

2.3 Decay Heat Limits

This section provides the limits on fuel assembly decay heat for storage in the HI-STORM FW System. The method to verify compliance, including examples, is provided in Chapter 13 of the HI-STORM FW FSAR.

2.3.1 Fuel Loading Decay Heat Limits

Tables 2.3-1A, 2.3-1B and 2.3-1C provide the maximum allowable decay heat per fuel storage location for MPC-37. Tables 2.3-2A and 2.3-2B provide the maximum allowable decay heat per fuel storage location for MPC-89. The limits in these tables are applicable when using FHD to dry moderate or high burnup fuel and when using VDS to dry moderate burnup fuel only. Tables 2.3-3 and 2.3-4 provide the maximum allowable decay heat per fuel storage location for MPC-37 and MPC-89, respectively, when using VDS to dry high burnup fuel.

TABLE 2.3-1A MPC-37 HEAT LOAD DATA (See Figure 2.1-1)					
Number of Regions:		3			
Number of Storage Cells:		37			
Maximum Design Basis Heat Load (kW): 44.09 (Pattern A); 45.0 (Pattern B)					
Region No.	Decay Heat Limit per Cell, kW		Number of Cells per Region	Decay Heat Limit per Region, kW	
	Pattern A	Pattern B		Pattern A	Pattern B
1	1.05	1.0	9	9.45	9.0
2	1.70	1.2	12	20.4	14.4
3	0.89	1.35	16	14.24	21.6

TABLE 2.3-1B MPC-37 HEAT LOAD DATA (See Figure 2.1-1)			
Number of Regions:		3	
Number of Storage Cells: 37			
90% of Pattern A - Sub-design Heat Load (kW):		39.68	
Region No.	Decay Heat Limit per Cell, kW	Number of Cells per Region	Decay Heat Limit per Region, kW
1	0.945	9	8.505
2	1.530	12	18.36
3	0.801	16	12.816

TABLE 2.3-1C MPC-37 HEAT LOAD DATA (See Figure 2.1-1)			
Number of Regions: 3			
Number of Storage Cells: 37			
80% of Pattern A - Sub-design Heat Load (kW): 35.27			
Region No.	Decay Heat Limit per Cell, kW	Number of Cells per Region	Decay Heat Limit per Region, kW
1	0.84	9	7.56
2	1.36	12	16.32
3	0.712	16	11.392

TABLE 2.3-2A MPC-89 HEAT LOAD DATA (See Figure 2.1-2)			
Number of Regions: 3			
Number of Storage Cells: 89			
Maximum Design Basis Heat Load: 46.36 kW			
Region No.	Decay Heat Limit per Cell, kW	Number of Cells per Region	Decay Heat Limit per Region, kW
1	0.44	9	3.96
2	0.62	40	24.80
3	0.44	40	17.60

TABLE 2.3-2B MPC-89 HEAT LOAD DATA (See Figure 2.1-2)			
Number of Regions: 3			
Number of Storage Cells: 89			
80% Sub-design Heat Load (kW): 37.1			
Region No.	Decay Heat Limit per Cell, kW	Number of Cells per Region	Decay Heat Limit per Region, kW
1	0.352	9	3.168
2	0.496	40	19.84
3	0.352	40	14.08