

3MA System Evaluation for ISLOCA

The information in this appendix of the reference ABWR DCD, including all subsections, is incorporated by reference with the following standard departures.

STD DEP T1 2.4-1

STD DEP T1 2.4-3

STD DEP T1 2.14-1

[STD DEP 3MA-1](#)

[STD DEP Admin](#)

Some of the tables in the following sections contain “xx” and “xxx” designation, indicating that the information will be determined later as a result of detailed design. This is the same convention as was used in the reference ABWR DCD.

3MA.2.2 Downstream Interfaces

The 6th bullet of this subsection is deleted to reflect the removal of the Flammability Control System.

STD DEP T1 2.14-1

- ~~Flammability Control System branches off the main discharge line downstream of the branch that returns to the suppression pool. The FCS design pressure exceeds the URS design without upgrade.~~

3MA.2.3 Upgraded Components - RHR System

The following information is added to the **RHR Subsystem A suction piping from the reactor pressure vessel** grouping.

STD DEP T1 2.4-1

Reference	Components	Press./Temp./Design/Seismic Class	Remarks
Sheet 2	***300A-RHR-F016A Valve LC	2.82 MPaG, 182°C, 3B, As	Was 1.37 MPaG
	***300A-RHR-098 Pipe	2.82 MPaG, 182°C, 3B, As	Was 1.37 MPaG

*** To FPC System interface

STD DEP 3MA-1RHR Subsystem A suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 3</u>	<u>20A-RHR-042 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>20A-RHR-F061A Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem A suction piping from the reactor pressure vessel.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 3</u>	50A - <u>20A-RHR-F712A Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem A discharge fill pump suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 3</u>	<u>25A-RHR-709 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F718A Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F719A Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-PX013A Press.Pt.</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem A discharge from relief valves and test line valve directly to the suppression pool without restriction.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 3</u>	<u>20A-RHR-041 Pipe</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-060A Valve</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>
<u>Sheet 2</u>	<u>250A-RHR-055A Valve</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>

RHR Subsystem B suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 4</u>	<u>20A-RHR-152 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>20A-RHR-061B Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem B discharge fill pump suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 4</u>	<u>25A-RHR-123 Pipe</u>	<u>2.82 MPaG, 182°C182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-741 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F718B Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F719B Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-PX013B Press.Pt.</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem C suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 6</u>	<u>20A-RHR-255 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>20A-RHR-F061C Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem B discharge from relief valves and test line valve directly to the suppression pool without restriction.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 4</u>	<u>20A-RHR-151 Pipe</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-060B Valve</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>
<u>Sheet 2</u>	<u>250A-RHR-055B Valve</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No Change</u>

RHR Subsystem B interface with Radwaste System.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 4</u>	<u>150A-RHR-023 Pipe</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>150A-RHR-230 Pipe</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>150A-RHR-129 Pipe</u>	<u>3.43 MPaG, 18266°C, 3B, As</u>	<u>No Change</u>
	<u>150A-RHR-FE012B Flow El.</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-739 Pipe</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-740 Pipe</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-714B Valve</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-715B Valve</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-716B Valve</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-717B Valve</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>20A-RHR-FT012B Press.Trans.</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>100A-RHR-146 Pipe</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>100A-RHR-F052B Valve</u>	<u>3.43 MPaG, 66°C, 3B, As</u>	<u>No Change</u>
	<u>200A-LCW-CSSS Pipe</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-CSSS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-CSSS AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-CSSS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-CSSS AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-SS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-SS AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>* LCW Collector Tank C</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-SS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>200A-LCW-SS AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No Change</u>
	<u>* LCW Collector Tank D</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No Change</u>

RHR Subsystem C discharge fill pump suction piping from the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 6</u>	<u>25A-RHR-770 Pipe</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F718C Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-F719C Valve</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>25A-RHR-PX013C Press.Pt.</u>	<u>2.82 MPaG, 182°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RHR Subsystem C discharge from relief valves and test line valve direct to the suppression pool without restriction.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 6</u>	20A-RHR-254 Pipe	0.310 MPaG, 104°C, 3B, As	No change
	20A-RHR-060C Valve	0.310 MPaG, 104°C, 3B, As	No change
<u>Sheet 2</u>	250A-RHR-F055C Valve	0.310 MPaG, 104°C, 3B, As	No change

RHR Subsystem C flushing line interface at branch discharge to RPV.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 7</u>	100A-RHR -F032C Valve	3.43 MPaG, 182°C, 3B, As	No change

