Room Electrical Duct Heater	Heating	AB	157-A19D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC06A	Elect Penetration A Room Electrical Duct Heater	Heating	AB	137-A18A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC06B	Elect Penetration B Room Electrical Duct Heater	Heating	AB	137-A18B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC07A	480V Class 1E MCC 03A Room Elec. Duct Heater	Heating	AB	137-A23A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC07B	480V Class 1E MCC 03B Room Elec. Duct Heater	Heating	AB	120-A15B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O

Table 2

~~Table 3~~ (29 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VE-HC08A	480V Class 1E 04A MCC 04A Room Elec. Duct Heater	Heating	AB	137-A15A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC09A	Penetration Mux A Room Electrical Duct Heater	Heating	AB	137-A17A	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC09B	Penetration Mux B Room Electrical Duct Heater	Heating	AB	137-A17B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
VE-HC10B	Swing Load Center Room Electrical Duct Heater	Heating	AB	078-A58B	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	O
	Fuel Handling Area HVAC System												
VF-AU02A	Emergency Exhaust ACU	ESF	FHA	120-A24A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VF-AU02B	Emergency Exhaust ACU	ESF	FHA	120-A25A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VF-HV02A	SFP HX Room Cubicle Cooler	Cooling	FHA	100-A24A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VF-HV02B	SFP HX Room Cubicle Cooler	Cooling	FHA	100-A32B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VF-Y0001A	Air Intake Isolation Damper (PSR)	ESF	FHA	100-A36B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0002B	Air Intake Isolation Damper (PSR)	ESF	FHA	100-A36B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0003A	Normal Exhaust ACU Isolation Damper (PSR)	ESF	FHA	100-A38A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0004B	Normal Exhaust ACU Isolation Damper (PSR)	ESF	FHA	100-A38A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VF-Y0005A	Emergency Exhaust ACU Isolation Damper (ESR)	Open	FHA	137-A25A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0006B	Emergency Exhaust ACU Isolation Damper (ESR)	Open	FHA	120-A24A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0007A	Emergency Exhaust Flow Control Damper (ESR)	Modulation	FHA	137-A25A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VF-Y0008B	Emergency Exhaust Flow Control Damper (ESR)	Modulation	FHA	120-A24A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
	Auxiliary Building Controlled Area HVAC System												
VK-AU01A	Aux. Bldg Controlled Area I Emergency Exhaust ACU	ESF	AB	120-A21A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01C	Aux. Bldg Controlled Area I Emergency Exhaust ACU	ESF	AB	120-A32A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01B	Aux. Bldg Controlled Area II Emergency Exhaust ACU	ESF	AB	120-A29B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-AU01D	Aux. Bldg Controlled Area II Emergency Exhaust ACU	ESF	AB	120-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-HV10A	CS Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV10B	CS Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV11A	SI Pump Room Cubicle Cooler	Cooling	AB	050-A02C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV11B	SI Pump Room Cubicle Cooler	Cooling	AB	050-A02D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV12A	SI Pump Room Cubicle Cooler	Cooling	AB	050-A03A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV12B	SI Pump Room Cubicle Cooler	Cooling	AB	050-A03B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV13A	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV13B	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VK-HV14A	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV14B	CCW Pump Room Cubicle Cooler	Cooling	AB	055-A02D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VK-HV15A	CS Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A01C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV15B	CS Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A01D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV16A	SC Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A04A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV16B	SC Pump & Miniflow Heat Exchanger Room Cubicle Cooler	Cooling	AB	050-A04B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV17A	SC Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A30A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV17B	SC Heat Exchanger Room Cubicle Cooler	Cooling	AB	055-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV18A	Charging Pump Room Cubicle Cooler	Cooling	AB	055-A42A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV18B	Charging Pump Room Cubicle Cooler	Cooling	AB	055-A55B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV19A	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	100-A13A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV19B	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	100-A13B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV20A	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	120-A16A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV20B	Mechanical Penetration Room Cubicle Cooler	Cooling	AB	120-A16B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV21B	Aux. Charging Pump Room Cubicle Cooler	Cooling	AB	055-A54B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV22A	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A21A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV22B	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A29B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV23A	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A32A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-HV23B	Aux. Bldg Controlled Area Emergency Exhaust ACU Room Cubicle Cooler	Cooling	AB	120-A30B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
VK-Y0001A	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A21A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	
VK-Y0001B	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A29B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0001C	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A32A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0001D	Aux. Bldg Controlled Area Emergency Exhaust ACU Flow Control Damper (ESR)	Modulation	AB	120-A30B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002A	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A32A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002B	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A29B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O

Table 2

~~Table 3~~ (31 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VK-Y0002C	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A21A	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0002D	Aux. Bldg Controlled Area Emergency Exhaust ACU Isolation Damper (ESR)	Open	AB	120-A30B	Continuous	Mild	Harsh	Electrical EQ	No	I	(3)	SR	O
VK-Y0017A	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	100-A20A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0018A	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	137-A29B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0019B	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	100-A20A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0020B	Aux. Bldg Controlled Area Supply AHU Outlet Isolation Damper (PSR)	ESF	AB	137-A29B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0021A	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	156-A14A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0022A	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	195-A08B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0023B	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	156-A14A	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0024B	Aux. Bldg Controlled Area Normal Exhaust ACU Inlet Isolation Damper (PSR)	ESF	AB	195-A08B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050A	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050B	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050C	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22A	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
VK-Y0050D	Post Accident Sample Room Isolation Damper (PSR)	Open	AB	055-A22B	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
	Auxiliary Building Clean Area HVAC System												
VO-HV31A	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV31B	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV32A	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV32B	Essential Chiller Room Cubicle Cooler	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV33A	Motor- Driven AFW Pump Room Cubicle Cooler	Cooling	AB	078-A20A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
VO-HV33B	Motor- Driven AFW Pump Room Cubicle Cooler	Cooling	AB	078-A20B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
	Reactor Containment Purge System												
VQ-V0012	High Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
VQ-V0011	High Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VQ-V0013	High Volume Containment Purge System Exhaust CIV, Butterfly Valve Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
VQ-V0014	High Volume Containment Purge System Exhaust CIV, Butterfly Valve Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Electrical EQ	No	I	(3)	SR	O
VQ-V0031	Low Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
VQ-V0032	Low Volume Containment Purge System Supply CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
VQ-V0033	Low Volume Cont. Purge System Exhaust CIV, Butterfly Valve and Actuator	ESF	RCB	156-C01	Short-Term (5sec)	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	O
VQ-V0034	Low Volume Cont. Purge System Exhaust CIV, Butterfly Valve and Actuator	ESF	AB	174-A16B	Short-Term (5sec)	Mild	Mild	Mechanical EQ	No	I	(3)	SR	O
	Hydrogen Monitoring System												
Various	Hydrogen Analyzers	ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I			
	Plant Chilled Water System												
WI-V013	PCW Supply to Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	AB	100-A16C	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
WI-V014	PCW Supply to Containment Ventilation Units CIV, Check Valve	Relief	RCB	114-C01A	Continuous	Harsh	Harsh	Mechanical EQ	No	I	(3)	SR	
WI-V015	PCW Return from Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	RCB	114-C01A	Short-Term (60sec)	Harsh	Harsh	Electrical EQ	No	I	(3)	SR	O
WI-V012	PCW Return from Containment Ventilation Units CIV, Gate Valve and Actuator	ESF	AB	100-A16C	Short-Term (60sec)	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	O
	Essential Chilled Water System												
WO-CH01A	Essential Chiller	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH01B	Essential Chiller	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH02A	Essential Chiller	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-CH02B	Essential Chiller	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I		SR	
WO-PP01A	Essential Chilled Water Pump	Cooling	AB	078-A11C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP01B	Essential Chilled Water Pump	Cooling	AB	078-A11D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP02A	Essential Chilled Water Pump	Cooling	AB	078-A12C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP02B	Essential Chilled Water Pump	Cooling	AB	078-A12D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP03A	Essential Chilled Water Make-up Pump	Cooling	AB	120-A10C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-PP03B	Essential Chilled Water Make-up Pump	Cooling	AB	120-A10D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V1001A	ECW Compression Tank Relief valve	Relief	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V1001B	ECW Compression Tank Relief valve	Relief	AB	COL(7)	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
WO-V0906A	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A24C	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
WO-V0906B	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A24D	Continuous	Mild	Harsh	Mechanical EQ	No	I	(3)	SR	
WO-V0906C	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A23C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0906D	Control Room Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A23D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0917A	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A14C	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0917B	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	174-A14D	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0918A	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	135-H03A	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-V0918B	EDG Room Normal Supply AHU Chilled Water 3-Way Valve	Cooling	AB	135-H03B	Continuous	Mild	Mild	Mechanical EQ	No	I	(3)	SR	
WO-LP01A	Essential Chilled Water System Control Panel	Control	AB	078-A11C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01B	Essential Chilled Water System Control Panel	Control	AB	078-A11D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01C	Essential Chilled Water System Control Panel	Control	AB	078-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LP01D	Essential Chilled Water System Control Panel	Control	AB	078-A12D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LI003C	Field Indicator Device	Cooling	AB	174-A06C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
WO-LI003D	Field Indicator Device	Cooling	AB	174-A06D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
	Electric System												
PF-SW01A	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01B	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01C	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A02C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PF-SW01D	4.16kV Metal Clad Switchgear	Power Supply (PS)	AB	078-A02D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG-LC01A	480V Load Center	Power Supply (PS)	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG-LC01B	480V Load Center	Power Supply (PS)	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC01C	480V Load Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC01D	480V Load Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PG -LC02	480V Load Center	Power Supply (PS)	AB	078-A58B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH-MC01A	480V Motor Control Center	Power Supply (PS)	AB	100-A12A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PH -MC02A	480V Motor Control Center	Power Supply (PS)	AB	081-W01A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03A	480V Motor Control Center	Power Supply (PS)	AB	137-A23A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04A	480V Motor Control Center	Power Supply (PS)	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC05A	480V Motor Control Center	Power Supply (PS)	AB	100-H01A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01B	480V Motor Control Center	Power Supply (PS)	AB	100-A12B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02B	480V Motor Control Center	Power Supply (PS)	AB	081-W01B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03B	480V Motor Control Center	Power Supply (PS)	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04B	480V Motor Control Center	Power Supply (PS)	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC05B	480V Motor Control Center	Power Supply (PS)	AB	100-H01B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01C	480V Motor Control Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02C	480V Motor Control Center	Power Supply (PS)	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03C	480V Motor Control Center	Power Supply (PS)	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04C	480V Motor Control Center	Power Supply (PS)	AB	100-A02C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC01D	480V Motor Control Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC02D	480V Motor Control Center	Power Supply (PS)	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC03D	480V Motor Control Center	Power Supply (PS)	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
PH -MC04D	480V Motor Control Center	Power Supply (PS)	AB	100-A02D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01A	Local Starter	Power Supply (PS)	AB	137A18A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02A	Local Starter	Power Supply (PS)	AB	137A18A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ02D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ03C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
RC-SQ03D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02C	Local Starter	Power Supply (PS)	AB	100A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02D	Local Starter	Power Supply (PS)	AB	120A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ01C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ01D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ02C	Local Starter	Power Supply (PS)	AB	120A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-SQ02D	Local Starter	Power Supply (PS)	AB	120A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CV-SQ01B	Local Starter	Power Supply (PS)	AB	137A18B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
VK-SQ01	Local Starter	Power Supply (PS)	AB	055A50B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
Various	Local Control Station	Power Supply (PS)	AB	Various	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01A	125Vdc Battery with Rack	Power Supply (PS)	AB	100-A11A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01B	125Vdc Battery with Rack	Power Supply (PS)	AB	100-A11B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01C	125Vdc Battery with Rack	Power Supply (PS)	AB	078-A07C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BT01D	125Vdc Battery with Rack	Power Supply (PS)	AB	078-A07D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01A	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01B	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01C	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC01D	480Vac/125Vdc Battery Charger	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02A	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02B	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02C	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-BC02D	480Vac/125Vdc Standby Battery Charger	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01A	125Vdc Control Center	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01B	125Vdc Control Center	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01C	125Vdc Control Center	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DC-MC01D	125Vdc Control Center	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01A	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01B	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01C	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-TR01D	480Vac/120Vac Regulating Transformer	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01A	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A56A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
IP-IN01B	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A56B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01C	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A05C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IP-IN01D	125Vdc/120Vac Inverter	Power Supply (PS)	AB	078-A05D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02C	125Vdc Local Starter	Power Supply (PS)	AB	100-A22A	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
SI-SQ02D	125Vdc Local Starter	Power Supply (PS)	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
AF-SQ01C	125Vdc Local Starter	Power Supply (PS)	AB	120-A09C	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
AF-SQ01D	125Vdc Local Starter	Power Supply (PS)	AB	120-A09D	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
Various	Electrical Penetration Assemblies - Medium Voltage Power	Power Supply (PS)	RCB	136-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Penetration Assemblies - Low Voltage Power & Control	Power Supply (PS)	RCB	136-C01A,B 114-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Penetration Assemblies – Low Voltage Instrumentation	Power Supply (PS)	RCB	136-C01A,B 114-C01A,B	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
Various	Electrical Conductor Sealing Assemblies	Power Supply (PS)	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	5kV Power Cables	Power Supply (PS)	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Power Cables	Power Supply (PS)	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Control Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	600V Instrumentation Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	Thermocouple Extension Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	Coaxial Cables	Various	Various	Various	Continuous	Mild/Harsh	Mild/Harsh	Electrical EQ	No	I		SR	
N/A(10)	RSPT Type I & II Cable Assemblies	RT	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI Cable Assemblies	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	HJTC Cable Assemblies	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	RSPT Type I, II Cable	RT	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	Reed Switch Position Transmitter	RT	RCB	Various	Continuous	Mild	Mild	Electrical EQ	No	I		SR	
N/A(10)	HJTC MI Cables & Connectors	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	HJTC Probe	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI MI Cable & Connectors	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
N/A(10)	ICI Assembly	PAM	RCB	Various	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	
	Instrumentation and Control System											SR	
AFW-FT-0047A	AFW Flow Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-FT-0048B	AFW Flow Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AFW-FT-0049C	AFW Flow Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-FT-0050D	AFW Flow Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0053A	AFW Line Back Leakage Temp. Element, Ch. A	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0054B	AFW Line Back Leakage Temp. Element, Ch. B	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0053C	AFW Line Back Leakage Temp. Element, Ch. C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-TE-0054D	AFW Line Back Leakage Temp. Element, Ch. D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0005A	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0006B	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0007C	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0008D	AFW Pump Suction Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0023A	AFW Pump Discharge Pressure Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0024B	AFW Pump Discharge Pressure Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0025C	AFW Pump Discharge Pressure Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-PT-0026D	AFW Pump Discharge Pressure Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0035A	AFW Flow Modulating Valve Position Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0036B	AFW Flow Modulating Valve Position Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0037C	AFW Flow Modulating Valve Position Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AFW-Z-0038D	AFW Flow Modulating Valve Position Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-LT-0003C	AFW Turbine Steam Drip Leg Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-LT-0004D	AFW Turbine Steam Drip Leg Level, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-PT-0013C	AFW Turbine Inlet Steam Pressure Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-PT-0014D	AFW Turbine Inlet Steam Pressure Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-S'(3)035C	AFW Pump Turbine Speed Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AT-S'(3)036D	AFW Pump Turbine Speed Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0003A	AFWST 1 Level Transmitter Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0004B	AFWST 2 Level Transmitter, Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
AX-LT-0005A	AFWST 2 Level Transmitter, Channel A	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0005C	AFWST 2 Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0005D	AFWST 2 Level Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006B	AFWST 1 Level Transmitter Channel B	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006C	AFWST 1 Level Transmitter, Channel C	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
AX-LT-0006D	AFWST 1 Level Transmitter, Channel D	Aux. Feedwater	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CC-FT-0071A	CCW Flow Transmitter, Channel A	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-FT-0071B	CCW Flow Transmitter, Channel B	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-TE-069A	CCW Temperature Element, Channel A	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CC-TE-070B	CCW Temperature Element, Channel B	Component Cooling WTR.	CCWPH	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CE-SW-01A	RTSS Cabinet (2), Channel A	RT	AB	137-A36C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01B	RTSS Cabinet (2), Channel B	RT	AB	137-A38C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01C	RTSS Cabinet (2), Channel C	RT	AB	137-A35C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CE-SW-01D	RTSS Cabinet (2), Channel D	RT	AB	137-A37C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP01A	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	120-A20A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP01B	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	120-A36B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP02A	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-LP02B	Containment Hydrogen Analyzer Cabinet (2)	Containment Hydrogen Concentration Monitoring	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
CM-PT-351A	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-351B	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-351C	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
CM-PT-351D	Containment Pressure Protective (NR) Transmitter	RT/ESF	AB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352A	Cont. Pressure Protective (WR) Transmitter	RT/ESF/ PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352B	Cont. Pressure Protective (WR) Transmitter	RT/ESF/ PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352C	Cont. Pressure Protective (WR) Transmitter	RT/ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-PT-352D	Cont. Pressure Protective (WR) Transmitter	RT/ESF	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
CM-TE-031A	Containment Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
CM-LT-027A	CONTAINMENT WATER LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CM-LT-028B	CONTAINMENT WATER LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
CS-FT-338C	Containment Spray Pump Flow Transmitter	Accident Monitoring	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-FT-348D	Containment Spray Pump Flow Transmitter	Accident Monitoring	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-TE-071C	Containment Spray Temperature Element, HX	Containment Spray	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
CS-TE-072D	Containment Spray Temperature Element, HX	Containment Spray	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ	No	I		SR	O
DG-LI'(3)001A	HT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001B	HT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001C	HT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)001D	HT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010A	LT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010B	LT Water Expansion Tank Level Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010C	LT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LI'(3)010D	LT Water Expansion Tank Level Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001A01	HT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001B01	HT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001C01	HT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001D01	HT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-LS'(3)001A02	HT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001B02	HT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001C02	HT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)001D02	HT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010A01	LT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010B01	LT Water Expansion Tank Level Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010C01	LT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010D01	LT Water Expansion Tank Level Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010A02	LT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010B02	LT Water Expansion Tank Level Switch High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010C02	LT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-LS'(3)010D02	LT Water Expansion Tank Level Switch High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086A	Over Speed Air Receiver Pressure Indicator Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086B	Over Speed Air Receiver Pressure Indicator Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086C	Over Speed Air Receiver Pressure Indicator Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)086D	Over Speed Air Receiver Pressure Indicator Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142A	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142B	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142C	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)142D	Lube Oil/Preheating Water Heat Exchanger Inlet Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176A	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176B	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176C	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)176D	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177A	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-PI'(3)177B	Starting Air Receiver Pressure Indicator	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177C	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PI'(3)177D	Starting Air Receiver Pressure Indicator	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)041D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)042D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)046D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047A	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047B	Engine Inlet Lube Oil Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047C	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)047D	Engine Inlet Lube Oil Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060A	Crankcase Gas Pressure Measurement Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060B	Crankcase Gas Pressure Measurement Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060C	Crankcase Gas Pressure Measurement Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)060D	Crankcase Gas Pressure Measurement Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182A	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182B	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)182C	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-PS'(3)182D	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183A	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183B	Starting Air Receiver Pressure Switch Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183C	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PS'(3)183D	Starting Air Receiver Pressure Switch Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110A	LT Water Pump Discharge Pressure Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110B	LT Water Pump Discharge Pressure Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110C	LT Water Pump Discharge Pressure Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-PT'(3)110D	LT Water Pump Discharge Pressure Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004A	HT Water Pump Suction Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004B	HT Water Pump Suction Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004C	HT Water Pump Suction Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)004D	HT Water Pump Suction Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007A	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007B	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007C	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)007D	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008A	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008B	HT Water Outlet Temperature Transmitter	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008C	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)008D	HT Water Outlet Temperature Transmitter	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044A	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044B	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O

