Attachment B

Revise the Technical Specification pages as follows:

Remove	Insert
5.4-1	5.4-1
5.4-2	5.4-2
5.4-3	5.4-3
5.4-4	5.4-4
5.4-5	5.4-5

Attachment B

5.4 **Fuel Storage**

Specification

5.4.1 The new and spent fuel pit structures are designed to withstand the anticipated earthquake loadings as Class I structures. The spent fuel pit has a stainless steel liner to ensure against loss of water.

5.4.2 The new and spent fuel storage racks are designed so that it is impossible to insert fuel assemblies in other than the prescribed locations. The spent fuel storage racks are divided into two regions as depicted on Figure 5.4-1. The fuel is stored vertically in an array with sufficient center to center distance between assemblies to assure Keff ≤ 0.95 for (1) unirradiated fuel assemblies delivered prior to January 1, 1984 (Region 1-15) containing no more than 39.0 gms U-235 per axial cm, and (2) unirradiated fuel assemblies delivered between January 1, 1984 and February 1, 1996 containing no more than 41.9 gms U-235 per axial cm, and (3) unirradiated fuel assemblies delivered after Feb. 1, 1996 containing no more than 49.8 grams U-235 per axial cm. All cases assume unborated water used in the pool.

5.4.3 In Region 2 of the spent fuel storage racks, fuel is stored in a close packed array utilizing fixed neutron poisons in each of the stored locations. For discharged fuel assemblies to be stored in Region 2, (1) 60 days must have elapsed since the core reached hot shutdown prior to discharge and (2) the combination of assembly average burnup and initial U-235 enrichment must be such that the point identified by these two parameters on Figure 5.4-2 is above the line applicable to that particular fuel assembly design, therefore assuring that Keff ≤ 0.95.

5.4.4 Canisters containing consolidated fuel rods may be stored in either Region 1 or 2 provided that:

a. the average burnup and initial enrichment of the fuel assemblies from which the rods were removed satisfy the requirements of 5.4.2 and 5.4.3 above, and

b. the average decay heat of the fuel assembly from which the rods were removed is less than 2150 BTU/hr

5.4.5 The requirements of 5.4.4a may be excepted for those consolidated fuel assemblies of Region RGAF2.

5.4.6 The spent fuel storage pit is filled with borated water at a concentration to match that used in the reactor cavity and refueling canal during refueling operations whenever there is fuel in the pit.

<u>Basis</u>

The center to center spacing of Region 1 insures that Keff ≤ 0.95 for the enrichment limitations specified in 5.4.2[1,6], and for a postulated missile impact the resulting dose at the EAB would be within the guidelines of 10CFR100[2]. Fuel assemblies with an enrichment of ≤ 4.05 w/o can be stored in any available location. Fuel assemblies with an enrichment > 4.05 w/o can also be stored in Region I provided that integral burnable poisons are present in the assemblies such that k-infinity is ≤ 1.458.

In Region 2, Keff ≤ 0.95 is insured by the addition of fixed neutron poison (boraflex) in each of the Region 2 storage locations, and a minimum burnup requirement as a function of initial enrichment for each fuel assembly design. The 60 day cooling time requirement insures that for a postulated missile impact the resulting dose at the EAB would be within the guidelines of 10CFR100.

The two curves of Figure 5.4-2 divide the fuel assembly designs into two groups. The first group is all fuel except Exxon fuel delivered prior to January 1, 1984, which incorporates all Westinghouse HIPAR designs used at Ginna.[4] The second curve is for all Exxon fuel, as well as the Westinghouse Optimized Fuel assembly design delivered to Ginna beginning in February 1984.[3]

The assembly average burnup is calculated using INCORE generated power sharing data and the actual plant operating history. The calculated assembly average burnup should be reduced by 10% to account for uncertainties. An uncertainty of 4% is associated with the measurement of power sharing. The additional 6% provides additional margin to bound the burnup uncertainty associated with the time between measurements and updates of core burnup.

