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Constellation Energy
Generation Group

October 12 , 2006

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: **R.E. Ginna Nuclear Power Plant**
Docket No. 50-244

License Amendment Request: Spent Fuel Pool Storage Capacity

REFERENCE: (a) Letter from Patrick D. Milano (NRC) to Mary G. Korsnick (Ginna LLC), "R.E. Ginna Nuclear Power Plant - Amendment Re: 16.8 Percent Power Uprate (TAC No. MC7382)", dated July 11, 2006.

(b) Letter from Mary G. Korsnick (Ginna LLC) to NRC (Document Control Desk), "R.E. Ginna Nuclear Power Plant Docket No 50-244, Response to BOP Systems Questions Discussed on March 2, 2006 Conference Call", dated March 24, 2006.

In Reference (a) R.E. Ginna Nuclear Power Plant, LLC (Ginna LLC) received approval from the NRC for a revised amendment to its Renewed Facility Operating License and Technical Specification for an approximate 16.8 percent increase in the licensed steady state thermal power level from 1520 megawatts thermal (MWt) to 1775 (MWt). As noted in this letter and Reference (b), Ginna LLC committed to submit a proposed change to Technical Specification 4.3.3 prior to startup for Extended Power Uprate (EPU) operation that would revise the number of fuel assemblies that are allowed to be stored in the Spent Fuel Pool to 1321 fuel assemblies.

A001

In accordance with the provisions of 10 CFR 50.90, Ginna LLC is submitting a request for an amendment to change the number of fuel assemblies that are allowed to be stored in the Spent Fuel Pool as stated in Technical Specification 4.3.3 and the types of storage locations as listed in LCO 3.7.13.

Technical Specification 4.3.3 currently states that 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. The proposed change would limit the number of fuel assemblies allowed to be stored to 1321 fuel assemblies.

Technical Specification LCO 3.7.13 currently provides the requirements for storing fuel in type 4 storage racks. The type 4 storage racks are not currently installed and are not planned to be installed, therefore the reference to them is being removed.

Attachment 1 provides a description and assessment of the proposed changes. Attachment 2 provides the existing Technical Specification pages marked up to show the proposed changes. There are no additional commitments associated with this amendment request.

This proposed change to the Technical Specifications and our determination of significant hazards have been reviewed by our Plant Operation Review Committee (PORC) and Nuclear Safety Review Board (NSRB), and they have concluded that implementation of these changes will not result in an undue risk to the health and safety of the public.

We request that this change be approved by January 1, 2008 to support Ginna's startup following the next scheduled refueling outage. Once approved, this amendment will be implemented within 60 days.

In accordance with 10 CFR 50.91, a copy of this amendment application is being provided to the designated New York State official.

Should you have questions regarding the information in this submittal, please contact Mr. Robert Randall at (585) 771-3734 or Robert.Randall@constellation.com.

Very truly yours,

Mary G. Korsnick

Mary G. Korsnick

STATE OF NEW YORK :
: **TO WIT:**
COUNTY OF WAYNE :

I, Mary G. Korsnick, begin duly sworn, state that I am Vice President, R.E. Ginna Nuclear Power Plant, LLC (Ginna LLC), and that I am duly authorized to execute and file this request on behalf of Ginna LLC. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other Ginna LLC employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

Mary G. Korsnick

Subscribed and sworn before me, a Notary Public in and for the State of New York and County of Monroe, this 12 day of October, 2006.

WITNESS my Hand and Notarial Seal:

Sharon L Miller
Notary Public

My Commission Expires: 12-21-06
Date

SHARON L. MILLER
Notary Public, State of New York
Registration No. 01MI6017755
Monroe County
Commission Expires December 21, 2006

Attachments: (1) Evaluation of Proposed Change
(2) Proposed Technical Specification Changes (Mark-up)

cc: S. J. Collins, NRC
P.D. Milano, NRC
Resident Inspector, NRC (Ginna)
P.D. Eddy, NYSDPS
J. P. Spath, NYSERDA

Attachment (1)

Evaluation of Proposed Changes

Attachment (1)
Evaluation of Proposed Change

1. DESCRIPTION

This letter is a request to amend the Renewed Operating License No. DPR-18 for the R. E. Ginna Nuclear Power Plant, LLC (Ginna LLC). The proposed change to Technical Specification 4.3.3 would limit the Spent Fuel Storage capacity to no more than 1321 fuel assemblies.

2. PROPOSED CHANGE

Technical Specification 4.3.3 currently states that 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. The proposed change would limit the number of fuel assemblies allowed to be stored in the spent fuel pool to no more than 1321 fuel assemblies. This change is consistent with Ginna LLC's evaluation for the Spent Fuel Pool (SFP) Cooling and Cleanup System and Spent Fuel Storage System to support the Extended Power Uprate (EPU) as described in Reference (a). The EPU evaluation for a loss of SFP cooling is based upon the worst-case decay heat load that is generated from 1321 fuel assemblies and assumes that on-site dry cask storage will be used for the remaining (older) fuel assemblies with the lowest decay heat rates. Technical Specification LCO 3.7.13 is also being revised to remove the reference to Type 4 spent fuel pool storage racks that are not currently installed. This will limit the installed storage locations to 1321. The proposed change to the Technical Specifications is provided in Attachment (2). Appropriate changes will be made to the Technical Specification Bases as well.

3. BACKGROUND

The original spent fuel storage racks provided capacity for the storage of 210 fuel assemblies. In 1976, the NRC approved the replacement of the original racks with higher density flux trap type racks. This expanded the storage capability from 210 to 595 fuel assemblies.

In 1984, the NRC approved the conversion of six flux trap type racks to high-density fixed poison type racks. This further expanded the storage capacity from 595 to 1016 fuel assemblies. At this point, the spent fuel pool was divided into two regions. Region 1 comprised three flux trap type racks to accommodate a full core off-load. Region 2 consisted of six high-density fixed poison (Boraflex) type racks for the storage of 840 fuel assemblies that satisfied minimum burnup criteria and had cooled for a minimum of 60 days.

In 1998, the NRC approved re-racking the spent fuel pool. This re-rack effort, to be done in two phases, would reconfigure the pool to accommodate a net increase of 353 locations. This would be accomplished by retaining the six existing high-density Region 2 racks (840 minus 12 for attachment of new racks = 828 locations) and installing new borated stainless steel (BSS) racks with up to 541 additional storage locations for a total of 1369 storage locations after completion of both phases. With the completion of phase 1, the pool has three types of racks in two regions. Region 1 contains new high-density flux-trap design BSS racks designated as Type 3 for fresh

and spent fuel (294 storage cells). Region 2 contains the existing Boraflex racks designated as Type 1 (840 storage cells) and new high-density BSS racks designated as Type 2 (187 storage cells). The current total storage capacity of the pool is 1321 storage cell positions.

The 1369 storage locations in the current Technical Specification 4.3.3 is based on completion of Phase 2 of the re-racking modification which would allow Ginna to install wall mounted rack modules, designated as Type 4, at a later time providing 48 additional storage locations.

In addition to intact fuel assemblies, consolidated fuel canisters can also be stored in Region 1 and Region 2 of the pool. In 1985, the NRC approved the storage of consolidated fuel in the spent fuel pool. This process involved placing spent fuel containing, at most, all the rods from two standard spent fuel assemblies, which have decayed at least 5 years, into one canister. The canisters are designed to hold 358 fuel rods and can be placed in either Region 1 or Region 2 rack locations.