Table 2

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Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
DG-TT'(3)044C	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)044D	Lube Oil Engine Inlet Temperature Transmitter Low	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045A	Lube Oil Engine Inlet Temperature Transmitter High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045B	Lube Oil Engine Inlet Temperature Transmitter High	EDG	EDGB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045C	Lube Oil Engine Inlet Temperature Transmitter High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
DG-TT'(3)045D	Lube Oil Engine Inlet Temperature Transmitter High	EDG	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-TE-350	IRWST Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
IW-TE- 351	IRWST Temperature Element	Accident Monitoring	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ	No	I		SR	O
IW-LT-390B	IRWST LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
IW-LT-391A	IRWST LEVEL	Accident Monitoring	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ	No	I		SR	O
MS-PT-1013A	SG 1 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013B	SG 1 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013C	SG 1 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1013D	SG 1 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023A	SG 2 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023B	SG 2 Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023C	SG 2 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
MS-PT-1023D	SG 2 Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
NR-RW-001A	ENFMS Safety Channel Detector, Channel A	RT/PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001B	ENFMS Safety Channel Detector, Channel B	RT/PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001C	ENFMS Safety Channel Detector, Channel C	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	
NR-RW-001D	ENFMS Safety Channel Detector, Channel D	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I	—	SR	

Table 2

~~Table 3~~ (44 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PA-PA03A	ESF-CCS GC Cabinet (2)	ESF	AB	157-A25C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03B	ESF-CCS GC Cabinet (2)	ESF	AB	157-A01D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03C	ESF-CCS GC Cabinet (2)	ESF	AB	157-A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA03D	ESF-CCS GC Cabinet (2)	ESF	AB	157-A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA04A	MTP/ITP Cabinet (2), Channel A	RT/ESF Test and Maintenance	AB	158-A01C	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04B	MTP/ITP Cabinet (2), Channel B	RT/ESF Test and Maintenance	AB	158-A01D	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04C	MTP/ITP Cabinet (2), Channel C	RT/ESF Test and Maintenance	AB	158-A19C	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA04D	MTP/ITP Cabinet (2), Channel D	RT/ESF Test and Maintenance	AB	158-A19D	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA06C	ESF-CCS LC Cabinet (2)	ESF	AB	157-A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA06D	ESF-CCS LC Cabinet (2)	ESF	AB	157-A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA14A	PPS Cabinet (2), Channel A	RT/ESF	AB	158-A01C	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14B	PPS Cabinet (2), Channel B	RT/ESF	AB	158-A01D	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14C	PPS Cabinet (2), Channel C	RT/ESF	AB	158-A19C	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA14D	PPS Cabinet (2), Channel D	RT/ESF	AB	158-A19D	Continuous	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15A	CPCS Cabinet (2), Channel A	RT	AB	158-A01C	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15B	CPCS Cabinet (2), Channel B	RT	AB	158-A01D	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15C	CPCS Cabinet (2), Channel C	RT	AB	158-A19C	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA15D	CPCS Cabinet (2), Channel D	RT	AB	158-A19D	Short-term	Mild	Mild	Electriclal EQ/EMC	No	I		SR	O
PA-PA16A	QIAS-P Cabinet (2) , Channel A	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA16B	QIAS-P Cabinet (2) , Channel B	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA18A	APC Cabinet (2), Channel A	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18B	APC Cabinet (2), Channel B	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18C	APC Cabinet (2), Channel C	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA18D	APC Cabinet (2), Channel D	SIGNAL SPLITING	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	o
PA-PA29C	DRCS Remote I/O Cabinet (2)s (Associated Circuit)	Isolating non-safety I&C equipment from safety I&C equipment.	AB	157A19C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O

Table 2

~~Table 3~~ (45 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PA-PA29D	DRCS Remote I/O Cabinet (2)s (Associated Circuit)	Isolating non-safety I&C equipment from safety I&C equipment.	AB	157A19D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA47A	BOP Radiation Monitoring Cabinet (2)	ESF, AMI	AB	157-A01D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA47B	BOP Radiation Monitoring Cabinet (2)	ESF, AMI	AB	157-A25C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PA-PA48A	ENFMS Cabinet (2), Channel A	RT/PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48B	ENFMS Cabinet (2), Channel B	RT/PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48C	ENFMS Cabinet (2), Channel C	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PA-PA48D	ENFMS Cabinet (2), Channel D	PAM	AB	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PE-LX01A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX01D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX02D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A03D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03C	ESF-CCS LC Cabinet (2)	ESF	AB	078-A02C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX03D	ESF-CCS LC Cabinet (2)	ESF	AB	078-A02D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE-LX04A	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04C	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX04D	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O

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~~Table 3~~ (46 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PE -LX05B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05C	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX05D	ESF-CCS LC Cabinet (2)	ESF	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX06B	ESF-CCS LC Cabinet (2)	ESF	AB	078-A25B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX07A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX07B	ESF-CCS LC Cabinet (2)	ESF	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX08A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX08B	ESF-CCS LC Cabinet (2)	ESF	AB	120-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX09A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX09B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX10A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX10B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A15B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX11A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX11B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX12A	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17A	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX12B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PE -LX13B	ESF-CCS LC Cabinet (2)	ESF	AB	137-A17B	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I		SR	O
PM-PM01	MCR RO Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM02	MCR TO/EO Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM03	MCR SS Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM -PM04	MCR STA Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O

Table 2

~~Table 3~~ (47 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
PM -PM05	MCR Safety Console	Plant Status Monitoring and Control	AB	157-A12C	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	O
PM-UC-19	PPS/CPCS/ESF-CCS Operator Module, Channel A	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-20	PPS/CPCS/ESF-CCS Operator Module, Channel B	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-21	PPS/CPCS/ESF-CCS Operator Module, Channel C	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC-22	PPS/CPCS/ESF-CCS Operator Module, Channel D	PPS Monitoring	AB	158-A12C	Continuous	Mild	Mild	Electriclal EQ, EMC	No	I		SR	O
PM-UC'(3)9	QIAS-P Display, Channel A	PAM	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
PM-UC-40	QIAS-P Display, Channel B	PAM	CR	COL(7)	Continuous	Mild	Mild	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115A	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115B	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115C	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-115D	SG 1 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125A	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125B	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125C	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PDT-125D	SG 2 Differential Pressure Differential Transmitter	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102A	Pressurizer Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102B	Pressurizer Pressure Transmitter	RT/ESF/ PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102C	Pressurizer Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-102D	Pressurizer Pressure Transmitter	RT/ESF	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-103A	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-104B	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-105C	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-106D	Pressurizer Pressure Transmitter	SI/SCS Valve Control	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-190A	RCS Pressure (Cold Leg-Pump Discharge)Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-PT-190B	RCS Pressure (Cold Leg-Pump Discharge)Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O

Table 2

~~Table 3~~ (48 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-SE-113A	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113B	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113C	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-113D	RCP 1A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123A	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123B	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123C	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-123D	RCP 1B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133A	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133B	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133C	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-133D	RCP 2A Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143A	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143B	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143C	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-SE-143D	RCP 2B Speed Sensor and Cable	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113A	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113B	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113C	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-113D	RCP 1A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123A	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123B	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	

Table 2

~~Table 3~~ (49 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-ST-123C	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-123D	RCP 1B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133A	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133B	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133C	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-133D	RCP 2A Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143A	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143B	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143C	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-ST-143D	RCP 2B Speed Transmitter	RT	RCB	COL(7)	Short-Term	Mild	Harsh	Electrical EQ	No	I		SR	
RC-TE-112A	RCS, Hot Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112B	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112C	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-112D	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113A	RCS, Hot Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113B	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113C	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-113D	RCS, Hot Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122A	RCS, Cold Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122B	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122C	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-122D	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123A	RCS, Cold Leg Temperature (NR) Element (5)	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123B	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-123C	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O

Table 2

~~Table 3~~ (50 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
RC-TE-123D	RCS, Cold Leg Temperature (NR) Element	RT	RCB	COL(7)	Short-Term	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-132A	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-132B	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-133A	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-133B	RCS, Hot Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-142A	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-142B	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-143A	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	O
RC-TE-143B	RCS, Cold Leg Temperature Element	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ (EMC)	No	I		SR	O
RS-RU01	Remote Shutdown Console	Plant Status Monitoring and Control	AB	137-A06D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(7)	SR	o
SI-FT-302A	SCS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-305B	SCS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-311D	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT'(3)1B	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT- 321B	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-341A	SIS Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-390D	Hot Leg Injection Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-FT-391C	Hot Leg Injection Flow Transmitter	PAM	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-311D	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT- 321B	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-331C	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-PT-341A	SI Tank Pressure Transmitter	PAM	RCB	COL(7)	Continuous	Harsh	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-300A	SDCHX 1 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-301A	SDCHX 1 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o
SI-TE-302A	SDCHX Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	o

Table 2

~~Table 3~~ (51 of 51)

Tag No.	Equipment Identification	Equipment Function	Building	Room No.	Required Operational Time	Environmental Condition(1)	Radiation Condition (4),(6)	Designation	Influence of Immersion	Seismic Cat.	Remarks	Classification	HF Sesitive
SI-TE-303B	SDCHX 2 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
SI-TE-304B	SDCHX 2 Inlet and Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
SI-TE-305B	SDCHX Outlet Temperature Element	SDC	AB	COL(7)	Continuous	Mild	Harsh	Electrical EQ/EMC	No	I		SR	O
QN-PA17N	QIAS-N Cabinet (2)	Plant Status Monitoring	AB	137-A10D	Continuous	Mild	Mild	Electrical EQ (EMC)	No	I	(8)	NSR	O

(1) See Table 3 for definition of environmental categories.

(2) Equipment located within a cabinet (2) is qualified allowing for temperature increase inside cabinet (2).

(3) Non-metallic consumable parts (as O-Ring, Packing and Gasket) are contained.

(4) Radiation environmental qualification requirements for individual components are developed as discussed in Subsection 3.11.5.

(5) Only Channels A and B are qualified for accident environment.

(6) Table 3 provides the worst case upper bound radiation environment in the region where the component is located.

(7) RO, and TO/EO consoles include ESF-CCS soft control modules (ESCMs) which are Class 1E devices. SS and STA consoles include ESCMs which are Class 1E devices and QIAS-N FPDs which are Non-Class 1E devices.
Safety Console includes Class 1E and Non-Class 1E devices. Class 1E devices are QIAS-P FPD, operator modules, Class 1E switches, ESCM. Non-Class 1E devices are QIAS-N FPDs.
Remote shutdown console includes ESCMs which are Class 1E devices and QIAS-N FPDs which are Non-Class 1E devices.

(8) QIAS-N Cabinet (2) is designed by the associated circuit in accordnace with the IEEE Std.384, since it performs a non-safety function, but the hardware is qualified.

(9) Piping design determines room number that valves or other equipment will be installed in and is applied to graded approach.
Therefore, room number specified in the "E" column will be defined after piping design is completed. COL applicant will provide information on the room numbers.

(10) For cables or cable assemblies which do not have tag number due to being supplied as bulk, “N/A” will be specified in the Column labeled “Tag No”

Table 4 is changed to Table 3. This change is made to the remainder pages likewise.

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TS

ENVIRONMENTAL PARAMETERS DATA

Table 3 ~~Table 4~~ (2 of 28)

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Phase / Parameter	Short Term (Accident Initiation-up to 4 hours)	Long Term (4 hours-up to 30 days)
Chemistry	4,400 ppm Boron as H_3BO_3 0-50 ppm Hydrazine as N_2H_4 $4 \leq pH \leq 10$	4,400 ppm Boron as H_3BO_3 0-50 ppm Hydrazine as N_2H_4 $7.0 \leq pH \leq 8.5$ Using Tri-sodium Phosphate as the Buffering Agent
Spray Density (Note 1)	≥ 0.57 gpm/ft^2	≥ 0.57 gpm/ft^2
Spray Temp. (Note 2)	Variable	

Table 4 Containment Spray Conditions

Notes :

1. Spray density is based on 5,000 (gpm/train) over 150 (ft) diameter containment. The pressure and temperature profiles are controlled by continuous operation of spray system up to 30 days.

2. The minimum spray droplet temperature is greater than 50 °F, and the maximum spray temperature can be varied depending on the temperature of IRWST water that supplies to spray nozzle.

added

In accordance with NRC RG 1.89, the source terms based on 1 percent fuel defect are used to calculate the TID during normal operation. The TID is calculated at a distance of 30.48 cm (1 ft) away from the equipment surface, and 60 years of continuous operation at full power is assumed.

For the equipment used only during the refueling operation, the TID is calculated assuming that the radiation sources affect the equipment only during the refueling period. A 1-month duration refueling period is assumed for every 18 months of normal operation. Therefore, the TID is calculated based on 40 months of refueling operation during the plant life of 60 years. An additional safety margin of 20 percent is applied to the normal TID considering the potential contribution of radiation from adjacent cubicles. This margin bounds the dose contributions from adjacent sources for most of the cubicles. In cases where the sum of the dose contributions is greater than the margin, the actual dose rates are taken into account in determining the normal TID of the corresponding area.

Insert "A" (next page)

Radiation environments for the components for which the most adverse accident conditions are post-LOCA, are based on the source term assumptions consistent with NRC RG 1.183. Radiation environments for the components for which the most adverse accident conditions are other than the LOCA, such as main steam line break, feedwater line break, or control element assembly (CEA) ejection, are based on conservative estimates of the fuel assembly gap activities and maximum reactor coolant specific activities as discussed in Section 11.1.

Post-accident ESF system and component radiation exposures are dependent on equipment location. In the containment and control room area, exposures are based on a postulated design basis LOCA. Source terms and other accident parameters are presented in Subsection 12.2.2 and Chapter 15 and are consistent with the recommendations of NRC RG 1.183.

In the auxiliary building, exposures are based on the assumption that significant portion of the core fission product inventory are recirculated in the containment sump water plus other post-accident airborne radioactivities as presented in Table 12.2-20. In the fuel handling area, exposures are based on a fuel handling accident. Source terms and other accident parameters are presented in Chapter 15.

Organic materials that are within the containment are identified in Subsection 6.1.2. The design radiation exposures are based on gamma and beta radiation.

"A"

Accidental TIDs are determined based on the limiting design basis accident to create the expected worst-case environmental conditions (i.e., bounding) for the structure, system, and components

3.11.5 Estimate Chemical and Radiation Environment

3.11.5.1 Chemical Environment

After a postulated accident, such as the LOCA or MSLB, components located in the reactor containment building are exposed to chemical spray. Equipment is environmentally tested to these conditions, and performance requirements are demonstrated during and after the test. The most severe spray composition is determined by single failure analysis of the spray system. Corrosion effects due to long-term exposure are addressed, as appropriate. The components of engineered safety features (ESFs) inside the containment are designed to perform their safety-related functions in a chemical environment resulting from the boric acid recirculated through the safety injection system (SIS) and containment spray system (CSS). The SIS and CSS are designed to perform their functions under the conditions of the maximum and long term boric acid concentration and pH. These chemical environment conditions are provided in Table 3.11-2.

3.11.5.2 Radiation Environment

Safety-related components are designed to ensure acceptable performance, taking into consideration normal operational radiation exposure in addition to the single most adverse post-accident environment for which they are required to be functional.

The radiation qualifications for individual safety-related components are developed based on:

a. the radiation environment expected at the component location from equipment installation up to the time the equipment is required to remain functional postaccident, and Table 11.1-2, which are the design basis source terms based upon 1.0% failed fuel with continuous gas stripping operation.

b. the limiting DBA for which the component provides a safety function.

The components in the ESF and the reactor protection systems are designed to provide reasonable assurance of acceptable performance under normal operational radiation exposure in addition to the single most adverse post-accident environment. The normal operational exposures are based on the design source terms presented in ~~Section 11.1.~~

APPENDIX 3A – CALCULATUION METHOD FOR DETERMINATION OF NORMAL CONDITION TIDs FOR COMPONENT ENVIRONMENTAL QUALIFICATION

The total integrated dose (TID) used for environmental qualification is determined by summing the cumulative doses received during normal operation for 60 years and the 1 year post-accident doses. This appendix illustrates the methods to determine the normal operation TID values over the installed life of the components/equipment. The methods to calculate the post-accident TID are presented in Appendix 3B.

A simplified flow chart for calculating the normal TID values is presented in Figure 3A-1. As shown in Figure 3A-1, the following three dose contributing factors are considered for the determination of the normal TIDs:

- Direct doses from target radiation source inside the room,
- Indirect doses from surrounding radioactive equipment rooms, and
- Doses from airborne radioactivity (also identified as submersion radiation) from equipment leakage in the target source room.

3A.1. Input Parameters and Assumptions

The major input parameters and assumptions used for the normal TID calculations are as follows:

- 'Direct Dose' is defined as doses directly received from radioactive sources in the target areas and 'Indirect Dose' as doses received from radioactive sources located in surrounding areas which are separated by shielding structures from the target source equipment.
- The dose rates during normal operation are determined based on 1% fuel defect as specified in RG 1.89, Appendix D.
- For fuel transfer tube and cask loading pit, the TID values are calculated based on the refueling duration of 40 months which is calculated assuming one month of refueling period per fuel cycle of 18 months for 60 years, since the source terms in those areas are present only during the refueling period.
- A capacity factor of 1.0 is conservatively applied for all equipment.

- Dose rates are calculated at 1-foot away from equipment surface for direct dose calculations, and at 1-inch away from the inside of the shield wall for indirect dose calculations.
- A 20% margin is added to the direct doses to consider dose contributions from the surrounding areas. If the 20% margin is not bounding the all dose contributions from the adjacent sources, the actual dose rates from the adjacent sources are added to the direct doses.
- Doses from gammas are only considered except for the reactor areas based on the followings:
  - Neutrons are not present except for the areas nearby reactor vessel during normal operations.
  - Beta rays are negligible, since they have the relatively very short range shielded by external structure cable insulation/jacketing.
- Airborne activity is calculated using the following parameters:
  - Leakage rates from valves and flanges associated with the components in each cubicle, assuming simultaneous leakages from all valves and flanges;
  - Fraction of the leakage that becomes airborne (Partition Factor);
  - Room volumes for the corresponding components;
  - HVAC exhaust air flow rate
- Any reduction effect including radioactive decay is not considered for entire lifetime of 60 years
- In accordance with RG 1.89, an additional margin of 10% is added to the normal TID for consideration of the uncertainty of the test.

3A.2. Calculation Methods

The TID from direct doses are calculated using Microshield computer codes. The methods to calculate the dose rates are same as those used to determine the radiation zones and the required minimum shield thicknesses provided in Section 12.3 except that the source terms used in this equipment qualification assume 1% fuel defect.

Contributions of the indirect doses from the adjacent areas are typically bounded by a margin of 20% of the direct doses. For the cases where the direct dose contributions are greater than 20%, the actually calculated doses are added to the direct doses to estimate the total doses.

