3.7 PLANT SYSTEMS

3.7.13 Spent Fuel Pool (SFP) Storage

LCO 3.7.13 The combination of initial enrichment and burnup values, with appropriate decay times, of each fuel assembly stored in the spent fuel pool shall be within the acceptable burnup domain of the applicable Figures 3.7.13-1 through 3.7.13-11, based on region and cell type.

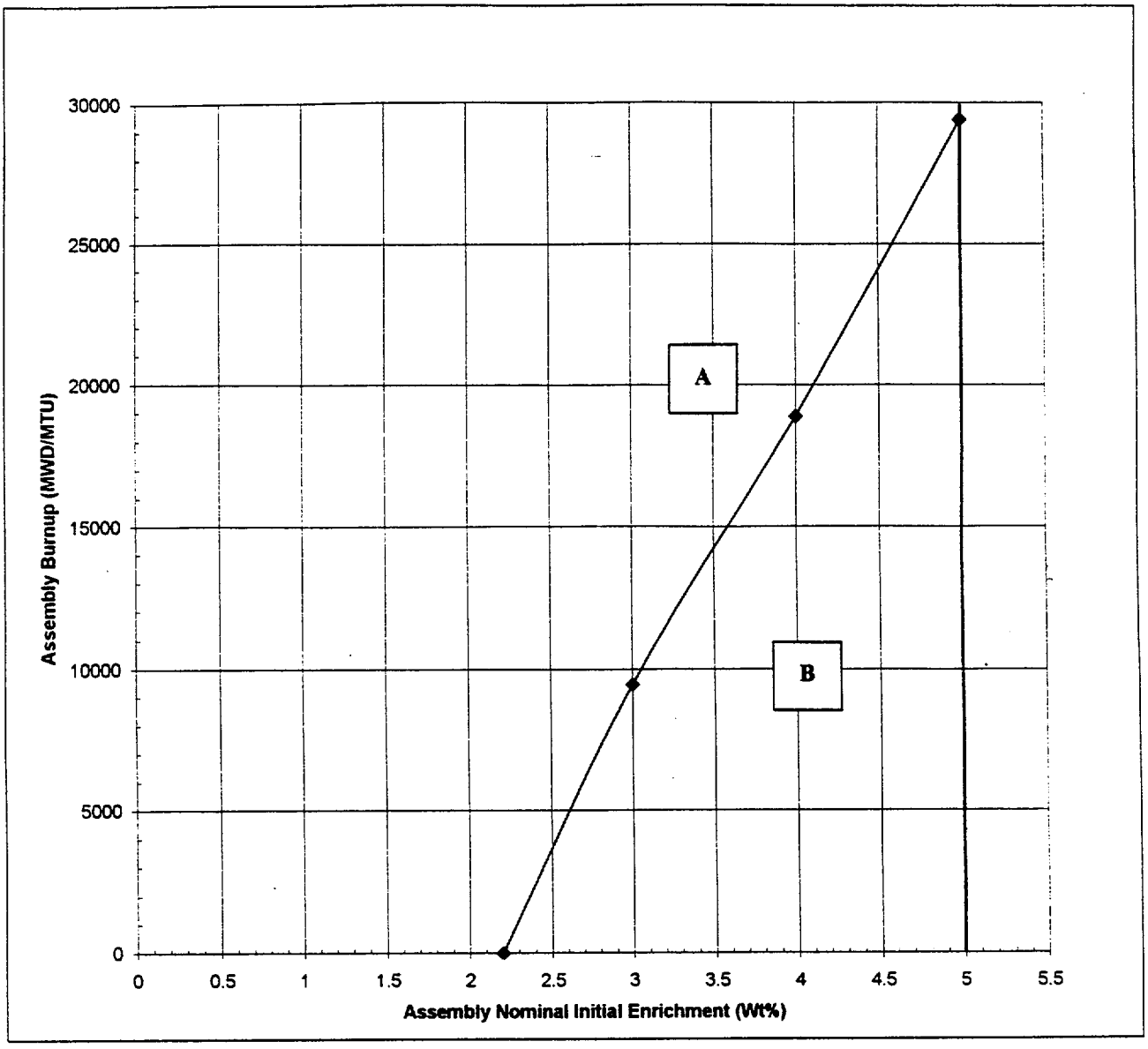
APPLICABILITY: Whenever any fuel assembly is stored in the spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 --------NOTE-------- LCO 3.0.3 is not applicable. ---------- Initiate action to move the noncomplying fuel assembly to an acceptable storage location.	Immediately

