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Subject: **Transmittal of ESBWR DCD Markups to Tier 1 Related to NRC ITAAC Prioritization Protocal Comments**

Enclosure 1 contains markups of DCD Tier 1 in response to comments stemming from the NRC's ITAAC prioritization review. Changes in response to these comments are summarized below.

Affected Section	Description of Change
Table 2.3.1-2, item 2a	Changed "Inspections" to "Testing" in ITA column
Table 2.4.1-3	Changed to table 2.4.1-1 for consistency
Table 2.6.2-2, item 2b3	Changed Acceptance Criteria to match item 2a3
Table 2.6.2-2, item 4a	Changed Design Commitment to match the Design Description
Table 2.11.7-1, item 1 & 2	Added "and analysis" to ITA column
Table 2.16.2-4, item 8	Changed "Inspections" to "Testing" in ITA column

If you have any questions about the information provided, please contact me.

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

D068
NRO

Enclosure:

1. Transmittal of ESBWR DCD Markups to Tier 1 Related to NRC ITAAC Prioritization Protocol Comments - DCD Markups

cc:	AE Cubbage	USNRC (with enclosures)
	JG Head	GEH/Wilmington (with enclosures)
	DH Hinds	GEH/Wilmington (with enclosures)
	LF Dougherty	GEH/Wilmington (with enclosures)
	eDRF Section	0000-0123-8679

Enclosure 1

MFN 10-280

Transmittal of ESBWR DCD Markups to Tier 1 Related to NRC ITAAC Prioritization Protocol Comments DCD Markups

DCD Markups

Table 2.3.1-2

ITAAC For The Process Radiation Monitoring System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The PRMS functional arrangement is as described in the Design Description of this Subsection 2.3.1, Figure 2.3.1-1, and Table 2.3.1-1.	Inspections shall be conducted on each as-built PRMS subsystem.	The as-built PRMS subsystems conform to the functional arrangement as described in the Design Description of this Subsection 2.3.1 and shown in Figure 2.3.1-1 in conjunction with Table 2.3.1-1.
2a. The safety-related PRMS subsystems as identified in Table 2.3.1-1 are powered from uninterruptible safety-related power sources.	~~Inspections~~<u>Testing</u> will be conducted to confirm that the PRMS safety-related subsystems identified in Table 2.3.1-1 are powered from uninterruptible safety-related power sources.	The safety-related PRMS subsystems identified in Table 2.3.1-1 receive electrical power from uninterruptible safety-related buses.
2b. The safety-related divisions of electric power for the PRMS subsystems identified in Table 2.3.1-1 are physically separated.	Inspections of the as-built divisions will be conducted.	Each subsystem division is physically separated from the other division in accordance with RG 1.75.
3. The equipment identified in Table 2.3.1-1 as Seismic Category I can withstand Seismic Category I loads without loss of safety function.	i. Inspection will be performed to verify that the Seismic Category I equipment identified in Table 2.3.1-1 are located in a Seismic Category I structure.	i. The equipment identified as Seismic Category I in Table 2.3.1-1 is located in a Seismic Category I structure.

Table 2.4.1-3

ITAAC For The Isolation Condenser System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2b2. The as-built piping identified in Table 2.4.1-1 as ASME Code Section III shall be reconciled with the piping design requirements.	A reconciliation analysis of the piping identified in Table 2.4.1-1 as ASME Code Section III using as-designed and as-built information and ASME Code Design Reports (NCA-3550) will be performed.	ASME Code Design Report(s) (NCA-3550) (certified, when required by ASME Code) exist and conclude that design reconciliation has been completed, in accordance with ASME Code, for as-built reconciliation of the piping identified in Table 2.4.1-1 as ASME Code Section III. The report documents the results of the reconciliation analysis.
2b3. The piping identified in Table 2.4.1-1 as ASME Code Section III is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	Inspections of the piping identified in Table 2.4.1~~2~~-1 as ASME Code Section III will be conducted.	ASME Code Data Report(s) (certified, when required by ASME Code) and inspection reports (including N-5 Data Reports where applicable) exist and conclude that the piping identified in Table 2.4.~~2~~1-1 as ASME Code Section III is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.
3a. Pressure boundary welds in components identified in Table 2.4.1-1 as ASME Code Section III meet ASME Code Section III non-destructive examination requirements.	Inspection of the as-built pressure boundary welds in components identified in Table 2.4.1-1 as ASME Code Section III will be performed in accordance with ASME Code Section III.	ASME Code report(s) exist and conclude that ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds in components identified in Table 2.4.1-1 as ASME Code Section III.

Table 2.6.2-2

ITAAC For The Fuel and Auxiliary Pools Cooling System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
2b3. The piping identified in Table 2.6.2-1 as ASME Code Section III is fabricated, installed, and inspected in accordance with ASME Code Section III requirements.	Inspections of the piping identified in Table 2.6.2-1 as ASME Code Section III will be conducted.	ASME Code Data Report(s) (including N-5 Data Reports, where applicable) (certified, when required by ASME Code) and inspection reports exist and conclude that the piping identified in Table 2.6.2-1 as ASME Code Section III are fabricated, installed, and inspected in accordance with ASME Code Section III requirementsASME Code Design Report(s) (NCA-3550) (certified, when required by ASME Code) exist and conclude that design reconciliation has been completed, in accordance with ASME Code, for as-built reconciliation of the piping identified in Table 2.6.2-1 as ASME Code Section III. The report documents the results of the reconciliation analysis.
3a. Pressure boundary welds in components identified in Table 2.6.2-1 as ASME Code Section III meet ASME Code Section III non-destructive requirements.	Inspection of the as-built pressure boundary welds in components identified in Table 2.6.2-1 as ASME Code Section III will be performed in accordance with ASME Code Section III.	ASME Code report(s) exist and conclude that ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds in components identified in Table 2.6.2-1 as ASME Code Section III.
3b. Pressure boundary welds in piping identified in Table 2.6.2-1 as ASME Code Section III meet ASME Code Section III non-destructive requirements.	Inspection of the as-built pressure boundary welds in piping identified in Table 2.6.2-1 as ASME Code Section III will be performed in accordance with ASME Code Section III.	ASME Code report(s) exist and conclude that ASME Code Section III requirements are met for non-destructive examination of pressure boundary welds in piping identified in Table 2.6.2-1 as ASME Code Section III.