RHR Subsystem C flushing line interface at suction of shutdown branch from RPV.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 21</u>	100A-MUWC- 140 139 Pipe	1.37 MPaG, 66°C, 4D, B	No change
<u>Sheet 2</u>	100A-RHR -F040C Valve	2.82 MPaG, 182°C, 3B, As	Was 1.37 MPaG

RHR Subsystem C outdoor fire truck connection in RHR pump discharge pipe to RPV.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 7</u>	20 100A-RHR-FE-100 Flow El.	3.43 MPaG, 182°C, 3B, As	No change

3MA.3.3 Upgraded Components - HPCF System**STD DEP 3MA-1****HPCF Subsystem B suction piping from the suppression pool.**

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 2</u>	xxA-HPCF-030B Valve	2.82 MPaG, 104°C, 3B, As	Was 1.37 MPaG
	xxA-HPCF-xxx Pipe	2.82 MPaG, 104°C, 3B, As	Was 1.37 MPaG

HPCF Subsystem B keep fill line interface.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	20A-HPCF-707 Pipe	10.79 MPaG, 100°C, 3B, As	No change
	20A-HPCF-716B Valve	10.79 MPaG, 100°C, 3B, As	No change
	20A-HPCF-717B Valve	10.79 MPaG, 100°C, 3B, As	No change
	20A-HPCF-PX010B Press.Pt.	10.79 MPaG, 100°C, 3B, As	No change

HPCF Subsystem C suction piping from the suppression pool and condensate storage tank.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 2</u>	<u>20A-HPCF-PX004C Press. Pt</u>	<u>2.82 MPaG, 100°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>400A-HPCF-106110 Pipe</u>	<u>2.82 MPaG, 100°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>20A-HPCF-F030C Valve</u>	<u>2.82 MPaG, 100°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>20A-HPCF-xxx- Pipe</u>	<u>2.82 MPaG, 100°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>400A-HPCF-110 Pipe</u>	<u>0.310 MPaG, 104°C, 3B, As</u>	<u>No change</u>
	<u>400A-HPCF-105 Pipe</u>	<u>1.37 MPaG, 66°C, 3B, B(S1,S2)</u>	<u>No change</u>

HPCF Subsystem C keep fill line interface.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>20A-HPCF-807 Pipe</u>	<u>10.79 MPaG, 100°C, 3B, As</u>	<u>No change</u>
	<u>20A-HPCF-716C Valve</u>	<u>10.79 MPaG, 100°C, 3B, As</u>	<u>No change</u>
	<u>20A-HPCF-717C Valve</u>	<u>10.79 MPaG, 100°C, 3B, As</u>	<u>No change</u>
	<u>20A-HPCF-PX010C Press.Pt.</u>	<u>10.79 MPaG, 100°C, 3B, As</u>	<u>No change</u>

3MA.4.1 Upgrade DescriptionSTD DEP Admin

The URS boundary was terminated at the last valve before the suppression pool, which is valve ~~E510-F006~~E51-F006 and is normally closed. The suppression pool is a large structure, impractical to upgrade to the URS design pressure. The only portions of the RCIC System that are not upgraded to the URS design pressure is unobstructed piping to the suppression pool.

3MA.4.3 Upgraded Components - RCIC System

STD DEP T1 2.4-3

STD DEP 3MA-1

~~The Reactor Core Isolation Cooling System (RCIC) alternate design description was provided in ABWR Licensing Topical Report NEDE 33299P, "Advanced Boiling Water Reactor (ABWR) with Alternate RCIC Turbine Pump," dated December 2006. This markup information on pages C-21, C-22 and C-23 of the Licensing Topical Report is incorporated by reference.~~