The number of fuel rods contained in the intact fuel assemblies and/or consolidated rod storage canisters is currently limited to no more than the number of rods contained in 1879 fuel assemblies (179 fuel rods per assembly x 1879 assemblies = 336,341 fuel rods). Thus, the Technical Specifications limits storage at this time to 1879 fuel assemblies.

As part of the EPU submittal, the evaluation for a loss of SFP cooling was based upon the worst-case decay heat load that is generated from 1321 fuel assemblies and assumes that on-site dry cask storage will be used for the remaining (older) fuel assemblies with the lowest decay heat rates. During subsequent discussions with the NRC as stated in Reference (b), Ginna committed to submit a license amendment request to revise the plant Technical Specifications to limit the number of fuel assemblies stored in the pool to 1321 prior to the startup implementing EPU operation in order to be consistent with the analysis that had been completed. Ginna is not expected to challenge the 1321 fuel assembly storage requirement prior to implementation of an independent spent fuel storage installation.

4. TECHNICAL ANALYSIS

The Spent Fuel Pool provides wet storage capacity for the maximum number of fuel assemblies allowed to be stored in the pool. The safety function of the spent fuel pool and storage racks is to maintain the spent fuel assemblies in a safe and subcritical array during all credible storage conditions and to provide a safe means of loading the assemblies into shipping casks.

Technical Specification 4.3.3 currently states that 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.

This specification for storage of 1879 fuel assemblies was based on the analysis performed for the Ginna SFP Re-rack modification that was approved by the NRC in an SER dated July 30, 1998 as per Reference (c). The analysis performed for the SFP re-rack assumed that all Ginna fuel assemblies off-loaded from initial criticality in 1969 up through a plant shutdown in 2029

would be stored in the SFP. The resulting number of fuel assemblies was estimated to be 1879. To accommodate this number of spent fuel assemblies in the existing SFP, the 1997 analysis assumed that fuel consolidation would be performed so that fuel rods from two fuel assemblies could be stored in one consolidated canister.

Ginna's EPU Licensing Report Section 2.5.4.1, Spent Fuel Pool Cooling and Cleanup System addresses the proposed EPU effects on the capability of the spent fuel pool cooling and cleanup system to provide adequate cooling to the spent fuel during all operating and accident conditions.

As noted in Section 2.5.4.1.2.2, Cooling Capacity – Full Core Off-Load, of the EPU Licensing Report, storing of 1879 fuel assemblies in the existing pool would require performing fuel rod consolidation so that the fuel rods from two fuel assemblies could be stored in a single canister. Fuel consolidation to store up to 1879 assemblies in the existing SFP is no longer believed to be credible for assessing maximum SFP heat loads as Ginna plans to use dry cask storage beginning around 2009 to store old spent fuel assemblies on site. To maximize the pool residual heat load from the existing 1321 storage positions a bounding full core off-load in 2029 was assumed. The off-load analysis assumed completely filling all 1321 available storage locations. The previously discharged fuel was assumed to be the most recent spent fuel available to completely fill the pool. The fuel assemblies being stored in dry casks are assumed to be the oldest fuel assemblies with the lowest decay heat rates. Based on these assumptions the residual spent fuel pool heat load in 2029 prior to an off-load was calculated to be 3.9 MBTU/hr for the 1200 fuel assemblies previously discharged to the pool. As stated in Ginna UFSAR section 9.1.3.4.1.8, when performing full core off-load, each off-load scenario is conservatively evaluated on a case by case basis to identify the minimum required time after shutdown when fuel off-load can commence in order to maintain spent fuel pool bulk temperature at or below 150° F. This cycle-specific analysis will continue to be performed prior to each full core off-load, and the requirement to have two spent fuel pool cooling systems operational, each commensurate with the spent fuel pool cooling heat load, will be maintained consistent with Ginna's current Technical Requirements Manual.

The specification for 1369 storage locations is based on allowing Ginna to install the additional wall mounted Type 4 module racks at a later time. Ginna no longer believes that installing these additional wall mounted racks is a storage option that will be implemented. Therefore, the maximum number of fuel assemblies that would be stored in the existing Ginna SFP after EPU will be limited to the 1321 existing storage locations and the reference to Type 4 racks will be removed.

Ginna's EPU Licensing Report Section 2.8.6, New Fuel and Spent Fuel Storage, addressed the criticality aspects governing safe fuel storage. To support the EPU operation, Ginna performed evaluations to provide an assessment of the effect of the proposed EPU on the criticality analysis i.e., reactivity of the spent fuel storage array. These evaluations are discussed in the EPU Licensing Report Section 2.8.6.2, Spent Fuel Storage, and conclude that the storage system is adequately addressed and that the spent fuel pool design will continue to ensure an acceptably low temperature and an acceptable degree of subcriticality following implementation of the EPU.

The postulated accidents for fuel storage include a loss of cooling in the spent fuel pool, a fuel handling accident which is the most limiting accident scenario with respect to reactivity, and a boron reduction concentration in the spent fuel pool. The fuel pellet diameter, fuel stack height, and fuel assembly weight in the current analysis bound the design of the new 422V+ fuel assemblies that will be introduced with the EPU. Since the EPU core power level does not change the limiting axial burnup profile that is assumed in the UFSAR analysis, the overall reactivity results of the new fuel design are bounded by the current analysis.

Based on the analyses performed to support the EPU, Ginna concluded that the spent fuel cooling system and storage capability will continue to meet the Ginna Station current licensing basis requirements of GDC 61, 44, 4, and 62 following the implementation of EPU.

As noted in Reference (e), the NRC has concluded, based on a review of the information provided for EPU and Ginna's commitment to revise Technical Specification 4.3.3, that the operation of the plant at the proposed EPU power level will not adversely impact the capability of the spent fuel storage system to provide sufficient decay heat removal from the spent fuel pool following normal and full core offloads.

5. NO SIGNIFICANT HAZARDS DETERMINATION

This proposed change to the Renewed Operating License submits changes to the number of fuel assemblies that can be stored in the spent fuel pool as outlined in Technical Specification, Section 4.3.3 and the type of storage cell as listed in LCO 3.7.13. The current Technical Specification allows storage for up to 1879 fuel assemblies and 1369 storage locations. The proposed changes would limit the number of fuel assemblies stored in the pool to 1321 fuel assemblies and remove the reference to Type 4 storage cells.

R.E. Ginna Nuclear Power Plant, LLC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change reduces the total number of fuel assemblies that can be stored in the current spent fuel pool storage locations and reduces the number of available locations. This will limit the potential inventory of spent fuel in the pool. The probability of an accident has not changed since the number of stored fuel assemblies is not a precursor for a spent fuel handling accident. A comparison of the criticality analysis of fuel assemblies to be used in subsequent Extended Power Uprate core reloads to the current criticality analysis has been performed. The design parameter assumptions used in the licensing basis criticality analyses are bounding.

There are no new components or new functions associated with the spent fuel cooling system so the probability of an accident has not changed. The effect of a single failure on the spent fuel pool system's capability to provide for heat removal from the fuel pool has been analyzed. The analysis concluded that the system remains within the parameters previously evaluated. The implementation of the Extended Power Uprate does not affect the capability of the system to perform its function.

