



Monticello Nuclear Generating Plant
2807 W County Road 75
Monticello, MN 55362

May 22, 2015

L-MT-15-030
10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed Facility Operating License No. DPR-22

Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) –
Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1 –
Response to Requests for Additional Information

References:

- 1) NRC Letter, “Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident” dated March 12, 2012. (ADAMS Accession No. ML12056A046)
- 2) Letter from K. Fili (NSPM) to Document Control Desk (NRC), “Request Commitment Change for Response to NRC Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident”, L-MT-14-027, dated March 31, 2014. (ADAMS Accession No. ML14090A297)
- 3) Letter from K. Fili (NSPM) to Document Control Desk (NRC), “Monticello Nuclear Generating Plant: Expedited Seismic Evaluation Process (ESEP) – Augmented Approach to Post-Fukushima Near-Term Task Force (NTTF) 2.1,” L-MT-14-093, dated December 23, 2014. (ADAMS Accession No. ML14357A280)
- 4) Email from S. Wyman (NRC) to J. Fields (NSPM), “Monticello ESEP Report Clarifications,” dated April 8, 2015.

On March 12, 2012, the NRC issued “Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident” (“information request”) to all NRC power reactor licensees and holders of construction permits in active or deferred status (Reference 1).

On March 31, 2014, in accordance with this information request, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, committed to provide an Expedited Seismic Evaluation Process (ESEP) report to the NRC by December 31, 2014 (Reference 2).

On December 23, 2014, NSPM provided the ESEP Report to the NRC (Reference 3).

On April 8, 2015, the NRC sent an email (Reference 4) which contained requests for additional information (RAIs) related to the ESEP report provided in Reference 3.

Enclosure 1 of this letter provides a response to the RAIs provided by the NRC. Enclosure 2 provides a revised Expedited Seismic Equipment List (ESEL) that addresses discussion provided in specific RAI responses.

If there are any questions or if additional information is needed, please contact John Fields, Fukushima Response Licensing, at 763-271-6707.

Summary of Commitments

This letter contains two new commitments and no revisions to existing commitments. The response to RAI 7 contains information regarding these commitments.

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

Executed on May 22, 2015.



Peter A. Gardner
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosures

cc: Administrator, Region III, USNRC
Director of Nuclear Reactor Regulation (NRR), USNRC
NRR Project Manager, MNGP, USNRC
Senior Resident Inspector, MNGP, USNRC

ENCLOSURE 1

MONTICELLO NUCLEAR GENERATING PLANT
RESPONSE TO REQUESTS FOR ADDITIONAL INFORMATION (RAIs)
FOR THE EXPEDITED SEISMIC EVALUATION PROCESS REPORT

This enclosure provides responses from Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, to requests for additional information (RAIs) provided by the Nuclear Regulatory Commission (NRC) in an email dated April 8, 2015 (Reference 1).

The NRC question is provided below in italics font and the NSPM response is provided in normal font.

NRC Question 1

Please clarify if the RCIC CST suction valve should be included in the ESEP scope or discuss why it is not necessary.

NSPM Response

The Reactor Core Isolation Cooling (RCIC) to Condensate Storage Tank (CST) suction path is not included in the ESEP scope as it is a secondary path in a seismic event because the CST is not seismically designed.

Following a seismic event that damages the CSTs, the torus RCIC suction valves (MO-2100 and MO-2101) open on low CST level. When these valves are fully open, CST to RCIC suction valve (MO-2102) will close via the relay interlocks described below. Should MO-2102 fail to close, a check valve in the CST suction line will prevent flow of torus water to the CSTs. Therefore, MO-2102 is not required to close following a seismic event.

Interlocks exist between valve MO-2102 and valves MO-2100 and MO-2101, that are included in the ESEP Scope. For valve MO-2100 this interlock is by relay 13A-K18. For valve MO-2101 the interlock is by relay 13A-K19. Both of these relays, 13A-K18 and 13A-K19, are included in the Expedited Seismic Equipment List (ESEL) (Table A-1 in the ESEP Report and also in the revised ESEL provided in Enclosure 2 to this letter). Specifically, these relays are identified as items 285 and 286.

NRC Question 2

The ESEP submittal identifies the Residual Heat Removal Service Water System as a flow-path for Phase 2 Core Cooling; however, it appears that the ESEL does not contain components within this flow-path, except for the passive RHR system heat exchangers. Confirm that no additional components within this flow-path are required to be evaluated per the ESEP guidance. For example, confirm if any motor-operated valves in the identified flow-path are required to change position and whether they are feasible to be operated manually and locally. In addition, if these motor operated valves can be operated manually, confirm that this operator manual action is the credited action as a part of the FLEX strategies and the Sequence of Events.

NSPM Response

The Residual Heat Removal Service Water (RHRSW) flow path for Phase 2 includes piping and manual valves. The RHRSW valves in this flow path were included in the initial ESEL screening and were screened out based on their passive function. Components in the same flow path which are part of other systems, including Residual Heat Removal (RHR) and Fuel Pool Cooling (FPC), are included in the initial screening and, where appropriate, in the ESEL.

NRC Question 3

In attachment A, the ESEL, there are a large number of items that have blank operating states and note/comment. Please update the table with the appropriate information.

NSPM Response

NSPM provides the table in Enclosure 2 with the information requested, including:

- Solenoid Valves (SV) normal and desired states,
- Hard Pipe Vent (HPV) Air Operated (AO) Valves normal and desired states,
- Safety Relief Valves (SRV) normal and desired states,
- Updated notes to identify components included only for pressure boundary considerations.