SURVEILLANCE REQUIREMENTS

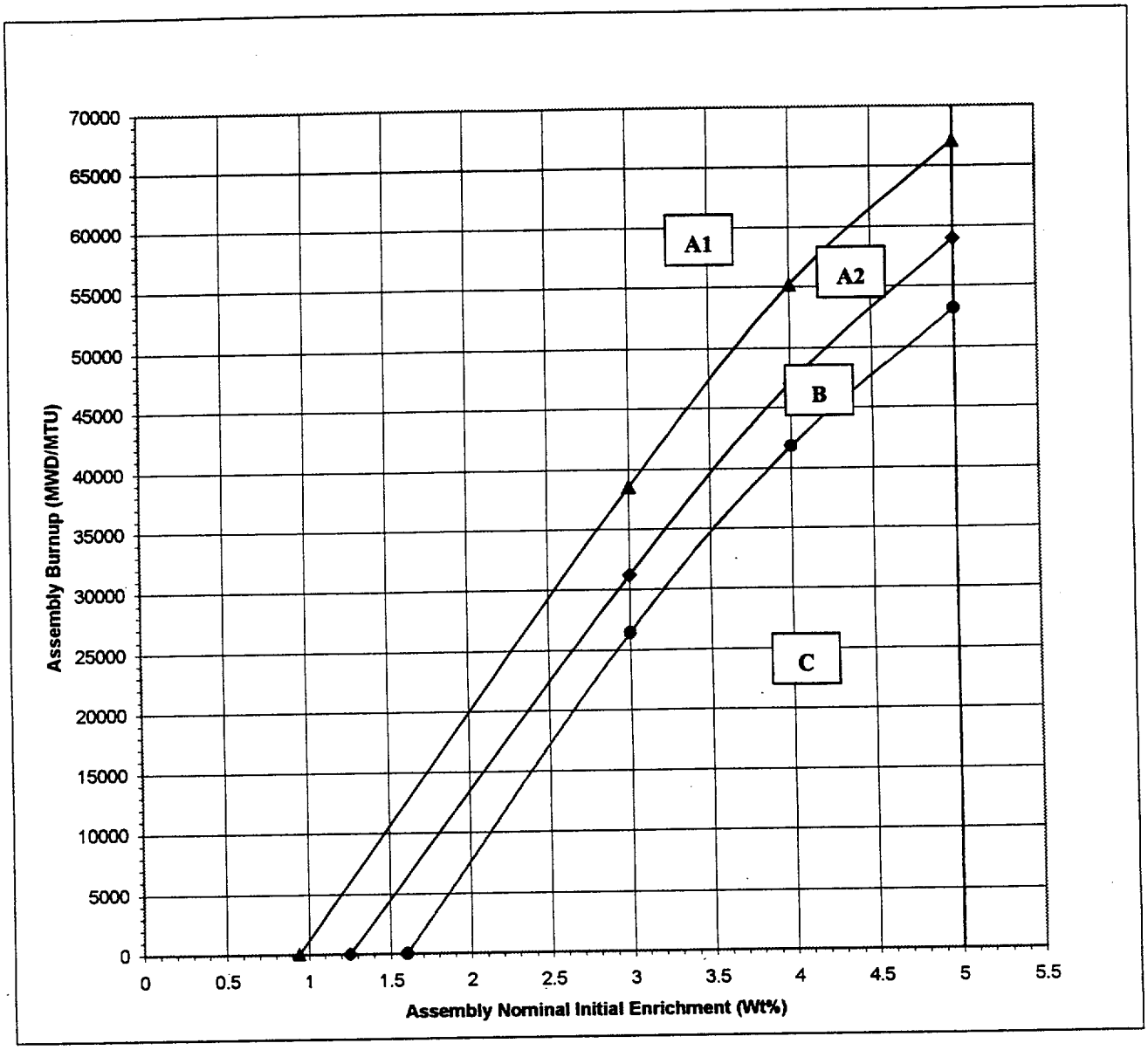
SURVEILLANCE		FREQUENCY
SR 3.7.13.1	Verify by administrative means the initial enrichment, burnup, and decay time of the fuel assembly is in accordance with the applicable Figures 3.7.13-1 through 3.7.13-11.	Prior to storing, or moving, the fuel assembly in the spent fuel pool



A Acceptable burnup domain for storage in any location within Region 1

B Acceptable burnup domain for storage in cells with lead-in funnels only

Figure 3.7.13-1
Burnup Vs Enrichment Curve for Region 1 Type 3 Cells
(Not Pu-241 Decay Dependent)



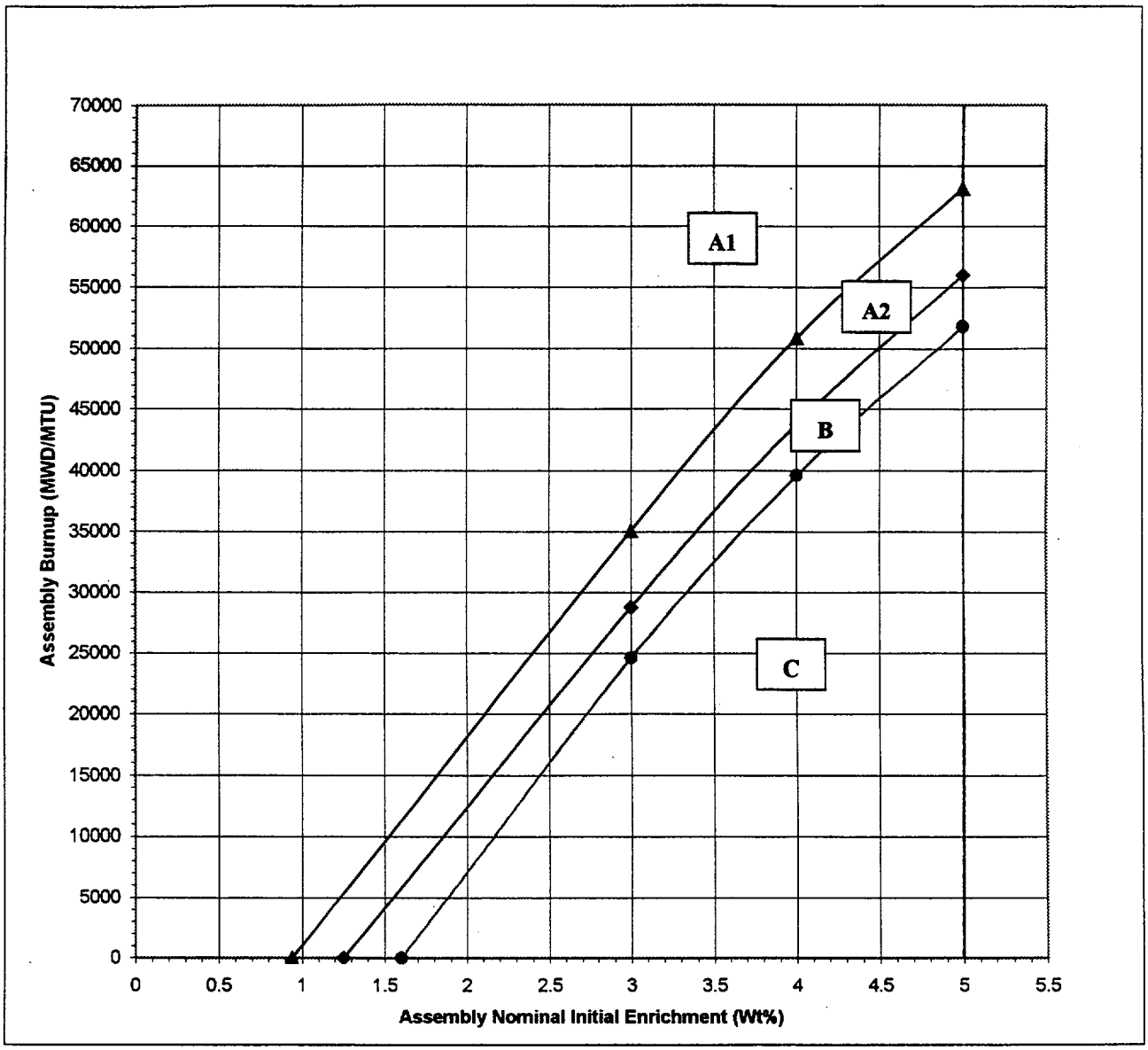
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-2
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells
(No Pu-241 Decay)



