



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 115 TO FACILITY OPERATING LICENSE NO. DPR-59

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

INTRODUCTION

By letter dated May 17, 1988, the Power Authority of the State of New York, licensee for the James A. FitzPatrick Nuclear Power Plant, submitted proposed revisions to the Technical Specifications (TS). Included are administrative changes which clarify and eliminate inconsistencies in the TS, as well as revisions which involve procedural changes. All of the proposed revisions relate, directly or indirectly, to spiral core off-load/on-load refueling. Specifications to permit spiral off-loading/on-loading were originally incorporated into the TS by issuance of Amendment No. 59 dated August 26, 1981 in response to the licensee's application dated December 6, 1979.

A supplemental application containing only a single editorial change was submitted August 4, 1988. This supplement does not alter the action as noticed in the Federal Register on July 13, 1988 or affect the proposed no significant hazards determination.

EVALUATION

The staff has completed its review of the licensee's request for amendment dated May 17, 1988, as supplemented August 4, 1988. The following paragraphs evaluate, separately, the proposed TS revisions which are administrative in nature and those which involve procedural changes.

Administrative TS Revisions

The proposed revisions to TS pages 94, 227, 228, 229 (in part), 230, 230a (in part), 231, 232, and 233, as well as the deletion of pages 230b, 230c, and 235b are intended to clarify the TS, improve legibility, and eliminate inconsistencies which were introduced with the issuance of Amendment No. 59. In addition, changes to the Bases have been made on pages 235, 235a, and 236 to reflect these TS revisions as well as the revisions discussed below.

Because the proposed revisions do not alter any system design or function, operability requirement, operating procedure, maintenance action, or surveillance requirement, the staff finds that these revisions do not have an adverse impact on safety and, therefore, are acceptable.

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TS Revisions Involving Procedural Changes

The licensee's amendment request includes two revisions involving minor changes to spiral on-load refueling procedures. These revisions are found on TS pages 229 and 230a.

During reload operations, the TS require a minimum count rate level of 3 cps for each Source Range Monitor (SRM). After the entire core has been off-loaded and on-loading begins, there are periods when too few fuel assemblies are present in the core to maintain this minimum value. During these periods, portable monitors, known as "dunking chambers," can be temporarily connected to the SRM channels and moved from place to place within the core as loading proceeds, in lieu of the normal detectors. However, because the use of dunking chambers is cumbersome and impedes operations, licensees have found it desirable to keep their use to a minimum. As an alternative, Amendment No. 59 approved the loading of two irradiated fuel assemblies in different cells containing control blades, around each SRM, to provide the required 3 cps continuously, thereby eliminating the need for dunking chambers.

The proposed revision to TS 3.10.B.4 on page 230a would permit up to a maximum of four previously irradiated fuel assemblies to be loaded around each SRM for use as a neutron source in verifying SRM operability prior to spiral on-loading. The increase from two fuel assemblies to "up to" four fuel assemblies would allow for potential extended outages by providing greater assurance of attaining the minimum required count rate.

General Electric calculations have shown that 4 adjacent fuel assemblies in a 2x2 array, at the maximum reactivity condition and without control rods inserted, separated a distance of 12 inches from other assemblies, would have a K_{eff} of less than 0.95. For the proposed configuration of 4 assemblies loaded around an SRM, subcriticality would be further assured because of the TS requirement that control rods be inserted before fuel is on-loaded. Therefore, because the proposed TS change does not pose a criticality concern, does not change the sensitivity of the detectors to changes in core multiplication factor, and because similar TS have been reviewed and approved for other BWRs (e.g. Hatch, Browns Ferry, Hope Creek), the staff finds the proposed change acceptable.

The proposed revision to TS 3.10.A.7.b on page 229 would permit spiral on-loading to proceed around one of permanently installed SRMs once SRM operability has been verified using the procedure described above. The current TS explicitly address spiral on-loading as beginning at the core center around a temporarily installed dunking chamber.

On-loading around an SRM is similar to on-loading around a centrally located dunking chamber except that, once the cells at the core periphery have been loaded with fuel, the spiral pattern grows in an asymmetrical manner. This procedure is consistent with the intent of spiral on-loading and therefore the Safety Evaluation accompanying Amendment No. 59 remains applicable. Similar TS have been reviewed and approved by the staff for other BWRs (e.g. Hope Creek). Based on the above, the staff finds the proposed change to TS 3.10.A.7.b acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

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

PRINCIPAL CONTRIBUTOR:

H. Abelson

Dated: August 26, 1988