

New Hampshire Yankee

Ted C. Feigenbaum
President and
Chief Executive Officer

NYN-91049

March 18, 1991

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Reference: Facility Operating License No. NPF-86, Docket No. 50-443

Subject: Request for License Amendment; Increased Enrichment of Reload Fuel Assemblies

Gentlemen:

Pursuant to 10CFR50.90, New Hampshire Yankee (NHY) hereby proposes to amend the Seabrook Station Operating License (Facility Operating License NPF-86) by incorporating the proposed changes provided herein as Enclosure 1, into the Seabrook Station Technical Specifications. This request for license amendment is submitted in support of NHY's plans to extend the length of its operating cycle to eighteen months commencing with Cycle 3. The current Technical Specification requirements pertaining to reload fuel assembly enrichment will not accommodate such an extension in the length of the operating cycle.

The proposed changes involve an increase in the maximum enrichment of reload fuel assemblies authorized by Technical Specification 5.3.1 (Fuel Assemblies) to 5.0 weight percent Uranium-235 from the current 3.5 weight percent Uranium-235. Additionally, the proposed changes involve the addition of two new Technical Specifications, 3/4.9.13 (Spent Fuel Assembly Storage) and 3/4.9.14 (New Fuel Assembly Storage) and their associated bases. Technical Specification 3/4.9.13 and 3/4.9.14 specify the Limiting Conditions For Operation and Surveillance Requirements associated with the storage of fuel assemblies in the Spent Fuel Pool (existing fuel storage racks) and in the New Fuel Storage Vault (existing fuel storage racks). The criticality analyses for the Spent Fuel Pool and New Fuel Storage Vault which underlie the proposed Limiting Conditions for Operation are enclosed herein as Enclosure 2. New Hampshire Yankee will develop procedures to implement the new Limiting Conditions for Operation and Surveillance Requirements for the Spent Fuel Pool and New Fuel Storage Vault prior to receipt of reload fuel assemblies with enrichments greater than 3.5 weight percent Uranium-235.

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New Hampshire Yankee has reviewed the proposed changes utilizing the criteria specified in 10CFR50.92 and has determined that the proposed changes do not involve a Significant Hazards Consideration pursuant thereto as discussed below:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated. There is no increase in the probability of a fuel assembly drop accident in the Spent Fuel Pool since the mass of the fuel assembly does not increase when the fuel enrichment is increased. There is not a significant increase in the consequences of a fuel assembly drop accident in the Spent Fuel Pool since the fission product inventories in the fuel assemblies do not change significantly due to an increase in the fuel enrichment. The existing FSAR analyses for the fuel assembly drop accident indicate that radiological consequences are well within 10CFR100 limits. This conclusion remains valid at the increased fuel assembly enrichment. There is no increase in the probability or consequences of misplacing fuel assemblies in the Spent Fuel Pool because fuel assembly placement will be procedurally controlled and surveilled pursuant to the proposed Technical Specifications and criticality analyses demonstrate that the pool will remain subcritical assuming misplacement does occur. There is no increase in the probability or consequences of introducing optimum moderation conditions in the New Fuel Storage Vault as a result of an increase in fuel enrichment. The New Fuel Storage Vault has been analyzed under a range of moderation conditions from fully flooded to optimum moderation at the increased fuel enrichment. These analyses demonstrate that the New Fuel Storage Vault remains subcritical under these moderation conditions.
2. The proposed changes do not create the possibility of a new or different kind of accident than previously evaluated. Spent fuel handling accidents are not new or different types of accidents in that they are already analyzed in the FSAR. Criticality accidents in the New Fuel Storage Vault or Spent Fuel Pool are not new or different types of accidents in that they are already analyzed in the FSAR for fuel enrichments up to 3.5 weight percent Uranium-235. Additional criticality analyses have been performed for fuel enrichments up to 5.0 weight percent Uranium-235.
3. The proposed changes do not involve a significant reduction in a margin of safety. Criticality analyses have been performed which demonstrate that the New Fuel Storage Vault will remain subcritical under a range of moderation conditions from fully flooded to optimum moderation. Criticality analyses have been performed which demonstrate that the Spent Fuel Pool will be at least five percent subcritical under a fuel assembly misplacement accident with soluble boron (2000 parts per million) present in the pool and will remain subcritical with no soluble boron present.

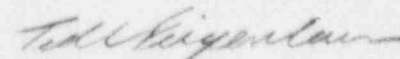
New Hampshire Yankee requests approval of the Technical Specification changes proposed herein by September 1, 1991, as this is the approximate time at which NHY will be specifying the reload fuel for Cycle 3.

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Should you have any questions regarding this request or should you wish to have NHY representatives discuss the enclosed analyses at a meeting, please contact Mr. Terry L. Harpster at (603) 474-9521, extension 2765.

Very truly yours,


Ted C. Feigenbaum

Enclosures

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ENCLOSURE 1 TO NYN-91049