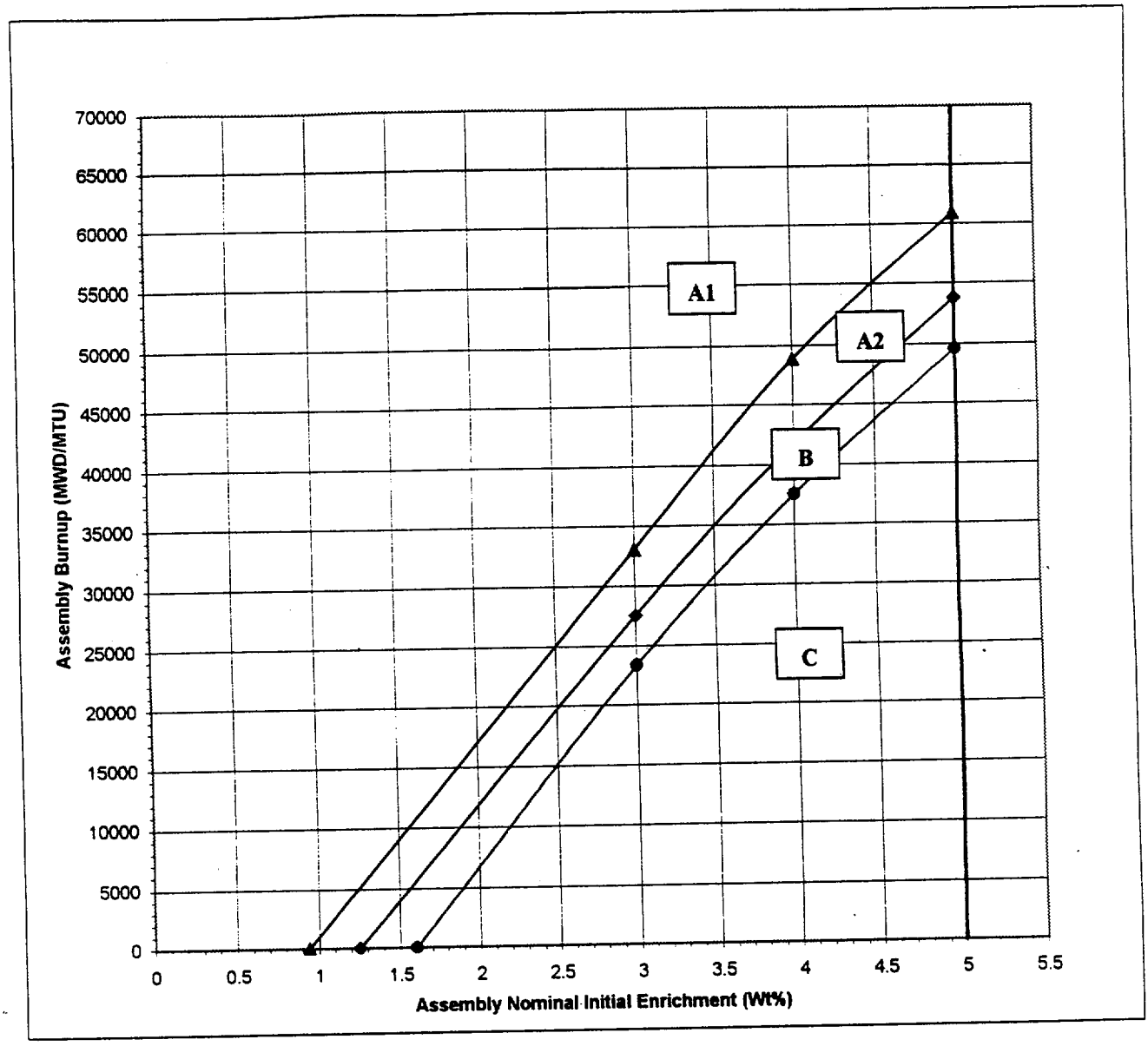
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-3
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells
(5-Year Pu-241 Decay)



