

Table 1.1-1 (Page 7 of
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II. MPC MODEL: MPC-68 (continued)

A. Allowable Contents (continued)

5. Thoria rods (ThO_2 and UO_2) placed in Dresden Unit 1 Thoria Rod Canisters (as shown in Figure 2.1.2A of the SAR) and meeting the following specifications:

- | | |
|---|---|
| a. Cladding type: | Zircaloy (Zr) |
| b. Composition: | 98.2 wt. % ThO_2 , 1.8 wt. % UO_2 with an enrichment of 93.5 wt. % ^{235}U . |
| c. Number of rods per Thoria Rod Canister: | ≤ 18 |
| d. Decay heat per Thoria Rod Canister: | ≤ 115 Watts |
| e. Post-irradiation fuel cooling time and average burnup per Thoria Rod Canister: | A fuel post-irradiation cooling time ≥ 18 years and an average burnup $\leq 16,000$ MWD/MTIHM. |
| f. Initial heavy metal weight: | ≤ 27 kg/canister |
| g. Nominal fuel cladding O.D.: | ≥ 0.412 inches |
| h. Nominal fuel cladding I.D.: | ≤ 0.362 inches |
| i. Nominal fuel pellet O.D.: | ≤ 0.358 inches |
| j. Nominal active fuel length: | ≤ 111 inches |
| k. Canister weight: | ≤ 550 lbs, including fuel |

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- II. MPC MODEL: MPC-68 (continued)
- B. Quantity per MPC: Up to one (1) Dresden Unit 1 Thoria Rod Canister loaded toward the basket periphery (i.e., away from the hot central core of the fuel basket) plus any combination of DAMAGED FUEL ASSEMBLIES in DAMAGED FUEL CONTAINERS and INTACT FUEL ASSEMBLIES, up to a total of 68.
 - C. Fuel assemblies with stainless steel channels are not authorized for loading in the MPC-68.
 - D. Dresden Unit 1 fuel assemblies (fuel assembly array/class 6x6A, 6x6B, 6x6C, or 8x8A) with one Antimony-Beryllium neutron source are authorized for loading in the MPC-68. The Antimony-Beryllium source material shall be in a water rod location.

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III. MPC MODEL: MPC-68F (continued)

A. Allowable Contents (continued)

57. Thoria rods (ThO_2 and UO_2) placed in Dresden Unit 1 Thoria Rod Canisters (as shown in Figure 2.1.2A of the SAR) and meeting the following specifications:

- | | |
|---|---|
| a. Cladding type: | Zircaloy (Zr) |
| b. Composition: | 98.2 wt. % ThO_2 , 1.8 wt. % UO_2 with an enrichment of 93.5 wt. % ^{235}U . |
| c. Number of rods per Thoria Rod Canister: | ≤ 18 |
| d. Decay heat per Thoria Rod Canister: | ≤ 115 Watts |
| e. Post-irradiation fuel cooling time and average burnup per Thoria Rod Canister: | A fuel post-irradiation cooling time ≥ 18 years and an average burnup $\leq 16,000$ MWD/MTIHM. |
| f. Initial heavy metal weight: | ≤ 27 kg/canister |
| g. Nominal fuel cladding O.D.: | ≥ 0.412 inches |
| h. Nominal fuel cladding I.D.: | ≤ 0.362 inches |
| i. Nominal fuel pellet O.D.: | ≤ 0.358 inches |
| j. Nominal active fuel length: | ≤ 111 inches |
| k. Canister weight: | ≤ 550 lbs, including fuel |

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III. MPC MODEL: MPC-68F (continued)

B. Quantity per MPC:

Up to four (4) DFCs containing uranium oxide or MOX BWR FUEL DEBRIS. The remaining MPC-68F fuel storage locations may be filled with array/class 6x6A, 6x6B, 6x6C, 7x7A, and 8x8A fuel assemblies of the following type, as applicable:

1. Uranium oxide BWR INTACT FUEL ASSEMBLIES;
2. MOX BWR INTACT FUEL ASSEMBLIES;
3. Uranium oxide BWR DAMAGED FUEL ASSEMBLIES placed in DFCs;
4. MOX BWR DAMAGED FUEL ASSEMBLIES placed in DAMAGED FUEL CONTAINERS; or
5. Up to one (1) Dresden Unit 1 Thoria Rod Canister loaded toward the basket periphery (i.e., away from the hot central core of the fuel basket).

C. Fuel assemblies with stainless steel channels are not authorized for loading in the MPC-68F.

D. Dresden Unit 1 fuel assemblies (fuel assembly array/class 6x6A, 6x6B, 6x6C or 8x8A) with one Antimony-Beryllium neutron source are authorized for loading in the MPC-68F. The antimony-Beryllium neutron source material shall be in a water rod location.