The following equation is used to calculate the TID for the cases where the indirect dose contributions are bounded by 20% of the direct doses.

$$TID_{DI} = 5.26\text{E}+05 \times D_{equip} \times 1.2, \qquad \text{(Eq. 1a)}$$

where, TID_{DI} = Total integrate dose from direct and indirect radiation [Gy]
5.26E05 = Total time exposed to normal operation (= 60 years) [hr]
D_{equip} = Direct dose rate at 1 foot away from the equpment surface [$\text{Gy} \cdot hr^{-1}$]

When the dose contributions from adjacent sources exceed the 20% of the direct doses, the actual indirect doses are added to the direct doses as follows:

$$TID_{DI} = 5.26\text{E}+05 \times \left(D_{equip} + \sum_i D_{sur,i} \right), \qquad \text{(Eq. 1b)}$$

where, $D_{sur,i}$ = Indirect dose rate at 1 inch away from shield wall against room i [$\text{Gy} \cdot hr^{-1}$]

Submersion doses from the airborne radioactivity due to leakage are calculated using the following equation stipulated in RG 1.183, C. Regulatory Position, Section 2.8:

$$\text{TID}_{Sub} = \text{GF} \cdot \sum_i \text{C}_{A,i} \cdot DCF_{ext,i} \qquad \text{(Eq. 2)}$$

Where, TID_{sub} = Total integrated dose from Submersion [Gy]
V = Volume of the room [m^3]
$C_{A,i}$ = Time-integrated airborne activity of isotope i [$(\text{Bq} \cdot \text{sec}) \cdot m^{-3}$]
$DCF_{ext,i}$ = Semi-infinite external effective dose conversion factor for isotope i [$\text{Sv} \cdot m^3 (\text{Bq} \cdot \text{sec})^{-1}$]
GF = Geometry correction factor, (= $8.525\text{E-}04 \cdot \text{V}^{0.338}$)

To calculate the equilibrium airborne radioactivity concentration in the Equation 3 above, the following equation is used as given in the DCD Section 12.2.2:

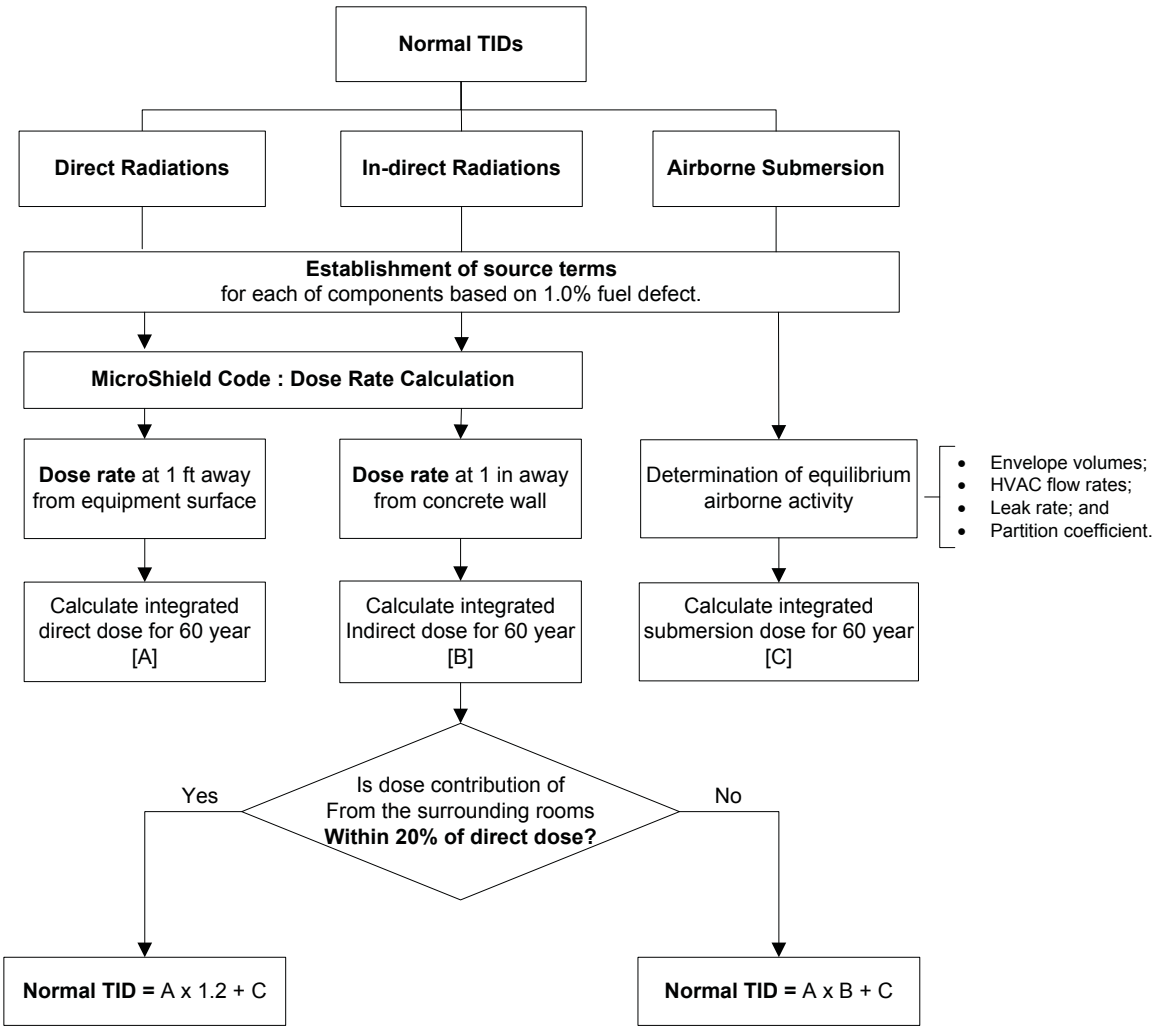
$$C_A = \frac{C \cdot L \cdot P}{7.48\,(\lambda \cdot V + F)}, \qquad \text{(Eq. 3)}$$

where, C_A = the airborne concentration in component room [Bq $\cdot cm^{-3}$]
C = Fluid concentration in equipment/components [Bq $\cdot cm^{-3}$]
L = Leak rate from postulated leakages from valves and flanges associated with the component, [gpm]
P = Fraction of the leaked activity that becomes airborne (Partition Factor)
λ = Decay constant [min^{-1}]
V = Volume of the enclosed room [ft^3]
F = HVAC Air exhaust flow rate [cfm]
7.48 = Conversion Constant (7.48 gal/ft^3)

The TID values are then calculated considering the additional 10% margin as follows:

$$\text{TID} = (TID_{DI} + TID_{Sub}) \times 1.1 \qquad \text{(Eq. 4).}$$

Figure 3A-1 A Simplified Flowchart for Calculating the Normal TIDs for Equipment Qualification



3B

APPENDIX ~~3A~~ – CALCULATUION METHOD OF POST-ACCIDENT TIDs FOR SYSTEM INSIDE AND OUTSIDE CONTAINMENT

The appendix illustrates the methods, calculation models, inputs and assumptions for the determination of accident TIDs. A simplified flow chart for calculating the general TID for systems and components inside and outside the containment is presented in Figure ~~3A-~~1.

3B

In general the method, including the structure of the computer model, for calculating the TIDs is based on the RUNT-G and ISOSHLD computer codes, which determines the post-DBA radioactive source terms and the corresponding accident TID values. The ISOSHLD computer code is incorporated into the RUNT-G code to run as one computer program. The integrated RUNT-G and ISOSHLD computer model is used for the determination of TIDs for systems that re-circulate containment sump water outside the containment, AB controlled area emergency exhaust air cleaning units (ABCAEEACUs) and emergency control room ventilation system filter media, and for the inclusion of the airborne activity associated with leakage from recirculation systems and containment leakage following a LOCA.

3B TIDs

~~3A~~.1. ~~Source Terms~~ inside containment

~~3A~~.1.1. Input parameters and assumptions

TIDs for environmental qualification of mechanical and electrical components important to safety under the post-accident radiological environment inside the containment, which consist of CS/SC and SI systems, are calculated for one (1) year following a LOCA event. The input parameters, assumptions, and evaluation model for running the RUNT-G code are described below.

- **Released Source Term**: The source terms of two release phases (gap and early in-vessel release) as described in RG 1.183 are considered as the effective source terms for post-accident equipment qualification analysis. The core inventory release fractions for each radionuclide group at the gap release and early in-vessel release phases for the LOCA are listed in DCD Table 15A-2. Iodines in the forms of elemental, particulate and organic iodine in the containment atmosphere are assumed to be 4.85%, 95%, and 0.15%, respectively. With the exception of elemental and organic iodine and noble gases, the fission products are assumed to be in particulate form as specified in RG 1.183, Appendix A, Section 2. The maximum core inventory of the APR1400 is shown in Table 15A-1. The source term activities for gap release and early in-vessel release are separately calculated for all radionuclide groups.

- **Containment Data** (extracted from DCD):
  - Free volume= 3.128×10^6 ft^3
  - Internal radius = 75 ft
  - Effective height = $3.128 \times 10^6 / (\pi \times 75^2) = 177.0$ ft
  - Sprayed region = 2.346×10^6 ft^3 assuming 75% of containment free volume

- **Surface Area**: Total surface area available to be deposited on the walls of containment is assumed to be the same as that inside containment (700,963 ft^2). Of this area, the surface area of containment wall and operating floor is 9.05×10^4 ft^2.

- **Containment Leakage**: No leakage from the reactor containment building to the environment is assumed in order to maximize the TIDs inside containment.

- **Containment Spray**: According to RG 1.183 guidance, the airborne radioactivity in the containment may be removed by natural deposition and the containment spray system. Their removal rates are a function of time after accident, which is described in Subsection 15.6.5.5.1.1

- **IRWST Volume**: The minimum volume of water sources in containment is 8.6×10^4 ft^3 (2.44×10^9 cm^3).

- **IRWST Source term**: The initial source term in the IRWST consists of 40% of halogens in the core inventory, 30% of alkali metal, and small fractions of other fission products

- **Radioactive Decay**: The effect of radioactive decay during holdup in the containment is included.

~~3A~~.1.2. Calculation Method and Model

3B

The radioactive nuclides released from the core escape from the reactor coolant pressure boundary (RCPB) into the containment during a LOCA, are dispersed throughout the containment. This analysis consists of two steps; the first is to determine the activity distribution as a function of time, and the second is to determine the dose contribution from each source to each dose point.

The activity distribution, or the locations inside containment at which the dose rate is calculated are as follows:

- Center of Containment Atmosphere
- Containment Wall Surface
- Bottom of Containment (Radioactivity in sump water contributes to the exposure rate at the location in containment air space through the concrete shield)
- Center of Containment IRWST Sump

And the radioactive source terms that contribute to radiation exposure at any location are as follows:

- Airborne Fission Products in Containment Atmosphere
- Deposited Fission Products on Containment Wall
- Fission Products in IRWST Sump Water

Airborne nuclides in containment are readily absorbed by the spray droplets and thereby removed from the containment atmosphere. The aerosol removal by containment spray, natural deposition, and radioactive decay are considered. The dose rate in containment due to radioactive airborne is calculated by the RUNT-G code. As described above, the following three (3) processes would affect the airborne activity:

- Radioactive decay and sub-sequent daughter products are calculated in the RUNT-G model;

- Removal by the containment spray system; and
- Plate-out on walls and other surface inside containment by natural deposition.

As shown in Figure 2 below, the RUNT-G model is developed to simulate the removal of the radioactivity in the containment atmosphere, in the IRWST sump, and on containment walls after the LOCA event.

TIDs for the concentrations of radionuclides at different locations inside containment are determined using the ISOSHLD computer code, which is incorporated in RUNT-G. As illustrated in Figure 3, the containment and the IRWST are modeled as a right cylinder with a free volume of 3.128×10^6 ft^3 (8.86×10^{10} cm^3) with an inner diameter of 75 ft, and a right cylinder with a volume of 8.61×10^4 ft^3 (2.44×10^9 cm^3) and effective height of cylinder of 4.87 ft, respectively. The radioactive materials released in the containment and IRWST sump are assumed to be uniformly distributed throughout the containment atmosphere and the IRWST sump.

Radioactive source terms on the containment wall surface are calculated using the removal rate by natural deposition. The removal by natural deposition consists of gravity settling, thermophoresis, diffusiophoresis, and turbulent diffusion, of which the most dominant process is the removal by gravity settling. The radionuclides deposited on the containment wall and operating floor area are assumed to contribute to the dose at the center of containment. For calculating the dose rate at the center of containment (i.e., dose point of X1), the plate-out of concrete walls is modeled as a point source with a total activity equal to the total activity plate-out on the walls. For the dose rate on the concrete wall, the dose contribution of the plate-out radionuclides is determined by modeling the source as a large disk with a radius of 2.70×10^3 cm. The dose point is set 1.0 cm away from the wall to avoid the singularity at X = 0.

Table 1 indicates the main input parameters of the ISOSHLD code.

3B

~~3A~~.2. TIDs in ESF system areas in auxiliary building (outside the containment)

There are two systems, the safety injection system (SIS)/shutdown cooling system (SCS), and the containment spray system (CSS) that re-circulate containment sump water outside of containment during a design basis accident. The analysis of accident TIDs for these systems is discussed below, including the input parameters, assumptions, methods, and models.

The SIS/SCS and the CSS are part of the ESF systems used for mitigation of a LOCA. TIDs for the cubicles containing the ESF components/equipment and from the rooms adjacent to the components are calculated based on the post-LOCA environment. The input parameters, the assumptions, and the evaluation model for running the RUNT-G code are described below.

~~3A~~.2.1. Input parameters and assumptions

- **Source Term**: Source terms for the systems that re-circulate containment sump water outside the containment are based on the source terms that are used for equipment qualification inside containment. Please refer to item ~~3A~~.1.1 above.

- **Radioactive Decay**: The effect of radioactive decay during holdup in the containment is included for duration of 1 year.

- **Containment Leakage**: The containment leak rate is the design-basis leak rate specified in the Technical Specifications. For the first 24 hours following a LOCA, the leak rate is assumed to be 0.1 vol.%/day of containment volume and the leak rate is assumed to be 0.05 vol.%/day thereafter.

- **Containment Spray**: According to RG 1.183 guidance, the airborne radioactivity in the containment is removed by natural deposition and the containment spray system. Their removal rates are a function of time after accident, which is described in DCD Subsection 15.6.5.5.1.1

- **Atmospheric Dispersion (χ/Q)**: The relative concentration of the plume is given by the following equation (Ref.1):

$$\chi/Q = (U \cdot C \cdot A)^{-1} \quad \text{(Eq.1)}$$

Where, U = Wind speed (1 m/sec)
C = Building wake factor (= 0.5)
A = Cross section area of containment

- **ABCAEES Envelope Areas**: Following the LOCA, the engineered safety feature actuation signal (ESFAS) actuates the auxiliary building controlled area emergency exhaust system (ABCAEES) .The radioactive source leaked from ESF system (i.e., SI/CS systems) recirculation loop flashes to SI/CS component rooms. The source terms in the ESF systems areas are released to the environment through the ABCAEES, which ventilates the auxiliary building controlled areas I and II including the SC/CS heat exchanger room, component cooling water (CCW) pump room, SI pump room, SC/CS pump and mini-flow heat exchanger room, mechanical penetration room, charging pump room, and auxiliary charging pump room.

  For simplification of the RUNT-G model, the auxiliary building controlled areas I and II are assumed to be one area having a volume of 4.97×10^5 ft^3 (1.40×10^{10} cm^3), which consists of 2.50×10^5 ft^3 (7.08×10^{10} cm^3) and 2.47×10^5 ft^3 (6.99×10^9 cm^3) for auxiliary building controlled areas I and II, respectively. For conservative TIDs calculation of the HVAC system components, these areas are assumed to be ventilated by one of the two air cleanup units (ACUs) in each HVAC line of the ABCAEES. The flow rates through such ACUs are summed to be 6,000 cfm (1.02×10^4 m^3/hr).

  The filter efficiency of the ABCAEES for all species of radioactive nuclides except for noble gases is assumed to be 100% according to the guidance of RG1.89, Appendix I.

- **IRWST Source term**: The initial source term in the IRWST consists of 40% of halogens in the core inventory, 30% of alkali metal, and small fractions of other fission products.

- **ESF Components Leakage**: The maximum anticipated leakage rate through all ESF system components containing the IRWST water source term (i.e., SI/SC/CS components) is calculated to be 0.285 ft^3/hr (8.07×10^3 cm^3/hr). In accordance with this RG 1.183 guidance, the ESF leakage of 0.285 ft^3/hr is doubled to the modeled value of 0.57 ft^3/hr (1.61×10^4 cm^3/hr).

- **Partition Coefficient**: When radionuclides leaked from SI/SC/CS equipment are entered into the ABCAEES, the partition coefficient of each isotope group is as follows, based on the RG 1.183 guidance:
  - Noble gas: 1.0
  - Halogen: 0.1
  - Others nuclides: 0.01 (assumed in order to be conservative)

- **IRWST Volume**: The minimum volume of water sources in containment is 8.6×10^4 ft^3 (2.44×10^9 cm^3).

- **Concrete Structure and Geometry**:
  - The inside radius of the containment building is 75 ft (2.29×10^3 cm).
  - The containment wall is surrounded with ¼ in (6.35×10^{-1} cm) steel liner and 4.5 ft (1.37×10^2 cm) concrete.
  - The containment free volume is assumed to be 3.13×10^6 ft^3 (8.86E+10 cm^3).
  - All structures and equipment inside containment are ignored as shielding materials.
  - The containment steel liner is modeled as iron with a density of 7.86 g/cm^3.
  - The density of the concrete wall is 2.242 g/cm^3.
  - For the direct dose calculation from airborne radioactivity in containment, the containment is modeled as a right cylinder which has the same internal radius and volume as the assumed free volume as illustrated in Figure 3.

- **SI/SC/CS Piping geometry**: Schedule 40S steel pipe and nominal pipe size of 16-inch are assumed for conservatism.

3B

~~3A~~.2.2. Calculation Method and Model

The integrated RUNT-G and ISOSHLD computer model is used to determine the individual doses that contribute to the overall TIDs.

~~3A~~.2.2.1 Airborne Activity inside the Auxiliary Building and Filter Loading Dose due to Containment Leakage

As shown in Figure 4 below, the RUNT-G model is developed to simulate the time-dependent leakage from containment, the dispersion in the atmosphere, and the intake to the auxiliary building.

This model is subdivided into three types as gaseous (includes noble gas & organic halogen), elemental and particulate halogen. For the first 24 hrs following a LOCA, the leak rate is assumed to be 0.1 %/day of containment volume and the leak rate is assumed to be 0.05 %/day thereafter (i.e., paths of L_{23} and L_{34}). After the onset of the LOCA event, the wash-out phenomena by containment spray and natural deposition are taken into consideration as the leakage from BARRIER 1 to the sump (i.e., path of L_{28}). These phenomena are only applicable to non-noble gases. The atmospheric dispersion and determination of the intake activity of the ABCAEES are calculated by using the fraction factor on FILTER 1, which is equal to the multiplication product (1.90×10^{-3}) of (χ/Q (relative concentration of the plume, 6.725×10^{-4}

sec/m^3) × W (ABCAEES intake flow rate, 1.02 × 10^4 m^3hr) and a conversion factor of 1 hour to 3600 seconds). The leak rate from containment is multiplied by the fraction factor to produce radioactivity taken into the auxiliary building via the ABCAEES. Therefore, BARRIER 2 means airborne radioactivity inside the auxiliary building. The release rate to the atmosphere through the auxiliary building (i.e., paths of L_{45} and L_{55}) depends on the cubicle volume and HVAC flow rate.

TIDs for airborne activity in the auxiliary building (i.e., BARRIER 2) and the filter loading of ABCAEES (i.e., FILTER 2) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. Tables 2 and 3 indicate the main input parameters of the ISOSHLD code, and the ISOSHLD models are shown in Figures 5 and 6.

3B

~~3A.~~2.2.2 Airborne Activity and Filter Loading Dose due to SI/SC/CS Leakage

As shown in Figure 7, the RUNT-G model is developed to simulate the time-dependent leakage from SI/SC/CS equipment, which are located at elevation 55'-0" in the auxiliary building, and the atmospheric dispersion to the environment through the auxiliary building cubicles.

It is assumed that all the ESF leakages of 0.57 ft^3/hr (1.61 × 10^4 cm^3/hr) are retained on the floor of the corresponding compartments in the auxiliary building (i.e. BARRIER 1), and some of the iodines are flashed and become airborne in the auxiliary building. Then, the airborne iodine radioactivity in cubicles of the auxiliary building is released to the environment via the ABCAEES filter (i.e., paths of L_{23} and L_{38}). The release rate to the environment through the auxiliary building depends on cubicle volume and HVAC flow rate.

TIDs for airborne activity in the auxiliary building (i.e., BARRIER 1) and the filter loading of ABCAEES (i.e., FILTER 1) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. The main input parameters of the ISOSHLD code and ISOSHLD model are the same as those in Tables 2 and 3, and in Figures 5 and 6, respectively.

3B

~~3A.~~2.2.3 Post-LOCA Direct Dose from the Airborne Source in Containment

As shown in Figure 8, the RUNT-G model is developed to calculate the time-dependent activity in the containment, which is divided into three types as gaseous (includes noble gas & organic halogen), elemental and particulate halogen.