The Extended Power Uprate conditions do not add any new or previously unevaluated materials to the spent fuel pool storage system and do not include any reductions in the boron concentration requirements so the probability of an accident has not changed. The total soluble boron concentration required to maintain the spent fuel pool in a subcritical condition with the transition to the new fuel has not changed. The conclusions in the Ginna UFSAR, assuming the most limiting accident, remain valid.

Therefore, the consequences of a fuel handling accident, a loss of spent fuel cooling, and a boron reduction concentration event previously evaluated have not increased.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes do not alter the function of the spent fuel pool or any related equipment, nor cause it to operate differently than it was designed to operate. All equipment required to mitigate the consequences of an accident would continue to operate as before. The proposed changes reduce the maximum number of fuel assemblies that can be stored in the spent fuel pool and the number of storage locations. Therefore, this change does not create the possibility of a new or different type of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed changes reduce the maximum number of fuel assemblies that can be stored in the spent fuel pool and the number of storage locations. The changes are in accordance with conclusions supporting Extended Power Uprate and have been determined to be acceptable. The design parameter assumptions use in the licensing basis criticality analysis bound those of the new fuel assemblies. Although the individual heat load per assembly has increased due to the changed fuel design, the maximum spent fuel pool heat load has decreased due to the reduction in the number of fuel assemblies that will be stored based on future plans to use dry cask storage. Therefore, this proposed change does not reduce the margin of safety.

Based on the above, R.E. Ginna Nuclear Power Plant, LLC concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

In addition, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6. ENVIRONMENTAL ASSESSMENT

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c) (9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7. PRECEDENT

None

8. REFERENCES

(a) Letter from Mary G. Korsnick (Ginna LLC) to NRC (Document Control Desk), "R.E. Ginna Nuclear Power Plant Docket No 50-244, Licensing Amendment Request Regarding Extended Power Uprate", dated July 7, 2005.

(b) Letter from Mary G. Korsnick (Ginna LLC) to NRC (Document Control Desk), "R.E. Ginna Nuclear Power Plant Docket No 50-244, Response to BOP Systems Questions Discussed on March 2, 2006 Conference Call", dated March 24, 2006

(c) Letter from Guy S. Vissing (NRC) to Robert C. Mecredy (RG&E), "Issuance of Amendment No. 72 to Facility Operating License No. DPR-18, R.E.Ginna Nuclear Power Plant (TAC No. M95759)", dated July 30, 1998.

(d) Ginna UFSAR, Revision 19, Section 9.1

(e) Letter from Patrick D. Milano (NRC) to Mary G. Korsnick (Ginna LLC), "R.E.Ginna Nuclear Power Plant - Amendment Re: 16.8 Percent Power Uprate (TAC No. MC7382)", dated July 11, 2006.

9. REGULATORY COMMITMENTS

None

Attachment (2)

Proposed Technical Specification Changes (Mark-up)

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.

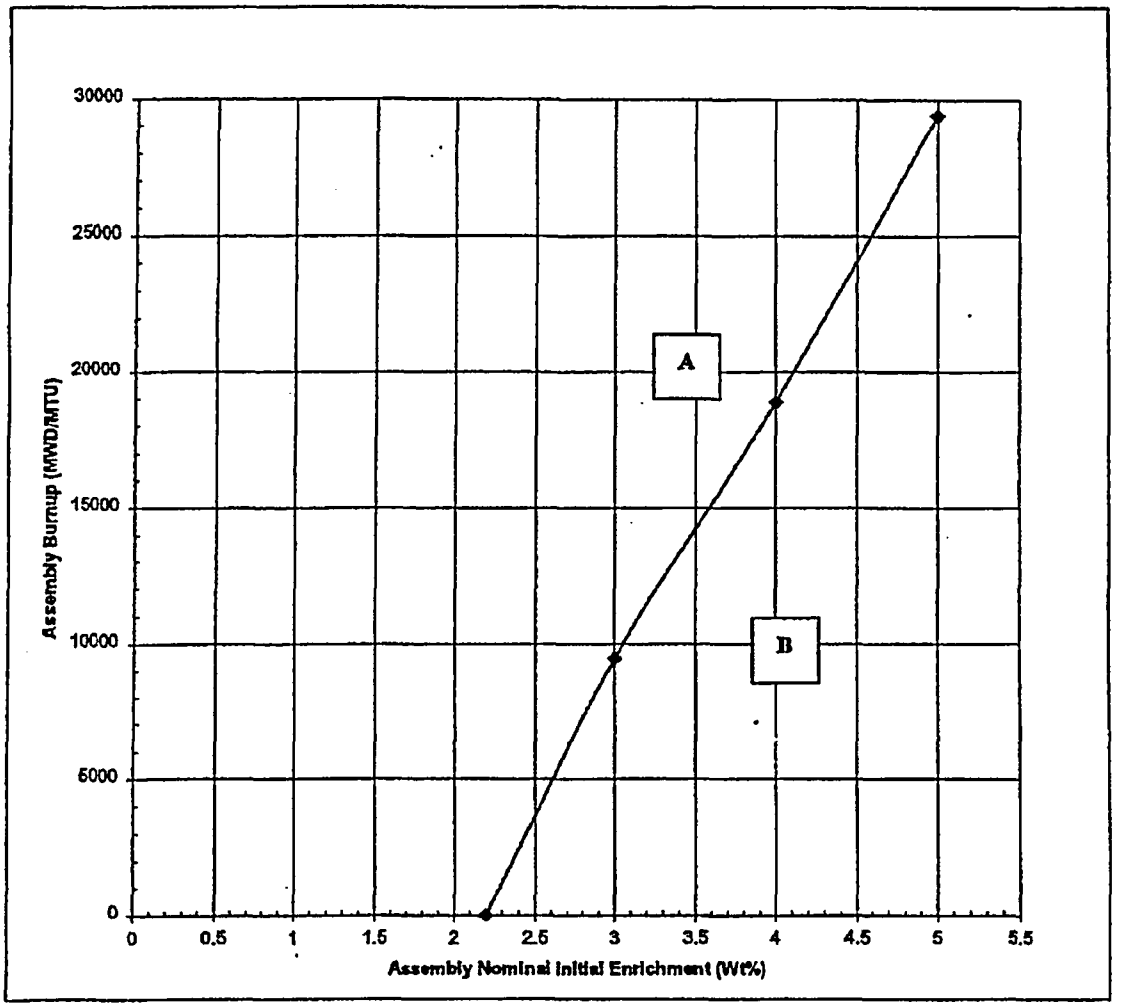
APPLICABILITY: Whenever any fuel assembly is stored in the spent fuel pool.