RCIC turbine condensate piping to the suppression pool

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 3</u>	<u>20A-RCIC-723-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-724-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-725-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-726-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-F724 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-F725 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-PT014A Press.Trans.</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-PT014B Press.Trans.</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-PT014E Press.Trans.</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>20A-RCIC-PT014F Press.Trans.</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	** 25A-RCIC-051-S Pipe-	8.62 MPaG, 302°C, 3B, As-	Was 0.981 MPaG
	** 25A-RCIC-F051 Valve-	8.62 MPaG, 302°C, 3B, As-	Was 0.981 MPaG
	** 25A-RCIC-D012 Strainer-	8.62 MPaG, 302°C, 3B, As-	Was 0.981 MPaG
	** 25A-RCIC-D013-S Trap-	8.62 MPaG, 302°C, 3B, As-	Was 0.981 MPaG
	** 25A-RCIC-F052 Valve-	8.62 MPaG, 302°C, 3B, As-	Was 0.981 MPaG
<u>Sheet 3-</u>	** 25A-RCIC-052-S Pipe-	2.82 MPaG, 184°C, 4D, As-	Was 0.981 MPaG
	<u>xxA-RCIC-xxx Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Was 0.981 MPaG</u>
	<u>80A-RCIC-054-S Pipe</u>	<u>0.981 MPaG, 184°C, 3B, As</u>	<u>No change</u>
	<u>80A-RCIC-F054-S Check V.</u>	<u>0.981 MPaG, 184°C, 3B, As</u>	<u>No change</u>
	<u>80A-RCIC-F055-S Check V.</u>	<u>0.981 MPaG, 184°C, 3B, As</u>	<u>No change</u>
<u>Sheet 1</u>	<u>A-RCIC-F069 T.Valve</u>	2.82 <u>8.62 MPaG, 184°C, 302°C,</u> <u>3B, As</u>	<u>Was 10.981 MPaG</u>

* Vent via Rupture Disks-

** RCIC Turbine Condensate Piping to the Barometric Condenser-

RCIC pump suction piping

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	20A-RCIC-F060 Valve	2.82 MPaG, 77°C, 3B, As	Was 1.37 MPaG
	<u>20A-RCIC-xxx Pipe</u>	<u>2.82 MPaG, 77°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>xxA-RCIC-F062 Valve</u>	<u>2.82 MPaG, 104°C, 3B, As</u>	<u>Was 1.37 MPaG</u>
	<u>xxA-RCIC-xxx- Pipe</u>	<u>2.82 MPaG, 104°C, 3B, As</u>	<u>Was 1.37 MPaG</u>

RCIC discharge from relief valves and test line valve direct to the suppression pool without restriction.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
Sheet 2	250A-RHR- 008 Pipe	0.310 MPaG, 104°C,3B,As	No change

RCIC vacuum tank condensate piping to the suppression pool.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
Sheet 3	50A-RCIC-Vacuum-Pump	2.82 MPaG, 121°C,4D,As	Was 0.755 MPaG
-	50A-RCIC-044-S Pipe	2.82 MPaG, 88°C,4D,As	Was 0.310 MPaG
-	50A-RCIC-067-S Pipe	2.82 MPaG, 88°C,4D,As	Was 0.310 MPaG
-	50A-RCIC-PCV Valve	2.82 MPaG, 121°C,4D,As	Was 0.755 MPaG
Sheet 3	20A-RCIC-068-S Pipe	2.82 MPaG, 121°C,4D,As	Was 0.981 MPaG
Sheet 1	50A-RCIC-F046-Check V-	2.82 MPaG, 104°C,3B,As	Was 0.310 MPaG
-	20A-RCIC-057-S Pipe	2.82 MPaG, 104°C,3B,As	Was 0.310 MPaG
-	20A-RCIC-F059-T.Valve	2.82 MPaG, 104°C,3B,As	Was 0.310 MPaG
-	50A-RCIC-F047-MO-Valve	2.82 MPaG, 104°C,3B,As	Was 0.310 MPaG
-	50A-RCIC-045-S Pipe	0.981 MPaG, 104°C,3B,As	No change
Sheet 1	Suppression Pool		

RCIC steam drains from trip and throttle valve piping and turbine to condensate chamber

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
Sheet 3	*20A-RCIC-063-S Pipe	8.62 MPaG, 302°C,3B,As	Was 0.981 MPaG
-	*20A-RCIC-061-S Pipe	8.62 MPaG, 302°C,3B,As	Was 0.981 MPaG
-	**20A-RCIC-064-S Pipe	8.62 MPaG, 302°C,3B,As	Was 0.981 MPaG

* RCIC Trip and Throttle Valve leakoffs are piped to Condensing Chamber.

