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MFN 10-054, Supplement 1 Docket No. 52-010

March 3, 2010

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Subject: **Transmittal of ESBWR DCD Tier 2, Chapter 12 Additional Markups Related to GEH Internal Corrective Action**

The purpose of this letter is to submit markups to the ESBWR DCD, Tier 2, Chapter 12, Revision 6, which are the result of GEH internal review. These markups will be incorporated into the DCD, Revision 7 and are in addition to those provided in Reference 1. The markup pages are contained in Enclosure 1. The changes are summarized below.

Affected Section	Description of Change
Table 12.3-8	Corrected wall and slab thicknesses for various rooms to be consistent with the latest calculations or evaluations. Also removed thicknesses from exterior below grade walls for all buildings and from intermediate level floors (Elevation –2350) in the Radwaste Building because no slabs exist in the rooms listed in the table at that elevation.

If you have any questions or require additional information, please contact me.

Sincerely,

Richard E. Kingston

Richard E. Kingston
Vice President, ESBWR Licensing

Reference:

1. MFN 10-054, Transmittal of ESBWR DCD Tier 2, Chapter 12 Markups Related to GEH Internal Corrective Action, February 8, 2010

Enclosure:

1. Transmittal of ESBWR DCD Tier 2, Chapter 12 Additional Markups Related to GEH Internal Corrective Action – DCD Markups

cc:	AE Cubbage	USNRC (with enclosure)
	JG Head	GEH/Wilmington (with enclosure)
	DH Hinds	GEH/Wilmington (with enclosure)
	TL Enfinger	GEH/Wilmington (with enclosure)
	eDRF Section	0000-0112-5295 R1

Enclosure 1

MFN 10-054, Supplement 1

Transmittal of ESBWR DCD Tier 2, Chapter 12 Additional Markups Related to GEH Internal Corrective Action

DCD Markups

Table 12.3-8

Shielding Geometry (Nominal)

Elev.	Room	Room Name	North	East	South	West	Floor	Ceiling
Nuclear Island			**cm (in)**					
-11500	1151	RWCU/SDC Heat Exchanger Room A	75 (30)	110 (43)	100 (39)	100/75 (39/30)	Ground	70 (28)
-11500	1152	RWCU/SDC Pump Room A	60 (24)	55 (22)	55 (22)	60/40 (24/16)	Ground	~~90 (35)~~ 110 (43)
-11500	1161	RWCU/SDC Heat Exchanger Room B	75 (30)	100 (39)	100/75 (39/30)	110 (43)	Ground	70 (28)
-11500	1162	RWCU/SDC Pump Room B	60 (24)	60 (24)	70 (28)	35 (14)	Ground	70 (28)
-11500	2102	FAPC Backwash Tank Room	70 (28)	80 (31)	90 (35)	~~110 (43)~~ Exterior Below Grade	Ground	90 (35)
-11500	2150	FAPC Pump/Heat Exchanger Room A	35 (14)	70 (28)	~~60 (24)~~ Exterior Below Grade	30 (12)	Ground	70 (28)
-11500	2151	Backwash Transfer Pump Room A	90 (35)	105 (41)	70 (28)	~~95 (37)~~ Exterior Below Grade	Ground	70 (28)
-11500	2160	FAPC Pump/Heat Exchanger Room B	35 (14)	30 (12)	~~60 (24)~~ Exterior Below Grade	35 (14)	Ground	70 (28)
-11500	2161	Backwash Transfer Pump Room B	70 (28)	105 (41)	70 (28)	~~95 (37)~~ Exterior Below Grade	Ground	70 (28)
-6400	1250	RWCU/SDC Heat Exchanger Room A	110(43)	110 (43)	100 (39)	100 (39)	70 (28)	70 (28)

Table 12.3-8

Shielding Geometry (Nominal)