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

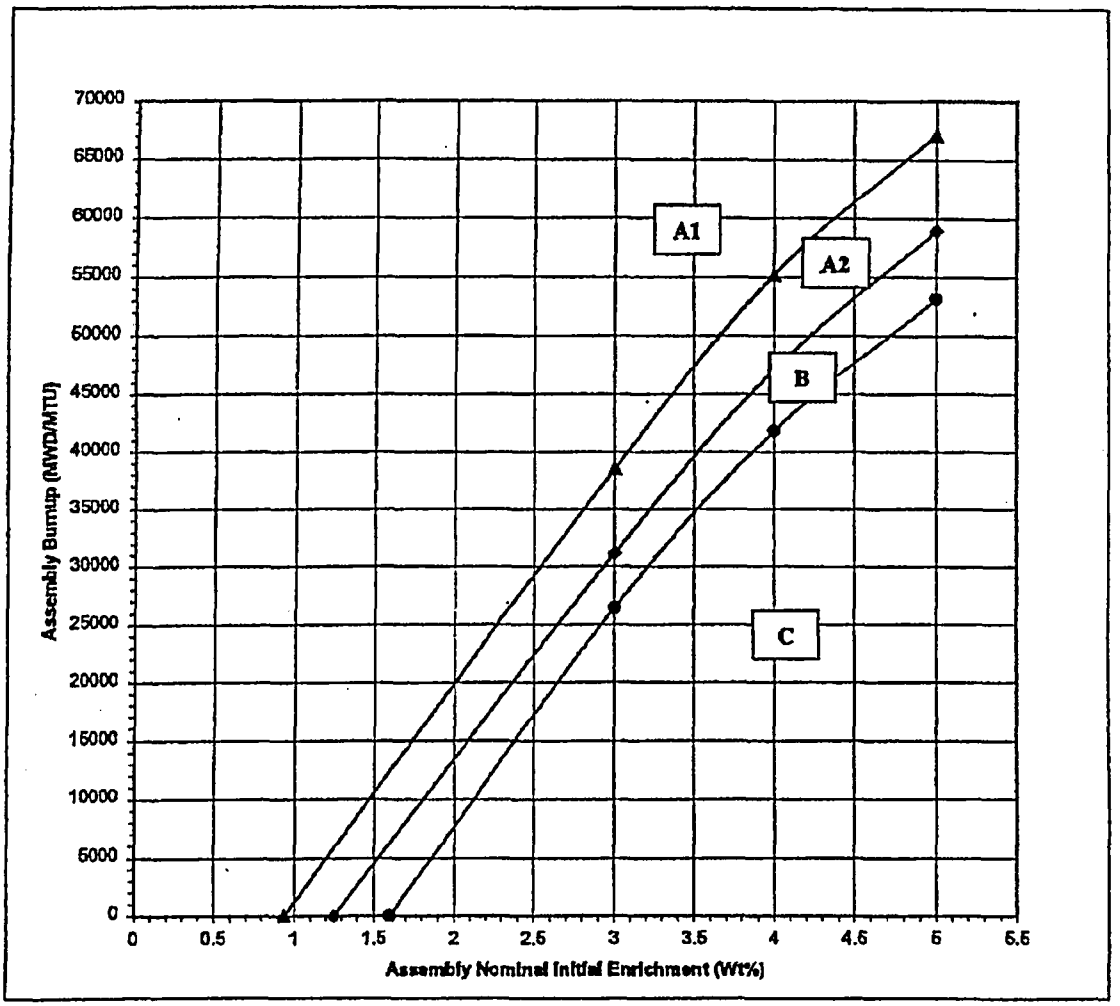
SURVEILLANCE		FREQUENCY
SR 3.7.13.1	Verify by administrative means the initial enrichment, burnup, and decay time of the fuel assembly is in accordance with the applicable Figures 3.7.13-1 through 3.7.13-11.	Prior to storing, or moving, the fuel assembly in the spent fuel pool



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)



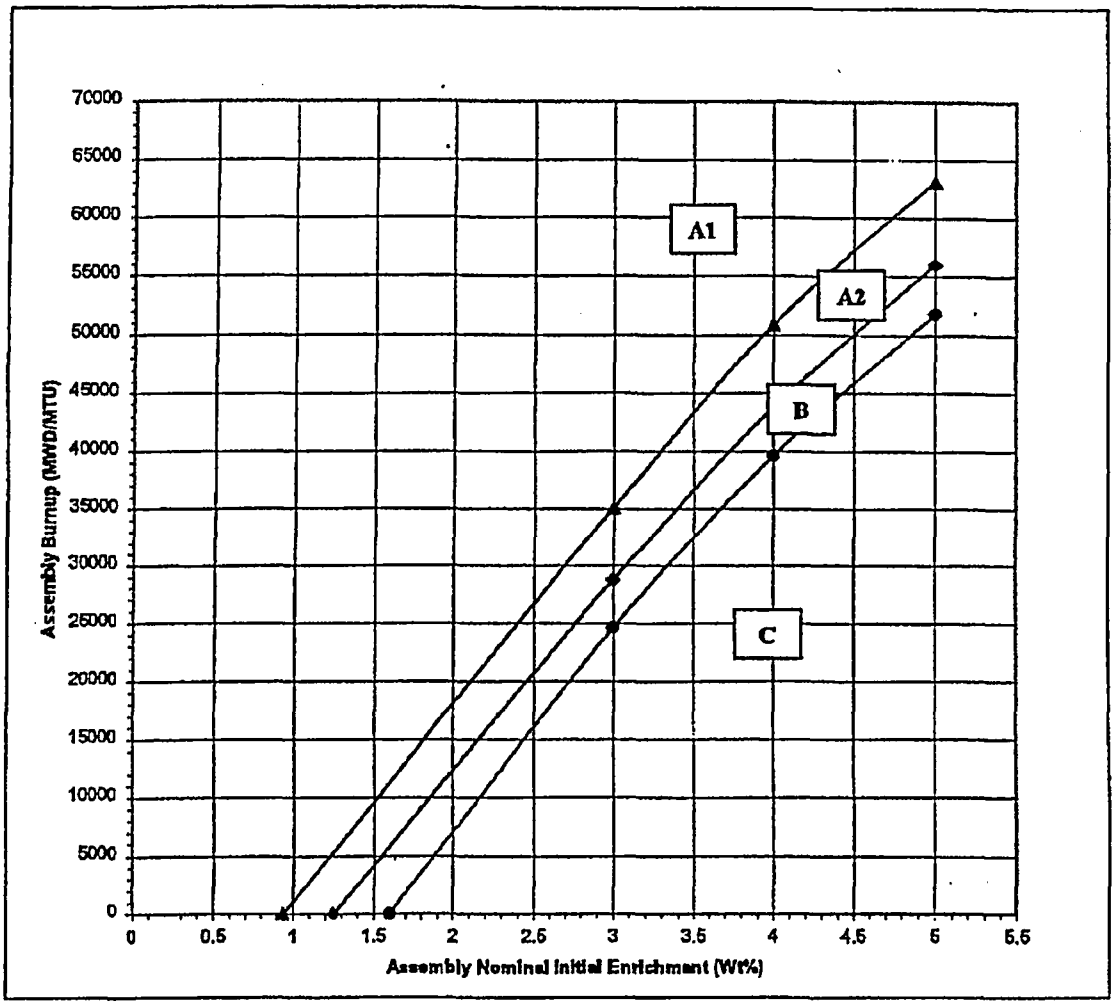
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

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)