** RCIC Turbine Condensate Drain connects to the Condensing Chamber

RCIC turbine valve leakoffs are piped to the barometric condenser

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
Sheet 3	*25A-RCIC-058-S Pipe	2.82 MPaG, 184°C,4D,As	Was 0.981 MPaG
-	**25A-RCIC-059-S Pipe	2.82 MPaG, 184°C,4D,As	Was 0.981 MPaG
-	Barometric Condenser	2.82 MPaG, 184°C,4D,As	Was 0.755 MPaG
-	***25A-RCIC-065-S Pipe	2.82 MPaG, 184°C,4D,As	Was 0.755 MPaG
-	25A-RCIC-Relief Valve	2.82 MPaG, 121°C,4D,As	Was 0.755 MPaG
-	25A-RCIC-066-S Pipe	0 MPaG, 121°C,4D,As	No change

* RCIC Trip and Throttle Valve Stem leakoff is piped to the Barometric

** RCIC Turbine Governor Valve Stem is piped to the to Barometric Condenser.

*** Barometric Condenser Press. relief and piping.

RCIC pump cooling water piping for pump and turbine lube oil coolers

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
Sheet 3-	50A-RCIC-011-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	50A-RCIC-028-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	50A-RCIC-F030-Relief V.	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	50A-RCIC-029-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	20A-RCIC-713-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	20A-RCIC-PX018-Press-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	50A-RCIC-Turb.LO-Cooler-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	50A-RCIC-Pump-LO-Cooler-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	15A-RCIC-TX019-Temp.Pt.-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	20A-RCIC-714-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	20A-RCIC-F714-Valve-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	20A-RCIC-PX020-Press.Pt.-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	15A-RCIC-012-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	15A-RCIC-013-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	15A-RCIC-014-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
-	15A-RCIC-015-W-Pipe-	2.82 MPaG, 77°C, 3B, As-	Was 0.863 MPaG
Sheet 3-	Barometric Condenser-	2.82 MPaG, 121°C, 4D, As-	Was 0.755 MPaG

RCIC vacuum tank and condensate pump piped to RCIC pump suction pipe

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
Sheet 3-	RCIC Vacuum Tank-	2.82 MPaG, 77°C, 4D, As-	Was 0.755 MPaG
-	RCIC Press. Switch H-	2.82 MPaG, 121°C, 4D, As-	Was 0.755 MPaG
-	RCIC Level Switch H-	2.82 MPaG, 121°C, 4D, As-	Was 0.755 MPaG
-	RCIC Level Switch L-	2.82 MPaG, 121°C, 4D, As-	Was 0.755 MPaG
-	RCIC Cond. Pump-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	50A-RCIC-F014-Check V.-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	50A-RCIC-016-W-Pipe-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	20A-RCIC-715-W-Pipe-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	20A-RCIC-F715-Valve-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	20A-RCIC-PX021-Press.Pt.-	2.82 MPaG, 88°C, 4D, As-	Was 1.37 MPaG
-	50A-RCIC-F015-Valve-	2.82 MPaG, 88°C, 3B, As-	Was 1.37 MPaG

	50A-RCIC-017-W-Pipe	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	50A-RCIC-030-W-Pipe	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	50A-RCIC-F031-MO-Valve	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	50A-RCIC-F032-AO-Valve	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	20A-RCIC-032-W-Pipe	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	20A-RCIC-F034-T-Valve	2.82 MPaG, 88°C, 3B, As	Was 1.37 MPaG
-	*50A-RCIC-F016-Check	2.82 MPaG, 77°C, 3B, As	Was 1.37 MPaG

* 50A-RCIC-017 Pipe connects with RCIC pump suction 200A-RCIC-001-W Pipe on sheet 1 upgraded to 2.82 MPaG.

Sheet 2: Valve gland leak off piping

Branch piping from RCIC steam supply isolation valves FO-035, inside primary containment and FO-036 outside primary containment to VGL Radwaste Treatment System.

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
<u>Sh 2.H-11</u>	<u>25A-RCIC-506-S Pipe</u>	<u>8.62 MPaG, 302°C, 1A, As</u>	<u>Reactor Press</u>
<u>H-7</u>	<u>25A-RCIC-507-S Pipe</u>	<u>8.62 MPaG, 302°C, 1A, As</u>	<u>Reactor Press</u>

Sheet 2: Instrument piping from RCIC steam supply piping to PT-009, PI-010 and level switch LS-011.

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
<u>Sh 2.H-6</u>	<u>20A-RCIC-716-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F716 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F717 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
<u>H-7</u>	<u>20A-RCIC-717-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
<u>G-5</u>	<u>20A-RCIC-718-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F718 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F719 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
<u>F-5</u>	<u>20A-RCIC-719-S Pipe</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F720 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>
	<u>20A-RCIC-F721 Valve</u>	<u>8.62 MPaG, 302°C, 3B, As</u>	<u>Reactor Press</u>

3MA.5.3 Upgraded Components - CRD SystemSTD DEP 3MA-1CRD pump suction piping Condensate, Feedwater and Condensate Air Extraction System or Condensate Storage Tank of the Makeup Water System (Condensate).