After the onset of the LOCA event, leakage from the core to the atmosphere of the containment is modeled as the leakage from the SOURCE to BARRIER 1 (i.e., path L_{12}). The wash-out phenomena by containment spray and natural deposition are described as the leakage from BARRIER 1 to the sump (i.e., path L_{24}), which are only applicable to non-noble gases.

TIDs from airborne activity in containment (i.e., BARRIER 1) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. Table 4 indicates the main input parameters of the ISOSHLD code, and the ISOSHLD model is shown in Figure 9.

3B

~~3A.~~2.2.4 Post-LOCA Direct Dose from SI/SC/CS Piping

As shown in Figure 10, the RUNT-G model is developed to calculate the time-dependent IRWST source activity in containment. The radioactivity concentration in the IRWST water after the initiation of the LOCA event is used as the source term in SI/SC/CS circulating water.

TIDs from direct radiation in the IRWST source term (i.e., BARRIER 1) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. Table 5 indicates the main input parameters of the ISOSHLD code, and the ISOSHLD model is the same as that in Figure 9.

3B

~~3A.~~2.2.5 Post-LOCA Direct Dose from SI/SC/CS Components

TIDs for SI/SC/CS equipment are calculated using the result of the TID calculation for the SI/SC/CS pipes.

For pumps which have the same diameter as the pipe, the TIDs for the pumps are expected to be lower than the TIDs for pipes having the same diameter because of the shield effect by the enclosing steel casing. Therefore, TIDs for the SI/SC/CS piping during the LOCA condition can be conservatively used for pumps in the SI/SC/CS systems. In the case of heat exchangers, because of the shielding effect by the internal steel and the cooling water, TIDs for pipes having the same diameter with the effective diameter of the heat exchanger can be expected to yield conservative TID values. The effective diameter of the heat exchanger can be calculated as follows:

$$D = (2N)^{1/2} \times d \quad \text{for U-tube Type Heat Exchanger} \quad \text{(Eq.2)}$$
$$D = (N)^{1/2} \times d \quad \text{for one-through Type Heat Exchanger} \quad \text{(Eq.2)}$$

Where, N = Number of tubes in heat exchanger
d = Diameter of tube
D= Effective diameter of heat exchanger

3B

~~3A.~~3. TIDs in fuel handling area in auxiliary building (outside the containment)

TIDs for components in the fuel handling area are calculated based on the post-FHA (fuel handling accident) environment. The input parameters, assumptions, and evaluation model for running the RUNT-G code are described below.

3B

~~3A.~~3.1. Input Parameters and Assumptions

- **Source Term**: For the purpose of conducting a conservative analysis that bounds most cases, all of the fuel rods in a fuel assembly are assumed to be damaged and all the gap activity in the damaged rods is assumed to be instantaneously released into the spent fuel pool, where total gap activities are 10% of Kr-85, 8% of I-131, 5% of other iodines and noble gases, and 12% of alkali metals in fuel rods. The retention of noble gases in the pool is negligible and the iodine above the pool consists of 57% of elemental iodine and 43% of organic iodine, considering the overall effective decontamination factor of 200 for iodine. The source term for the FHA event is described in detail in DCD Subsection 15.7.4.2 and Table 15.7.4-1.

- **Fuel Handling Area**: After the fuel handling accident, airborne radioactive materials in the fuel handling area are vented to the environment via fuel handling area ACUs over a two hour time period. This HVAC system emergency exhaust flow rate is 5,000 cfm/ACU. The total free volume covered by this HVAC system is 8.77×10^5 ft^3. The removal efficiency of the carbon absorbers is assumed to be 100%.

- **HEPA filter and Charcoal Densities**: The HEPA filter media and charcoal densities are both assumed to be 0.48 g/cm^3 for conservatism.

3B

~~3A.~~3.2. Calculation Method and Model

As shown in Figure 11, the RUNT-G model is developed to simulate time dependent activity in the fuel handling area after the onset of the FHA event.

Leakage from the fuel assembly to the atmosphere of the fuel handling area is modeled as the leakage from the SOURCE to BARRIER 1 (i.e. path of L_{12}). Airborne activity in the fuel handling area is released to the environment through the fuel handling area emergency HVAC system (i.e., paths of L_{23} and L_{38}). The release rate to the environment through the fuel handling area depends on cubicle volume and HVAC flow rate. The reduction of the amount of radioactivity by deposition and/or plate-out on structure surfaces is not considered for the reason of conservatism.

TIDs for airborne activity in the fuel handling area (i.e., BARRIER 1) and the filter loading of the fuel handling area emergency HVAC system (i.e., FILTER 1) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. The main inp~~ut~~ parameters of the ISOSHLD code for airborne activity in the fuel handling area is given in Table 6, and the other main parameters and ISOSHLD model are the same as those in Table 3, and Figures 5 and 6, respectively, presented above.

3B

~~3A.~~4. TIDs in the main steam valve house inside the auxiliary building (outside the containment)

TIDs for components in the main steam valve house (MSVH) are calculated based on the post-MSLB (main steam line break) environment. The input parameters, assumptions, and evaluation model for running the RUNT-G code are described below.

3B

~~3A.~~4.1. Input Parameters and Assumptions

- **Source Term**: Per RG 1.183, Appendix E, Section 2, for the main steam line break accident, the release from the breached fuel is based on the estimate of the number of fuel rods assumed to have experienced Departure from Nucleate Boiling (DNB) and the assumption that 5% of the core inventory of the noble gases and iodines is in the fuel gap, except for Kr-85 at 10% and I-131 at 8%.

  The expected number of fuel rods in DNB is assumed to be 1% of the core where the failed fuel is modeled with a radial peaking factor of 1.8. There is no fuel melt expected during the MSLB. To determine the activity in the steam generator resulting from primary-to-secondary leakage, a primary coolant of 2.744×10^5 kg and primary to secondary (P-T-S) leakage of 0.6 gpm are used.

The initial secondary coolant source term is assumed to be at the Technical Specification limit of 3.7×10^3 Bq/g (0.1μCi/g) Dose Equivalent (DE) I-131 and is given in DCD Table 15A-9. The source term for the MSLB event is described in detail as specified in DCD Subsection 15.1.5.3.3 and Table 15.1.5-12.

- **Main Steam Valve House**: The volume of each MSVH (i.e., room number of 137-A31C/D) is 123,955 ft^3.

3B

~~3A~~.4.2. Calculation Method and Model

As shown in Figure 12, the RUNT-G model is developed to simulate the time-dependent activity in the MSVH.

After the onset of the MSLB event, the radioactivity leaked from the broken steam piping to the MSVH, which includes secondary coolant and RCS coolant activities, is modeled as the leakage from the SOURCE to BARRIER 1 (i.e., path of L_{12}). The reduction of the amount of radioactivity by deposition and/or plate-out on the steam piping or structure surfaces is not considered.

TIDs from airborne activity in the MSVH (i.e., BARRIER 1) are determined by using the ISOSHLD code which is incorporated in the RUNT-G computer code. Table 7 indicates the main input parameters of the ISOSHLD code, and the ISOSHLD model is the same as that shown in Figure 5.

3B.6

~~3A.5.~~ References

1. USAEC, "Meteorology and Atomic Energy", 1968.

3B.5 3B.1.1. Summary of Accident TID Calculation

Following the requirements in RG 1.89, the TIDs are adjusted by another 10% EQ safety margin for uncertainty.

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Table ~~3A-~~1 Main ISOSHLD Input Parameters for Airborne Activity in Containment (1 of 3)

Geometry		ISOSHLD Parameter	Values
1) TID from Airborne Activity in Containment			
Source Dimension	Shape	IGEOM	Cylindrical Source (Immersion Dose Model)
	Height[1)]	SLTH	5.40×10^{3} cm
	Radius	T(1)	2.29×10^{3} cm
	Volume[2)]	N/A	4.81×10^{9} cm^{3}
Source Characteristic	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^{3}
Dose Point X1	X	X (=SLTH/2)	2.70×10^{3} cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm
Dose Point X2	X	N/A	2.70×10^{3} cm
	Y	DELR	2.70×10^{3} cm
	Z	N/A	0.0 cm
Dose Point X3	X	X (=SLTH/2)	0.0 cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm

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Table ~~3A-~~1 Main ISOSHLD Input Parameters for Airborne Activity in Containment (2 of 3)

Geometry		ISOSHLD Parameter	Values
2) TID from Radioactivity in IRWST Sump: Above IRWST Sump			
Source Dimension	Shape	IGEOM	Cylindrical Source & Slab Shield on Cylinder End
	Height[1)]	T(1)	1.49×10^{2} cm
	Radius	SLTH	2.29×10^{3} cm
	Volume[2)]	N/A	2.44×10^{9} cm^3
Source Characteristic	Material	N/A	Water
	Density	N/A	1.0 g/cm^3
Air in Containment	Thickness	T(2)	1.37×10^{2} cm
	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Dose Point X1 & X2[1)]	X	X (=T(1)+T(2))	2.85×10^{3} cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm
Dose Point X3	X	X (=T(1)+2.54cm))	1.51×10^{2} cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm
3) TID from Radioactivity in IRWST Sump: Within IRWST Sump			
Source Dimension	Shape	IGEOM	Cylindrical Source (Immersion Dose Model)
	Height[1)]	SLTH	1.49×10^{2} cm
	Radius	T(1)	2.29×10^{3} cm
	Volume[2)]	N/A	4.81×10^{9} cm^3
Source Characteristic	Material	N/A	Water
	Density	N/A	1.00 g/cm^3
Dose Point X4	X	X (=SLTH/2)	74.3 cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm

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Table ~~3A-~~1 Main ISOSHLD Input Parameters for Airborne Activity in Containment (3 of 3)

Geometry		ISOSHLD Parameter	Values
4) TID by Plate-out Radioactivity on Containment Wall: Center of Containment			
Source Dimension	Shape	IGEOM	Point Source
	Radius	T(1)	2.29×10^{3} cm
Source Characteristic	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Dose Point X1 & X3[2)]	X	X (=T(1))	2.29×10^{3} cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm
5) TID by Plate-out Radioactivity on Containment Wall: Wall of Containment			
Source Dimension	Shape	IGEOM	Disk Source
	Thickness	T(1)	0.0 cm
	Radius	SLTH	2.70×10^{3} cm
Source Characteristic	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Dose Point X2[3)]	X	X	1.00 cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm

1) The dose rate at containment wall surface is assumed to be the same as that at center of containment atmosphere (i.e., dose point of X1) from the source in IRWST sump water for conservatism. Therefore, every parameter has the same value with the input parameter for dose point X1.
2) The dose rate at bottom of containment is assumed to be the same as that at center of containment atmosphere (i.e., dose point of X1) from the source deposited on the surface is used as. Therefore, every parameter has the same value with the input parameter for dose point X1
3) The dose point is set 1 cm away from the wall to avoid the singularity at X = 0.

3B

Table ~~3A-~~2 Main ISOSHLD Input Parameters for Airborne Activity in Auxiliary Building

Geometry		ISOSHLD Parameter	Values
Source Dimension	Shape	IGEOM	Cylindrical Source (Immersion Dose Model)
	Height[1)]	SLTH	6.10×10^{2} cm
	Radius	T(1)	1.58×10^{3}cm
	Volume[2)]	N/A	4.81×10^{9} cm^3
Source Characteristic	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Dose Point	X	X (=SLTH/2)	3.05×10^{2} cm
	Y	N/A	0.0 cm
	Z	N/A	0.0 cm

(1) Height of rooms in auxiliary building is assumed to be 610cm (=20ft)
(2) Volume of rooms or cubicles, which contains components/equipment in the ESF systems, ranges from 2.21×10^{8} cm^3 ($=7.82 \times 10^{3}$ ft^3) to 9.15×10^{8} cm^3 ($=3.23 \times 10^{4}$ ft^3), but it is conservatively assumed to be 4.81×10^{9} cm^3 ($= 1.70 \times 10^{5}$ ft^3) as a bounding volume, thus leading to maximization of the potentially expected TIDs for the corresponding components/equipment.

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Table ~~3A~~ 3 Main ISOSHLD Input Parameters for ABCAEES Filter

Geometry		ISOSHLD Parameter	Values
Source Dimension	Shape	IGEOM	Rectangular Source
	Width (X)	T(1)	6.10×10^{1} cm
	Length (Y)	Y	6.10×10^{1} cm
	Height (Z)	SLTH	6.10×10^{1} cm
	Volume	N/A	2.27×10^{5} cm^{3}
Source Characteristic	Material[1)]	N/A	Carbon
	Density	N/A	4.80×10^{-1} g/cm^{3}
Dose Point[1)]	X	X (=T(1) + T(2))	3.30×10^{1} cm
	Y	YP	3.05×10^{1} cm
	Z	SP	3.05×10^{1} cm

(1) Be assumed to be 2.54cm away from HVAC ACU source term

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Table ~~3A-~~4 Main ISOSHLD Input Parameters for Direct Dose from Containment

Geometry		ISOSHLD Parameter	Values
Source Dimension	Shape	IGEOM	Cylindrical Source & Cylindrical Shield
	Height[1)]	SLTH	5.40×10^{3} cm
	Radius	T(1)	2.29×10^{3} cm
	Volume	N/A	8.86×10^{10} cm^3
Source Characteristic	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Containment Concrete Shield Wall[2)]	Thickness	T(2)	1.37×10^{2} cm
	Material	N/A	Concrete
	Density	N/A	2.242 g/cm^3
Dose Point	X	X	2.42×10^{3} cm
	Y	Y (=SLTH/2)	2.70×10^{3} cm
	Z	N/A	0.0 cm

(1) Calculated based on the containment plane area of $1.64E \times 10^{7}$cm^2 ($=1.77 \times 10^{4}$ft^2)

(2) The shielding effect of the 137cm (=4.5ft) containment cylindrical concrete wall is only considered. The additional shielding effect due to structures in the auxiliary building is not considered for conservatism.

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Table ~~3A-~~5 Main ISOSHLD Input Parameters for Direct Dose from SI/SC/CS Piping

Geometry		ISOSHLD Parameter	Values
Source Dimension	Shape	IGEOM	Cylindrical Source & Cylindrical Shield
	Height[1)]	SLTH	6.10×10^{2} cm
	Radius	T(1)	1.90×10^{1} cm
	Volume	N/A	6.95×10^{5} cm^3
Source Characteristic	Material	N/A	Water
	Density	N/A	1.00 g/cm^3
Pipe Wall[2)]	Radius	T(2)	1.27 cm
	Material	N/A	Steel
	Density	N/A	7.86 g/cm^3
Air	Radius	T(3)	3.05×10^{1} cm
	Material	N/A	Air
	Density	N/A	1.29×10^{-3} g/cm^3
Concrete Shield Wall	Radius	T(4)	Wall Thickness (T) of Adjacent Room
	Material	N/A	Concrete
	Density	N/A	2.242 g/cm^3
Dose Point	X	X	5.08E+01 cm w/o concrete wall [3)] (5.33×10^{1} + T) cm w/ concrete wall
	Y	Y (=SLTH/2)	3.05×10^{2} cm
	Z	N/A	0.0 cm

(1) Piping length is assumed to be 20ft.
(2) Only shielding effect of the pipe wall of 1.27cm is considered for conservatism
(3) Assumed to be 1ft away from the SI/SC/CS piping

3B

Figure ~~3A-~~1 A Simplified Flowchart for Determination of Accident TIDs

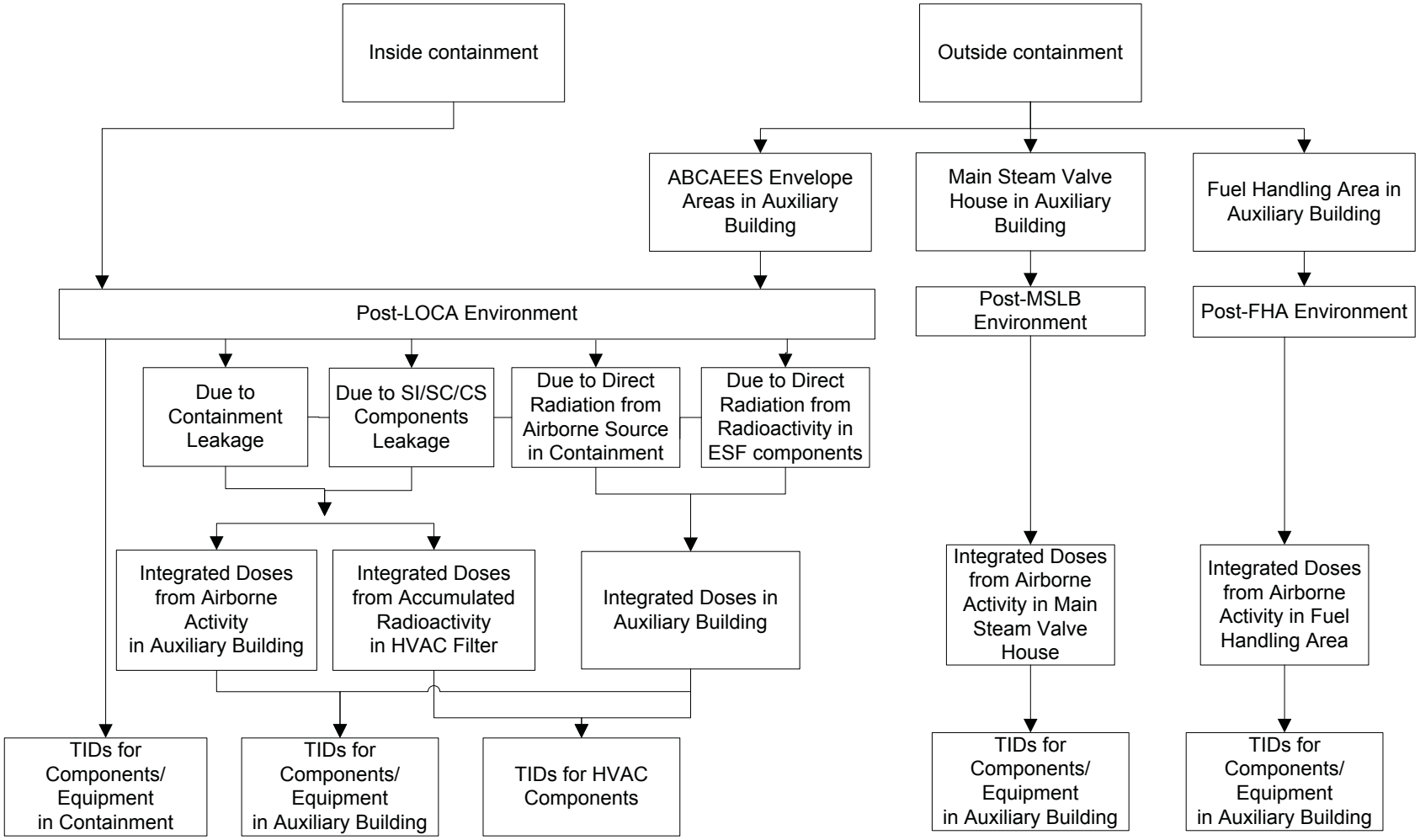

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Figure ~~3A-~~2 RUNT-G Model to Calculate radioactivity in containment, IRWST sump, and walls