NRC Question 4

8 relays in the ESEL are identified as “bad actors”, and are assigned a functional HCLPF capacity = 0.0. Of the 18 remaining relays, 17 relays are designated with a HCLPF capacity = 0.21g, based on the anchorage capacity of the parent (i.e., rule of the box). For these 17 relays, identify the functional HCLPF capacities, and also discuss how in-cabinet amplification was considered in determining the functional capacity for each relay.

NSPM Response

The functional capacities (High Confidence of a Low Probability of Failure (HCLPF)) of the subject 17 relays are shown in Table 4-1 below. Base capacities were drawn from EPRI NP-7147-SL, “*Seismic Ruggedness of Relays*” (Reference 2), manufacturer test data, and Seismic Qualification Utility Reports and Testing Standardization (SQRSTS) reports, as appropriate.

Table 4-1 HCLPF for Relays

Component ID	Functional Capacity (g)	Component ID	Functional Capacity (g)
13A-K1	2.40	13A-K22	2.40
13A-K2	2.40	13A-K27	2.40
13A-K6	2.40	13A-K31	3.20
13A-K7	3.20	13A-K32	2.40
13A-K10	2.40	13A-K33	4.00
13A-K12	2.40	13A-K34	2.40
13A-K16	2.40	13A-K37	4.80
13A-K18	2.40	K102A	1.06
13A-K19	2.40		

In lieu of cabinet amplification factors, the in-cabinet response spectra were calculated for these relays using the procedure from EPRI NP-7148-SL, “*Procedure for Evaluating Nuclear Power Plant Relay Seismic Functionality*” (Reference 3), and the GenRS software. Thus, cabinet amplification factors were not required to be determined.

NRC Question 5

12 switches in the ESEL are identified as “No public capacity data available for this item.” and are assigned a HCLPF capacity = 0.0. Of the remaining 37 switches, 35 switches apparently have a HCLPF capacity controlled by something other than function. For these 35 switches, identify the functional HCLPF capacities, and also discuss how in-cabinet amplification was considered in determining the functional capacity for each switch.

NSPM Response

The functional capacities (HCLPF) of the 35 subject switches are listed in Table 5-1 below. Base capacities were drawn from EPRI NP-7147-SL (Reference 2), manufacturer test data, and SQRSTS testing, as appropriate. In-cabinet amplification factors were conservatively taken uniformly as 4.5 from EPRI NP-6041-SL, “*A Methodology for Assessment of Nuclear Power Plant Seismic Margin*,” Revision 1 (Reference 4), calculated using the procedure from EPRI NP-7148-SL using GenRS, or

taken as unity if the item does not belong within a host, as appropriate. Table 5-1 below shows these results.

Table 5-1 Switch Functional HCLPF Capacities

<i>Component ID</i>	<i>Functional Capacity (g)</i>	<i>Host ID</i>	<i>Cabinet Amplification Factor (Per Table Q-1, NP-6041-SL)</i>
<i>dPIS-13-84</i>	<i>0.29</i>	<i>C-122</i>	<i>N/A¹</i>
<i>TS-13-79A-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79A-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79B-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79B-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79C-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79C-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79D-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-79D-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80A-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80B-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80C-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80D-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81A-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81B-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81C-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81D-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82A-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82B-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82C-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82D-1</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80A-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80B-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80C-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-80D-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81A-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81B-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81C-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-81D-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82A-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82B-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82C-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>TS-13-82D-2</i>	<i>7.16</i>	<i>N/A</i>	<i>1.0²</i>
<i>PS-13-72A</i>	<i>3.81</i>	<i>C-128</i>	<i>4.5</i>
<i>PS-13-72B</i>	<i>3.81</i>	<i>C-128</i>	<i>4.5</i>

Notes:

1. GenRS used to calculate the In-cabinet response spectra.
2. Item does not belong within a host; thus no in-cabinet amplification occurs.

NRC Question 6

There are approximately 50 ESEL items identified as inaccessible because they are inside the drywell. The licensee does NOT intend to complete a walk-by or remote visual of the inaccessible ESEL items at a later date. It is relying on A-46 walkdown results, which are around 20 years old. This appears to be inconsistent with the augmented approach proposed by EPRI and accepted by NRC. Discuss the technical basis why these approximately 50 items do not need to be looked at, in order to verify condition and re-affirm the A-46 walkdown results.

NSPM Response

For inaccessible components, NSPM relied on walk downs performed to meet the A-46 issue, the Recommendation 2.3 seismic walk downs performed in 2013 and in specific cases, other information as described below. The 2013 walkdowns observed the following components and areas in the drywell: (1) inboard Main Steam Isolation Valve (MSIV) - AO-2-80A, (2) SRV - RV-2-71A, (3) area walk-bys on the 933' and 951' elevations of the drywell. There was nothing noteworthy found during these walk downs.

The ESEL equipment that was determined to be inaccessible (due to location in the drywell) included valves, accumulators and temperature elements. Each component type was assessed as follows:

For valves, the Seismic Review Team (SRT) gathered valve drawings in addition to the A-46 Screening Evaluation Work Sheets (SEWS) and pictures, and performed the valve evaluation based on the methodology presented in EPRI NP 6041-SL (Reference 4).

Temperature elements were evaluated based on A-46 walk down notes and pictures. These components are directly attached/secured to structural components. Therefore, the SRT determined that the information was adequate for the ESEP purpose.

Accumulators were evaluated based on the A-46 notes and pictures. Typically two large U bolt connections were utilized to secure the accumulator. With the large margin of these items, the SRT determined that the information was adequate for the ESEP purpose.