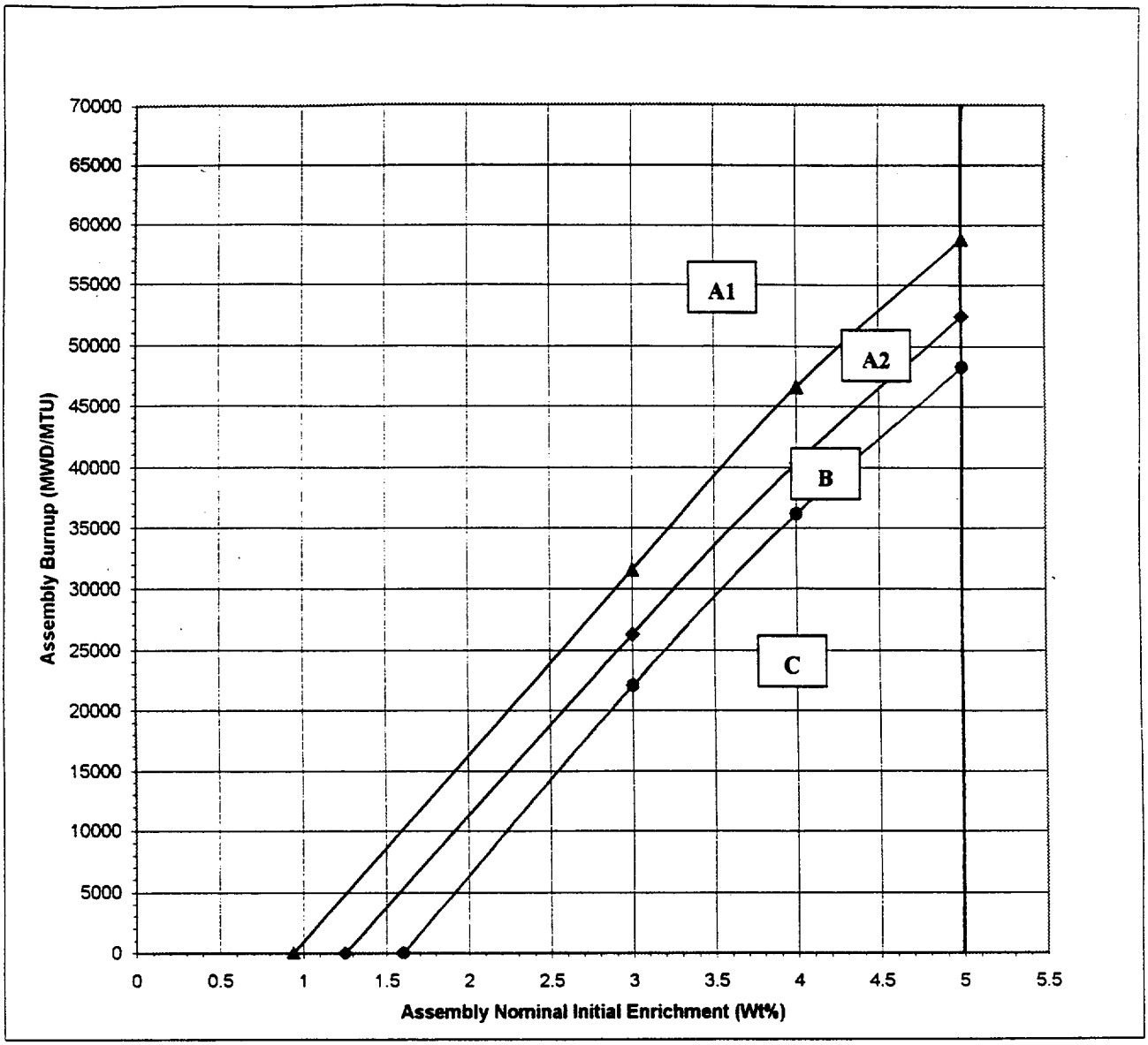
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-4
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells
(10-Year Pu-241 Decay)



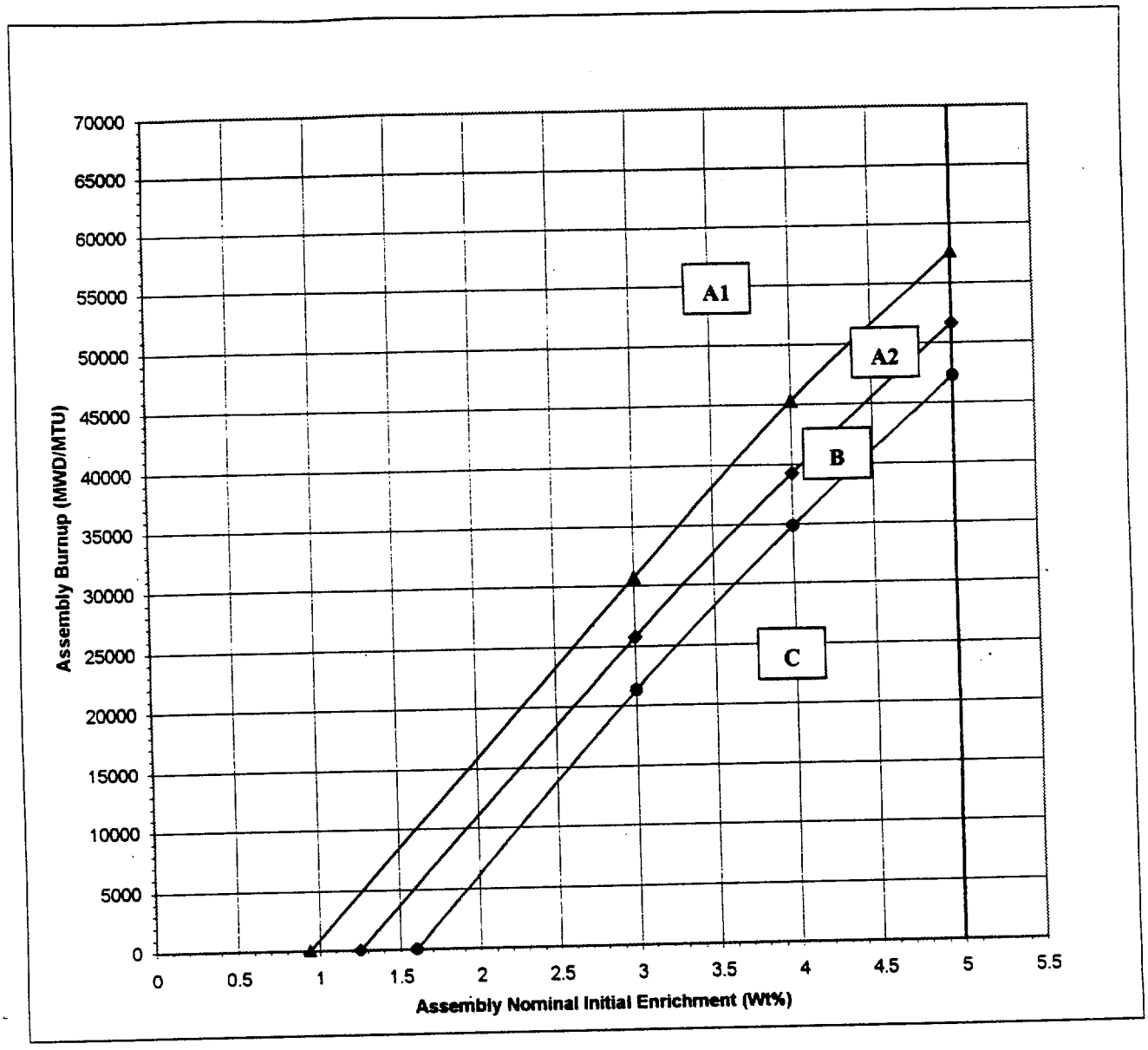
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-5
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells
(15-Year Pu-241 Decay)