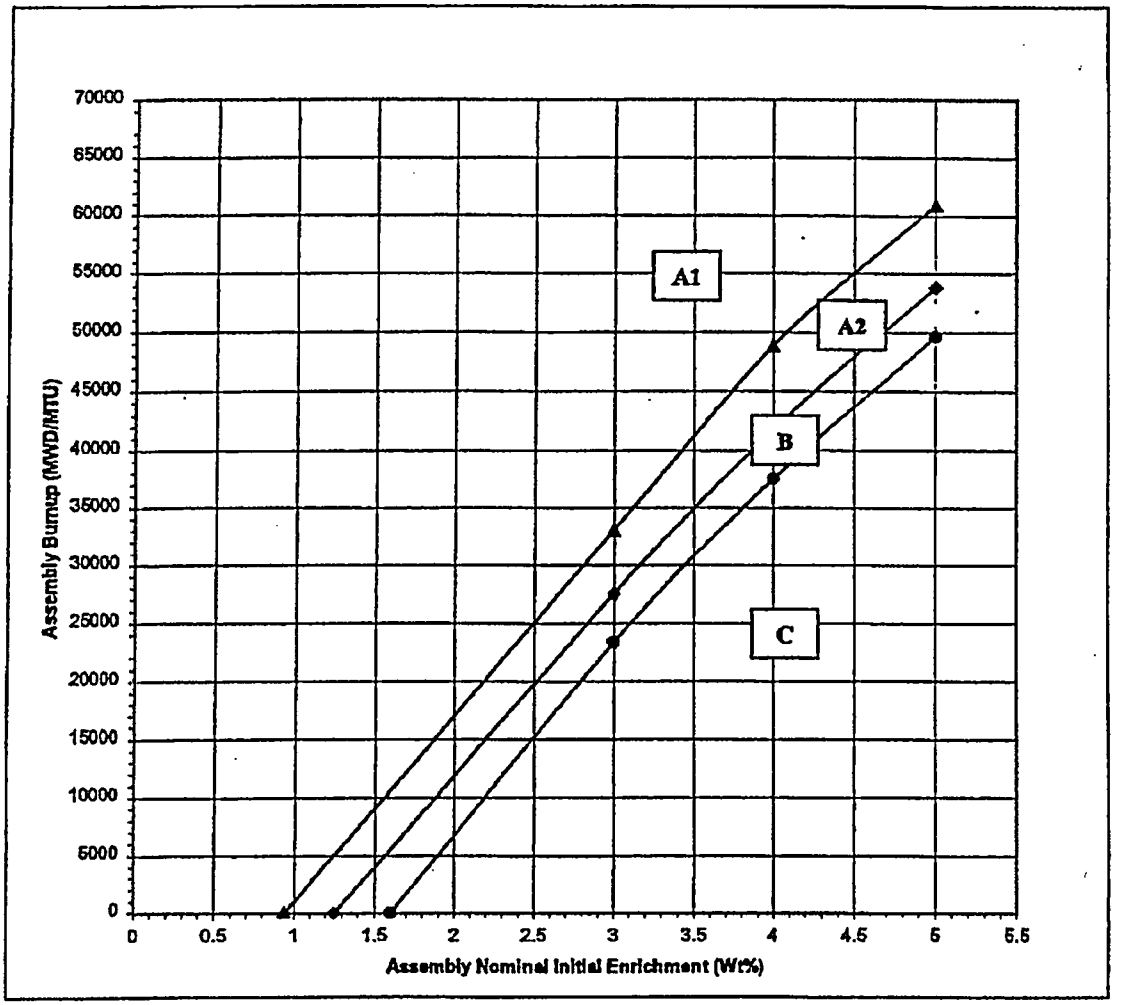
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

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

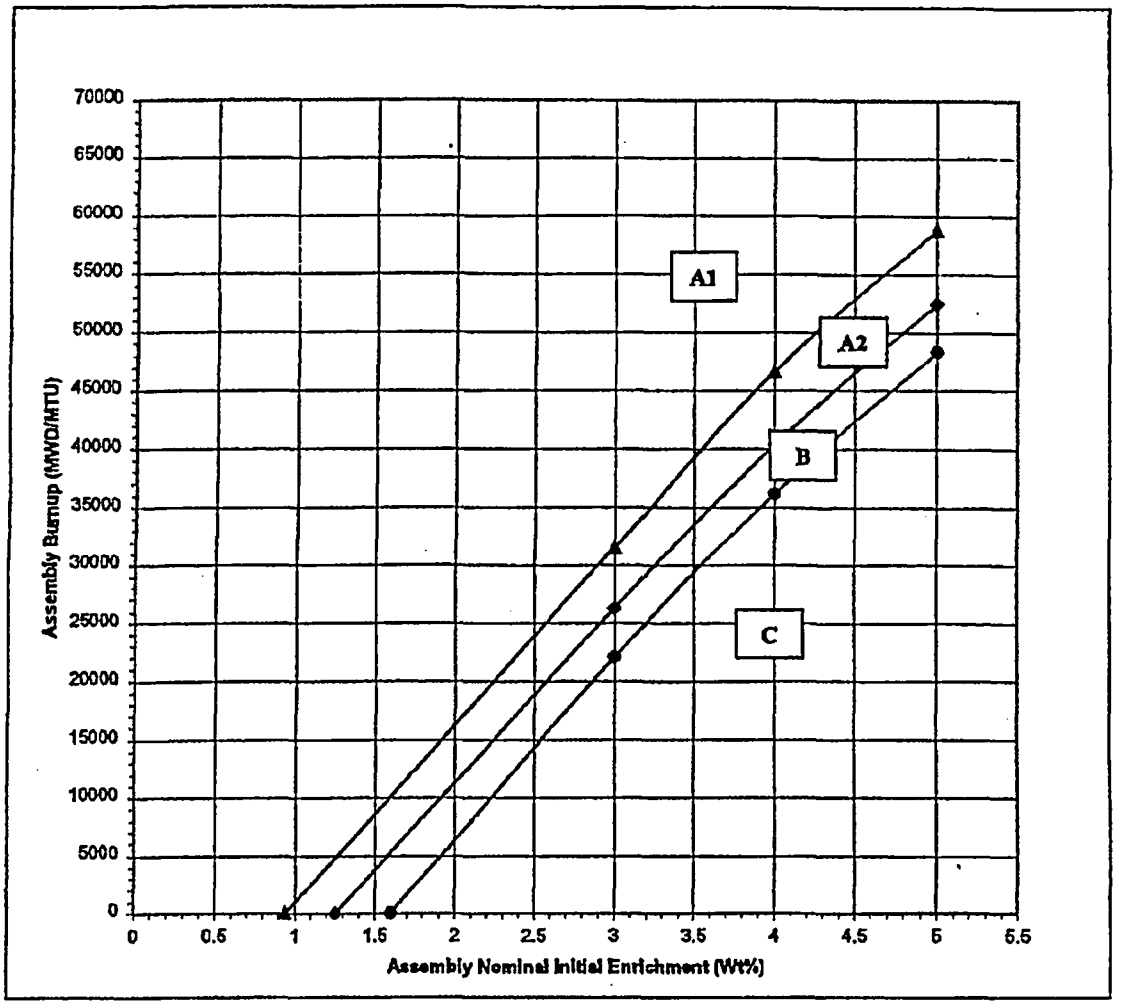
C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

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)