NRC Question 7

Section 8.2 identifies 24 ESEL components that have a HCLPF capacity less than the RLGM; 23 are relays and switches. A more detailed analysis of capacity for the RHR Heat Exchanger E-200B anchorage, and changing the bolting material are discussed as options, but have not been implemented. 20 of the 23 relays and switches lack adequate qualification test data. Several avenues for resolution are discussed, but none have been implemented. In Section 8.4, the Licensee indicates that the 24 components

are entered into the plant Corrective Actions Program (CAP) for resolution. The analysis and completion of the 24 components should have been part of the submittal. There are no regulatory commitments made in the ESEP submittal. Discuss the status of the resolution for each of the 24 components, including the method being employed, the schedule for completing the resolution activities, and the schedule for implementing any required hardware modifications. Also discuss the technical basis for relying on the plant CAP for resolution, in lieu of including regulatory commitments in the ESEP submittal, consistent with the EPRI Augmented Approach guidance.

NSPM Response

Below, in Table 7-1 is a summary of the 24 components identified in the ESEP report that do not have sufficient seismic capacity to withstand the Review Level Ground Motion (RLGM) and the plan and schedule for resolving each item. Each component's HCLPF will exceed RLGM when the resolution activities are completed.

NRC Commitments

1 - A letter will be provided to the NRC indicating the proposed resolution applicable to each component and the expected timeframe for completion of the resolution when this information has been developed.

2 - A letter will be provided to the NRC summarizing the HCLPF results of each component and confirming the resolution of each component. This letter will be sent within 60 days of completion of the resolution activity(ies) for the final completed component from Table 7-1.

**Table 7-1 – Components Requiring Action to
Verify HCLPF Capacity Values are Met**

Components	Proposed Resolution	Schedule
E-200B - bolts on heat exchanger supports	Complete further evaluation and implement modifications, if required, to increase seismic margin so that HCLPF will exceed RLGM for the components identified in this table.	Resolutions will be completed by 12/31/2016 unless a plant outage is needed to implement a modification. In that case, the outage modification will be completed prior to the end of the 2017 refueling outage.
HGA Relays 13A-K13, 14, 17, 3, 5, 29, 30, and 28		
Agastat Relay K102B		
Instruments dPIS-13-83, and 84		
Instruments PS-13-87A, B, C, and D		
Instruments LIS-2-3-672A, B, C, and D and LS-2-3-672E and F		
Instruments LS-23-74 and 75		

References

- 1) Email from S M Wyman (NRC) to J Fields (NSPM), "Monticello ESEP Report Clarifications," dated April 8, 2015.
- 2) EPRI Report No.: NP-7147-SL, Seismic Ruggedness of Relays, August 1991
- 3) EPRI Report No.: NP-7148-SL, Procedure for Evaluating Nuclear Power Plant Relay Seismic Functionality, December 1990
- 4) EPRI Report No.: NP-6041-SL, A Methodology for Assessment of Nuclear Power Plant Seismic Margin, Revision 1

ENCLOSURE 2

**REVISED EXPEDITED SEISMIC EQUIPMENT LIST (ESEL)
TO SUPPORT RAI RESPONSES**

Note: The table provided in Enclosure 2 supersedes Table A-1 from the Expedited Seismic Evaluation Process Report found in the Enclosure to NSPM letter L-MT-14-093, dated December 23, 2014 (ADAMS Accession No. ML14357A280)

Table A-1 - MNGP ESEL (Revised)

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
1	E-200A	RHR DIV 1 HEAT EXCHANGER	--	--	Pressure Boundary
2	E-200B	RHR DIV 2 HEAT EXCHANGER	--	--	Pressure Boundary
3	MO-2100	RCIC TORUS SUCTION INBOARD	Closed	Open	Interlocks w/MO-2102 (See NX-7822-5, relay 13A-K19.) MO-2100 (Local) on NX-7822-22-2.
4	MO-2101	RCIC TORUS SUCTION OUTBOARD	Closed	Open	Interlocks w/MO-2102 (See NX-7822-5, relay 13A-K18.) MO-2101 (Local) on NX-7822-22-2.
5	RV-2103	RCIC PUMP SUCTION RELIEF VALVE	--	--	Pressure boundary
6	P-207	RCIC PUMP	Standby	Operating	
7	MO-2106	RCIC PUMP DISCHARGE OUTBOARD	Closed	Open	Open on Rx Vessel Lvl Low
8	MO-2107	RCIC PUMP DISCHARGE INBOARD	Closed	Open	Open on Rx Vessel Lvl Low
9	MO-2110	RCIC TEST FLOW ISOLATION	Closed	Closed	Close on Reactor Vessel Low-low Lvl or MO-2100 or MO-2101 Open Full
10	MO-3502	RCIC TEST RETURN ISOLATION	Closed	Closed	Close on Reactor Vessel Low-low Lvl or MO-2100 or MO-2101 Open Full
11	CV-2104	RCIC PUMP MINIMUM FLOW	Closed	Open	Fails Open on Loss of Air
12	PCV-2092	RCIC COOLING WATER TO BAROMETRIC CONDENSER	--	--	Pressure boundary
13	MO-2096	RCIC BAROMETRIC CONDENSER COOLING WATER SUPPLY	Closed	Open	Close on Rx Vessel Lvl High/Open on Rx Vessel Lvl Low
14	RV-2097	COOLING WATER TO BAROMETRIC CONDENSER RELIEF VALVE	--	--	Pressure boundary
15	E-205	RCIC OIL COOLER	--	--	Pressure boundary
16	E-203	RCIC BAROMETRIC CONDENSER	--	--	Pressure boundary
17	P-210	RCIC TURBINE BAROMETRIC CONDENSER CONDENSATE PUMP	Standby	Operating	
18	P-211	RCIC BAROMETRIC CONDENSER VACUUM PUMP	Standby	Operating	
19	MO-2076	RCIC STEAM LINE ISOLATION OUTBOARD	Open	Open	Close on High Flow/Open on Reactor vessel Low Level/Steam line Monitoring
20	MO-2078	RCIC TURBINE STEAM SUPPLY	Closed	Open	Close on Rx Vessel Lvl High/Open on Rx Vessel Lvl Low
21	MO-2080	RCIC TURBINE TRIP RESET MOTOR (HO-7)	Open	Open	Close on Turbine Trip
22	HO-8	RCIC TURBINE GOVERNING VALVE	Standby	Operating	
23	S-200	RCIC TERRY TURBINE	Standby	Operating	
24	T-73	CV-2104 MINIMUM FLOW VALVE ACCUMULATOR TANK	--	--	Pressure boundary
25	SV-2104	CV-2104 SOLENOID	Energized	Energized	
26	SV-2848	CV-2848 SOLENOID	De-energized	De-energized	
27	SV-2849	CV-2849 SOLENOID	De-energized	De-energized	
28	SV-2082A	CV-2082A SOLENOID	Energized	De-energized	
29	SV-2082B	CV-2082B SOLENOID	Energized	De-energized	