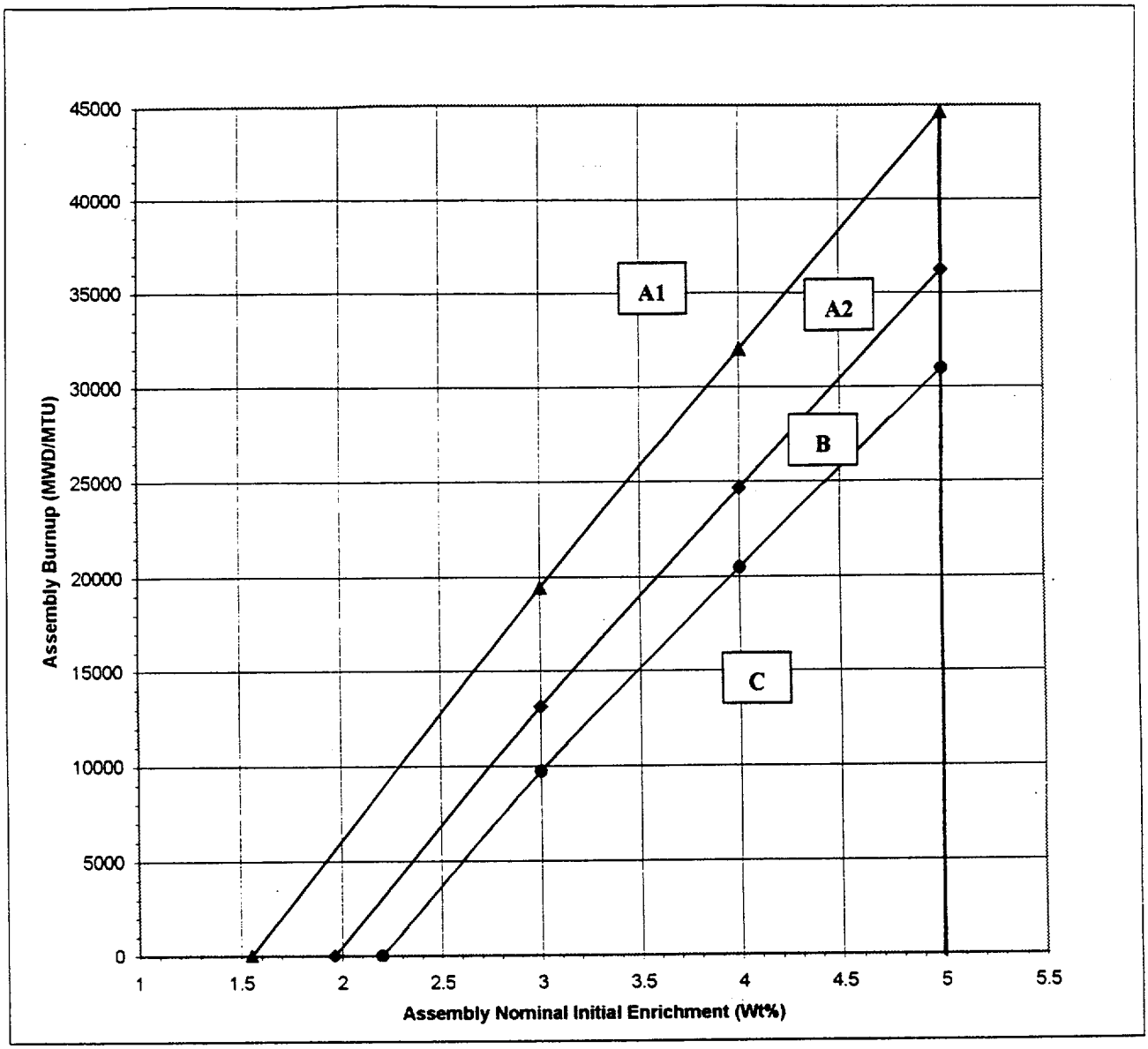
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-6
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells
(20-Year Pu-241 Decay)



