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September 19, 1979
IPN-79-69

Director of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Albert Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Cycle 3 Reload

Dear Sir:

Indian Point Unit 3 is currently in its second cycle of operation with a refueling outage scheduled to commence on September 15, 1979. Cycle 2 operation will be terminated within a cycle burnup range of 10,500 to 11,500 MWD/MTU. Startup physics testing for Cycle 3 is expected to occur in early November 1979. This letter is to advise you of the Authority's review of and plans regarding the IP3, Cycle 3 reload core.

The IP3, Cycle 3 reload core was designed to perform under current nominal design parameters, Technical Specifications and related bases, and current setpoints such that:

1. Core characteristics will be less limiting than those previously reviewed and accepted;
or
2. For those postulated incidents analyzed and reported in the IP3 Final Safety Analysis Report (FSAR) which could potentially be affected by fuel reload, reanalysis has demonstrated that the results of the postulated events are within allowable limits. The Authority performed a detailed review at Westinghouse on the bases, including all the postulated incidents considered in the FSAR, of the Westinghouse Reload Safety Evaluation Report. In addition, both the Plant Operating Review Committee (PORC) and the Off-Site Safety Review Committee (SRC) have reviewed the RSER pursuant to the requirements of 10 CFR 50.59(a) and 10 CFR 50.59(b).

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As in the past, the reload safety evaluation relied on previously reviewed and accepted analyses reported in the FSAR, fuel densification reports and previous reload safety evaluation reports. A detailed review of the core characteristics was performed to determine those affecting the postulated accident analyses reported in the IP3 FSAR. For those incidents whose consequences could potentially be affected by the reload core characteristics, the incidents were reanalysed. The Authority verified that the reanalyses were performed in accordance with the Westinghouse reload safety evaluation methodology as outlined in the March 1978 Westinghouse topical report entitled "Westinghouse Reload Safety Evaluation Methodology" (WCAP-9272). The Authority also verified that the results of these reanalyses were within previously reviewed and accepted limits.

The Authority is adding four fresh burnable poison demonstration assemblies to the core at this reload. These new burnable poison assemblies will contain two demonstration burnable poison rodlets of an improved design, and ten standard burnable poison rodlets. The improved burnable poison design consists of annular pellets of Aluminum Oxide-Boron Carbide ($Al_2O_3 - B_4C$) burnable poison material contained within two concentric zircaloy tubings. The demonstration rodlets will not adversely affect the neutronics of the local assemblies relative to the standard design rodlets, but are anticipated to perform better mechanically.

The reload safety evaluation demonstrated that Technical Specification changes are not required for operation of IP3 during Cycle 3. The Authority's PORC and SRC review concluded that no unreviewed safety question as defined by 10 CFR 50.59 are involved with this reload. More specifically with this reload:

1. There is no increase in the probability of occurrence or the consequences of an incident or malfunction of equipment important to safety previously evaluated in the safety analysis report;
2. No additional accidents or malfunction of a different type than any evaluated previously in the safety analysis reported has been created; and
3. There has been no reduction in the margin of safety as defined in the basis for any IP3 technical specification.

Therefore, based on this review, application for amendment to the IP3 operating license is not required.

Finally, verification of the reload core design will be performed per the standard startup physics test normally performed at the start of each IP3 reload cycle. These tests will include, but not be limited to:

1. Control rod drive tests and drop time;
2. Critical boron concentration measurements;
3. Control rod bank worth measurements;
4. Moderator temperature coefficient measurement;
5. Power coefficient measurement; and
6. Startup power distribution measurements using the incore flux mapping system.

Enclosed are ten (10) copies of the Reload Safety Evaluation Report for Cycle 3 operation of the Indian Point 3 Nuclear Power Plant for your information. Current outage schedule for this refueling cycle calls for the plant to go critical on or about November 1, 1979 to accomplish the hot zero power tests, but power escalation will not commence until after turbine repair about late December, 1979.

Very truly yours,



Paul J. Early
Assistant Chief Engineer-Projects