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>100A-CRD-001-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>150A-MUWC-F103-xxxValve LO</u>	<u>1.37MPaG, 66°C, B4D, (S1, S2), As</u>	<u>No change</u>
	<u>150A-CRD-002-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>50A-MUWC- F103Valve</u>	<u>1.37MPaG, 66°C, 64D, C</u>	<u>Lock Open</u>
	<u>50A-MUWC-103 Pipe</u>	<u>Static Hd, 66°C, 64D, C</u>	<u>No change</u>
	<u>50A-CRD-033-S Pipe</u>	<u>2.82 MPaG, 20°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>50A-CRD-032-S Pipe</u>	<u>2.82 MPaG, 20°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F001A Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-003-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>CRD-D001A Filter</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-500-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F500A Valve NC</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-501-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F501A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-004-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F002A Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F001B Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-005-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-D001B Filter</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-502-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F500B Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-503-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F501B Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-006-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F002B Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-007-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-700-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>

CRD pump suction piping Condensate, Feedwater and Condensate Air Extraction System or Condensate Storage Tank of the Makeup Water System (Condensate). (Continued)

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>20A-CRD-F700 Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-DPT001 Diff PT</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F701 Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-701-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F003A Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-008-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-504-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-F004A Safe.RV</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-702-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F702A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-PI002A Press I</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-PT003A Press T</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-C001A Pump</u>	<u>3.4318.63 MPaG, 66°C, 6D, C</u>	<u>No change</u>
	<u>* A-CRD-F502A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-505-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F503A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F504A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>

CRD pump suction piping Condensate, Feedwater and Condensate Air Extraction System or Condensate Storage Tank of the Makeup Water System (Condensate). (Continued)

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>* A-CRD-506-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-507-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F505A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F506A Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-F003B Gate V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>100A-CRD-010-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-508-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-F004B Safe.RV</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-703-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-CRD-F702B Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-PI002B Press I</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-PT003B Press T</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>CRD-C001B Pump</u>	<u>3.4318.63 MPaG, 66°C, 6D, C</u>	<u>No change</u>
	<u>* A-CRD-509-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F502B Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-F503B Globe V</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>* A-CRD-510-S Pipe</u>	<u>2.82 MPaG, 2066°C, 6D, C</u>	<u>Was 1.37 MPaG</u>

CRD pump suction piping Condensate, Feedwater and Condensate Air Extraction System or Condensate Storage Tank of the Makeup Water System (Condensate). (Continued)

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet1</u>	* <u>A-CRD-F504B Globe V</u>	<u>2.82 MPaG, 2066°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	* <u>A-CRD-F505B Globe V</u>	<u>2.82 MPaG, 2066°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	* <u>A-CRD-511-S Pipe</u>	<u>2.82 MPaG, 2066°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	* <u>A-CRD-F506B Globe V</u>	<u>2.82 MPaG, 2066°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
<u>Sheet 3</u>	<u>25A-CRD-075 Pipe</u>	<u>2.82 MPaG, 66°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-076 Pipe</u>	<u>2.82 MPaG, 66°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-077 Pipe</u>	<u>2.82 MPaG, 66°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-F062A Valve</u>	<u>2.82 MPaG, 66°C. 6D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-CRD-F062B Valve</u>	<u>2.82 MPaG, 66°C. 6D, C</u>	<u>Was 1.37 MPaG</u>

CRD interface from pump discharge to the MUWC System condensate storage tank

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>50A-CRD-034-S Pipe</u>	<u>18.63 MPaG, 66°C. 6D, C</u>	<u>No change</u>
	<u>5020A-CRD-035-S Pipe</u>	<u>18.63 MPaG, 66°C. 6D, C</u>	<u>No change</u>
	<u>5020A-CRD-F023 Globe V</u>	<u>18.63 MPaG, 66°C. 6D, C</u>	<u>No change</u>
	<u>50A-MUWC-xxx-S Pipe</u>	<u>1.37 MPaG, 66°C. 6D, C</u>	<u>No change</u>

CRD interface from pump discharge to the RRS System

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>20A-CRD-036-S Pipe</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>
	<u>20A-CRD-F024 Globe V</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>
	<u>20A-CRD-F025 Globe V</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>

CRD interface from pump discharge to the CUW System

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>20A-CRD-037-S Pipe</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>
	<u>20A-CRD-F026 Globe V</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>
	<u>20A-CRD-F027 Globe V</u>	<u>18.63 MPaG, 66°C, 4G6D, BC</u>	<u>No change</u>