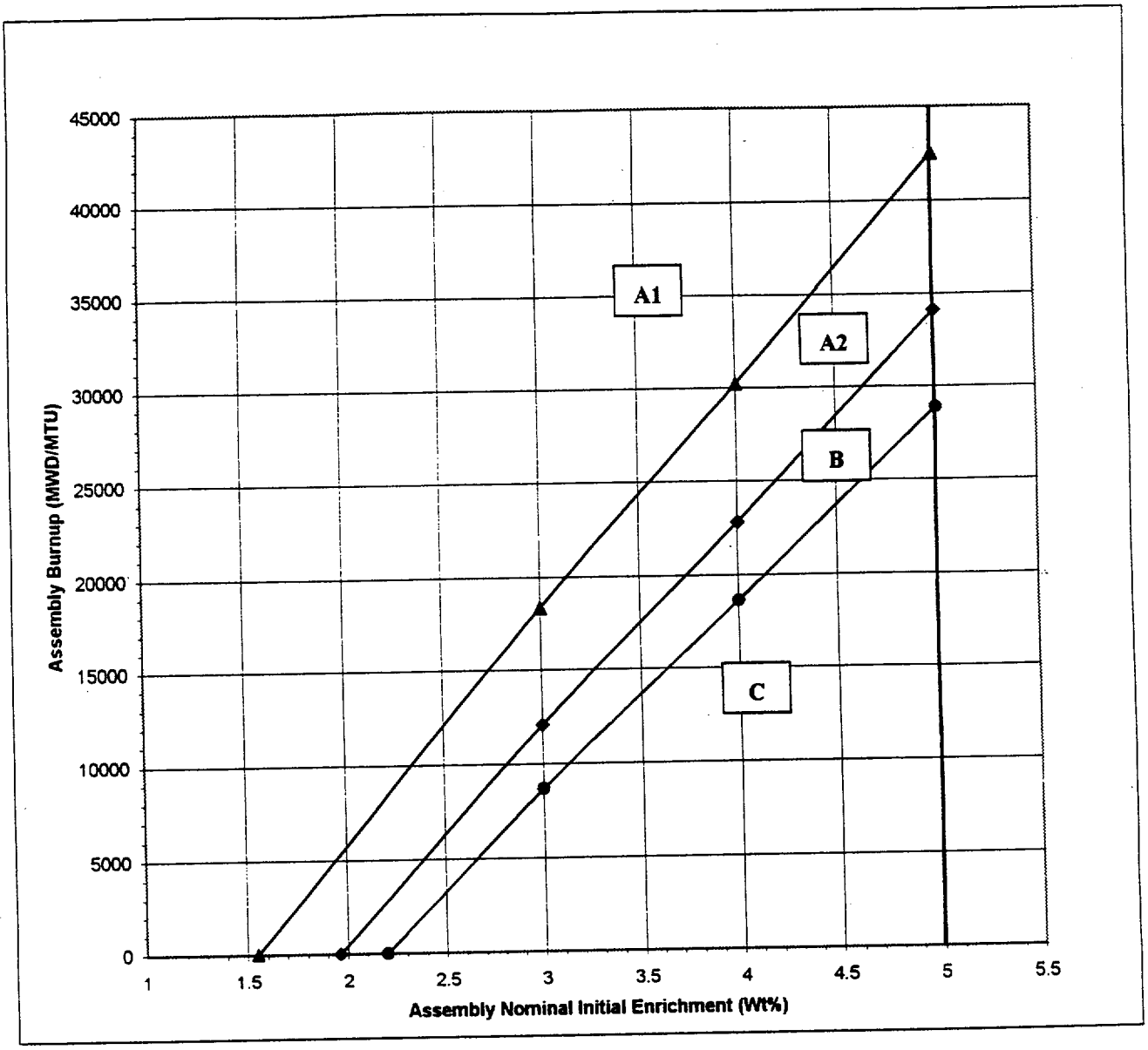
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-7
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells
(No Pu-241 Decay)