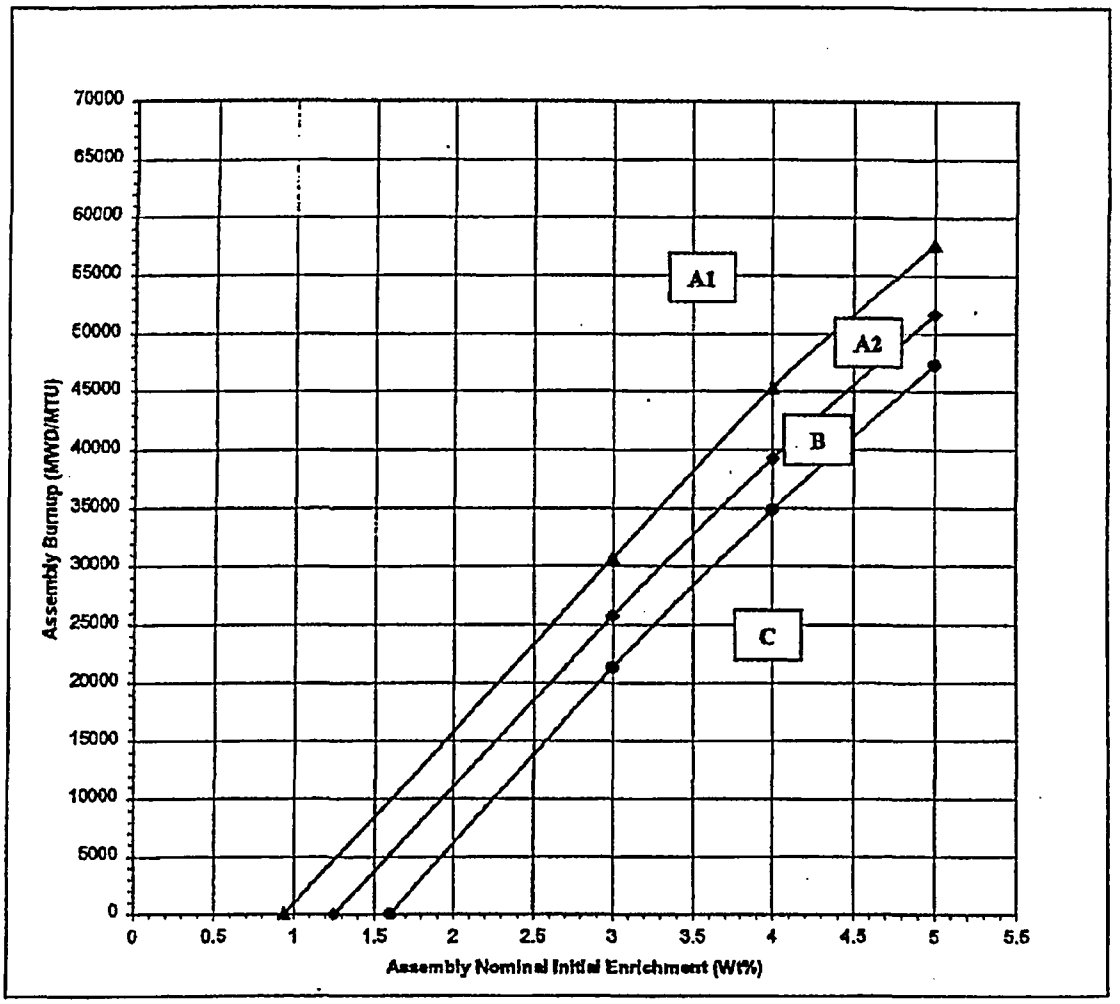
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

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)



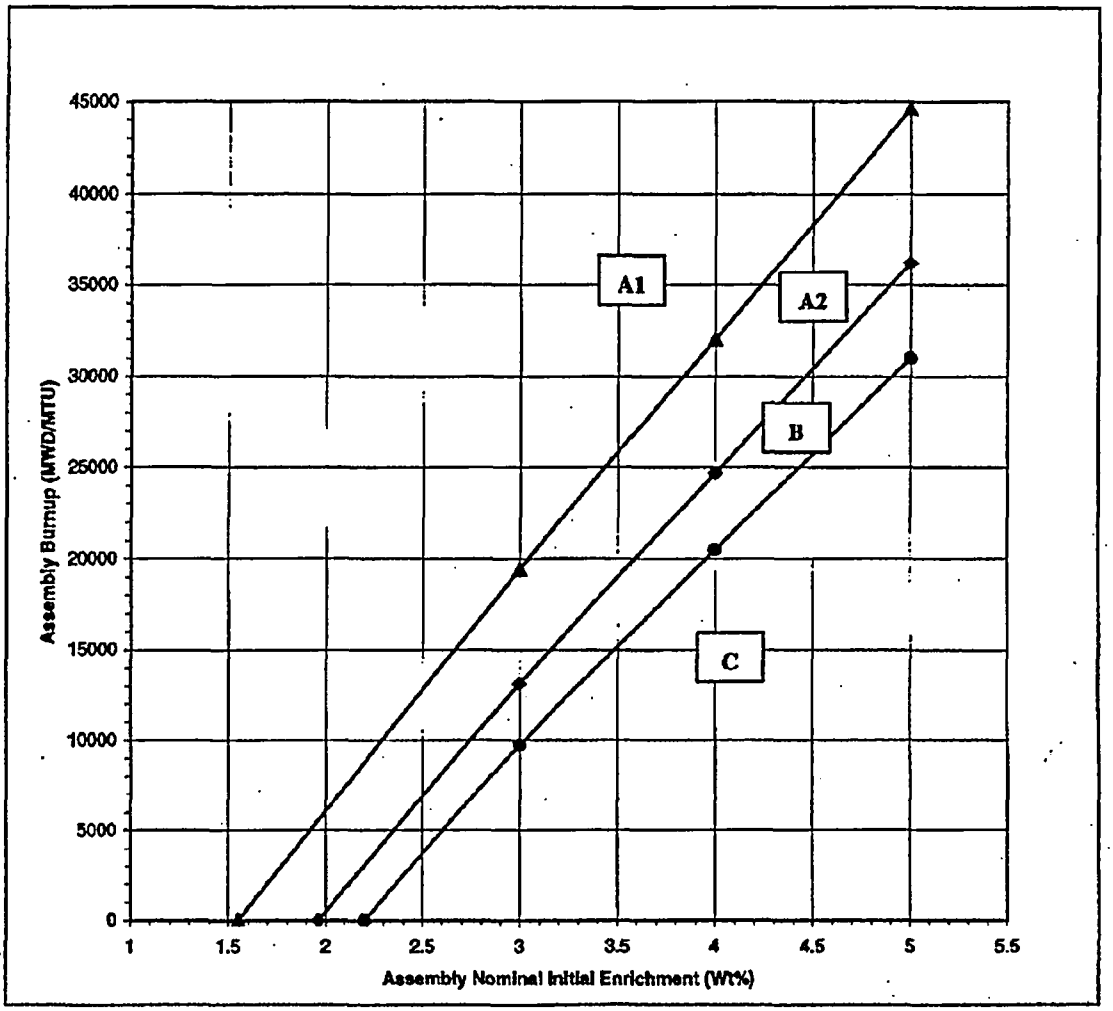
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

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)