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Enclosure 2

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
30	RV-1745	11 CORE SPRAY PUMP DISCHARGE RELIEF VALVE	--	--	Pressure boundary
31	RV-2-71H	H SRV	Closed	Open / Closed	
32	SV-2-71H	H SRV AIR OPERATOR SV	De-energized	Energized	
33	SV-2-71L	H SRV ASDS AIR OPERATOR SV	De-energized	Energized	
34	RV-2-71C	C SRV	Closed	Open / Closed	
35	SV-2-71C	C SRV AIR OPERATOR SV	De-energized	Energized	
36	RV-2-71D	D SRV	Closed	Open / Closed	
37	SV-2-71D	D SRV AIR OPERATOR SV	De-energized	Energized	
38	T-57C	PRI STEAM SRV D ACCUMULATOR	--	--	Pressure boundary
39	T-57D	PRI STEAM SRV D ACCUMULATOR	--	--	Pressure boundary
40	T-57H	PRI STEAM SRV D ACCUMULATOR	--	--	Pressure boundary
41	T-57F	PRI STEAM SRV D ACCUMULATOR	--	--	Pressure boundary
42	RV-2-71F	F SRV	Closed	Open / Closed	
43	SV-2-71F	F SRV AIR OPERATOR SV	De-energized	Energized	
44	SV-2-71M	F SRV ASDS AIR OPERATOR SV	De-energized	Energized	
45	RV-2-71E	E SRV	Closed	Open / Closed	
46	SV-2-71E	E SRV AIR OPERATOR SV	De-energized	Energized	
47	SV-2-71J	E SRV ASDS AIR OPERATOR SV	De-energized	Energized	
48	RV-2-71A	A SRV	Closed	Open / Closed	
49	SV-2-71A	A SRV AIR OPERATOR SV	De-energized	Energized	
50	RV-2-71B	B SRV	Closed	Open / Closed	
51	SV-2-71B	B SRV AIR OPERATOR SV	De-energized	Energized	
52	RV-2-71G	G SRV	Closed	Open / Closed	
53	SV-2-71G	G SRV AIR OPERATOR SV	De-energized	De-energized	
54	SV-2-71K	G SRV ASDS AIR OPERATOR SV	De-energized	De-energized	
55	T-57A	PRI STEAM SRV G ACCUMULATOR	--	--	Pressure boundary
56	T-57B	PRI STEAM SRV G ACCUMULATOR	--	--	Pressure boundary
57	T-57E	PRI STEAM SRV G ACCUMULATOR	--	--	Pressure boundary
58	T-57G	PRI STEAM SRV G ACCUMULATOR	--	--	Pressure boundary
59	RV-3243A	B SRV DISCH 8" VAC RV	--	--	Pressure boundary
60	RV-7467A	G SRV DISCH 8" VAC RV	--	--	Pressure boundary
61	RV-7440A	E SRV DISCH 8" VAC RV	--	--	Pressure boundary
62	RV-3242A	A SRV DISCH 8" VAC RV	--	--	Pressure boundary
63	RV-7468A	H SRV DISCH 8" VAC RV	--	--	Pressure boundary
64	RV-3244A	C SRV DISCH 8" VAC RV	--	--	Pressure boundary
65	RV-3245A	D SRV DISCH 8" VAC RV	--	--	Pressure boundary
66	RV-7441A	F SRV DISCH 8" VAC RV	--	--	Pressure boundary
67	MO-2035	HPCI STEAM LINE ISOLATION OUTBOARD	Open	Closed	HPCI Initiated on Lo-Lo Reactor Water or High Drywell Pressure (OPEN)/Close on High Flow/Close on Steam Leak. See Footnote 1.

