

**PROPOSED REVISION 15**  
**AP1000 DESIGN CONTROL DOCUMENT**

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**Tier 1 Tables 3.5-1, 3.5-6, 3.5-7, and 3.6-1**

**Radiation Monitoring and Reactor Coolant Pressure Boundary Leak Detection**

**Description of Change**

For Tier 1 Table 3.5-1, correct certain “Tag No.” entries and “Safety-Related Display” entries. For Tier 1 Table 3.5-7, correct one “Component Location” entry. Delete references to the specific technology used for containment atmosphere radioactivity from the ITAAC for reactor coolant pressure boundary leak detection. Also provide precise references for ITAAC electrical separation item.

**Technical Justification**

The changes to Tier 1 Table 3.5-1 provide consistency with Tier 2, Section 7.5. The change to Table 3.5-7 corrects a component location. The ITAAC is currently inconsistent; the type of instrument used for various measurements (level, pressure, and temperature) is not identified, but the containment atmosphere radioactivity monitor is identified as being an N<sup>13</sup>/F<sup>18</sup> detector. This level of technical detail is not appropriate for this ITAAC.

Change Table 3.5-6, item 3 to provide a direct reference to the relevant material.

**Regulatory Consequence**

There is no change to design function. It is noted that Tier 2 (subsection 5.2.5.3.3) will still identify the N<sup>13</sup>/F<sup>18</sup> technology, including a more detailed discussion of the monitor. There is no change to analysis or analysis methodology. There is no effect on the FSER.

**Change Markup**

**Tier 1 Table 3.5-1** Revise the fifth, sixth, and last entry of Tier 1 Table 3.5-1 as follows:

Table 3.5-1					
Equipment Name	Tag No.	Seismic Cat. I	Class 1E	Qual. for Harsh Envir.	Safety-Related Display
MCR Radiation Monitoring Package A(1)	VBS- <del>JSRE</del> 01A	Yes	Yes	No	<del>No</del> Yes
MCR Radiation Monitoring Package B(1)	VBS- <del>JSRE</del> 01B	Yes	Yes	No	<del>No</del> Yes
Containment Atmosphere Monitor ( <del>N<sup>13</sup>/F<sup>18</sup></del> gaseous, for RCS pressure boundary leakage detection)	PSS-RE027	Yes	No	No	No

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**Tier 1 Table 3.5-6** Revise the third entry of Tier 1 Table 3.5-6 as follows:

<b>Table 3.5-6</b> <b>Inspections, Tests, Analyses, and Acceptance Criteria</b>		
<b>Design Commitment</b>	<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
3. Separation is provided between system Class 1E divisions, and between Class 1E divisions and non-Class 1E cable.	See Tier 1 Material, <a href="#">Section Table 3.3-6, item 7.d., Nuclear Island Buildings.</a>	See Tier 1 Material, <a href="#">Section Table 3.3-6, item 7.d. Nuclear Island Buildings.</a>

**Tier 1 Table 3.5-7** Revise the eighth entry on page 1 of the table, and revise the sixth entry of page 2 of Tier 1 Table 3.5-7 as follows:

<b>Table 3.5-7 (cont.)</b>		
<b>Component Name</b>	<b>Tag No.</b>	<b>Component Location</b>
Containment Atmosphere Radiation Monitor ( <del>N13</del> ) <a href="#">gaseous, for RCS pressure boundary leakage detection</a> )	PSS-RE027	Auxiliary Building
Wastewater Discharge Radiation Monitor	WWS-RE021	<a href="#">Yard</a> /Turbine Building

**Tier 1 Table 3.6-1** Revise Tier 1 Table 3.6-1 as shown on the next page.

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<p style="text-align: center;"><b>Table 3.6-1</b>  <b>Inspections, Tests, Analyses, and Acceptance Criteria</b></p>		
<b>Design Commitment</b>	<b>Inspections, Tests, Analyses</b>	<b>Acceptance Criteria</b>
1. The diverse leak detection methods provide the nonsafety-related function of detecting small leaks when RCS leakage indicates possible reactor coolant pressure boundary degradation.	<p>See Tier 1 Material sections:</p> <p>i) Subsection 2.3.10 for the containment sump level measuring instruments WLS-034 and WLS-035</p> <p>ii) Section 3.5 for the containment atmosphere <math>N^{+13}/F^{+18}</math>-radioactivity monitor PSS-RE027</p> <p>iii) Subsection 2.1.2 for the pressurizer level measuring instruments RCS-195A, RCS-195B, RCS-195C, and RCS-195D</p> <p>iv) Subsection 2.1.2 for the RCS hot and cold leg temperature instruments RCS-121A, RCS-121B, RCS-121C, RCS-121D, RCS-122A, RCS-122B, RCS-122C, RCS-122D, RCS-131A, RCS-131B, RCS-131C, RCS-131D, RCS-132A, RCS-132B, RCS-132C, RCS-132D</p> <p>v) Subsection 2.1.2 for the RCS pressure instruments RCS-140A, RCS-140B, RCS-140C, RCS-140D</p> <p>vi) Subsection 2.3.2 for the letdown and makeup flow instruments CVS-001 and CVS-025</p> <p>vii) Subsection 2.3.10 for the reactor coolant drain tank level instrument WLS-002</p>	<p>See Tier 1 Material sections:</p> <p>i) Subsection 2.3.10 for the containment sump level measuring instruments WLS-034 and WLS-035</p> <p>ii) Section 3.5 for the containment atmosphere <math>N^{+13}/F^{+18}</math>-radioactivity monitor PSS-RE027</p> <p>iii) Subsection 2.1.2 for the pressurizer level measuring instruments RCS-195A, RCS-195B, RCS-195C, and RCS-195D</p> <p>iv) Subsection 2.1.2 for the RCS hot and cold leg temperature instruments RCS-121A, RCS-121B, RCS-121C, RCS-121D, RCS-122A, RCS-122B, RCS-122C, RCS-122D, RCS-131A, RCS-131B, RCS-131C, RCS-131D, RCS-132A, RCS-132B, RCS-132C, RCS-132D</p> <p>v) Subsection 2.1.2 for the RCS pressure instruments RCS-140A, RCS-140B, RCS-140C, RCS-140D</p> <p>vi) Subsection 2.3.2 for the letdown and makeup flow instruments CVS-001 and CVS-025</p> <p>vii) Subsection 2.3.10 for the reactor coolant drain tank level instrument WLS-002</p>