

### **3I Equipment Qualification Environmental Design Criteria**

The information in this section of the reference ABWR DCD, including all subsections, tables, and figures, is incorporated by reference with the following departures.

STD DEP T1 2.14-1 (Table 3I-13)

STD DEP T1 2.15-2 (Table 3I-4 and Table 3I-14)

STD DEP T1 3.4-1 (Table 3I-13 note)

STD DEP 3I-2 (Table 3I-7)

STD DEP Admin

#### **3I.0.1 COL License Information**

The following site-specific supplement addresses COL License Information Item 3.43.

The radiation environment conditions given in Tables 3I-7 through 3I-11 and Tables 3I-16 through 3I-19 will be revised as necessary based upon as-designed and as-procured equipment. These tables in the FSAR will be updated as necessary in accordance with 10 CFR 50.71(e).

**Table 3I-4 Thermodynamic Environment Conditions Inside Reactor Building (Outside Secondary Containment) Plant Normal Operating Conditions**

Plant Zone/Typical Equipment	Pressure <sup>1</sup> kPaG	Temperature °C	Relative Humidity
Diesel generator rooms [Figs. 1.2-8/9.5-6]	0	Max <del>50</del> 60	Max 90
		Min 10	Min 10

**Table 3I-13 Thermodynamic Environment Conditions Inside Reactor Building (Secondary Containment) Plant Accident Conditions<sup>1</sup> (Continued)**

Plant Zone/Typical Equipment		Time <sup>2</sup>			
		1 (h)	6 (h)	12 (h)	100 (day)
<del>FCS<sup>6</sup> valves including Isolation valve (recombiner instrument, controls), electrical equipment (power source cables)[Figs. 1.2-8/6.2-40]</del>	<del>Temperature (°C)</del>	<del>120</del>	<del>120</del>	<del>66</del>	<del>66</del>
	<del>Pressure (kPaG)</del>	<del>102.97<sup>3</sup></del>	<del>102.97<sup>3</sup></del>	<del>3.43</del>	<del>0</del>
	<del>Humidity (%)</del>	<del>Steam</del>	<del>Steam</del>	<del>100</del>	<del>90 max</del>

4. ~~Safety-related motor control centers, power centers, metal clad switchgear, and remote multiplexing units~~ digital logic controllers in the reactor building are located outside the secondary containment in the emergency electrical equipment rooms.

**Table 3I-14 Thermodynamic Environment Conditions Inside Reactor Building (Outside Secondary Containment) Plant Accident Conditions**

Plant Zone/Typical Equipment	Pressure <sup>1</sup> kPaG	Temperature °C	Relative Humidity
Diesel generator room [Figs. 1.2-8/9.5-6]	0	Max <del>50</del> 60	Max 90
		Min 10	Min 10

**Table 3I-17 Radiation Environment Conditions Inside Reactor Building  
Design Basis Accident (Secondary Containment)**

Plant Zone/Typical Equipment	Accident	LOCA Dose Rate		Integrated Dose <sup>1</sup>	
		Gamma (Gy/h)	Beta (Gy/h)	Gamma (Gy)	Beta (Gy)
General floor area [Fig. 1.2-4]	15.6.5	8E-2	2E+0	2E+1	3E+2
RHR room [Figs. 1.2-4/5.4-10]	15.6.5	2E+3	1E+5	6E+5	8E+7
RCIC room [Figs. 1.2-4/5.4-8]	15.6.2	7E-2	1E+0	9E-1	3E+1
HPCF room [Figs. 1.2-4/6.3-7]	15.6.5	1E+3	6E+4	4E+5	5E+7
SGTS room [Figs. 1.2-10/6.5-1]	15.6.5	2E+4	2E+0	3E+7	3E+2
MS tunnel [Figs. 1.2-8/5.1-3]	15.6.4	9E-1	7E+0	<del>2E+0</del> 4E+1	<del>9E+0</del> 9E+0
Divisional valve room [Figs 1.2-5/ECCS]	15.6.5	2E+3	2E+5	8E+5	2E+8
Instrument rack room [Figs. 1.2-6/ECCS]	15.6.5	3E-2	2E+0	<del>5E+0</del> 5E+0	<del>5E+2</del> 5E+2

1. Integration dose is summed over a six month period for Accident Case 15.6.5, 6 hours for 15.6.2, and 2 hours for 15.6.4.