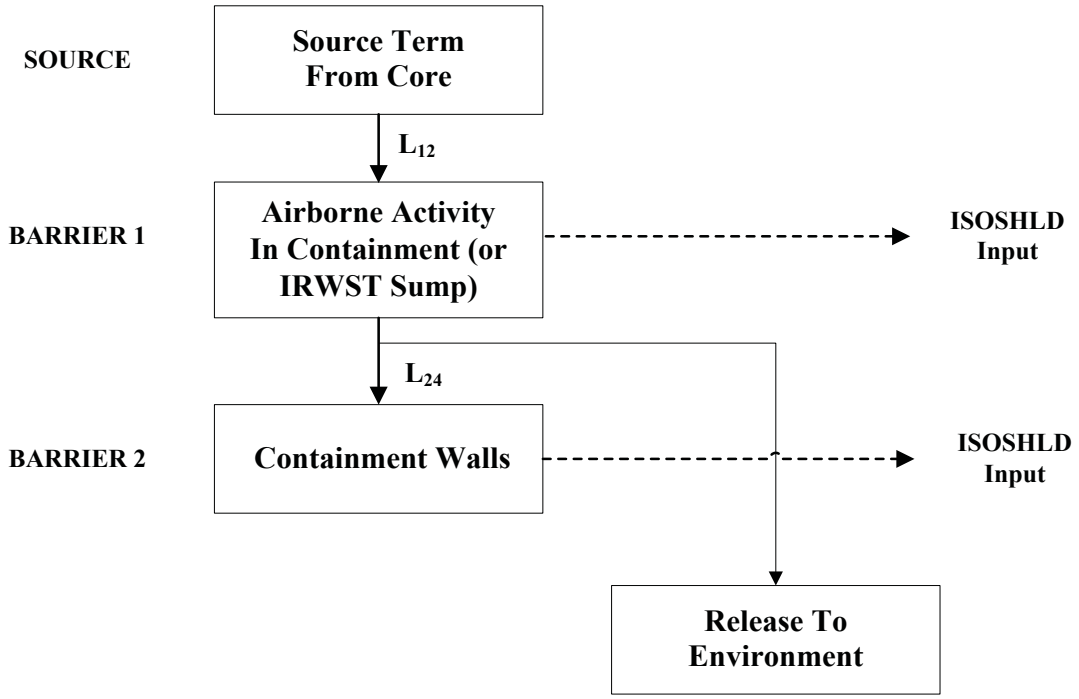

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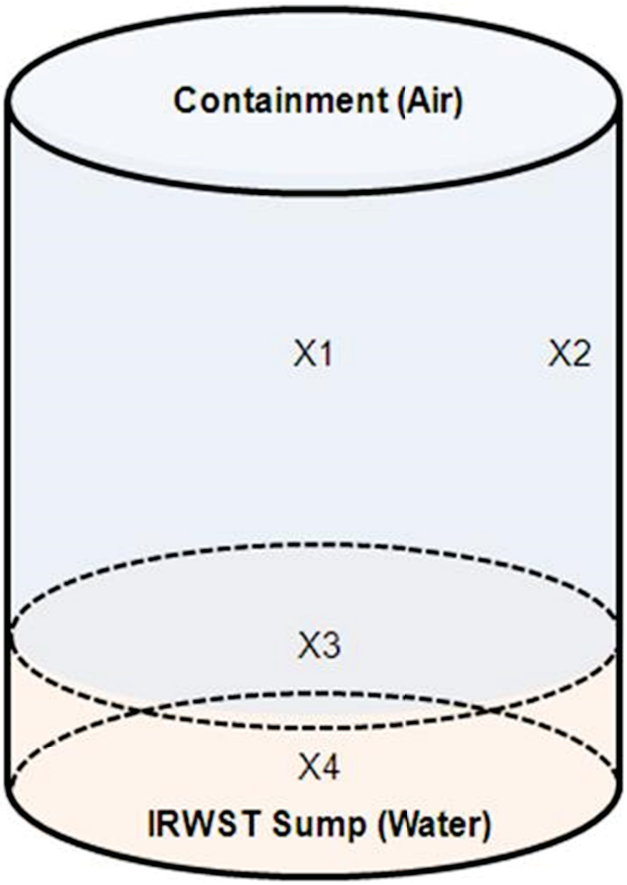
Figure ~~3A-~~3 ISOSHLD Model for Dose Evaluation Inside Containment



3B

Figure ~~3A-~~4 RUNT-G Model for Containment Leakage

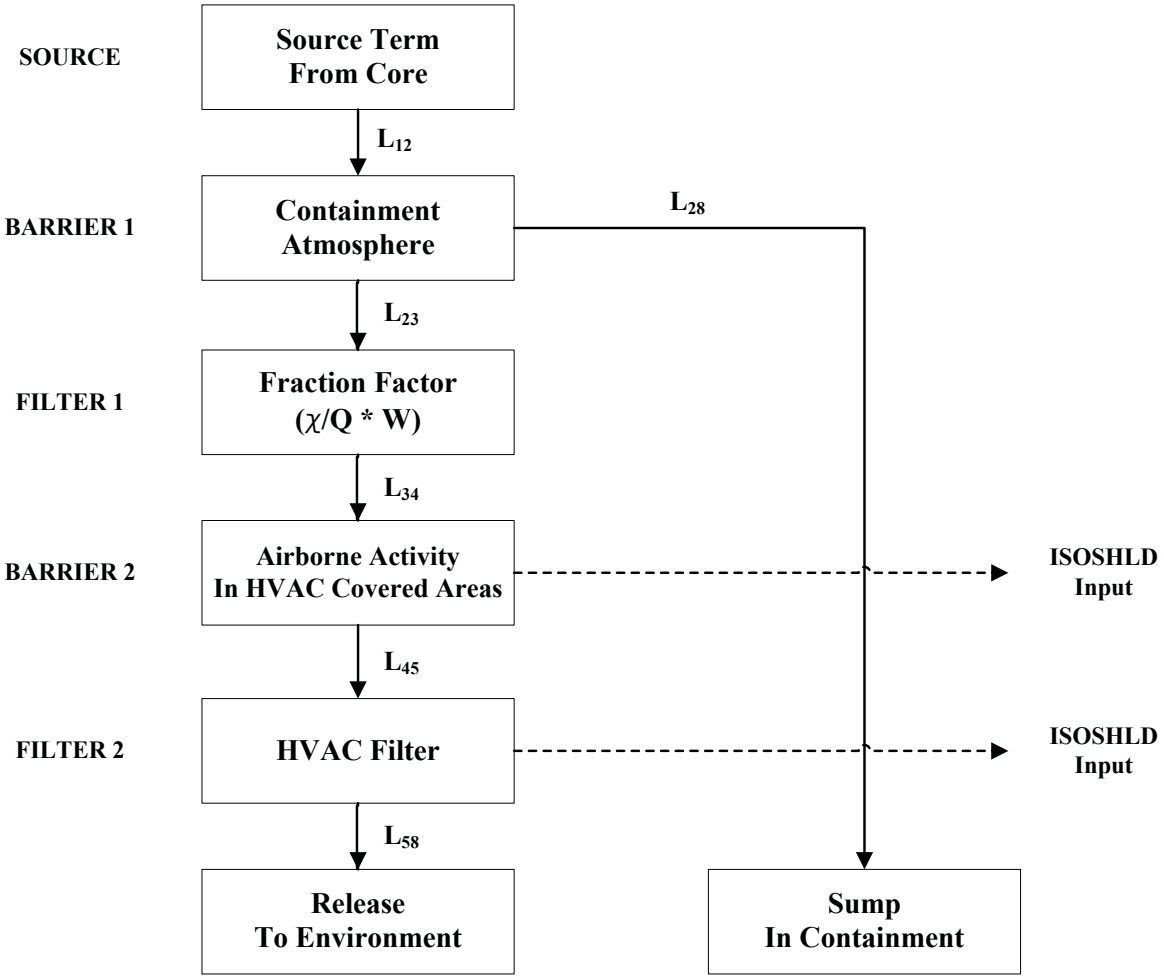


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Figure ~~3A-~~5 ISOSHLD Model for Immersion Dose Evaluation

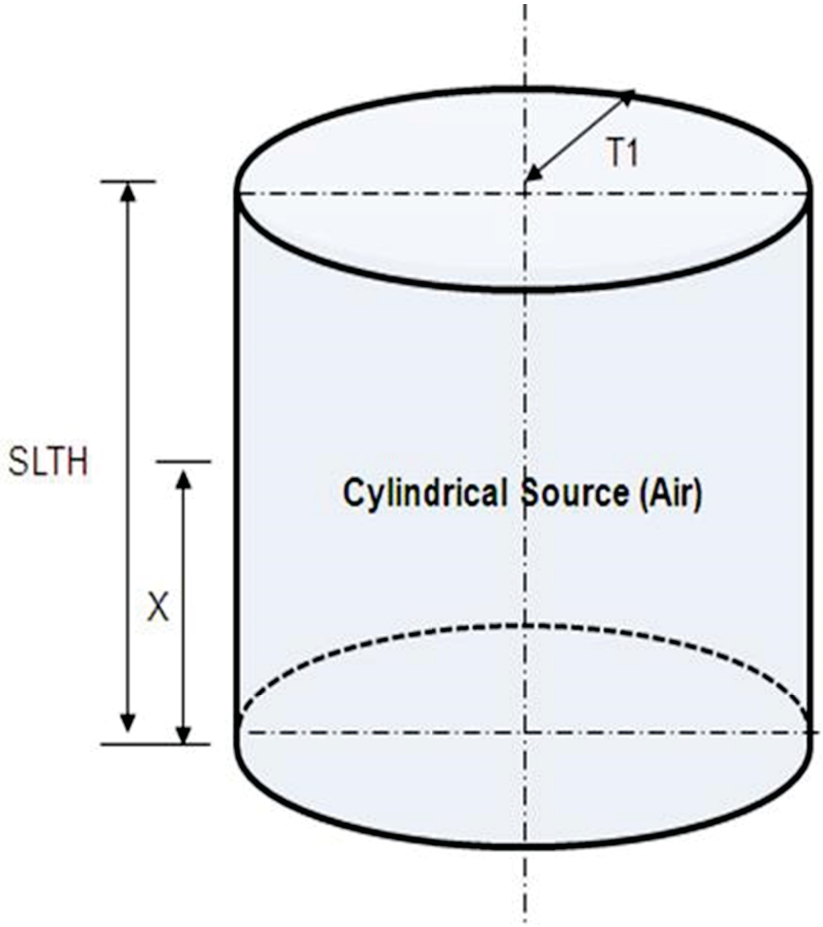

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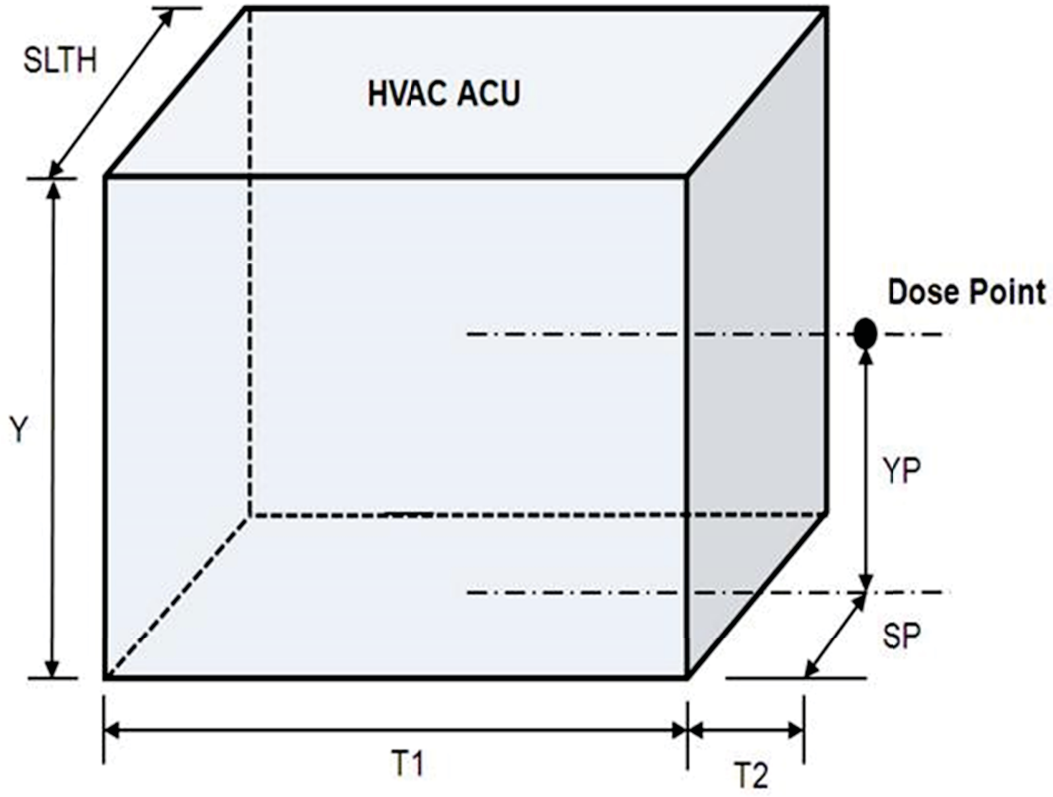
Figure ~~3A-~~6 ISOSHLD Model for ABCAEES Filter



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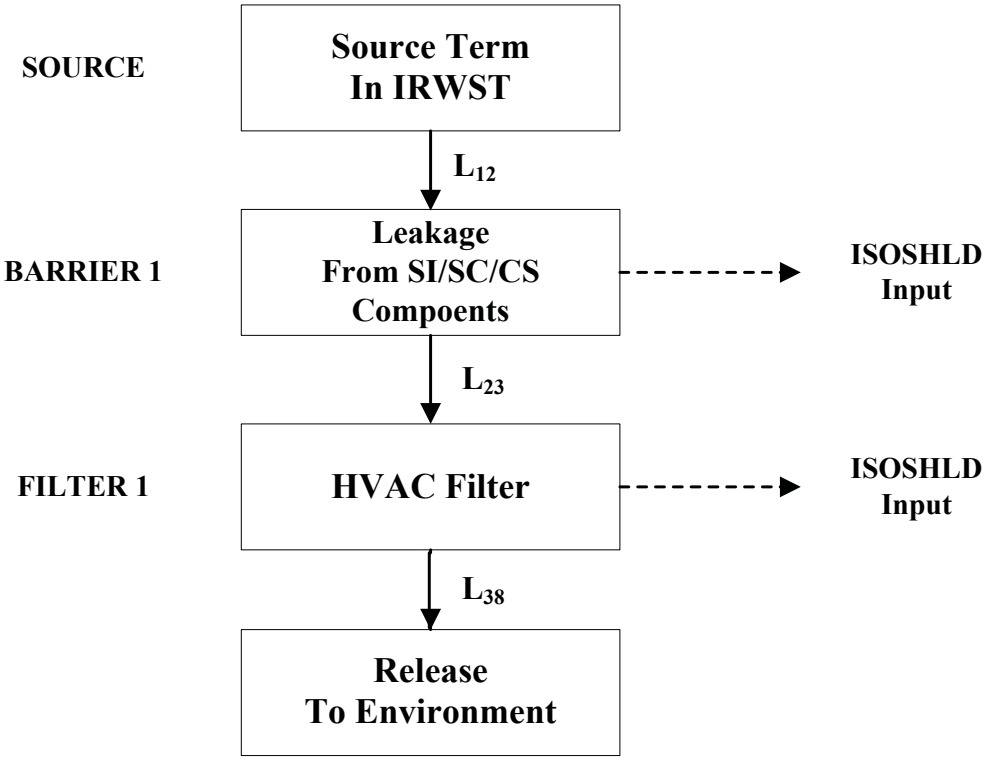
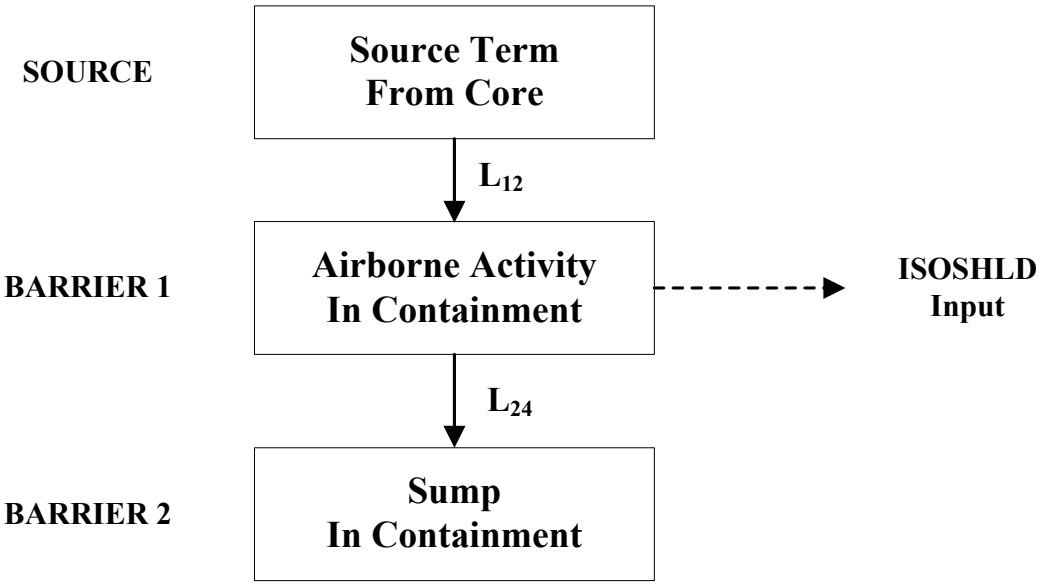
3B

Figure ~~3A~~ 7 RUNT-G Model for SI/SC/CS Components Leakage



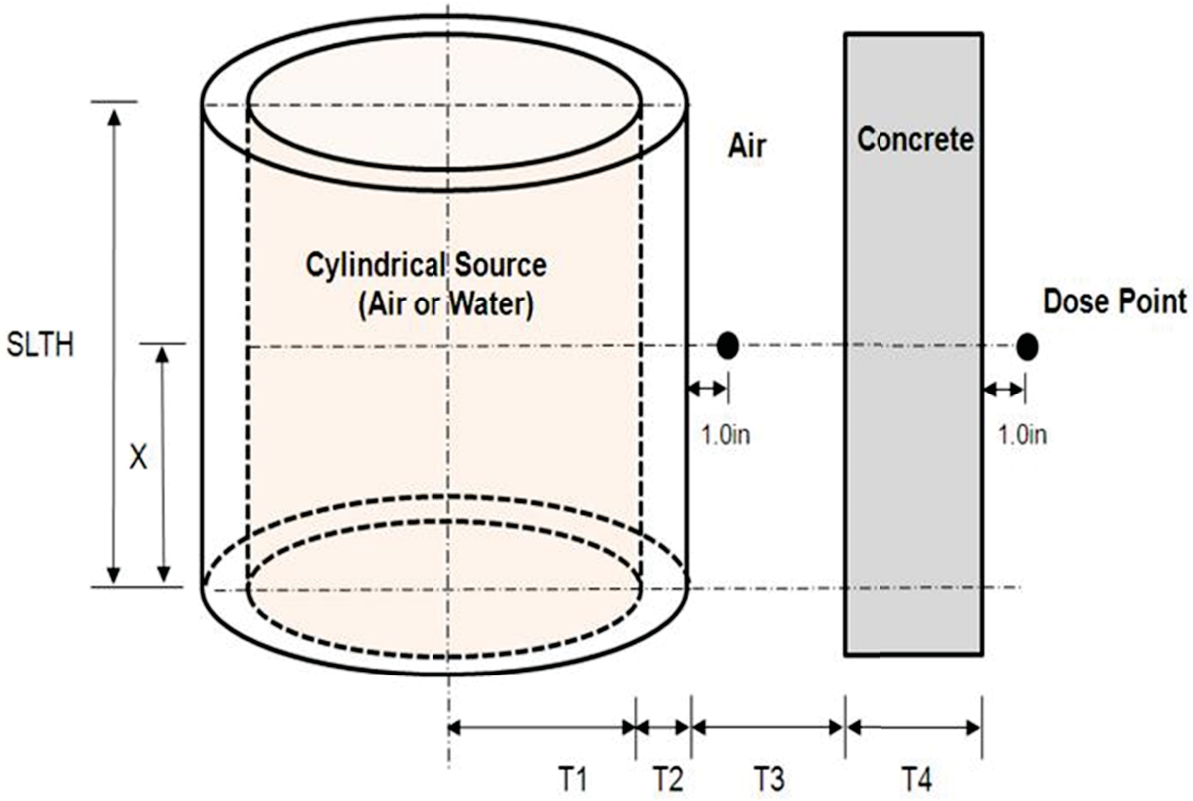
3B

Figure ~~3A-~~8 RUNT-G Model for Direct Shine from Containment



3B

Figure ~~3A-~~9 ISOSHLD Model for Direct Shine from Containment or SI/SC/CS Piping