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Enclosure 2

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
68	CV-3503	HPCI TEST RETURN FLOW	Energized	Energized	See Footnote 1.
69	MO-2071	HPCI TEST RETURN ISOLATION	Closed	Closed	See Footnote 1.
70	PT-13-65	RCIC PUMP SUCTION PRESSURE	Energized	Energized	Signal to PI-13-96
71	PI-13-96	RCIC PUMP SUCTION	--	--	Control Room Indication
72	PS-13-67A	RCIC LOW PUMP SUCTION PRESSURE TURBINE TRIP	Energized	Energized	RCIC Turbine Trip
73	PT-13-60	RCIC PUMP DISCHARGE PRESSURE	Energized	Energized	Control Room Indication
74	PI-13-93	RCIC PUMP DISCHARGE	--	--	Control Room Indication
75	FS-13-57	RCIC PUMP DISCHARGE MINIMUM FLOW CONTROL	Energized	Energized	
76	FT-13-58	RCIC PUMP DISCHARGE FLOW CONTROL	Energized	Energized	RCIC Turbine Control Logic
77	FIC-13-91	RCIC PUMP FLOW	Energized	Energized	Control Room Indication
78	FI-13-91	RCIC FLOW	Energized	Energized	Control Room Indication
79	FY-13-102	RCIC PUMP FLOW LOOP ISOLATOR	Energized	Energized	RCIC Turbine Control Logic
80	LS-7323	RCIC CONDENSER HIGH VACUUM TANK LEVEL ALARM	--	--	Pressure boundary
81	dPIS-13-83	RCIC HIGH STEAM FLOW ISOLATION	Energized	Energized	
82	dPIS-13-84	RCIC HIGH STEAM FLOW ISOLATION	Energized	Energized	
83	PS-13-87A	RCIC TURBINE STEAM SUPPLY LOW PRESS ISOLATION	Energized	Energized	Local per NX-7822-22-3
84	PS-13-87B	RCIC TURBINE STEAM SUPPLY LOW PRESS ISOLATION	Energized	Energized	Local per NX-7822-22-3
85	PS-13-87C	RCIC TURBINE STEAM SUPPLY LOW PRESS ISOLATION	Energized	Energized	Local per NX-7822-22-3
86	PS-13-87D	RCIC TURBINE STEAM SUPPLY LOW PRESS ISOLATION	Energized	Energized	Local per NX-7822-22-3
87	TS-13-79A-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
88	TS-13-79A-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
89	TS-13-79B-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
90	TS-13-79B-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3

¹ HPCI valves **MO-2035**, **MO-2071** and **CV-3503** are included as part of the ESEL, because although not credited in any FLEX strategy, HPCI is safety-related and would automatically initiate in the event of an SBO, and would be secured as part of the ELAP procedures. The test line return path to the CST represents a potential problem for implementation of FLEX strategies because any water that is directed from the Torus to the CST would be lost should either valve fail to close. Therefore, the HPCI test line valves were included in the ESEL to ensure that if HPCI runs prior to being secured; the flow is only directed to the reactor or Torus. MO-2035 is closed as part of SBO procedures.

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ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
91	TS-13-79C-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
92	TS-13-79C-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
93	TS-13-79D-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
94	TS-13-79D-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
95	TS-13-80A-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
96	TS-13-80B-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
97	TS-13-80C-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
98	TS-13-80D-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
99	TS-13-81A-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
100	TS-13-81B-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
101	TS-13-81C-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
102	TS-13-81D-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
103	TS-13-82A-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
104	TS-13-82B-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
105	TS-13-82C-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
106	TS-13-82D-1	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
107	TS-13-80A-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
108	TS-13-80B-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
109	TS-13-80C-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
110	TS-13-80D-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
111	TS-13-81A-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3

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ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
112	TS-13-81B-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
113	TS-13-81C-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
114	TS-13-81D-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
115	TS-13-82A-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
116	TS-13-82B-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
117	TS-13-82C-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
118	TS-13-82D-2	RCIC STEAM LINE HIGH AREA TEMPERATURE ISOLATION	Energized	Energized	Local per NX-7822-22-3
119	PT-13-68	RCIC TURBINE STEAM SUPPLY PRESSURE	Energized	Energized	Signal to PI-13-94
120	PI-13-94	RCIC TURBINE INLET	Energized	Energized	Control Room Indication
121	SY-7321	RCIC TURBINE SPEED SIGNAL CONVERTER	--	--	Control Room Indication
122	SCP-7925	RCIC TURBINE SPEED GOVERNOR EGM	--	--	Control Room Indication
123	SE-7925	RCIC TURBINE SPEED MAGNETIC PICKUP	--	--	Control Room Indication
124	LS-5	RCIC TURBINE OVERSPEED TRIP LEVEL SWITCH	--	--	Control Room Indication
125	PT-13-70	RCIC TURBINE EXHAUST PRESSURE	--	--	Control Room Indication
126	PI-13-95	RCIC TURBINE EXHAUST	--	--	Control Room Indication
127	PS-13-72A	RCIC HIGH TURBINE EXHAUST PRESSURE TURBINE TRIP	Energized	Energized	Turbine Trip
128	PS-13-72B	RCIC HIGH TURBINE EXHAUST PRESSURE TURBINE TRIP	Energized	Energized	Turbine Trip
129	LT-2-3-61	REACTOR FLOODING LEVEL	Energized	Energized	
130	PT-6-53B	REACTOR PRESSURE WIDE RANGE B (REF COLUMN A)	Energized	Energized	
131	PI-6-90B	FW REACTOR PRESS TO B LVL CONTROL	--	--	Control Room Indication
132	LT-2-3-85B	REACTOR VESSEL WATER LEVEL (FROM COLUMN A)	Energized	Energized	
133	LI-2-3-85B	REACTOR VESSEL WATER LEVEL	Energized	Energized	
134	LT-2-3-72A	LO LO REACTOR LVL ECCS INITIATION	Energized	Energized	
135	LT-2-3-72C	LO LO REACTOR LVL ECCS INITIATION	Energized	Energized	
136	LIS-2-3-672A	HPCI LO LEVEL START	Energized	Energized	
137	LIS-2-3-672C	HPCI LO LEVEL START	Energized	Energized	
138	LS-2-3-672E	HPCI/RCIC HI LVL TURB TRIP	Energized	Energized	Trip unit
139	LT-2-3-72B	LO LO REACTOR LVL ECCS INITIATION	Energized	Energized	