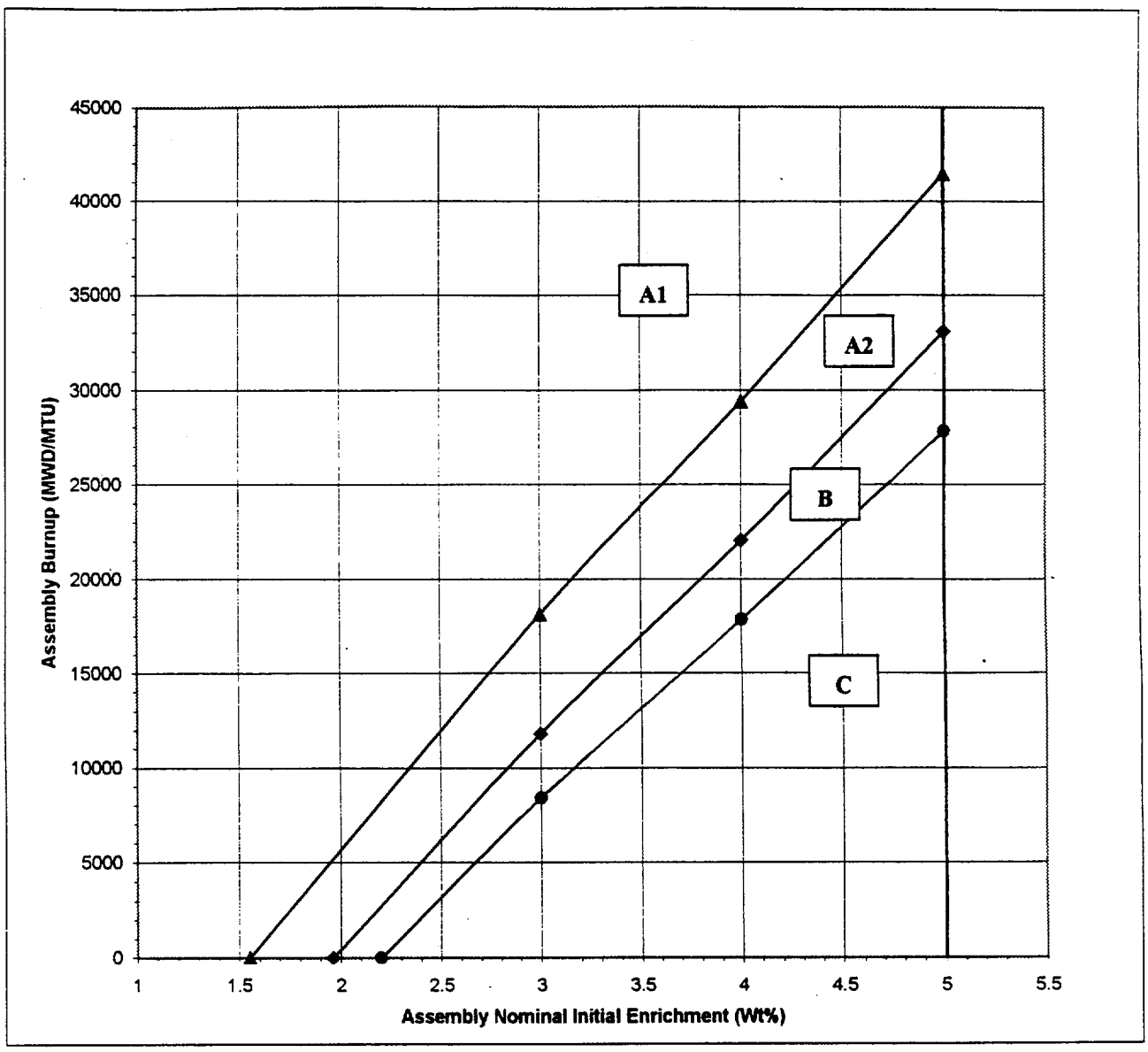
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-8
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells
(5-Year Pu-241 Decay)



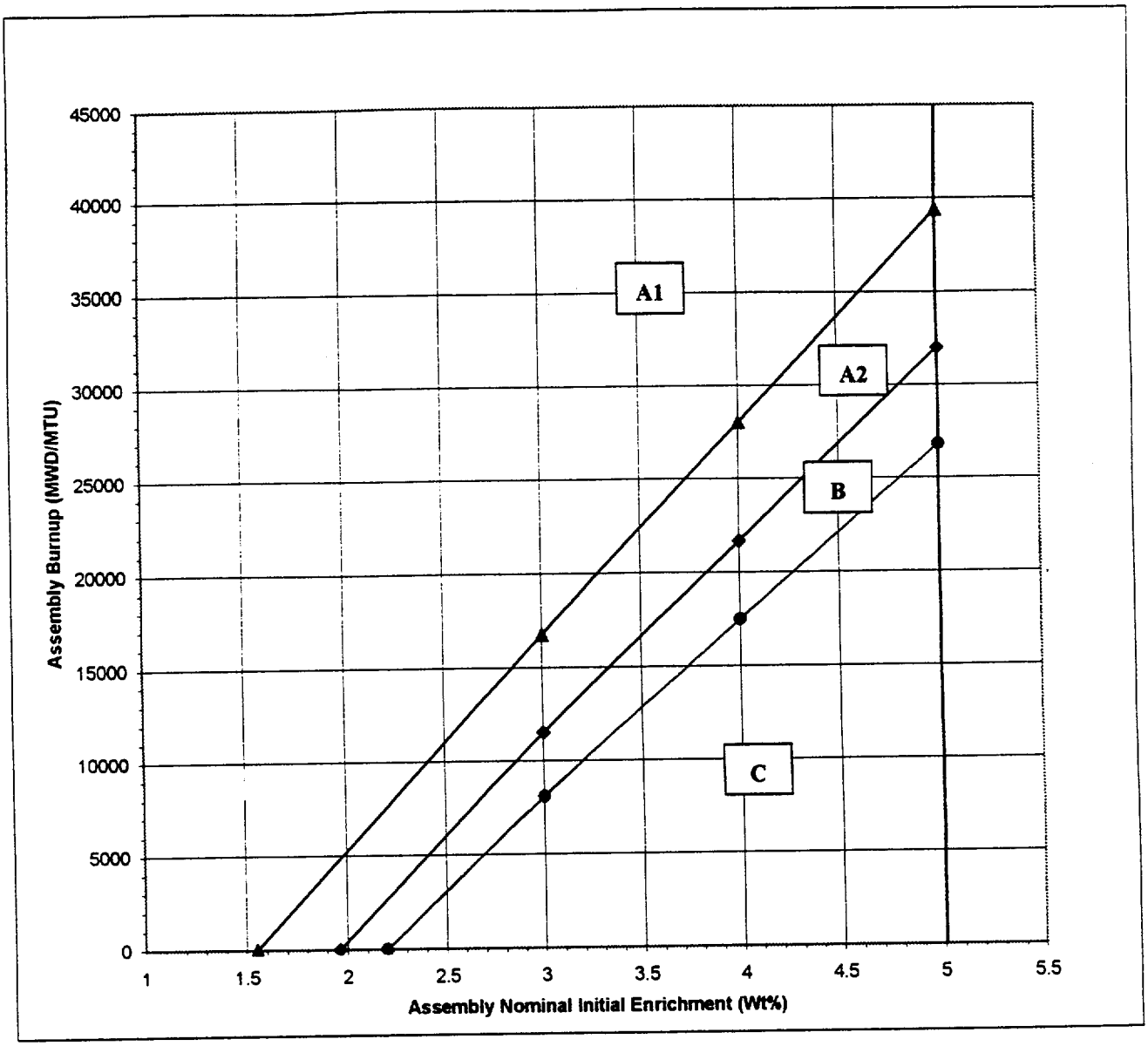
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-9
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells
(10-Year Pu-241 Decay)