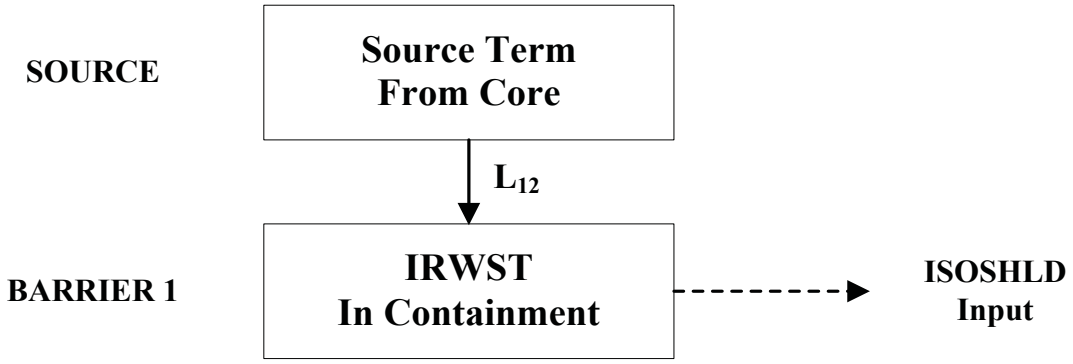


RAI 176-8089-Question 03.11-11

RAI 176-8089-Question 03.11-9

3B

Figure ~~3A~~ 10 RUNT-G Model for Direct Shine from ESF Components

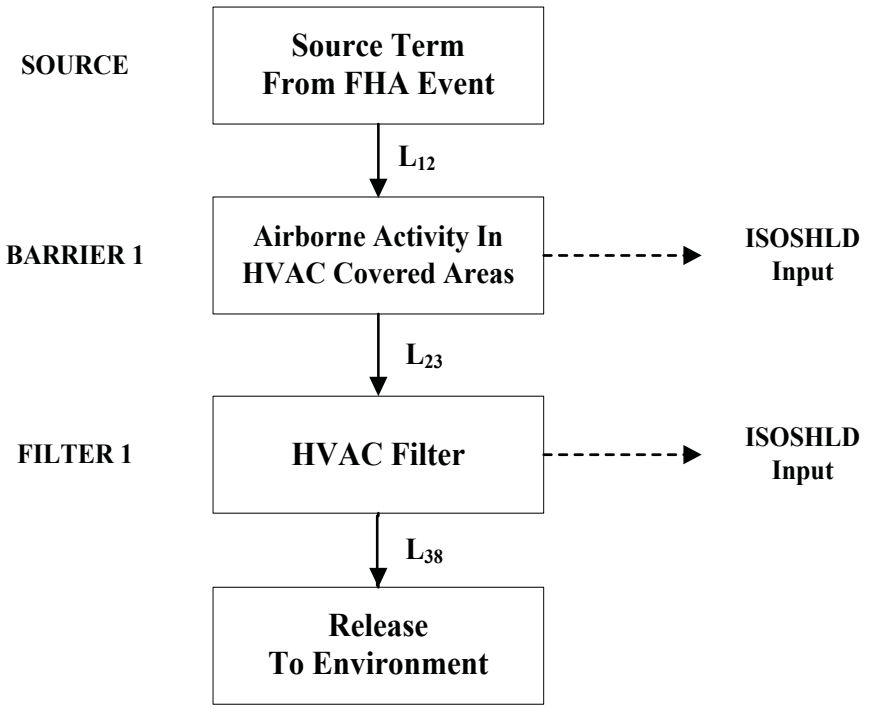


RAI 176-8089-Question 03.11-11

RAI 176-8089-Question 03.11-9

3B

Figure ~~3A~~ 11 RUNT-G Model for Fuel Assembly Leakage

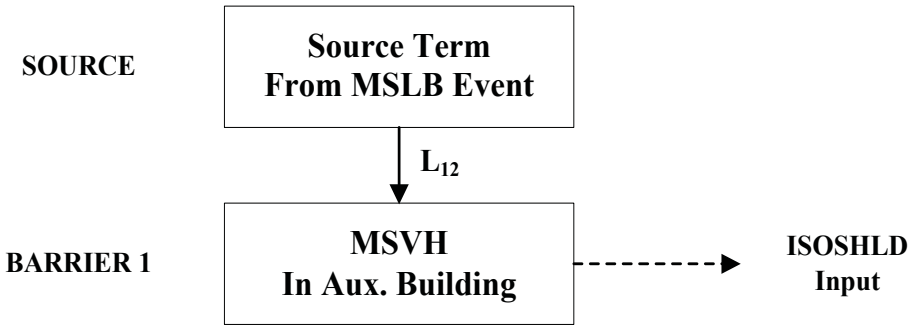


RAI 176-8089-Question 03.11-11

RAI 176-8089-Question 03.11-9

3B

Figure ~~3A~~ 12 RUNT-G Model for Radioactivity Release from MSLB Event



In accordance with NRC RG 1.89, the source terms based on 1 percent fuel defect are used to calculate the TID during normal operation. The TID is calculated at a distance of 30.48 cm (1 ft) away from the equipment surface, and 60 years of continuous operation at full power is assumed.

For the equipment used only during the refueling operation, the TID is calculated assuming that the radiation sources affect the equipment only during the refueling period. A 1-month duration refueling period is assumed for every 18 months of normal operation. Therefore, the TID is calculated based on 40 months of refueling operation during the plant life of 60 years. An additional safety margin of 20 percent is applied to the normal TID considering the potential contribution of radiation from adjacent cubicles. This margin bounds the dose contributions from adjacent sources for most of the cubicles. In cases where the sum of the dose contributions is greater than the margin, the actual dose rates are taken into account in determining the normal TID of the corresponding area.

Radiation environments for the components for which the most adverse accident conditions are post-LOCA, are based on the source term assumptions consistent with NRC RG 1.183. Radiation environments for the components for which the most adverse accident conditions are other than the LOCA, such as main steam line break, feedwater line break, or control element assembly (CEA) ejection, are based on conservative estimates of the fuel assembly gap activities and maximum reactor coolant specific activities as discussed in Section 11.1.

Post-accident ESF system and component radiation exposures are dependent on equipment location. In the containment and control room area, exposures are based on a postulated design basis LOCA. Source terms and other accident parameters are presented in Subsection 12.2.2 and Chapter 15 and are consistent with the recommendations of NRC RG 1.183.

In the auxiliary building, exposures are based on the assumption that significant portion of the core fission product inventory are recirculated in the containment sump water plus other post-accident airborne radioactivities as presented in ~~Table 12.2-20~~. In the fuel handling area, exposures are based on a fuel handling accident. Source terms and other accident parameters are presented in Chapter 15.

Table 12.2-24

Organic materials that are within the containment are identified in Subsection 6.1.2. The design radiation exposures are based on gamma and beta radiation.

Table 1.8-2 (6 of 29)

Item No.	Description
COL 3.10(1)	The COL applicant is to provide documentation that the designs of seismic Category I SSCs are analyzed for OBE, if OBE is higher than 1/3 SSE.
COL 3.10(2)	The COL applicant is to investigate if site-specific spectra generated for the COLA exceed the APR1400 design spectra in the high-frequency range. Accordingly, the COL applicant is to provide reasonable assurance of the functional performance of vibration-sensitive components in the high-frequency range.
COL 3.10(3)	The COL applicant is to develop the equipment seismic qualification files that summarize the component's qualification, including a list of equipment classified as seismic Category I in Table 3.2-1 and seismic qualification summary data sheets (SQSDS) for each piece of safety-related seismic Category I equipment.
COL 3.10(4)	The COL applicant is to perform equipment seismic qualification for seismic Category I equipment and provide milestones and completion dates of equipment seismic qualification program.
COL 3.11(1)	The COL applicant is to identify and qualify the site-specific mechanical, electrical, I&C, and accident monitoring equipment specified in RG 1.97.
COL 3.11(2)	The COL applicant is to document the qualification test results and qualification status in an auditable file for each type of equipment in accordance with the requirements 10 CFR 50.49(j).
COL 3.11(3)	The COL applicant is to describe the EQP implementation milestones based on the APR1400 EQP.
COL 3.11(4)	The COL applicant is to identify the nonmetallic parts of mechanical equipment in procurement process.
COL 3.12(1)	The COL applicant is to prepare design reports for ASME Class 1, 2, and 3 piping system in accordance with ASME Section III.
COL 3.12(2)	The COL applicant is to design the piping exposed to wind and/or tornado, if any, to the plant design basis loads.
COL 3.12(3)	The COL applicant is to perform fatigue evaluations of ASME Class 1 piping.
COL 3.12(4)	The COL applicant is to perform stress evaluations for ASME Class 2 and 3 piping.
COL 3.12(5)	The COL applicant is to perform fatigue evaluations of environmental impact on ASME Class 1 piping, except for the RCS primary loop, using methods acceptable to the NRC at the time of evaluation.

COL 3.11(7) The COL applicant is to provide room number designation for those unidentified rooms in Table 3.11-2

Nonmetallic parts mainly consist of seals, gaskets, and lubricants whose failure of leakage, interception or wear could lead to hindrance of the safety function in the equipment in which they are installed. The safety-related active mechanical equipment that may contain such nonmetallic parts is qualified to ASME QME-1-2007 and specified in Table 3.11-3.

3.11.7 Combined License Information

COL 3.11(1) The COL applicant is to identify and qualify the site-specific mechanical, electrical, I&C, and accident monitoring equipment specified in RG 1.97.

COL 3.11(2) The COL applicant is to document the qualification test results and qualification status in an auditable file for each type of equipment in accordance with the requirements 10 CFR 50.49(j).

COL 3.11(3) The COL applicant is to describe the EQP implementation milestones based on the APR1400 EQP.

COL 3.11(4) The COL applicant is to identify the nonmetallic parts of mechanical equipment in procurement process.

3.11.8 References

COL 3.11(7) The COL applicant is to provide room number designation for those unidentified rooms in Table 3.11-2

1. APR1400-E-X-NR-14001-P, “Equipment Qualification Program,” Rev. 0, KEPCO & KHNP, September 2014.

2. Regulatory Guide 1.89, “Environmental Qualification of Certain Electrical Equipment Important to Safety for Nuclear Power Plants,” Rev. 1, U.S. Nuclear Regulatory Commission, June 1984.

3. IEEE Std. 323-2003, “IEEE Standard for Qualifying Class 1E Equipment for Nuclear Power Generating Stations,” Institute of Electrical and Electronics Engineers, 2003.

4. Regulatory Guide 1.40, “Qualification of Continuous Duty Safety-Related Motors for Nuclear Power Plants,” Rev. 1, U.S. Nuclear Regulatory Commission, February 2010.

2.19 Equipment Qualification

The generation and maintenance of auditable evidence to ensure that the equipment will operate on demand to meet the performance requirements under applicable service conditions.

2.20 Failure

The loss of ability to perform a required service function by a component, equipment, or system.

2.21 Harsh Environment

Any area that has a significant increase in environmental parameters (pressure, temperature, relative humidity, or chemical) due to a postulated DBA, or any area with a total integrated dose (TID) greater than ~~102~~ Gy (greater than 10 Gy for electronic components such as semiconductors or electronic components containing organic material).

100 Gy

2.22 Harsh Zone

An area of the plant that is predicted to have the conditions of a harsh environment.

2.23 Installed Life

The interval from installation to removal, during which the equipment or component may be subject to design service conditions and system demands. (Note: Equipment may have an installed life of the designated life of the plant with certain components changed periodically; thus, the installed life of the components would be less than designated life of the plant).

2.24 Interface

A junction or junctions between Class 1E equipment and another piece of equipment or device (for example, connection boxes, splices, terminal boards, electrical connections, grommets, gaskets, cables, conduits, enclosures).

2.25 Margin

The difference between the most severe specified service conditions and the conditions used during equipment qualification type testing.

2.26 Mild Environment

An environment expected as a result of normal service conditions and extremes (abnormal) in service conditions where seismic is the only DBA of consequence.

2.27 Mild Zone

An area of the plant that is predicted to have conditions of a mild environment.

ACRONYMS AND ABBREVIATIONS

AB	auxiliary building
ACI	American Concrete Institute
ACU	air cleaning unit
A/E	architect/engineer
AFW	auxiliary feedwater
AFWP	auxiliary feedwater pump
AFWST	auxiliary feedwater storage tank
AHU	air handling unit
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
APC	auxiliary process cabinet
ASME	American Society of Mechanical Engineers
BAMP	boric acid makeup pump
BAST	boric acid storage tank
BOP	balance of plant
CCS	component control system
CCW	component cooling water
CCWPH	component cooling water pump house
CEA	control element assembly
CEDM	control element drive mechanism
CFR	code of federal regulations
CG	center of gravity
CIV	containment isolation valve
CPCS	core protection calculator system
CS	containment spray
DBA	design basis accident
DRCS	digital rod control system
EDG	emergency diesel generator
EDGB	emergency diesel generator building
ENFMS	ex-core neutron flux monitoring system
EQP	equipment qualification program
EQPR	~~environmental qualification parameters report~~
ESF-CCS	engineered safety features - component control system
ESR	electro-hydraulic actuated spring return
ESW	essential service water
ESWB	essential service water building
FMEA	failure modes and effects analysis
GDC	general design criteria
HELB	high-energy line break
HJTC	heated junction thermocouple
HT	high temperature
HX	heat exchanger
ICI	in-core instrumentation
IE	inspection and enforcement
IEEE	institute of electrical and electronics engineers
IRWST	in-containment refueling water storage tank
ITP	interface and test processor
LOCA	loss-of-coolant accident

b. Aging acceleration rate data

c. Failure modes and effects analysis (FMEA) data

d. Thermal stress data

e. Electrical stress data

f. Electromechanical and operational cycling data

g. Normal operating vibration data

h. Radiation component susceptibility data

i. Major industry known synergistic data

3.2.2 Seismic

The seismic qualification program for Class 1E equipment will be in accordance with IEEE Std. 344 (Reference 9.10).

Seismic qualification of pump motors, and nuclear service valves and auxiliary equipment, is per IEEE Std. 344.

This report does not describe seismic testing, methods, or results, other than to reference IEEE Std. 344.

The detailed seismic qualification is described in Part 2, Seismic Qualification Program.

3.2.3 Environmental

Table 3 of this report

Equipment will be environmentally qualified to levels at least as severe as the conditions specified in ~~the APR1400 Environmental Qualification Parameters Report (EQPR)~~ for normal and accident conditions. Environmental parameters and qualification profiles for DBAs (LOCA, MSLB, HELB) are provided in ~~the EQPR~~

Table 3, 4 and Figure 1 to Figure 3-5 of this report.

3.3 ENVIRONMENTAL CONDITIONS AND EFFECTS

The postulated environmental conditions to which safety-related equipment are exposed generally include long time periods at either moderate or low levels of temperature, pressure, humidity, and radiation, followed by, for equipment located in the containment, exposure to high levels of these same parameters for relatively short periods of time. Equipment operation under these high stress levels may be required in order to mitigate or monitor the postulated accident conditions. The level of exposure may also be affected by the location of the particular equipment.

For example, a component located in the reactor containment building may be exposed to moderate temperature, pressure, humidity, and radiation for long periods of time and then would be required to function for safety purposes under possible conditions of high temperature, pressure, humidity, radiation and chemical spray resulting from a LOCA or MSLB /MFLB.

The purpose of the qualification program is to demonstrate that equipment will perform its Class 1E function.

3.3.1 Temperature

3.3.1.1 Harsh Environment

in Figure 1 to 3-5 of this report.

The preferred method of establishing an environmental profile for DBA testing of safety-related equipment located in harsh environmental zone is to adhere to Category I guidelines in Sections 1.1 and 1.2 of NUREG-0588, Rev. 1 for developing a test profile that will envelop all temperature and pressure gradients for DBAs in a superheated steam/air environment. See the APR1400 containment DBA temperature and pressure profiles provided ~~in the EQPR~~.

A second method of establishing a test profile is based on a thermal equivalence analysis. This method of establishing a profile will be used in lieu of the preferred method whenever the preferred method represents severe overtesting of a particular component.

3.3.1.2 Thermal Equivalence Requirements

In an accident scenario for which it is necessary to use thermal equivalence techniques, the following requirements must be met:

a. Application of the thermal equivalence approach shall be justified for each piece of equipment, including any judgments regarding the survivability limits of the equipment.

b. The specific heat transfer modeling of the equipment shall be described and the selection of the critical surface or surfaces shall be justified as limiting with respect to both time and location. The test results will be used to demonstrate the conservatism of the heat transfer modeling.

c. Multiple temperature measurements of the critical surface(s) from testing shall envelop the calculated surface temperature transient(s), including the initial ramp. "Soaking" will not be permitted.

d. A margin of at least +8 ℃ (+15 °F) shall be applied between the measured surface temperature and the calculated surface temperature. This margin accounts for the uncertainties associated with design, production tolerances, testing techniques, and the number of units tested. This temperature margin of +8 ℃ (+15 °F) is in accordance with the guideline of IEEE Std. 323.

e. Application of the thermal equivalence approach shall be restricted to the limiting superheated steam harsh environment, based on a spectrum of break sizes.

3.3.1.3 Mild Environment

Equipment located in general plant areas outside containment that is not subjected to a DBA environment will be qualified to the normal and abnormal range of environmental conditions postulated to occur at the equipment location. Equipment that is served by safety-related support systems will be qualified per defined environmental interface requirements, to the limiting environmental conditions that are postulated for that location.

Specific environmental conditions, as described ~~in the EQPR~~, will be used as appropriate for environmental qualification of the equipment in mild environments.

Table 3 of this report,

3.3.2 Radiation

3.3.2.1 Harsh and Mild Environments

Equipment will be qualified for the types and levels of radiation associated with normal operation plus the radiation associated with the most severe DBA. These levels are defined in ~~the EQPR~~. If more than one type of radiation is significant, each type may be applied separately.

Table 3 of this report,

Equipment that is exposed to radiation greater than 10^2 Gy (greater than 10 Gy for electronic components such as semiconductors or electronic components containing organic material) will be irradiated to its anticipated total integrated dose (TID) prior to type testing unless it is determined by analysis supported by partial type test data, that radiation does not negatively impact the equipment's ability to perform its required function. Where analysis supported by partial type test data cannot demonstrate proper operation at the required radiation levels, type testing will be performed

Where the application of the accident dose is planned during DBA testing, it need not be included during the aging process.

Equipment will be qualified to the specific radiation environments defined in ~~the EQPR,~~ as required.

Table 3 of this report,

3.3.2.2 Gamma

Cobalt-60 is considered an acceptable gamma radiation source. Other sources may be found acceptable, and will be justified. Equipment will be tested to specific gamma radiation levels of the reactor containment building defined in the ~~EQPR.~~

Table 3 of this report,

3.3.2.3 Beta

Equipment exposed to beta radiation will be identified and an analysis will be performed to determine if the operability of the equipment is affected by beta radiation ionization and heating effects. Qualification will be performed by test unless analysis demonstrates that the safety function will not be degraded by beta exposure. Equipment will be tested and/or analyzed to the beta radiation levels of the reactor containment building defined in the ~~EQPR~~. Where testing is recommended, a gamma equivalent radiation source will be used.

Table 3 of this report,

3.3.2.4 Paints/Radiation Effects

An analysis will be performed addressing paint exposure to beta and gamma radiation, if required. Qualification of painted equipment will be performed by test, if analysis indicates that the safety function of the equipment could be impaired by paint failure due to radiation.