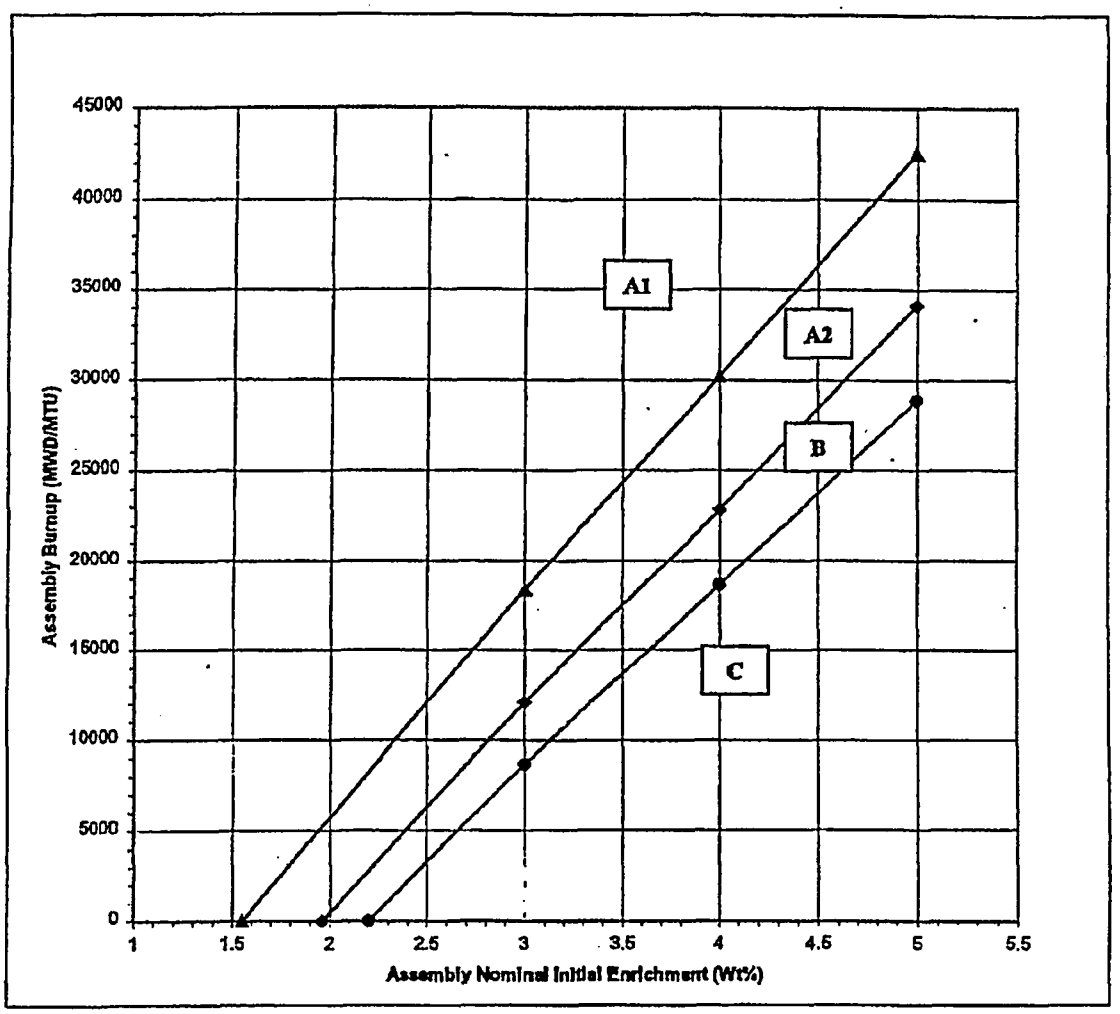
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 ~~and Type 4~~ Cells

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)



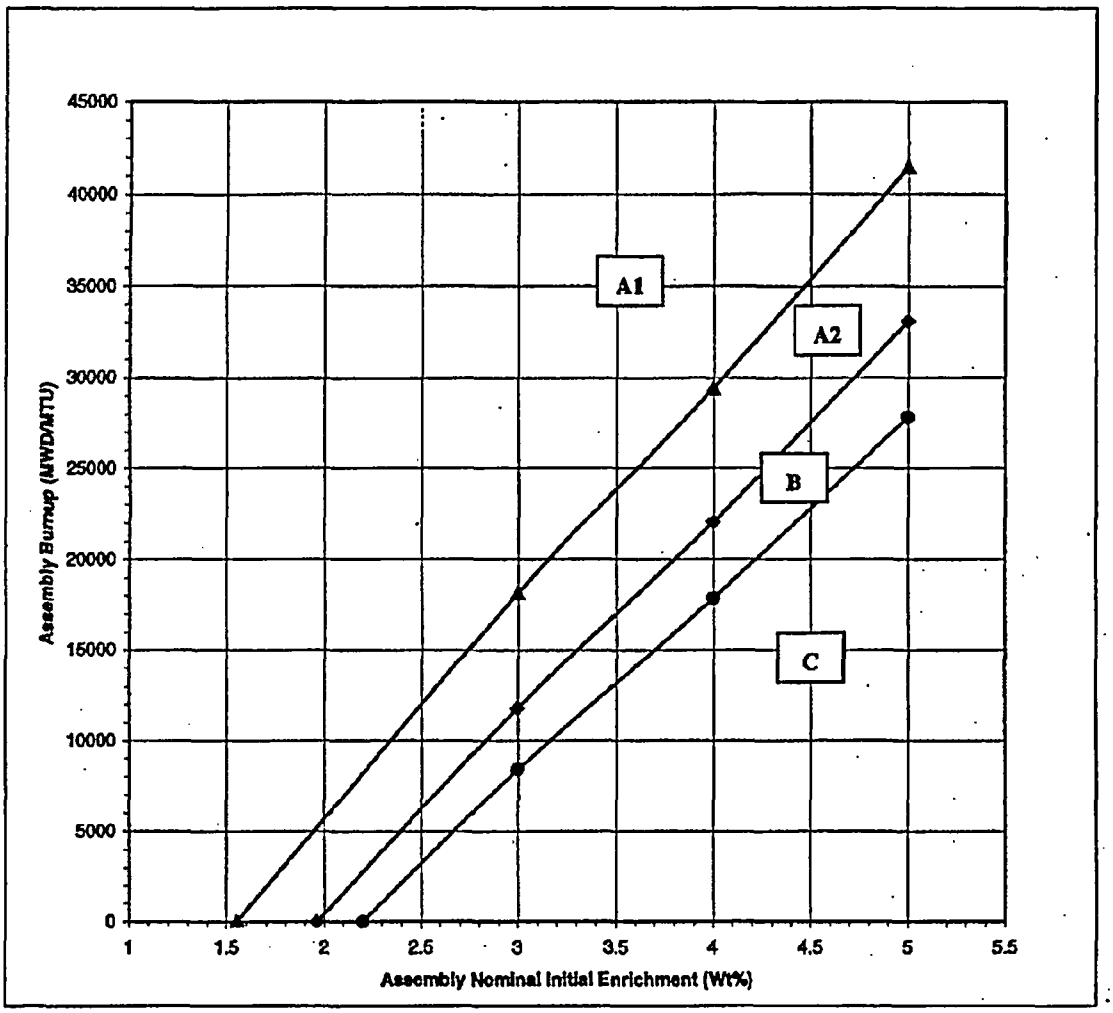
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 ~~and Type 4~~ Cells

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)