Table 2.6.2-2

ITAAC For The Fuel and Auxiliary Pools Cooling System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
4a. ~~Pressure boundary welds in piping~~ The components identified in Table 2.6.2-1 as ASME Code Section III ~~meet ASME Code Section III requirements~~retain their pressure boundary integrity at their design pressure.	A hydrostatic test will be conducted on those code components identified in Table 2.6.2-1 as ASME Code Section III that are required to be hydrostatically tested by ASME Code Section III.	ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of components identified in Table 2.6.2-1 as ASME Code Section III comply with the requirements of ASME Code Section III.
4b. The piping identified in Table 2.6.2-1 as ASME Code Section III retains its pressure boundary integrity at its design pressure.	A hydrostatic test will be conducted on the code piping identified in Table 2.6.2-1 as ASME Code Section III that is required to be hydrostatically tested by ASME Code Section III.	ASME Code Data Report(s) exist and conclude that the results of the hydrostatic test of piping identified in Table 2.6.2-1 as ASME Code Section III comply with the requirements in ASME Code Section III.
5. The equipment identified in Table 2.6.2-1 as Seismic Category I can withstand Seismic Category I loads without loss of safety function.	i. Inspection will be performed to verify that the Seismic Category I equipment identified in Table 2.6.2-1 are located in a Seismic Category I structure. ii. Type tests, analyses, or a combination of type tests and analyses, of equipment identified in Table 2.6.2-1 as Seismic Category I, will be performed using analytical assumptions, or will be performed under conditions which bound the Seismic Category I equipment design requirements.	i. The equipment identified as Seismic Category I in Table 2.6.2-1 is located in a Seismic Category I structure. ii. The equipment identified in Table 2.6.2-1 as Seismic Category I can withstand Seismic Category I loads without loss of safety function.

Table 2.11.7-1

ITAAC For The Main Condenser

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. The main condenser structural members, supports, and anchors are designed to maintain condenser integrity following a safe shutdown earthquake (SSE).	An inspection and analyses will be performed to verify the ability of the as-built main condenser structural members, supports, and anchors to maintain condenser integrity following a safe shutdown earthquake.	The as-built main condenser structural members, supports, and anchors are able to maintain condenser integrity following a safe shutdown earthquake.
2. The main condenser can accommodate TBS steam flow to mitigate Abnormal Events.	An inspection and analyses of the as-built condenser will be performed to confirm the capability of the as-built condenser to accommodate TBS steam flow to mitigate Abnormal Events.	The as-built main condenser has the capability to accommodate TBS steam flow for at least 6 seconds following a loss of preferred power without the main condenser pressure exceeding the TBV isolation setpoint to mitigate AOOs.
3. The actual volume and plate out areas is greater than that assumed in Design Basis dose calculations.	The volume and plate out areas in the condenser final design shall be verified by inspection and analysis.	The as-built condenser exceeds the following parameters used to calculate the plate out factors for the dose analysis: • Condenser volume of $\geq$ 5.93E+3 m^3 (2.09E+5 ft^3) • Condenser horizontal plate area of $\geq$ 418 m^2 (4500 ft^2); and • Condenser horizontal cylinder area $\geq$ 2793 m^2 (30060 ft^2)

Table 2.16.2-4

ITAAC For The Control Building Habitability HVAC Subsystem

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
	ii. Inspection of the as-built safety-related divisions in the system will be performed.	ii. Physical separation and electrical isolation exists between as-built CRHA isolation dampers and EFU safety-related divisions. Physical separation or electrical isolation exists between safety-related divisions and nonsafety-related equipment as defined in RG 1.75.
6. CRHA isolation damper and EFU operational status (Open/Closed) indication is provided in the MCR.	i. Inspection will be performed to verify CRHA isolation damper and EFU operational status indication is installed in the MCR.	i. The as-built CRHA isolation damper and EFU operational status indication is provided in the MCR.
	ii. Testing will be performed to show that the operational status indication in the MCR accurately depicts the operational status of the CRHA isolation dampers and EFUs.	ii. The operational status indication accurately depicts the operational status of the as-built CRHA isolation dampers and EFUs.
7. The free air volume of the control room envelope is greater than or equal to the volume assumed in safety analyses.	Analyses to be performed based on the as-built control room envelope to determine the free air volume (total volume minus equipment and walls).	The free air volume of the control room envelop is ≥ 2,200 m^3 (78,000 ft^3).
8. Normal operation intake flow rate is greater than or equal to the flow rate assumed in the safety analyses.	~~Inspections~~<u>Testing</u> will be performed to verify the normal operation intake flow rate.	The flow rate is ≥ 220 l/s (466 cfm).
9. (Deleted)		