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ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
140	LT-2-3-72D	LO LO REACTOR LVL ECCS INITIATION	Energized	Energized	
141	LIS-2-3-672B	HPCI LO LEVEL START	Energized	Energized	
142	LIS-2-3-672D	HPCI LO LEVEL START	Energized	Energized	
143	LS-2-3-672F	HPCI/RCIC HI LVL TURB TRIP	Energized	Energized	Trip unit
144	LT-2-3-85A	REACTOR VESSEL WATER LEVEL (FROM COLUMN B)	Energized	Energized	
145	LI-2-3-85A	REACTOR VESSEL WATER LEVEL	Energized	Energized	
146	PT-6-53A	REACTOR PRESSURE WIDE RANGE A (REF COLUMN B)	Energized	Energized	
147	PI-6-90A	FW REACTOR PRESS TO A LVL CONTROL	Energized	Energized	Control Room Indication
148	LT-2-3-112B	RX WTR LEVEL B FUEL ZONE (REF COLUMN A)	Energized	Energized	
149	PT-4067B	LOW LOW SET REACTOR PRESSURE	Energized	Energized	
150	PT-4067D	LOW LOW SET REACTOR PRESSURE	Energized	Energized	
151	LT-2-3-112A	RX WTR LEVEL A FUEL ZONE (REF COLUMN B)	Energized	Energized	
152	PT-4067A	LOW LOW SET REACTOR PRESSURE	Energized	Energized	
153	PT-4067C	LOW LOW SET REACTOR PRESSURE	Energized	Energized	
154	LS-23-74	HPCI COND STORAGE TANK INTLK	Energized	Energized	RCIC Pump Suction Transfer Instruments
155	LS-23-75	HPCI COND STORAGE TANK INTLK	Energized	Energized	RCIC Pump Suction Transfer Instruments
156	PCV-4897	ALT N2 TRAIN A PRESSURE REGULATOR	--	--	Pressure boundary
157	PCV-4879	ALT N2 TRAIN A PRESSURE REGULATOR	--	--	Pressure boundary
158	PCV-4903	ALT N2 TRAIN A PRESSURE REGULATOR	--	--	Pressure boundary
159	PCV-4904	ALT N2 TRAIN A PRESSURE REGULATOR	--	--	Pressure boundary
160	SV-4234	ALT N2 TRAIN A MANIFOLD ISOLATION	De-energized	De-energized	
161	RV-4673	ALT N2 TRAIN A MANIFOLD RELIEF	--	--	Pressure boundary
162	RV-4878	ALT N2 TRAIN A RELIEF	--	--	Pressure boundary
163	PCV-4898	ALT N2 TRAIN B PRESSURE REGULATOR	--	--	Pressure boundary
164	PCV-4881	ALT N2 TRAIN B PRESSURE REGULATOR	--	--	Pressure boundary
165	PCV-4905	ALT N2 TRAIN B PRESSURE REGULATOR	--	--	Pressure boundary
166	PCV-4906	ALT N2 TRAIN B PRESSURE REGULATOR	--	--	Pressure boundary
167	RV-4236	ALT N2 TRAIN B MANIFOLD RELIEF	--	--	Pressure boundary
168	SV-4235	ALT N2 TRAIN B MANIFOLD ISOLATION	De-energized	De-energized	
169	RV-4880	ALTERNATE N2 TRAIN B RELIEF	--	--	Pressure boundary
170	AO-2377	DRYWELL & TORUS PURGE OTBD ISOL	--	--	Included for N2 System Integrity Only
171	AO-2387	DW OTBD VENT	--	--	Included for N2 System Integrity Only
172	AO-2896	TORUS MAIN EXHAUST	--	--	Included for N2 System Integrity Only
173	AO-2378	TORUS PURGE INBD ISOL	--	--	Included for N2 System Integrity Only

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ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
174	AO-2379	VACUUM RELIEF DAMPER	--	--	Included for N2 System Integrity Only
175	SV-2379	SV FOR AO-2379 TORUS TO RX BLDG VACUUM BREAKER	Energized	Energized	Energized maintains N2 on the seal
176	AO-2380	VACUUM RELIEF DAMPER	--	--	Included for N2 System Integrity Only
177	SV-2380	SV FOR AO-2380 TORUS VACUUM RELIEF	Energized	Energized	Energized maintains N2 on the seal
178	AO-2381	DRYWELL PURGE INBD ISOL	--	--	Included for N2 System Integrity Only
179	AO-2383	TORUS VENT	--	--	Included for N2 System Integrity Only
180	AO-2386	DW PURGE EXHAUST INBD	--	--	Included for N2 System Integrity Only
181	SV-4539	N2 SUPPLY TO HPV INBOARD ISOLATION AO-4539	De-energized	Energized	
182	SV-4540	N2 SUPPLY FOR HPV OUTBD ISOLATION AO-4540	De-energized	Energized	
183	SV-4541	INBOARD N2 SUPPLY TO HPV RUPTURE DISC	De-energized	Energized	
184	SV-4542	OUTBOARD N2 SUPPLY TO HPV RUPTURE DISC	De-energized	Energized	
185	AO-4539	HARD PIPE VENT INBOARD ISOLATION VALVE	Closed	Open	Fail Closed
186	AO-4540	HARD PIPE VENT OUTBOARD ISOLATION VALVE	Closed	Open	Fail Closed
187	PS-4662	ALT N2 TRAIN A SUPPLY ISOLATION/ALARM	--	--	Pressure boundary
188	PS-4237	ALT N2 TRAIN B SUPPLY ISOLATION/ALARM	--	--	Pressure boundary
189	LT-7338A	TORUS WIDE RANGE LEVEL	Energized	Energized	
190	LY-7338B	TORUS WIDE RANGE LEVEL	Energized	Energized	
191	LT-7338B	TORUS WIDE RANGE LEVEL	Energized	Energized	
192	PT-7251A	DRYWELL WIDE RANGE PRESSURE	Energized	Energized	
193	PLR-7251A	DW PRESS-TOR LVL-DW RAD-ACCD/RNG	--	--	
194	PT-7251B	DRYWELL WIDE RANGE PRESSURE	Energized	Energized	
195	PY-7251B	PRIMARY CONTAINMENT WIDE RANGE PI ISOLATOR	Energized	Energized	
196	PLR-7251B	DW PRESS-TOR LVL-DW RAD-ACCD/RNG	--	--	
197	TE-4073A	TORUS SENSOR 1 - SRV71H / RCIC DISCHARGE AREA	Energized	Energized	
198	TE-4074A	TORUS SENSOR 2 - SRV71C DISCHARGE AREA	Energized	Energized	
199	TE-4075A	TORUS SENSOR 3 - SRV71B DISCHARGE AREA	Energized	Energized	
200	TE-4076A	TORUS SENSOR 4 - SRV71G / HPCI DISCHARGE AREA	Energized	Energized	
201	TE-4077A	TORUS SENSOR 5 - SRV71A DISCHARGE AREA	Energized	Energized	