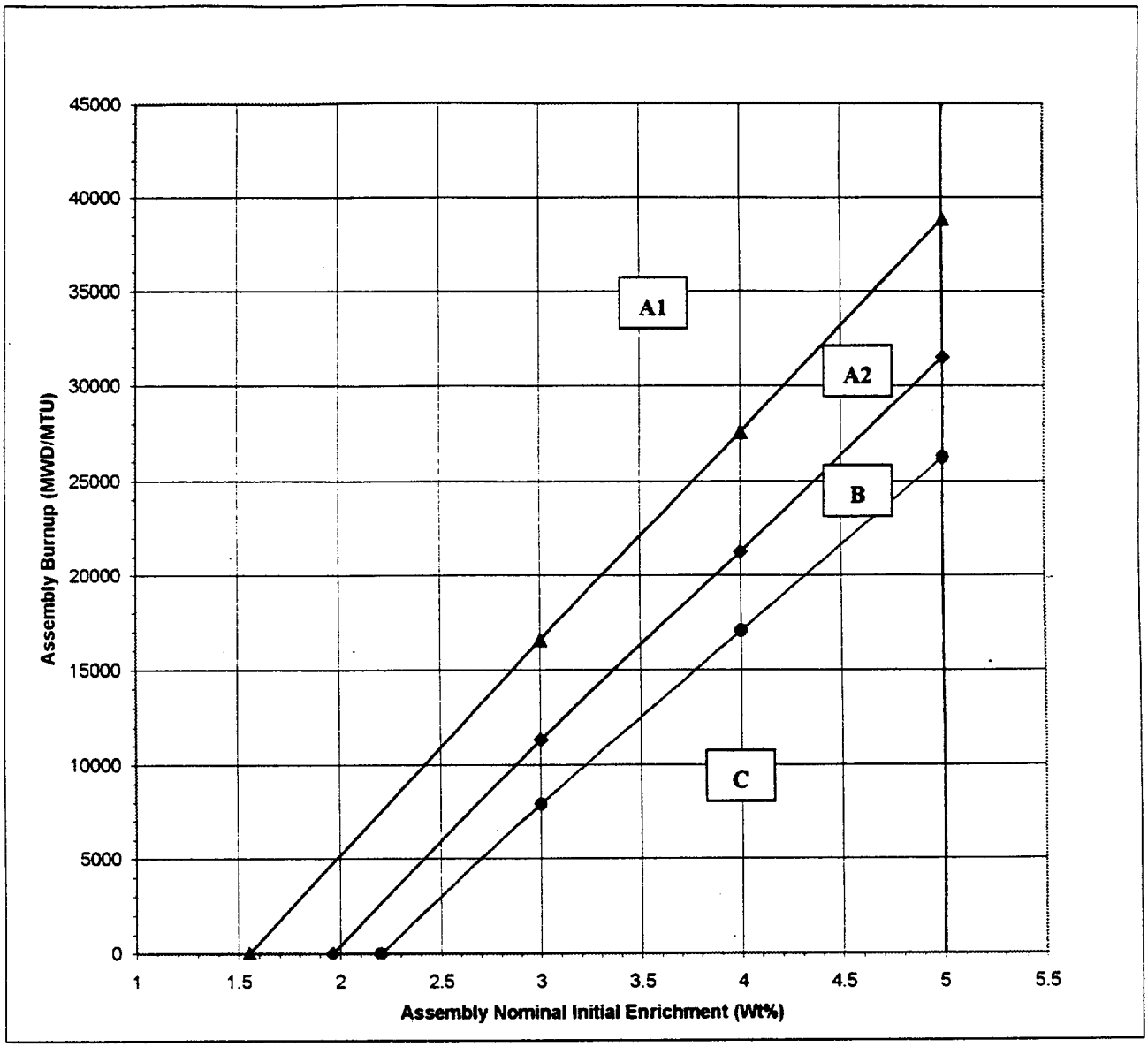
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-10
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells
(15-Year Pu-241 Decay)



A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-11
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells
(20-Year Pu-241 Decay)

4.0 DESIGN FEATURES

4.2 Reactor Core (continued)

4.2.2 Control Rod Assemblies

The reactor core shall contain 29 control rod assemblies. The control material shall be silver indium cadmium.

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum nominal U-235 enrichment of 5.0 weight percent;

b. $k_{eff} < 1.0$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;

c. $k_{eff} \leq 0.95$ if fully flooded with water borated to $\geq$ 975 ppm, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR; and

d. Consolidated rod storage canisters may be stored in the spent fuel storage racks provided that the fuel assemblies from which the rods were removed meet all the requirements of LCO 3.7.13 for the region in which the canister is to be stored. The average decay heat of the fuel assembly from which the rods were removed for all consolidated fuel assemblies must also be $\leq$ 2150 BTU/hr.

(continued)

4.0 DESIGN FEATURES

4.3.1 Criticality (continued)

4.3.1.2 The new fuel storage dry racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum nominal U-235 enrichment of 5.0 weight percent;

b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR; and

c. $k_{eff} \leq 0.98$ if moderated by aqueous foam, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR.

4.3.2 Drainage

The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 257'0" (mean sea level).

4.3.3 Capacity

The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 1879 fuel assemblies and 1369 storage locations.