3MA.6.3 Upgraded Components - SLC SystemSTD DEP 3MA-1SLC Injection Pump A suction piping from the SLC storage tank.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>SLC-C001A Pump</u>	<u>10.79 MPaG, 66°C, 23B, A</u>	<u>No change</u>
	<u>SLC-F003A Relief V.</u>	<u>10.79 MPaG, 66°C, 23B, A</u>	<u>No change</u>
	<u>50A-SLC Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-F002A Valve LO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-F001A Valve MO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>* SLC-A001 Storage Tk.</u>	<u>Static Hd., 66°C, 23B, A</u>	<u>No Change</u>

SLC Injection Pump B suction piping from the SLC storage tank.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>SLC-C001B Pump</u>	<u>10.79 MPaG, 66°C, 23B, A</u>	<u>No change</u>
	<u>SLC-F003B Relief V.</u>	<u>10.79 MPaG, 66°C, 23B, A</u>	<u>No change</u>
	<u>50A-SLC SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-F002B Valve LO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-F500 Valve</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-F001B Valve MO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>* SLC-A001 Storage Tk.</u>	<u>Static Hd., 66°C, 23B, A</u>	<u>No Change</u>

SLC test tank piping.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>** 40A-SLC-F011 Valve LC</u>	<u>10.79 MPaG, 66°C, 23B, A</u>	<u>Was ATP</u>
	<u>40A-SLC-SS Pipe</u>	<u>10.792.82 MPaG, 66°C, 23B, AC</u>	<u>Was 1.37 MPaG</u>
	<u>SLC-A002 Test Tank</u>	<u>2.82 MPaG, 66°C, 23B, AC</u>	<u>Was STH</u>
	<u>100A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, AC</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-F012 Valve LC</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>25A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, AC</u>	<u>Was 1.37 MPaG</u>
	<u>SLC-F026 Relief V.</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>100A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>

SLC interface with MUWP for makeup and pressurization of suction piping from tank.
(Pressure higher than static head of SLC storage tank.)

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>80A-SLC-SS Pipe</u>	<u>2.821.37 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>SLC-F013 Check V.</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>80A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>80A-SLC-F014 Valve LC</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>80A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-F020 Valve LO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-D002 RO</u>	<u>2.82 MPaG, 66°C, 23B, A</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>

SLC storage tank interface with MUWP for purified makeup water.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>80A-SLC-SS Pipe</u>	<u>2.821.37MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>SLC-F013 Check V.</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>80A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>25A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 23B, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-SLC-F015 Valve LC</u>	<u>2.82 MPaG, 66°C, 23B, AC</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 2B4D, C</u>	<u>Was 1.37 MPaG</u>
	<u>20A-SLC-F505 Valve NO</u>	<u>2.82 MPaG, 66°C, 2B4D, AC</u>	<u>Was 1.37 MPaG</u>
	<u>25A-SLC-SS Pipe</u>	<u>2.82 MPaG, 66°C, 2B4D, C</u>	<u>Was 1.37 MPaG</u>
	<u>25A-SLC-F023 Valve LC</u>	<u>2.82 MPaG, 66°C, 2B4D, AC</u>	<u>Was 1.37 MPaG</u>
	<u>25A-SLC-SS Pipe</u>	<u>2.820.863 MPaG, 66°C, 2B4D, C</u>	<u>No Change</u>
	<u>*SLC-A001 Storage TK.</u>	<u>Static Head, 66°C, 23B, A</u>	<u>No Change</u>

3MA.7.3 Upgraded Component - CUW SystemSTD DEP 3MA-1CUW system interface with Radwaste System

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>xxA-CUW-xxx Pipe(Sam)</u>	<u>2.82 MPaG, 66°C, 6D, C</u>	<u>Was 0.981 MPaG</u>
	<u>xxA-CUW-xxx Pipe(RV)</u>	<u>2.82 MPaG, 66°C, 6D, C</u>	<u>Was 0.981 MPaG</u>

3MA.8.1 Upgrade Description

STD DEP T1 2.4-1

This new line has the gate valve locked open with the check valve's flow direction into the skimmer surge tank and provides an open path into the skimmer surge tank from valves RHR-F016A, RHR-F016B and RHR-F016C.

And to the last sentence of the second paragraph.