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
202	TE-4078A	TORUS SENSOR 6 - SRV71E DISCHARGE AREA	Energized	Energized	
203	TE-4079A	TORUS SENSOR 7 - SRV71F DISCHARGE AREA	Energized	Energized	
204	TE-4080A	TORUS SENSOR 8 - SRV71D DISCHARGE AREA	Energized	Energized	
205	TE-4073B	TORUS SENSOR 1 - SRV71H / RCIC DISCHARGE AREA	Energized	Energized	
206	TE-4074B	TORUS SENSOR 2 - SRV71C DISCHARGE AREA	Energized	Energized	
207	TE-4075B	TORUS SENSOR 3 - SRV71B DISCHARGE AREA	Energized	Energized	
208	TE-4076B	TORUS SENSOR 4 - SRV71G / HPCI DISCHARGE AREA	Energized	Energized	
209	TE-4077B	TORUS SENSOR 5 - SRV71A DISCHARGE AREA	Energized	Energized	
210	TE-4078B	TORUS SENSOR 6 - SRV71E DISCHARGE AREA	Energized	Energized	
211	TE-4079B	TORUS SENSOR 7 - SRV71F DISCHARGE AREA	Energized	Energized	
212	TE-4080B	TORUS SENSOR 8 - SRV71D DISCHARGE AREA	Energized	Energized	
213	TI-4072A	DIV 1 TORUS TEMP	Energized	Energized	
214	TI-4072B	DIV 2 TORUS TEMP	Energized	Energized	
215	TY-4072A	DIV 1 TORUS TEMP	Energized	Energized	
216	TY-4072B	DIV 2 TORUS TEMP	Energized	Energized	
217	TE-4247A	DW TEMPERATURE ELEMENT (DUAL ELEMENT A1/A2)	Energized	Energized	
218	TE-4247B	DW TEMPERATURE ELEMENT (DUAL ELEMENT B1/B2)	Energized	Energized	
219	TE-4247C	DW TEMPERATURE ELEMENT (DUAL ELEMENT C1/C2)	Energized	Energized	
220	TE-4247D	DW TEMPERATURE ELEMENT (DUAL ELEMENT D1/D2)	Energized	Energized	
221	TE-4247E	DW TEMPERATURE ELEMENT (DUAL ELEMENT E1/E2)	Energized	Energized	
222	TE-4247F	DW TEMPERATURE ELEMENT (DUAL ELEMENT F1/F2)	Energized	Energized	
223	TE-4247G	DW TEMPERATURE ELEMENT (DUAL ELEMENT G1/G2)	Energized	Energized	
224	TE-4247H	DW TEMPERATURE ELEMENT (DUAL ELEMENT H1/H2)	Energized	Energized	
225	RE-4544	HARD PIPE VENT RADIATION DETECTOR	Energized	Energized	
226	RM-4544	HARD PIPE VENT RADIATION MONITOR	Energized	Energized	

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
227	D10	125 VDC CHARGER FOR #11 BATT	Energized	Energized	DOOR #110 INSIDE ON SOUTH WALL, EC720 replaced charger,
228	D20	125 VDC CHARGER FOR #12 BATT	Energized	Energized	DOOR #103 INSIDE ON NORTH WALL, Mod 00Q370 replaced charger
229	D52	CHARGER, D3A (13) BATTERY	Energized	Energized	DOOR #109 INSIDE ON NORTH WALL
230	D53	CHARGER, D3B (13) BATTERY	Energized	Energized	DOOR #109 INSIDE ON NORTH WALL
231	D54	CHARGER, SWING D3A, D3B (13) BATTERY	Energized	Energized	DOOR #109 INSIDE ON NORTH WALL
232	D70	CHARGER, D6B (16) BATTERY	Energized	Energized	Drawing Available
233	D80	CHARGER, D6A (16) BATTERY	Energized	Energized	
234	D90	CHARGER, SWING D6A,D6B (16) BATTERY	Energized	Energized	
235	Y71	DIV 1 120VAC CLASS 1E INVERTER	Energized	Energized	
236	Y75	DIV 1 FUSED DISCONNECT SWITCH	Energized	Energized	
237	Y70	DIV 1 UNINTERRUPTIBLE 120VAC CLASS 1E DIST PANEL	Energized	Energized	
238	Y81	DIV 2 120VAC CLASS 1E INVERTER	Energized	Energized	NORTH SIDE
239	Y85	DIV 2 FUSED DISCONNECT SWITCH	Energized	Energized	
240	Y80	DIV 2 UNINTERRUPTIBLE 120VAC CLASS 1E DIST PANEL	Energized	Energized	NORTH SIDE
241	D1	#11 BATTERY 125VDC	Energized	Energized	DOOR #110
242	D11	DIV I 125VDC DISTRIBUTION CENTER	Energized	Energized	DOOR #110 INSIDE ON SOUTH WALL
243	D2	#12 BATTERY 125VDC	Energized	Energized	
244	D21	DIV I 125 VDC DISTRIBUTION PANEL	Energized	Energized	DOOR #103 INSIDE ON NORTH WALL
245	D33	125 VDC DISTRIBUTION CENTER	Energized	Energized	DOOR #110 INSIDE ON SOUTH WALL
246	D100	DIV 2 125/250 VDC DISTRIBUTION PANEL	Energized	Energized	
247	D31	DIV I 125/250 VDC DISTRIBUTION PANEL	Energized	Energized	DOOR #109
248	D3A	#13 (DIV 1) 125/250VDC BATTERY "A"	Energized	Energized	DOOR #109
249	D3B	#13 (DIV 1) 125/250VDC BATTERY "B"	Energized	Energized	DOOR #109
250	D6A	#16 (DIV 2) 125/250VDC BATTERY "A"	Energized	Energized	SOUTH SIDE
251	D6B	#16 (DIV 2) 125/250VDC BATTERY "B"	Energized	Energized	NORTH SIDE
252	D311	DIV 1 (RCIC) 250V DC MOTOR CONTROL CENTER 311	Energized	Energized	CENTER
253	D312	DIV 2 (HPCI) 250V DC MOTOR CONTROL CENTER 312	Energized	Energized	
254	D313	DIV 1 (RCIC) 250V DC MOTOR CONTROL CENTER 313	Energized	Energized	CENTER
255	C-03	RX AND CTMT COOLING AND ISOL BENCH BOARD	Energized	Energized	
256	C-04	RWC RECIRCULATING BENCH BOARD	Energized	Energized	