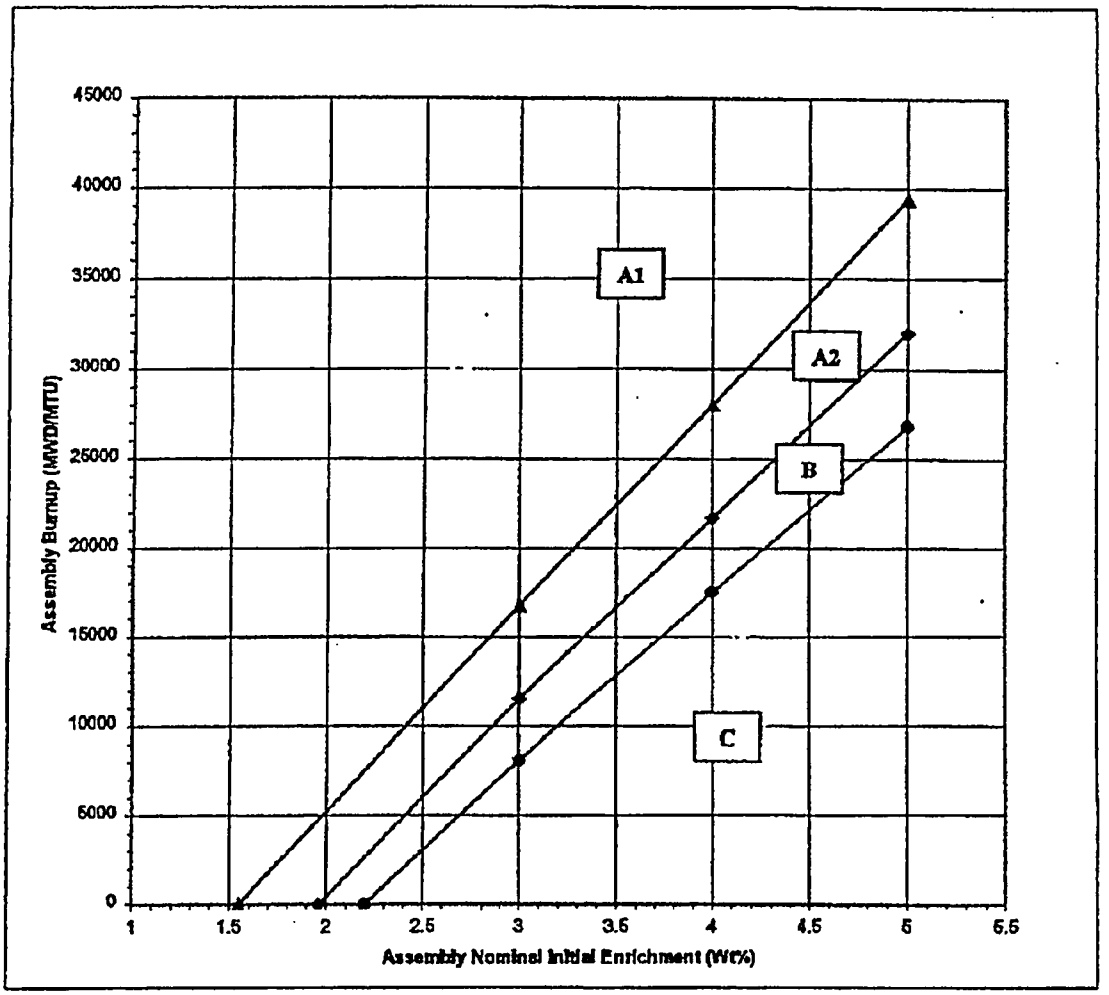
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 ~~and Type 4~~ Cells

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)



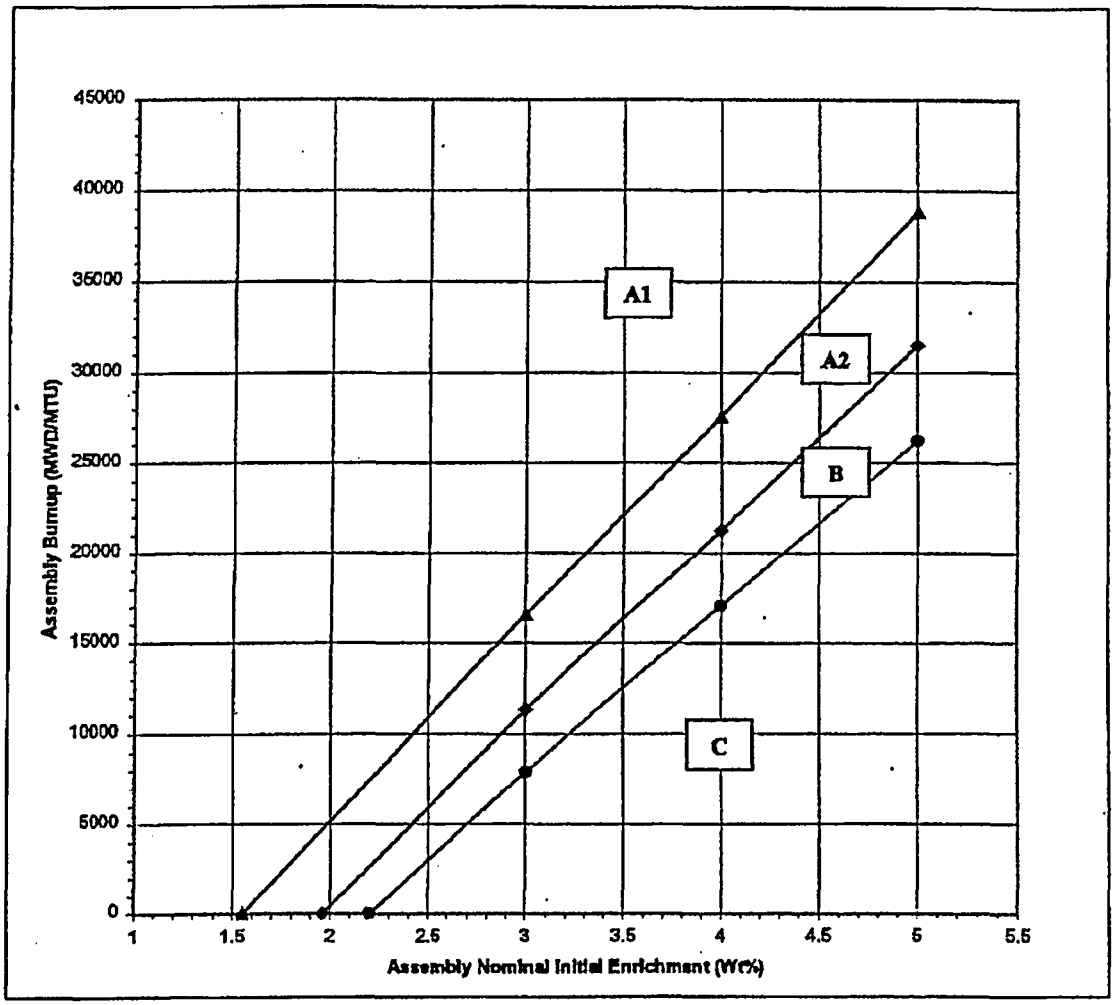
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 ~~and Type 4~~ Cells

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

4.3 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 ≥ 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 ≤ 2150 BTU/hr.

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~~ 1321 fuel assemblies ~~and 1369 storage locations~~.