All the piping between the FPC valves, FPC-F029, FPC-F031, and FPC-F106 and the RHR valves, RHR-F016A, RHR-F016B and RHR-F016C, were upgraded to the URS design pressure of 2.82 MPaG.

The following information is added to the last sentence of the third paragraph.

Valves FPC-F093 and FPC-F017 are always locked open and provide an open path from the RHR valves, RHR-F015A, RHR-F015B and RHR-F015C, to the spent fuel storage pool and cask pit.

3MA.8.3 Upgraded Components - FPC System

STD DEP T1 2.4-1

STD DEP 3MA-1

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
	250A - <u>300A</u> -RHR-F015A Valve MO	<u>3.43 MPaG, 182°C,3B,As</u>	<u>No Change</u>
	250A - <u>300A</u> -FPC-SS Pipe	<u>1.57 MPaG, 66°C,4C,A(S2)</u>	<u>No Change</u>

The following information is added to the **FPC System interface with makeup from RHR System or SPCU System** grouping.

Reference	Components	Press./Temp./Design/ Seismic Class	Remarks
	<u>300A-RHR-F016A Valve MO</u>	<u>2.82 MPaG, 182°C,3B,As</u>	<u>No Change</u>
	<u>300A-FPC-SS Pipe</u>	<u>2.82 MPaG, 66°C,4C,B(S1,S2)</u>	<u>No Change</u>

* FPC Valve F029 is open only for fuel pool cooling mode B (maximum heat load operation with RHR System A, B or C operating in parallel with FPC System).

** FPC Valve F031 is open only for fuel pool cooling mode B (refueling when Dryer/Separator Pool is drained and pumped to Radwaste LCW collector tank by RHR System A, B or C).

FPC System interface with makeup from RHR System or SPCU System.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
250 300A-RHR-F015C Valve MO		3.43 MPaG, 182°C, 3B, As	No change
250 300A-FPC-SS Pipe		1.57 MPaG, 66°C, 3B ,4C, A(S2)	No change
250 300A-RHR-F015B Valve MO		3.43 MPaG, 182°C, 3B, As	No change
250A-FPC-F022 Valve LOLC		1.57 MPaG, 66°C, 4C, A(S2)	No change
250A-FPC-SS Pipe		1.57 MPaG, 66°C, 4C, A(S2) B(S1,S2)	No change
250A-FPC-F023 Check Valve		1.57 MPaG, 66°C, 4C, A(S2) B(S1,S2)	No change
250A-FPC-SS Pipe		1.57 MPaG, 66°C, 4C, A(S2) B(S1,S2)	No change
20A-FPC-F097 Valve		1.57 MPaG, 66°C, 4C, A(S2)	No change
20A-FPC-xxx SS Pipe		1.57 MPaG, 66°C, 4C, A(S2)	No change
80A-FPC-F096 Valve		1.57 MPaG, 66°C, 4C, A(S2)	No change

3MA.10.3 Upgraded Component - RRS System**STD DEP 3MA-1****RRS interface with MUWP System for Reactor Internal Pump (RIP) casing makeup water.**

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
xxA-MUWP-xxx Pipe		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
xxA-MUWP-Fxxx Valve		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
15A-MUWP-188 Pipe		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
15A-MUWP-F145 Valve		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
50A-MUWP-186 Pipe		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
50A-MUWP-F143 Valve		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
50A-MUWP-187 Pipe		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
50A-MUWP-F144 Valve		2.82 MPaG, 66°C, 6D,C	Was 1.37 MPaG
xxA-MUWP-xxx Pipe		2.82 MPaG, 171°C, 3B,As	Was 1.37 MPaG
xxA-MUWP-Fxxx Valve		2.82 MPaG, 171°C, 3B,As	Was 1.37 MPaG
150A- RRS MUWP-Fxxx Check Valve		1.37 MPaG, 66°C, 6D, C	No change

3MA.11.3 Upgraded Components - ~~MUCW~~MUWC SystemSTD DEP 3MA-1MUWC System interface with MUWP

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	150 125A- WUMP MUWP-101 SS Pipe	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	150A- WUMP MUWP-Fxxx SS Valve LO	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	150A- WUMP MUWP-Fxxx SS Check V	1.37 MPaG, 66°C, 46D, C	<u>No change</u>

MUWC interface with the CRD System pump discharge piping.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	50A-MUWC-F103 Valve	1.37 MPaG, 66°C, 4D, B	<u>Lock Open</u>

3MA.12.3 Upgraded Components - MUWP SystemSTD DEP 3MA-1MUWP System interface with RRS for Reactor Internal Pump (RIP) casing makeup water.