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ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
257	C-15	CHANNEL A PRIMARY ISOL AND RPS VERTICAL BOARD	Energized	Energized	NORTH OF C-05
258	C-30	RCIC CABLE SPR RM CONTROL PANEL	Energized	Energized	
259	C-41	INBOARD ISOLATION RELAY PANEL	Energized	Energized	
260	C-42	OUTBOARD ISOLATION RELAY PANEL	Energized	Energized	
261	C-55	REACTOR VESSEL LEVEL AND PRESSURE RACK	Energized	Energized	
262	C-56	REACTOR VESSEL LEVEL AND PRESSURE RACK	Energized	Energized	
263	C-121	JET PUMP INSTRUMENT RACK	Energized	Energized	
264	C-122	JET PUMP INSTRUMENT RACK	Energized	Energized	
265	C-128	RCIC INSTRUMENT RACK	Energized	Energized	
266	C-253A	SRV LOW LOW SET DIV 1 CONTROL PANEL	Energized	Energized	
267	C-253B	SRV LOW LOW SET DIV 2 CONTROL PANEL	Energized	Energized	
268	C-292	ASDS BENCHBOARD	Energized	Energized	
269	C-32	A RHR, CORE SPRAY, ADS CONTROL PANEL	Energized	Energized	
270	C-33	B RHR, CORE SPRAY, ADS CONTROL PANEL	Energized	Energized	
271	C-303A	ECCS DIV I ANALOG TRIP SYSTEM	Energized	Energized	
272	C-303B	ECCS DIV II ANALOG TRIP SYSTEM	Energized	Energized	
273	13A-K1	REACTOR LOW-LOW WATER LEVEL	De-energized	Energized / De- energized	
274	13A-K2	REACTOR LOW-LOW WATER LEVEL	De-energized	Energized / De- energized	
275	13A-K3	STEAM LINE AREA HIGH TEMPERATURE	De-energized	De-energized	
276	13A-K5	STEAM LINE AREA HIGH TEMPERATURE	De-energized	De-energized	
277	13A-K6	MO-2078 POSITION MONITOR	De-energized	Energized	
278	13A-K7	RCIC STEAM LINE HIGH DP (PRESSURE) - STEAM LINE BREAK RELAY	De-energized	De-energized	
279	13A-K10	STEAM LINE LOW PRESSURE	De-energized	De-energized	
280	13A-K12	GLAND SEAL VACUUM PUMP CONTROL	De-energized	De-energized	
281	13A-K13	PUMP LOW FLOW	De-energized	Energized / De- energized	
282	13A-K14	PUMP LOW SUCTION PRESSURE	De-energized	De-energized	
283	13A-K16	GLAND SEAL CONDENSER HIGH LEVEL	De-energized	Energized / De- energized	
284	13A-K17	TURBINE EXHAUST HIGH PRESSURE	De-energized	De-energized	
285	13A-K18	MO-2101 POSITION MONITOR	De-energized	De-energized	
286	13A-K19	MO-2100 POSITION MONITOR	De-energized	De-energized	
287	13A-K22	AUTO ISOLATION	De-energized	De-energized	
288	13A-K27	RCIC TRIP & THROTTLE VALVE CLOSED	De-energized	De-energized	

ESEL Item Num	Equipment		Operating State		Notes/Comments
	ID	Description	Normal State	Desired State	
289	13A-K29	STEAM LINE AREA HIGH TEMPERATURE	De-energized	De-energized	
290	13A-K30	STEAM LINE AREA HIGH TEMPERATURE	De-energized	De-energized	
291	13A-K31	STEAM LINE HIGH DP (LINE BREAK)	De-energized	De-energized	
292	13A-K32	RCIC AUTO ISOLATION	De-energized	De-energized	
293	13A-K33	RCIC TURBINE EXHAUST HIGH PRESSURE TD RELAY	De-energized	De-energized	
294	13A-K34	REACTOR HIGH WATER TURBINE TRIP	De-energized	De-energized	
295	13A-K37	CST LOW LEVEL	Energized	Energized	
295	13A-K28	REACTOR HIGH WATER LEVEL	De-energized	De-energized	
297	K102A	RELAY - ECCS DIVISION I ANALOG TRIP CABINET	De-energized	De-energized	
298	K102B	RELAY - ECCS DIVISION II ANALOG TRIP CABINET	De-energized	De-energized	