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John C. Brons
Senior Vice President
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December 1, 1986
IPN-86-60

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

Attention: Mr. Steven A. Varga, Director
PWR Project Directorate No. 3
Division of PWR Licensing-A

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Clarification of Regulatory Guide 1.97
Implementation Program

References: 1) Letter from J. C. Brons to S. A. Varga, dated January 7, 1986 (IPN-86-05), entitled: "Regulatory Guide 1.97 Implementation Program."

Dear Sir:

The Attachment to this letter updates the Authority's program to implement the provisions of Regulatory Guide 1.97, as detailed in Reference 1. These revisions were discussed with Messrs. J. D. Neighbors and J. Lazevnick of the Staff and Mr. Eudy, a NRC consultant, during an October 20, 1986 telephone conversation.

Should you or your staff have any questions regarding this matter, please contact Mr. P. Kokolakis of my staff.

Very truly yours,

John C. Brons
Senior Vice President
Nuclear Generation

cc: Resident Inspector's Office
Indian Point Unit 3
U.S. Nuclear Regulatory Commission
Buchanan, NY 10511

Mr. J. D. Neighbors, Sr. Proj. Mgr.
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Attachment to IPN-86-60
Revisions to Regulatory Guide 1.97
Implementation Program

New York Power Authority
Indian Point 3 Nuclear Power Plant
Docket No. 50-286

Steam Generator Blowdown Flow Rate (Index No. 509F)

In Reference 1, the Authority committed to replacing and/or upgrading the steam generator blowdown flow rate devices FE-1241 thru FE-1244 to comply with the requirements of Regulatory Guide 1.97. These devices are located on the individual steam generator blowdown lines and measure blowdown flow in the liquid state. However, the Regulatory Guide 1.97 variable of concern is the potential release of airborne radioactive materials from the plant. As such, it would be appropriate to monitor the flow rate from the blowdown flash tank where the steam generator blowdown liquid effluent rapidly flashes to steam. Accordingly, the Authority proposes to monitor the flow rate from the blowdown flash tank in accordance with the Regulatory Guide 1.97 requirements for this variable in lieu of replacing and/or upgrading liquid effluent flow rate devices FE-1241 thru FE-1244.

Radioactivity Concentration or Radiation Level in Circulating Primary Coolant (Index No. 302)

In Reference 1, the Authority committed to upgrade/modify the existing gross failed fuel detector to comply with the redundancy requirement imposed by Regulatory Guide 1.97. The Authority proposes to satisfy the redundancy requirement in the following manner. There will be two separate fail fuel detectors powered by different safety related electrical buses. However, the reactor coolant sample will be obtained from one sample location and transported to the redundant detectors via a single run of piping. Prior to reaching the detectors, the sample must be cooled. The sample will be cooled by heat exchangers, which receive their cooling water from a single source of component cooling water. In essence, the fail fuel detector system will consist of redundant instrumentation but nonredundant piping system. Additionally the post-accident sampling system provides a backup to the failed fuel detector system.

Core Exit Temperature (Item No. 113A) and Neutron Flux (Item Nos. 201 A&B)

These two items are both Regulatory Guide 1.97 Category 1 variables. Regulatory Guide 1.97 Rev. 3 states that for Category 1 variables continuous real-time display should be provided and that the indication may be on a dial, digital display, CRT or stripchart recorder. Recording of instrumentation readout information should be provided for at least one redundant channel. The hand-out distributed by the NRC at the NUREG-0737, Supplement I workshops states that the use of the SPDS in lieu of other displays should be indicated in the report. The Authority proposes to utilize the Indian Point 3 SPDS, which consists of the Qualified Safety Parameter Display System (QSPDS) and the Critical Functions Monitoring System (CFMS), to satisfy the display and recording requirements for the core exit thermocouples and the neutron flux detectors.

The QSPDS is qualified to class 1E standards, including seismic and single-failure proof design. The QSPDS inputs include all Regulatory Guide 1.97 category 1 variables. The display arrangement is based on a grouping of the variables by the "barrier" concept, i.e. core, reactor coolant system and containment. Input to the QSPDS is displayed on nine separate "pages." Data from the neutron flux detector are displayed on the core "page." Data from the core exit thermocouples are displayed on a page solely dedicated to that variable. In order for the data to be displayed, the appropriate page must be accessed. Once the page has been accessed, the data is displayed continuously. While the Emergency Operating Procedures require the operator to observe the subject variables, they do not specifically require the operator to access the QSPDS for the subject variables. The operators are trained on the QSPDS and will access the QSPDS when necessary.

The CFMS receives a larger number of inputs including all those inputs to the QSPDS. The CFMS provides a historical data storage and retrieval (HDSR) capability. The HDSR system records, stores, recalls and displays historical information as needed by plant personnel. Historical data for all SPDS variables are stored for the interval from two hours pre-event to fourteen hours post-event. The data is updated every two seconds. The long term data storage, which contains information for a two week period, is updated every minute. Historical data can be displayed as graphs and trends or printed out as logs.

As detailed above, the use of the SPDS for the display of the core exist thermocouples and the neutron flux detectors satisfies the Regulatory Guide 1.97 display and recording requirements for these variables.