3.3.3 Vibration

Vibration may be externally or self-induced. Safety-related piping systems (including components) are designed and observed under startup or initial service conditions to ensure that external or self-induced vibration of piping systems is in accordance with The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section III. Vibration effects of components (e.g., Class 1E pump motors) are addressed by periodic measurement of vibration during inservice inspection tests of pumps in

motors) are addressed by periodic measurement of vibration during inservice inspection tests of pumps in accordance with ASME Code, Section XI. For pump motors, acceptance vibration levels defined in the Hydraulic Institute Standards provide the maximum vibration levels acceptable to ensure continued qualified motor performance.

Where significant levels of continuous vibration are expected to exist during service, the effects of such vibration, either externally or self-induced, will be evaluated via surveillance, preventive maintenance, analysis, partial type testing, or any combination of the above.

3.3.4 Pressure

Safety-related equipment in the APR1400 is not normally exposed to high-pressure environments. However, after/during a postulated accident, such as the LOCA or MSLB, components located in the reactor containment building may be exposed to significant external pressure from a combined steam-air mixture. Equipment will be environmentally tested to these conditions and its performance will be demonstrated during and after the test.

Refer to the containment DBA pressure profile, provided in the ~~EQPR~~. Figure 1of this report.

3.3.5 Humidity

Safety-related equipment in APR1400 is not normally exposed to 100 percent relative humidity (RH). However, during and after a postulated accident, such as a LOCA or MSLB, components located in the reactor containment building may be exposed to 100 percent RH resulting from condensing steam. This equipment will be environmentally tested to short-term high humidity levels and its performance will be demonstrated during and after the test.

3.3.6 Chemical Spray

Safety-related equipment in the APR1400 is not normally exposed to chemical spray environments. However, during and after a postulated accident, such as a LOCA or MSLB, components located in the reactor containment building may be exposed to a chemical spray by actuation of the containment spray system. Equipment will be environmentally tested to conditions at least as severe as these conditions and its performance will be demonstrated during and after the test. A single failure analysis of the spray system will be performed, as described in Subsection 5.2.2, to determine the most severe spray composition. Corrosion effects due to long-term exposure will be addressed, as appropriate.

Where qualification for chemical spray environment is required, the simulated spray will be initiated at the rate and duration shown in containment spray conditions table ~~of the EQPR.~~ Typical values of chemical spray composition, concentration, and pH are defined in containment spray condition table of ~~the EQPR.~~ of this report. of this report.

3.3.7 Dust

Dust requirements will not be applied to indoor equipment, because indoor conditions are prevented by normal dust control in the plant ventilation systems.

Outdoor dust environments will be considered when establishing service conditions and qualification requirements. The potential effects of dust exposure will be evaluated relative to effects upon equipment safety function performance. Where dust could have a degrading effect on equipment safety function performance, it will be addressed in the qualification program through the upgrading of equipment

Prior to performing the type test, a written qualification test plan, aging analysis report, age conditioning report, and qualification test procedures are prepared in accordance with IEEE Std. 323 and NUREG-0588.

The safety-related equipment is mounted in a manner and position that simulate its in-plant installation.

The safety-related performance characteristics of the equipment are determined at the nominal controlled environmental and energy supply operating conditions. Equipment is operated at rated load conditions over the range of its input and output parameters or other safety functions.

The safety-related performance characteristics of the equipment are determined for the significant portions of the design range of each of the significant environmental parameters or each significant combination thereof.

The test is monitored using equipment that provides sufficient resolution for detecting meaningful changes in the measured variables. The test equipment is calibrated against auditable calibration standards and will have documentation to support such calibration. The monitoring of performance characteristics and environmental parameters is of sufficient frequency to provide an assured basis for evaluation of the safety-related performance characteristics of the equipment.

Performance characteristics will be monitored and recorded (as appropriate) before, during, and after type testing.

Operability status of the equipment will be monitored and recorded (as appropriate) continuously during testing. For long-term testing (longer than 1 day), monitoring at discrete intervals is performed with justification provided.

5.1.3 Margin

The purpose of margin in qualification testing is to account for reasonable uncertainties while demonstrating satisfactory performance.

The qualification type testing includes provisions to verify that margin exists. In defining the type test, increasing levels of testing, number of test cycles, or test duration are considered as methods of providing reasonable assurance that adequate margin exists.

Margins provided in Section 6.3.1.6 of IEEE Std. 323 will be used as a guide. These margins will be applied in addition to any conservatism applied during derivation of local environmental conditions unless the conservatism can be quantified and shown to contain appropriate margins.

Equipment-specific qualification test procedures will define all margins and will utilize the environmental parameters and profiles ~~of the EQPR~~ as service conditions.

Typical margins that are applied, as appropriate, to service conditions for type testing are as follows:

a. Peak temperature: +8 for ℃, +15 for ℉ (Notes 2, 3, and 4)

b. Peak pressure: +10 percent of gauge pressure but not more than 10 psi (Notes 2 and 3)

c. Radiation: +10 percent of accident dose (Note 5)

d. Voltage: ±10 percent of rated value unless otherwise specified (Note 7)

of Figure 1 to 3-5 of this report

of Table 3

(Reference 9.9) as appropriate. All thermal and radiation age conditioning will be performed on motorettes or formettes made of the same insulating material as the actual full-scale motor that is being qualified.

5.1.5 Type Test Report

Type test data used to verify the qualification of the equipment will be organized in an auditable form. The type test report will be consistent with the requirements of IEEE Std. 323 and NUREG-0588.

Data for safety-related equipment will be compiled in reports prepared at the completion of the qualification program, and will be available for audit as described in Section 6.

5.1.6 Environmental Test Profiles

Figure 1of this report.

The containment DBA environmental test profile for equipment that is required to perform a safety-related function during or after a DBA is shown in ~~the EQPR~~. For environmental qualification test purposes, margin including additional peak transients, as required by Section 6.3.1.2 and 6.3.1.6 of IEEE Std. 323, shall be applied to the DBA temperature and pressure profiles. Equipment will be exercised or monitored for its safety function.

5.1.7 Acceptance Criteria

Testing, or testing and analysis, will demonstrate that the equipment is qualified to perform its required safety function for all required service conditions with margin at the end of its qualified life.

Acceptance criteria are established prior to the start of type testing and included as part of the qualification test procedure document. The following is a list of typical acceptance criteria:

a. Test environments are at least as severe as, and representative of, the required environmental profile.

b. Operation of the equipment under normal environmental conditions to the extremes of performance and electrical characteristics is within the limits of accuracy required in the equipment specifications.

c. Equipment has been aged, as appropriate, and has been exposed to the expected end-of-life radiation dose if applicable prior to DBA testing.

d. Equipment has been subjected to seismic DBA testing.

e. Operation of the equipment in its safety-related functions, while exposed to the DBA environment, is within the limits of accuracy required in the equipment specifications.

f. Operation of the equipment in its safety-related functions, while exposed to the post-DBA environment, if applicable, is within the limits of accuracy required in the equipment specifications.

g. Post-test examination of the equipment reveals no conditions that might have interfered with the ability of the equipment to perform its safety-related functions.

h. Instrument accuracy requirements are established from the assumptions used in the particular safety analysis for which the equipment performs its safety function. These requirements are reflected in the equipment specifications, and where applicable, in the safety system setpoints. The most conservative limits on time and accuracy requirements would be used for qualification. However, it may be necessary to qualify several instruments to various levels based on the particular applications.

Equipment that is required to function for post-accident monitoring would be tested to the profile shown in ~~figures of the~~ EQPR, since long-term cooling extends for at least the time period of the profile.

Documentation that the acceptance criteria were properly defined and successfully met will be recorded in the equipment-specific qualification documentation package and highlighted in the qualification data summary form.

Figure 1of this report,

5.1.8 Test Anomalies

In the event that anomalies are observed during qualification testing that violate defined acceptance criteria, the following actions will be taken, as appropriate, prior to further qualification testing to provide reasonable assurance of complete and satisfactory resolution:

a. Verify operability status of monitoring and data acquisition equipment involved

b. Re-evaluate acceptance criteria requirements, if appropriate

c. Establish the type of failure (random or common mode)

d. Formal notification submittal to A/E describing and evaluating the failure

e. A/E's review and approval of recommended corrective action for continuing qualification

5.1.8.1 Random Failures

If it is determined that the failure was random, appropriate corrective action will be taken to eliminate the problem.

Replacement parts may be used to replace those that have failed. All replacement parts used will have undergone the same accelerated age conditioning and qualification testing as did the original failed part prior to continuation of the qualification program. All corrective actions taken will be documented and fully justified.

5.1.8.2 Common-Mode Failures

If it is determined that the failure was common mode, appropriate corrective action will be taken to eliminate the problem. Possible corrective action may include equipment/component redesign, part replacement, equipment relocation, additional analysis, or any combination thereof. Part replacement or redesign will be in accordance with the pre-conditioning requirements of random failures. Upon discovery of such a failure, the A/E will be notified prior to taking corrective action. All corrective actions taken will be documented and fully justified.

The preventative maintenance will include, as appropriate:

a. Visual inspection

b. Mechanical inspection

c. Electrical testing

d. Periodic tests

e. Failure trending

f. Incipient failure detection

It is anticipated that most of these tests are already included in Technical Specifications requirements.

Data maintenance and storage in a central file, and evaluation activities such as the S/PM program, are the responsibility of the utility.

Because of its location, access to equipment in the containment building may be limited for surveillance/ preventive maintenance or periodic calibration.

5.5 CONSERVATISM OF QUALIFICATION PARAMETERS

in Table 3 of this report.

The levels of environmental qualification required are specified ~~in the EQPR~~. Accident conditions of these requirements are established based on the methods recommended by NRC RG 1.89 and NUREG-0588. Margins utilized per Section 6.3.1.6 of IEEE Std 323, Section 3 of NUREG-0588, and as described in Subsection 5.1.3 will be documented in the appropriate qualification document. Comparison of the qualification requirements to the environmental test parameters will demonstrate conservatism of the parameters. Margin identification and verification will be performed.

5.6 QUALIFICATION OF SAFETY-RELATED ACTIVE MECHANICAL EQUIPMENT

Environmental qualification of mechanical equipment conforms with GDCs 1and 4, and 10 CFR Part 50, Appendix B, Criteria III and XVII which requires:

a) Components shall be designed to be compatible with the postulated environmental conditions including those associated with LOCAs.

b) Qualification records shall be maintained and shall include the results of tests and material analyses.

c) Design control measures shall be established for verifying the adequacy of design.

Mechanical equipment is principally divided into active and non-active(passive) mechanical equipment.

Environmental qualification of mechanical equipment is focused on the materials that are sensitive to environmental effects(e.g., seals, gaskets, lubricants, fluids for hydraulic systems, and diaphramgms) and is limited to active mechanical equipment located in harsh environment which has mechanical moving parts to perform its safety-related function. The qualification effort requires the evaluation of all safety-related nonmetallic parts against the applicable environmental conditions.

3 SCOPE OF EQUIPMENT SEISMIC AND DYNAMIC QUALIFICATION

3.1 SAFETY-RELATED EQUIPMENT (SEISMIC CATEGORY I EQUIPMENT)

Seismic Category I equipment is required to be seismically and dynamically qualified by demonstrating that its structural integrity and safety function during and after a postulated earthquake in conjunction with the full range of applicable normal and accident loads and conditions.

Seismic Category I equipment requiring qualification in accordance with the APR1400 EQP is described as follows:

a. Equipment associated with systems that are essential to emergency reactor shutdown, containment isolation, reactor core cooling, and containment reactor heat removal

b. Equipment and systems used to power, control, or monitor other structures, systems, and components (SSCs) important to safety

c. Equipment essential to preventing significant release of radioactive material to the environment

d. Instrumentation (including accident and post-accident monitoring) needed to assess plant and environmental conditions during and after an accident, as described in NRC RG 1.97, “Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants”

The equipment seismic qualification program criteria define specific technical requirements for seismic and dynamic qualification of seismic category I, safety-related mechanical equipment (excluding piping), and seismic category I (Class 1E) electrical and instrumentation equipment, including associated supports and mountings. The program includes qualification of category I tanks and reservoirs for hydrodynamic seismic loads, where applicable. All such equipment that is required to perform functionally or maintain its structural integrity, as described above, is subject to rigorous seismic/dynamic qualification. ~~A detailed listing of APR1400 standard plant seismic category I equipment, requiring seismic qualification, is given in Table 3 of the Environmental Qualification Parameters Report (EQPR).~~

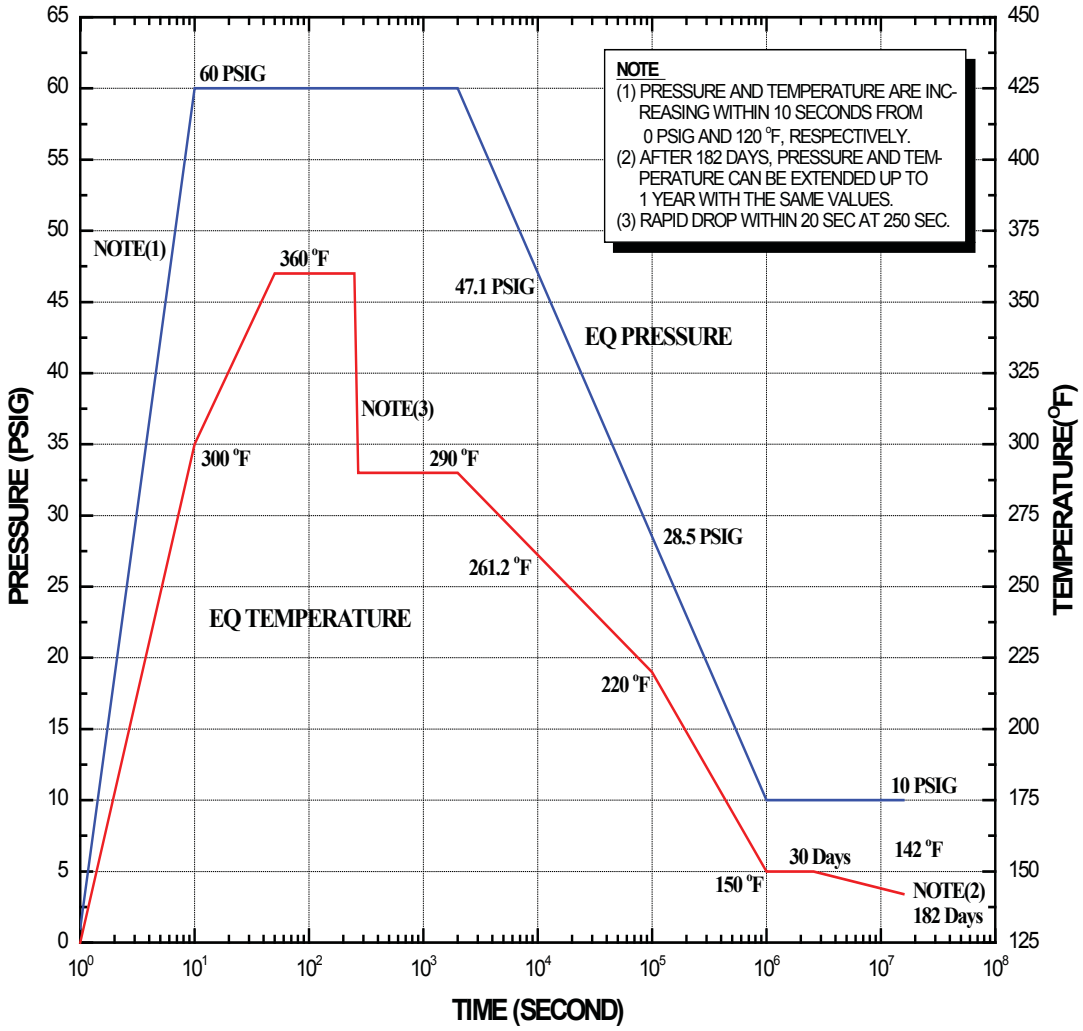
It should be noted that detailed criteria for functionality testing and inspection of mechanical and electrical equipment (e.g., performance tests, hydrostatic tests, and leakage tests) are not within the scope of the equipment seismic qualification program.

3.2 IMPORTANT TO SAFETY (SEISMIC CATEGORY II EQUIPMENT)

The equipment seismic qualification program criteria also define technical requirements for seismic and dynamic qualification of equipment important to safety whose failure could prevent satisfactory accomplishment of one or more of the safety-related functions.

This includes seismic Category II equipment, defined as that equipment which performs non-safety-related functions, and whose continued function is not required, but whose structural or functional failure or interaction could degrade the function or integrity of a seismic Category I SSC to an unacceptable level, or could result in incapacitating injury to occupants of the control room.

Therefore, seismic Category II equipment can be seismically qualified by demonstrating that it retains its position sufficiently in an SSE that it will not cause unacceptable structural interaction with or failure of



Notes:

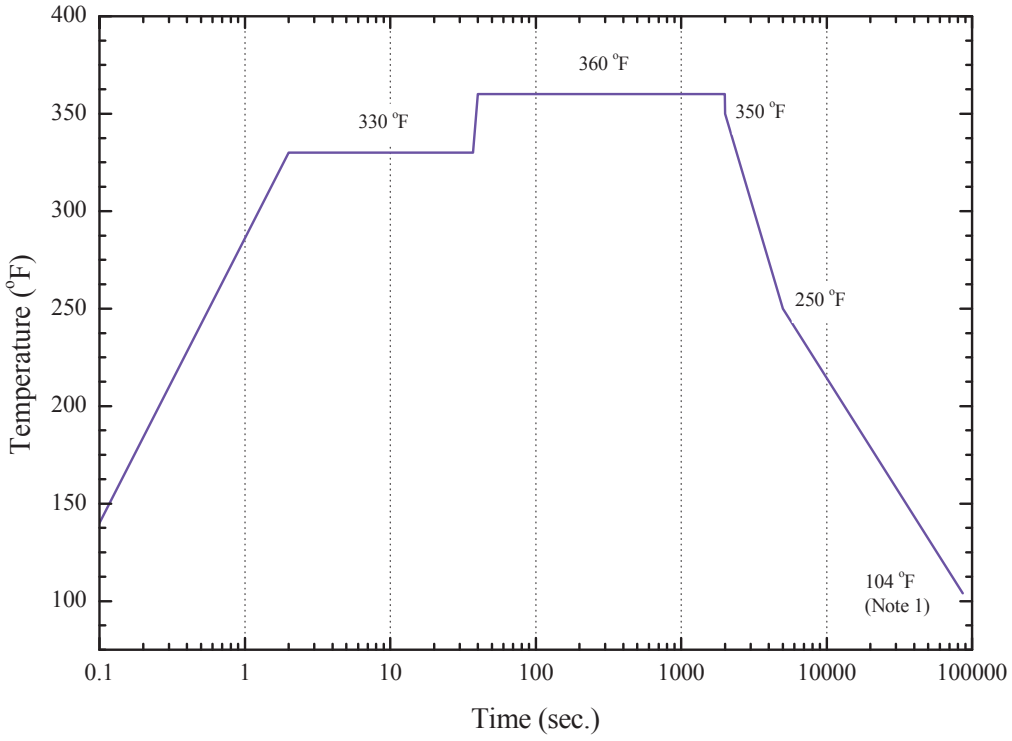
(1) Pressure and temperature are increasing within 10 seconds from 0 psig and 49 °C (120 °F), respectively.

(2) After 182 days, pressure and temperature can be extended up to 1 year with the same values.

(3) Rapid drop within 20 seconds at 250 seconds.