Elev.	Room	Room Name	North	East	South	West	Floor	Ceiling
-6400	1251	RWCU/SDC Filter/Demineralizer Vault A1	135 (53)	150 (59)	~~40 (16)~~ 80 (31)	135 (53)	110 (43)	~~90 (35)~~ 110 (43)
-6400	1252	RWCU/SDC Filter/Demineralizer Vault A2	~~40 (16)~~ 80 (31)	150 (59)	~~40 (16)~~ 80 (31)	135 (53)	110 (43)	~~90 (35)~~ 110 (43)
-6400	1260	RWCU/SDC Heat Exchanger Room B	110(43)	100 (39)	100 (39)	100 (39)	70 (28)	70 (28)
-6400	1261	RWCU/SDC Filter/Demineralizer Vault B1	135(53)	~~40 (16)~~ 110 (43)	150 (59)	~~40 (16)~~ 100 (39)	110 (43)	~~90 (35)~~ 110 (43)
-6400	1262	RWCU/SDC Filter/Demineralizer Vault B2	135(53)	~~40 (16)~~ 110 (43)	150 (59)	~~70 (28)~~ 100 (39)	110 (43)	~~90 (35)~~ 110 (43)
-6400	2251	FAPC Filter/Demineralizer Vault 1	90 (35)	~~70 (28)~~ 80 (31)	~~30 (12)~~ 60 (24)	90 (35)	~~70 (28)~~ 80 (31)	~~70 (28)~~ 80 (31)
-6400	2261	FAPC Filter/Demineralizer Vault 2	~~30 (12)~~ 60 (24)	~~70 (28)~~ 80 (31)	~~115 (45)~~ Exterior Below Grade	90 (35)	~~70 (28)~~ 80 (31)	~~70 (28)~~ 80 (31)
		Radwaste Building	**cm (in)**					
-9350	6103	Equipment Drain Collection Tank Room A	70 (28)	60 (24)	60 (24)	60 (24)	Ground	80 (31)
-9350	6104	Equipment Drain Collection Tank Room B	70 (28)	60 (24)	60 (24)	80 (31)	Ground	80 (31)
-9350	6105	Equipment Drain Collection Tank Room C	60 (24)	60 (24)	80 (31)	80 (31)	Ground	80 (31)
-9350	6106	Condensate Resin Holdup Tank Room	~~90 (35)~~ Exterior Below Grade	40 (16)	80 (31)	60 (24)	Ground	80 (31)
-9350	6107	Low Activity Resin Holdup Tank Room	~~100 (39)~~ Exterior Below Grade	80 (31)	60 (24)	~~100 (39)~~ Exterior Below Grade	Ground	80 (31)

Table 12.3-8

Shielding Geometry (Nominal)

Elev.	Room	Room Name	North	East	South	West	Floor	Ceiling
-9350	6108	High Activity Resin Holdup Tank Room	~~70 (28)~~80 (31)	~~90 (35)~~100 (39)	~~70 (28)~~80 (31)	~~100 (39)~~ Exterior Below Grade	Ground	80 (31)
-9350	6109	Concentrated Waste Tank Room	70 (28)	90 (35)	90 (35)	~~100 (39)~~ Exterior Below Grade	Ground	80 (31)
-9350	6150	Floor Drain Collection Tank Room A	70 (28)	80 (31)	60 (24)	60 (24)	Ground	80 (31)
-9350	6151	High Activity Phase Separator Room	~~100 (39)~~ Exterior Below Grade	90 (35)	~~70 (28)~~ 100 (39)	~~40 (16)~~ 70 (28)	Ground	80 (31)
-9350	6160	Floor Drain Collection Tank Room B	60 (24)	80 (31)	80 (31)	60 (24)	Ground	80 (31)
-9350	6161	Low Activity Phase Separator Room	~~100 (39)~~ Exterior Below Grade	~~60 (24)~~70 (28))	~~70 (28)~~100 (39)	~~40 (16)~~60 (24)	Ground	80 (31)
-9350	6171	Floor Drain Sample Tank Room	~~30 (12)~~ Exterior Below Grade	35 (14)	30 (12)	30 (12)	Ground	80 (31)
-9350	6172	Equipment Drain Sample Tank Room	30 (12)	35 (14)	30 (12)	30 (12)	Ground	80 (31)
-2350	6103	Equipment Drain Collection Tank Room A	70 (28)	60 (24)	60 (24)	60 (24)	~~80 (31)~~ Ground	80 (31)
-2350	6104	Equipment Drain Collection Tank Room B	70 (28)	60 (24)	60 (24)	80 (31)	~~80 (31)~~ Ground	80 (31)
-2350	6105	Equipment Drain Collection Tank Room C	60 (24)	60 (24)	80 (31)	80 (31)	~~80 (31)~~ Ground	80 (31)

Table 12.3-8

Shielding Geometry (Nominal)

