Table 2.1-1 (page 2 of 6)
Fuel Assembly Limits

I. MPC MODEL: MPC-37 (continued)

B. Quantity per MPC: 37 FUEL ASSEMBLIES with up to twelve (12) DAMAGED FUEL ASSEMBLIES or FUEL DEBRIS in DAMAGED FUEL CONTAINERS (DFCs). DFCs may be stored in fuel storage locations 3-1, 3-3 through 3-7, 3-10 through 3-14, and 3-16 (see Figure 2.1-1), OR in fuel storage locations 2-1, 2-3, 2-4, 2-5, 2-8, 2-9, 2-10, and 2-12 (see Figure 2.1-1), depending on heat load pattern, see Section 2.3.1. The remaining fuel storage locations may be filled with PWR UNDAMAGED FUEL ASSEMBLIES meeting the applicable specifications. For MPCs utilizing burnup credit, the MPC and DFC loading configuration must also meet the additional requirements of Section 2.4.

C. One (1) Neutron Source Assembly (NSA) is authorized for loading in the MPC-37.

D. Up to thirty (30) BRPAs are authorized for loading in the MPC-37.

Note 1: Fuel assemblies containing BPRAs, TPDs, WABAs, water displacement guide tube plugs, orifice rod assemblies, or vibration suppressor inserts, with or without ITTRs, may be stored in any fuel storage location. Fuel assemblies containing APSRs, RCCAs, CEAs, CRAs (including, but not limited to those with hafnium), or NSAs may only be loaded in fuel storage Regions 1 and 2 (see Figure 2.1-1).

Note 2: DAMAGED FUEL ASSEMBLIES which can be handled by normal means and whose structural integrity is such that geometric rearrangement of fuel is not expected, may be stored in storage locations designated for DFCs using DFIs or DFCs. Damaged fuel stored in DFIs may contain missing or partial fuel rods and/or fuel rods with known or suspected cladding defects greater than hairline cracks or pinhole leaks.

Table 2.1-1 (page 4 of 6)
Fuel Assembly Limits

II. MPC MODEL: MPC-89 (continued)

B. Quantity per MPC: 89 FUEL ASSEMBLIES with up to sixteen (16) DAMAGED FUEL ASSEMBLIES or FUEL DEBRIS in DAMAGED FUEL CONTAINERS (DFCs). DFCs may be stored in fuel storage locations 3-1, 3-3, 3-4, 3-9, 3-10, 3-13, 3-16, 3-19, 3-22, 3-25, 3-28, 3-31, 3-32, 3-37, 3-38, and 3-40 (see Figure 2.1-2), OR in fuel storage locations 2-1, 2-2, 2-6, 2-7, 2-13, 2-18, 2-23, 2-28, 2-34, 2-35, 2-39, and 2-40 (see Figure 2.1-2), depending on heat load pattern, see Section 2.3.1. The remaining fuel storage locations may be filled with BWR UNDAMAGED FUEL ASSEMBLIES meeting the applicable specifications.

Note 1: The lowest maximum allowable enrichment of any fuel assembly loaded in an MPC-89, based on fuel array class and fuel classification, is the maximum allowable enrichment for the remainder of the assemblies loaded in that MPC.

Note 2: DAMAGED FUEL ASSEMBLIES which can be handled by normal means and whose structural integrity is such that geometric rearrangement of fuel is not expected, may be stored in storage locations designated for DFCs using DFIs or DFCs. Damaged fuel stored in DFIs may contain missing or partial fuel rods and/or fuel rods with known or suspected cladding defects greater than hairline cracks or pinhole leaks.

Table 2.1-1 (page 6 of 6)
Fuel Assembly Limits

III. MPC MODEL: MPC-32ML (continued)

B. Quantity per MPC: 32 FUEL ASSEMBLIES with up to eight (8) DAMAGED FUEL ASSEMBLIES or FUEL DEBRIS in DAMAGED FUEL CONTAINERS (DFCs). DFCs may be stored in fuel storage locations 1-1, 1-4, 1-5, 1-10, 1-23, 1-28, 1-29, and 1-32 (see Figure 2.1-3). The remaining fuel storage locations may be filled with PWR UNDAMAGED FUEL ASSEMBLIES meeting the applicable specifications.

C. One (1) Neutron Source Assembly (NSA) is authorized for loading in the MPC-32ML.

D. Up to thirty-two (32) BRPAs are authorized for loading in the MPC-32ML.

Note 1: Fuel assemblies containing BPRAs, TPDs, WABAs, water displacement guide tube plugs, orifice rod assemblies, or vibration suppressor inserts, with or without ITTRs, may be stored in any fuel storage location. Fuel assemblies containing APSRs, RCCAs, CEAs, CRAs, or NSAs may only be loaded in fuel cells 1-6 through 1-9, 1-12 through 1-15, 1-18 through 1-21, and 1-24 through 1-27.

Note 2: DAMAGED FUEL ASSEMBLIES which can be handled by normal means and whose structural integrity is such that geometric rearrangement of fuel is not expected, may be stored in storage locations designated for DFCs using DFIs or DFCs. Damaged fuel stored in DFIs may contain missing or partial fuel rods and/or fuel rods with known or suspected cladding defects greater than hairline cracks or pinhole leaks.

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. No drying time limits are required for decay heat values meeting the limits in these tables when using FHD to dry moderate or high burnup fuel and when using VDS to dry moderate burnup fuel. Drying time limits apply when using VDS to dry high burnup fuel with decay heat values meeting the limits in these tables. 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, with no drying time limits imposed, when using VDS to dry high burnup fuel. Table 2.3-5 provides the maximum allowable decay heat per fuel storage location for the MPC-32ML for both FHD and VDS drying. The per cell limits in these tables apply to cells containing undamaged fuel or damaged fuel in DFCs/DFIs or fuel debris in DFCs.

Figures 2.3-1 through 2.3-14 provide alternative loading patterns for the MPC-37 and MPC-89, with undamaged fuel and a combination of undamaged fuel and damaged fuel in DFCs/DFIs and fuel debris in DFCs. The per cell limits in these figures are applicable when using vacuum drying or FHD to dry moderate or high burnup fuel in accordance with Table 3-1 of Appendix A of the CoC. The MPC-37 patterns are based on the fuel length to be stored in the MPC, see Table 2.3-6.

A minor deviation from the prescribed loading pattern in an MPC's permissible contents to allow one slightly thermally-discrepant fuel assembly per quadrant to be loaded as long as the peak cladding temperature for the MPC remains below the ISG-11 Rev 3 requirements is permitted for essential dry storage campaigns to support decommissioning.

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

TABLE 3-1
List of ASME Code Alternatives for Multi-Purpose Canisters (MPCs)

MPC Closure Ring, Vent and Drain Cover Plate Welds	NB-5230	Radiographic (RT) or ultrasonic (UT) examination required.	Root (if more than one weld pass is required) and final liquid penetrant examination to be performed in accordance with NB-5245. The closure ring provides independent redundant closure for vent and drain cover plates. Vent and drain port cover plate welds are helium leakage tested.
MPC Lid to Shell Weld	NB-5230	Radiographic (RT) or ultrasonic (UT) examination required.	Only progressive liquid penetrant (PT) examination is permitted. PT examination will include the root and final weld layers and each approx. 3/8" of weld depth.