The calculations of fuel assembly burnup for comparison to the curves of Figure 5.4-2 to determine the acceptability for storage in Region 2 shall be independently checked. The record of these calculations shall be kept for as long as fuel assemblies remain in the pool.

The fuel storage canisters are designed so that, normally, they can contain the equivalent number of fuel rods from two fuel assemblies in a close packed array, and can be stored in either Region 1 or Region 2 rack locations. The close packed array will insure the K_∞ of the rack configuration containing any number of canisters will be less than that for stored fuel assemblies at the same burnup and initial enrichment. The exception of paragraph 5.4.5 is possible because the consolidated configuration is substantially less reactive than that of a fuel assembly. The maximum decay heat requirement will ensure that local and film boiling will not occur between the close packed fuel rods

if the pool temperature is maintained at or below 150°F. The decay heat of the assembly will be determined using ANS 5.1, ASB 9-2 or other acceptable substitute standards.

With the addition of the storage of consolidated fuel canisters, the theoretical storage capacity of the pool would be increased to 2032 fuel assemblies (2x1016). Moreover, due to limitation on the heat removal capability of the spent fuel pool cooling system, the storage capacity is limited to 1016 fuel assemblies.[5]

<u>References</u>

1. Letter, J.E. Maier to H.R. Denton, January 18, 1984.
2. Safety Evaluation from John Zwolinski to Roger Kober, November 14, 1984, "Increase of the Spent Fuel Pool Storage Capacity."
3. Criticality Analysis of Region 2 of the Ginna MDR Spent Fuel Storage Rack, Pickard, Lowe and Garrick, Inc. March 8, 1984.
4. Letter, T.R. Robbins, Pickard, Lowe and Garrick, Inc. to J.D. Cook, RG&E March 15, 1984.
5. Letter, D.M. Crutchfield to J.E. Maier, November 5. 1981.
6. Safety Evaluation from Allen Johnson to Dr. Robert C. Mecredy, August 30. 1995, "Proposed Criticality Analysis of Ginna New and Spent Fuel Racks/Consolidated Rod Storage Canisters.