Elev.	Room	Room Name	North	East	South	West	Floor	Ceiling
-2350	6106	Condensate Resin Holdup Tank Room	~~90 (35)~~ Exterior Below Grade	40 (16)	80 (31)	60 (24)	~~80 (31)~~ Ground	80 (31)
-2350	6107	Low Activity Resin Holdup Tank Room	~~100 (39)~~ Exterior Below Grade	80 (31)	60 (24)	~~100 (39)~~ Exterior Below Grade	~~80 (31)~~ Ground	80 (31)
-2350	6108	High Activity Resin Holdup Tank Room	~~70 (28)~~ 80 (31)	~~90 (35)~~ 100 (39)	~~70 (28)~~ 80 (31)	~~100 (39)~~ Exterior Below Grade	~~80 (31)~~ Ground	80 (31)
-2350	6109	Concentrated Waste Tank Room	70 (28)	90 (35)	90 (35)	~~100 (39)~~ Exterior Below Grade	~~80 (31)~~ Ground	80 (31)
-2350	6150	Floor Drain Collection Tank Room A	70 (28)	80 (31)	60 (24)	60 (24)	~~80 (31)~~ Ground	80 (31)
-2350	6151	High Activity Phase Separator Room	~~100 (39)~~ Exterior Below Grade	~~90 (35)~~ 100 (39)	~~70 (28)~~ 100 (39)	~~40 (16)~~ 70 (28)	~~80 (31)~~ Ground	80 (31)
-2350	6160	Floor Drain Collection Tank Room B	60 (24)	80 (31)	80 (31)	60 (24)	~~80 (31)~~ Ground	80 (31)
-2350	6161	Low Activity Phase Separator Room	~~100 (39)~~ Exterior Below Grade	~~60 (24)~~ 70 (28)	~~70 (28)~~ 100 (39)	~~40 (16)~~ 60 (24)	~~80 (31)~~ Ground	80 (31)

Table 12.3-8

Shielding Geometry (Nominal)

Elev.	Room	Room Name	North	East	South	West	Floor	Ceiling
Radwaste Building (continued)			**cm (in)**					
-2350	6171	Floor Drain Sample Tank Room	~~30 (12)~~ Exterior Below Grade	35 (14)	30 (12)	30 (12)	~~80 (31)~~ Ground	80 (31)
-2350	6172	Equipment Drain Sample Tank Room	30 (12)	35 (14)	30 (12)	30 (12)	~~80 (31)~~ Ground	80 (31)
Turbine Building			**cm (in)**					
-1400	4196	Off-Gas Charcoal Absorber Vessel Vault	~~110 (43)~~ 150 (59)	~~110 (43)~~ 150 (59)	~~110 (43)~~ 120 (47)	~~110 (43)~~ 120 (47)	Ground	-
-1400	4197	Main Condenser Vault	110 (43)	110 (43)	~~60 (24)~~ 70 (28)	~~110 (43)~~ 120 (47)	Ground	
-1400	4182A	Condensate Pleated Filter Vault A	50 (20)	60 (24)	~~35 (14)~~ 50 (20)	110 (43)	Ground	100 (39)
-1400	4182B-E	Condensate Pleated Filter Vault B-E	~~35 (14)~~ 50 (20)	60 (24)	~~35 (14)~~ 50 (20)	110 (43)	Ground	100 (39)
-1400	4182F	Condensate Pleated Filter Vault F	50 (20)	60 (24)	55 (22)	110 (43)	Ground	100 (39)
-1400	4183	Condensate Filter Backwash Receiving Tank Vault	~~45 (18)~~ 60 (24)	65 (26)	85 (33)	95 (37)	Ground	100 (39)
-1400	4180	Condensate Demin. Resin Receiving Tank Vault	~~75 (30)~~ 100 (39)	~~70 (28)~~ 100 (39)	~~70 (28)~~ 80 (31)	90 (35)	Ground	100 (39)
4650	4206B	Condensate Drain Tank and Steam Jet Air Ejector/H2 Recombiner & Cooler Room B	150 (59)	150 (59)	120 (47)	150 (59)	100 (39)	120 (47)
4650	4206A	Steam Jet Air Ejector/H2 Recombiner & Cooler Room A	~~115 (45)~~ 120 (47)	150 (59)	120 (47)	150 (59)	~~70 (28)~~ 100 (39)	~~30 (12)~~ 120 (47)