Figure 3.11-1 Design Basis Containment Atmosphere Temperature and Pressure EQ Profile for Accident

(Figure 3.11-2 ~ Figure 3.11-7) Added



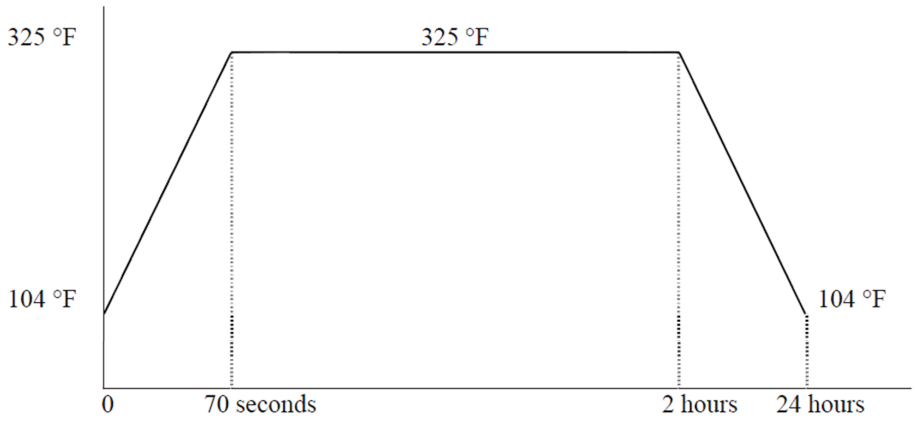
Time (sec.)	0	0.1	2.0	37	40	1,990	2,000	5,000	86,400
Temp. (°F)	104	140	330	330	360	360	350	250	104

Notes

1. Temperature is decreasing up to 104°F at 86,400 seconds (24 hours)

Figure 3.11-2 Main Steam Valve Room MSLB Temperature Profile

Added

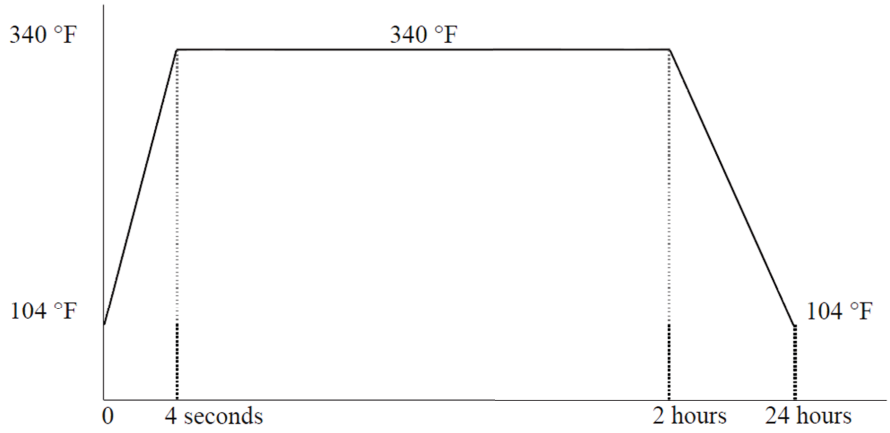


Notes

1. Temperature profile above applies to the following zones: 055-A46B, 068-A06A, 078-A40B, 078-A42B, and 078-A43B

Figure 3.11-3 Auxiliary Building HELB Temperature Profile

Added

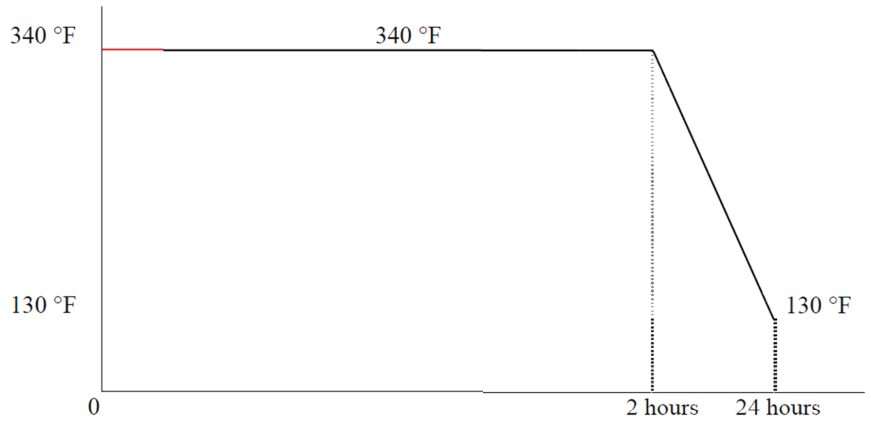


Notes

1. Temperature profile above applies to the following zones: 078-A15C/D

Figure 3.11-4 Turbine Driven AF Pump Room Temperature Profile

Added

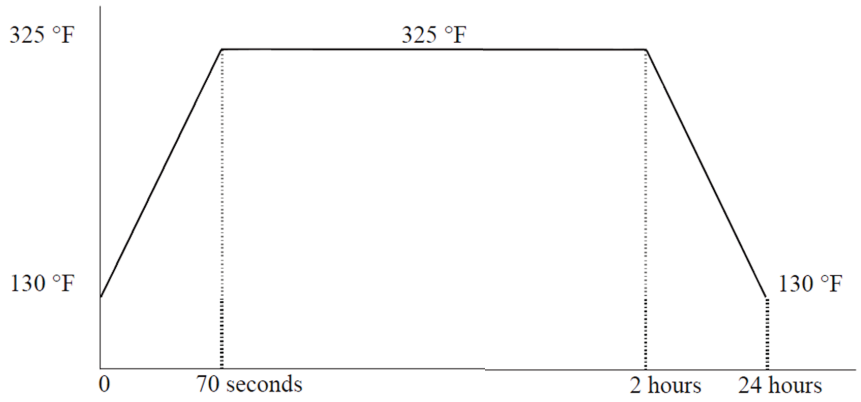


Notes

1. Temperature profile above applies to the following zones: 078-A17C/D, and 137-A30C/D

Figure 3.11-5 Turbine Driven AF Pump Room Vent & Main Steam Enclosures Temperature Profile

Added



Notes

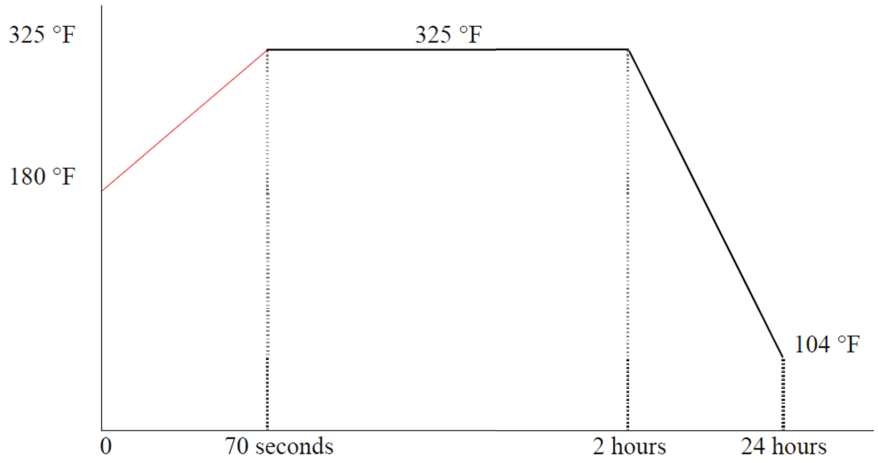
1. Temperature profile above applies to the following zones: 100-A28B, and 117-A02A

Notes:

(1) Pressure and temperature are increasing within 10 seconds from 0 psig and 49 °C (120 °F), respectively.
(2) After 182 days, pressure and temperature can be extended up to 1 year with the same values.
(3) Rapid drop within 20 seconds at 250 seconds.

Figure 3.11-6 HELB HVAC Duct Tray Pipe Way Temperature Profile

Added



Notes :

1. Temperature profile above applies to the following zones: 120-A14A and 137-A19A

Figure 3.11-7 S/G Blowdown Flash Tank Room Temperature Profile

Added

LIST OF TABLES

Phase / Parameter	Short Term (Accident Initiation-up to 4 hours)	Long Term (4 hours-up to 30 days)
Chemistry	4,400 ppm Boron as H_3BO_3 0-50 ppm Hydrazine as N_2H_4 $4 \leq pH \leq 10$	4,400 ppm Boron as H_3BO_3 0-50 ppm Hydrazine as N_2H_4 $7.0 \leq pH \leq 8.5$ Using Tri-sodium Phosphate as the Buffering Agent
Spray Density (Note 1)	≥ 0.57 gpm/ft^2	≥ 0.57 gpm/ft^2
Spray Temp. (Note 2)	Variable	

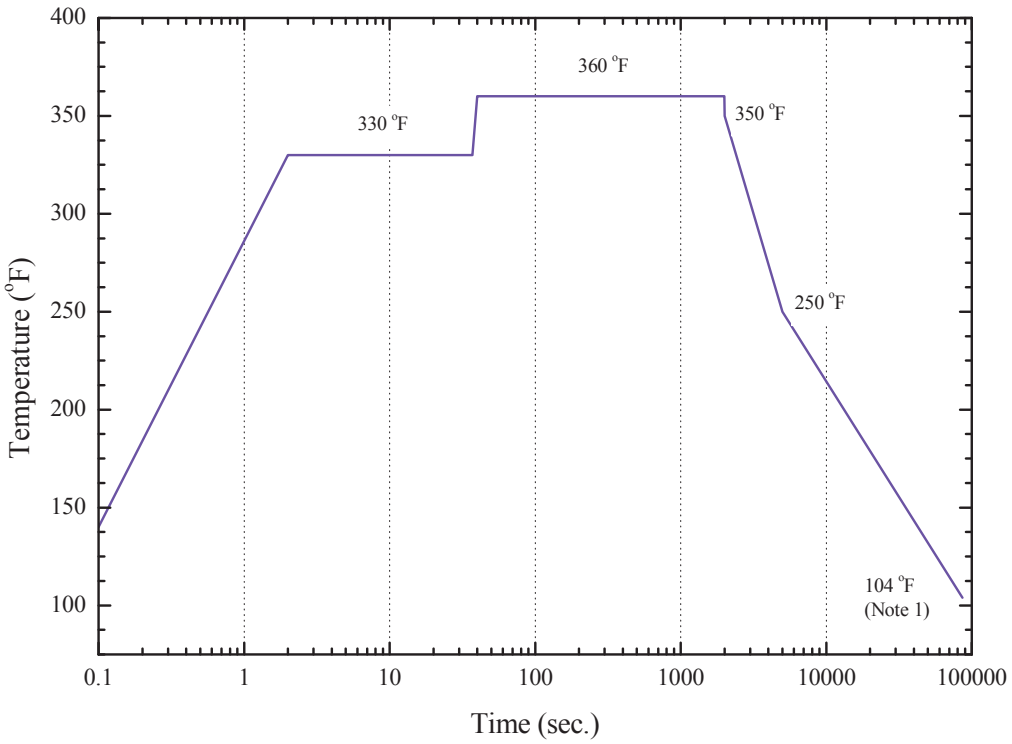
Table 4 Containment Spray Conditions

Notes :

1. Spray density is based on 5,000 (gpm/train) over 150 (ft) diameter containment. The pressure and temperature profiles are controlled by continuous operation of spray system up to 30 days.

2. The minimum spray droplet temperature is greater than 50 ˚F, and the maximum spray temperature can be varied depending on the temperature of IRWST water that supplies to spray nozzle.

LIST OF FIGURES

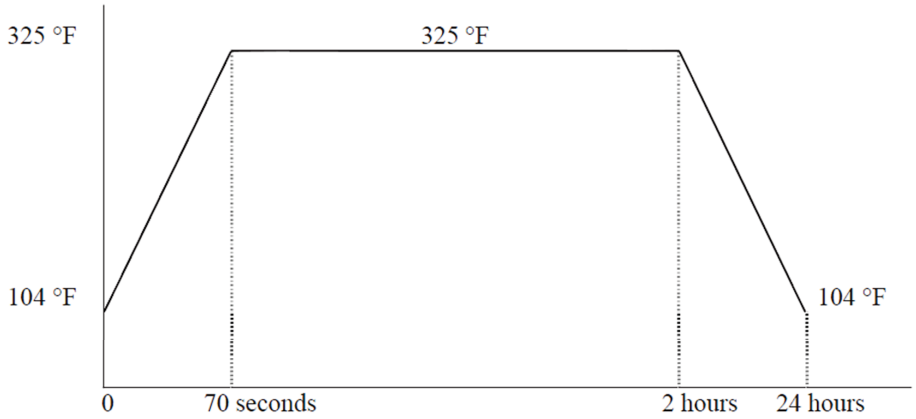


Time (sec.)	0	0.1	2.0	37	40	1,990	2,000	5,000	86,400
Temp. (°F)	104	140	330	330	360	360	350	250	104

Notes

1. Temperature is decreasing up to 104°F at 86,400 seconds (24 hours)

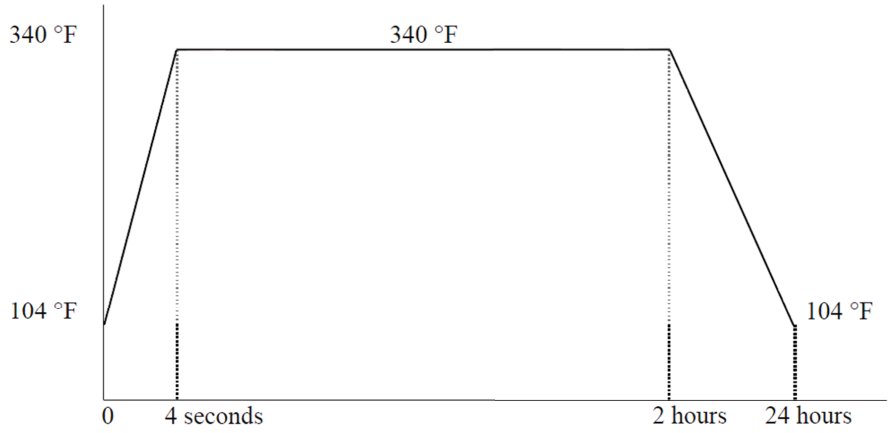
Figire 2 Main Steam Valve Room MSLB Temperature Profile



Notes

1. Temperature profile above applies to the following zones: 055-A46B, 068-A06A, 078-A40B, 078-A42B, and 078-A43B

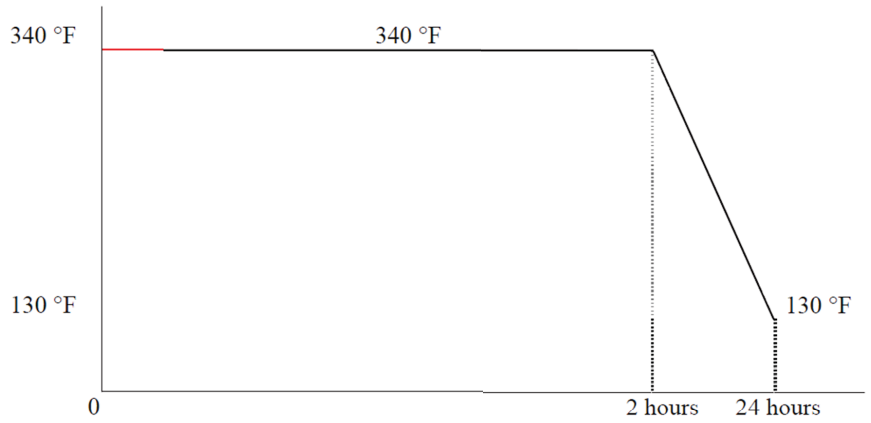
Figire 3-1 Auxiliary Building HELB Temperature Profile



Notes

1. Temperature profile above applies to the following zones: 078-A15C/D

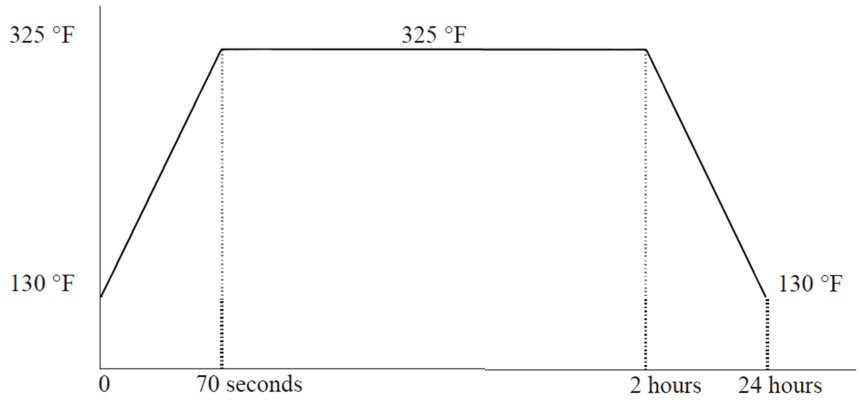
Figire 3-2 Turbine Driven AF Pump Room Temperature Profile



Notes

1. Temperature profile above applies to the following zones: 078-A17C/D, and 137-A30C/D

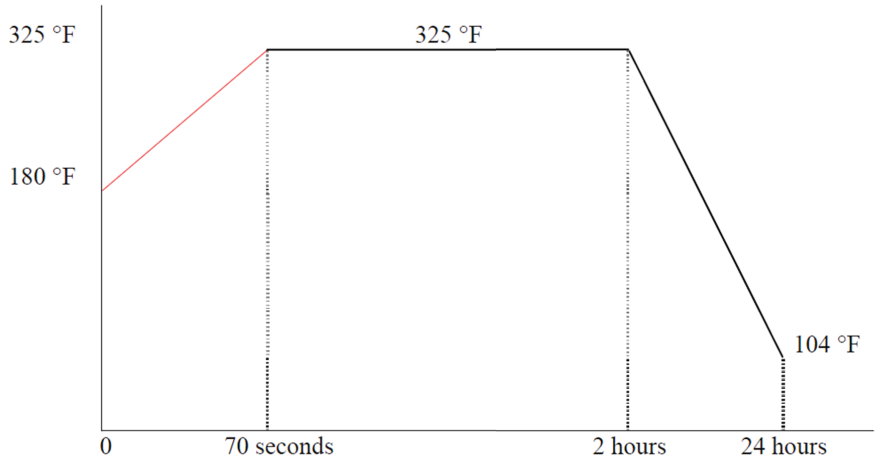
Figire 3-3 Turbine Driven AF Pump Room Vent & Main Steam Enclosures Temperature Profile



Notes

1. Temperature profile above applies to the following zones: 100-A28B, and 117-A02A

Figire 3-4 HELB HVAC Duct Tray Pipe Way Temperature Profile



Notes :

1. Temperature profile above applies to the following zones: 120-A14A and 137-A19A

Figire 3-5 SG Blowdown Flash Tank Room Temperature Profile

3.11.1.3 Equipment Operability Times

The required operational time during which each equipment is required to operate in the accident environment is identified in Table 3.11-3, and defined as follows:

a. Continuous

Component is required to operate throughout the design basis accident without interruption (i.e., ~~up to~~ 6 months). at least

b. Short-term Insert "A"

Component is required to operate one time during the design basis accident (i.e., approximately a few seconds up to a few hours depending on the component and the event).

c. Intermittent Insert "B"

Component is capable of operating throughout the design basis accident (i.e., ~~up to~~ 6 months), starting and stopping on an as-needed basis. at least

d. Varies Insert "C"

Component is capable of operating throughout the design basis accident (~~up to~~ 6 months) depending on the situation, but it is not needed if something else can perform the same task. at least

3.11.2 Qualification Tests and Analyses Insert "D"

Environmental qualification of Class 1E equipment is in accordance with the requirements of 10 CFR 50.49, NRC RG 1.89 (Reference 2), and IEEE Std. 323 (Reference 3). Equipment qualification standards that are available are also met.

A

The following types of equipment are examples of this category:

- Electrical power source & distribution equipment: SWGR, MCCs, Batteries, Battery chargers, inverter, cables and other electrical equipment needed to provide electrical power to safety related equipment.

- Monitoring equipment: Sensors, transmitters and Monitoring panels

- Continuous motors: Continuous operation expected motor such as pump motor

B

The following types of equipment are examples of this category:

- Isolation valves: valves's safety function that is completed by one time operation

C

The following types of equipment are examples of this category:

- Valves: Modulating, those that require intermmitent operation depending on system situation

D

Any equipment with an operability time labeled as "varies" will be operational for the duration of the most limiting design basis accident.