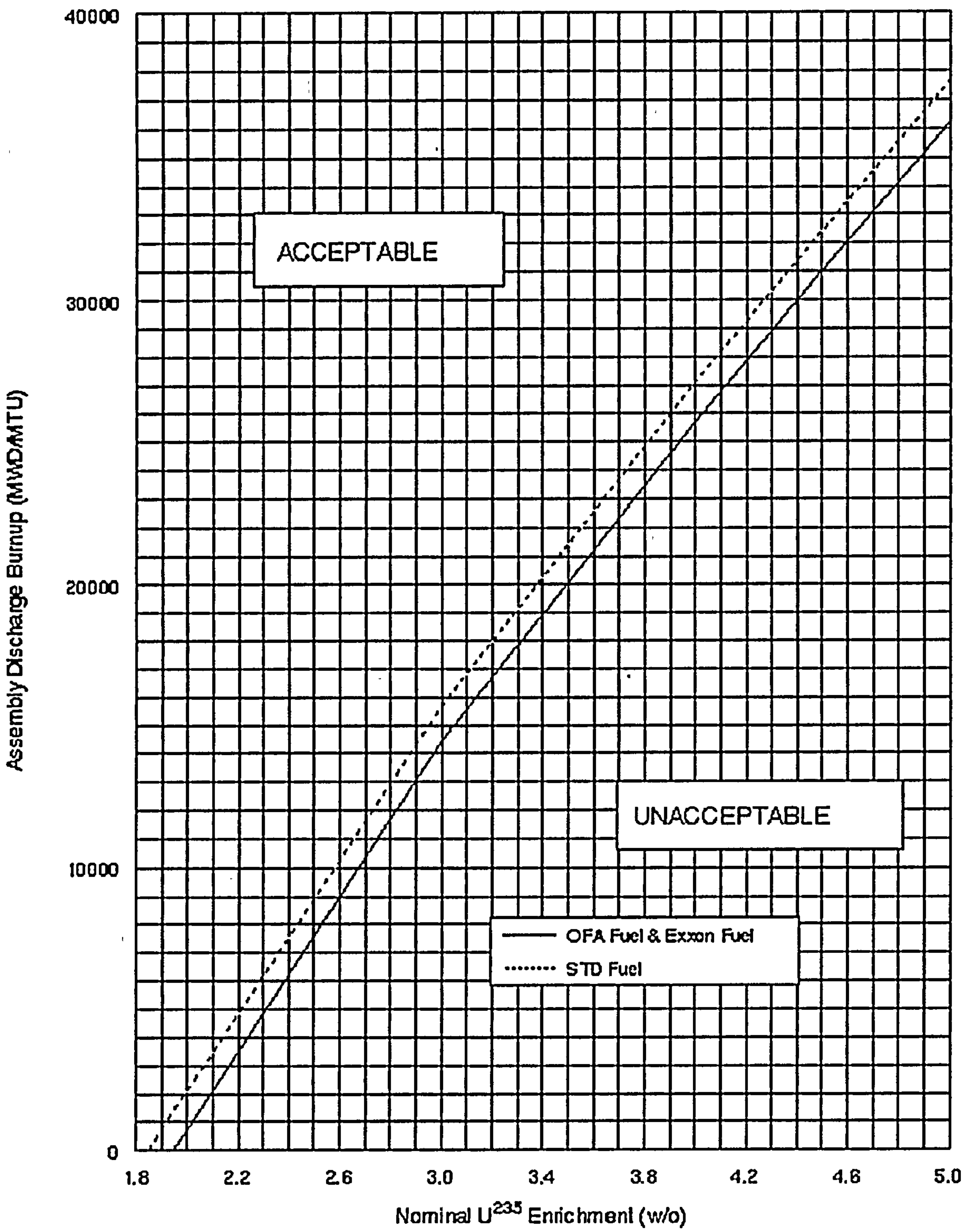

Figure 5.4-2
Fuel Assembly Burnup Limits in Region 2

Attachment C

The purpose of this amendment is to allow storage of Westinghouse OFA fuel with a nominal enrichment of up to 5.0 w/o U-235 in the new and spent fuel storage racks.

In Reference (a) RG&E submitted an engineering calculation that demonstrated that the allowable enrichment of fuel to be stored in the new and spent fuel storage racks could be increased to a nominal 5.0 w/o U-235. There were no restrictions on placement in the new fuel storage racks. Placement in Region 1 of the spent fuel storage racks requires a minimum number of integral fuel burnable absorber (IFBA) rods. Placement in Region 2 of the spent fuel storage racks requires a minimum fuel burnup. This requirement is illustrated on Figure 5.4-2 of the proposed Amendment.

The NRC staff has reviewed the engineering calculations and issued an SER in Reference (b). The SER concluded that the criticality aspects of the proposed enrichment increase was acceptable and met the requirements of General Design Criteria 62 for the prevention of criticality in fuel storage and handling.

In accordance with 10 CFR 50.91, these changes to Technical Specifications have been evaluated to determine if the operation of the facility in accordance with the proposed amendment would:

1. involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. create the possibility of a new or different kind of accident previously evaluated; or

3. involve a significant reduction in a margin of safety.

As presented in the SER, the referenced engineering calculations demonstrate that the acceptance criterion are satisfied. The proposed change does not increase the probability or consequences of a previously evaluated accident or create a new or different kind of accident. Further, there is no unacceptable reduction in the margin of safety for any Technical Specification.

Therefore, Rochester Gas and Electric submits that the issues associated with this Amendment are outside the criteria of 10 CFR 50.91, and a no significant hazards finding is warranted.