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	15 20A-RRS-502A-K Pipes	8.62 MPaG, 302°C, 4A, As	<u>No change</u>
	15 20A-RRS-F504A-K Valves NC	8.62 MPaG, 302°C, 4A, As	<u>No change</u>
	15A-MUWP-189-198 Pipes	2.82 MPaG, 66°C, 46D, C	<u>Was 1.37 MPaG</u>
	50A-MUWP-185 Pipe	2.82 MPaG, 66°C, 46D, C	<u>Was 1.37 MPaG</u>
	xxA-MUWP-xxx Pipe	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	xxA-MUWP-Fxxx Valve	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	15A-MUWP-188 Pipe	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	15A-MUWP-F145 Valve	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	50A-MUWP-186 Pipe	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	50A-MUWP-F143 Valve	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	50A-MUWP-187 Pipe	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	50A-MUWP-F144 Valve	2.82 MPaG, 66°C, 6D, C	<u>Was 1.37 MPaG</u>
	xxA-MUWP-xxx Pipe	2.82 MPaG, 171°C, 3B, As	<u>Was 1.37 MPaG</u>
	xxA-MUWP-Fxxx Valve	2.82 MPaG, 171°C, 3B, As	<u>Was 1.37 MPaG</u>
	50A-MUWP-183 Pipe	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	80A-MUWP-181 Pipe	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	80A-MUWP-F140 Valve LO	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	125A-MUWP-101 Pipe	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	125A-MUWP-F101 Valve LO	1.37 MPaG, 66°C, 46D, C	<u>No change</u>
	20A-MUWP-602 Pipe	1.37 MPaG, 66°C, 46D, C	<u>No change</u>

MUWP System interface with RRS for Reactor Internal Pump (RIP) casing makeup water. (Cont.)

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
<u>Sheet 1</u>	<u>20A-MUWP-F602 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-601 Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-F601 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-FQ102 Flow Integr.</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-801 Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-F801 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-800 Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-F800 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-PX101 Press. Pt.</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-600 Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-F600 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>20A-MUWP-F100 Valve LO</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>125A-MUWP-102 Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>125A-MUWP-F102 Valve NC</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>150A-MUWP-xxx Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>150A-MUWP-xxx Pipe</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>150A-RRSMUWP-Fxxx Check Valve</u>	<u>1.37 MPaG, 66°C, 46D, C</u>	<u>No change</u>
	<u>150A-MUWP-xxx Pipe</u>	<u>Static Head, 66°C, 46D, C</u>	<u>No change</u>

3MA.13.1 Upgraded Description**STD DEP 3MA-1**

The Radwaste System LCW and HCW inlet piping header connects to each interfacing system at a valve. The header is not upgraded because it is an open pathway to the collector tanks. The ~~dua~~four LCW tanks rotate the fill mode one at a time through a level controlled AO valve at the inlet of each tank. The maintenance valve is a lock open type. The ~~dua~~three HCW tanks operate similarly to the LCW tanks.

3MA.13.3 Upgraded Components - RW System~~RADWASTE SYSTEM, GE Proprietary Drawing 103E1634, Sheets 1, 3 and 7.~~**RW LCW Subsystem interface with the RHR System**

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	200A-LCW-CSSS Pipe	0.981 MPaG, 66°C, 4D, B	No change
	<u>200A-LCW Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>200A-LCW-F001C AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	* <u>LCW Collector Tank C</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>200A-LCW Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>200A-LCW-F001D AO Valve</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	* <u>LCW Collector Tank D</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No change</u>

RW HCW interface with the RHR System, Subsystem A

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>150A-HCW-F0032A Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002B Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-SS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002C Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	* <u>HCW Collector Tank C</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No change</u>

RW HCW interface with the RHR System, Subsystem B

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>150A-HCW-F0032A Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002B Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-SS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002C Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	* <u>HCW Collector Tank C</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No change</u>

RW HCW interface with the RHR System, Subsystem C

<u>Reference</u>	<u>Components</u>	<u>Press./Temp./Design/ Seismic Class</u>	<u>Remarks</u>
	<u>150A-HCW-F0032A Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002B Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-SS Valve LO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	<u>150A-HCW-F002C Valve AO</u>	<u>0.981 MPaG, 66°C, 4D, B</u>	<u>No change</u>
	* <u>HCW Collector Tank C</u>	<u>0 MPaG, 66°C, 4D, B</u>	<u>No change</u>

