



John C. Brons
Executive Vice President
Nuclear Generation

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IPN-90-012

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attn: Document Control Desk

Subject: **Indian Point 3 Nuclear Power Plant**
Docket No. 50-286
Mid-Loop Operations During 1990 Scheduled Maintenance Outage

- References:
1. Letter from Mr. J. C. Brons (NYPA) to NRC, "Implementation of Expeditious Actions Recommended by Generic Letter No. 88-17, 'Loss of Decay Heat Removal'," dated January 3, 1989.
 2. Letter from Mr. J. C. Brons (NYPA) to NRC, "Implementation of Programmed Enhancements Recommended by Generic Letter No. 88-17, 'Loss of Decay Heat Removal'," dated February 7, 1989.
 3. NRC Generic Letter 88-17, "Loss of Decay Heat Removal."
 4. Letter from Mr. J. D. Neighbors (NRC) to Mr. J. C. Brons (NYPA), dated May 15, 1989, regarding the Indian Point 3 response to Generic Letter 88-17.

Dear Sir:

This letter provides information regarding mid-loop operations which will occur during the next Indian Point 3 scheduled maintenance outage, currently scheduled to begin March 3, 1990. At the time References 1 and 2 were written, in response to Reference 3, it was not anticipated that any mid-loop operations would occur prior to the cycle 7/8 refueling outage. Due to Reactor Coolant Pump seal preventive maintenance, mid-loop operation will be necessary during the upcoming maintenance outage.

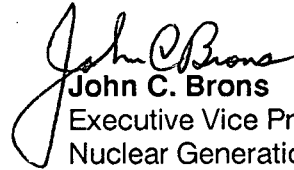
The Authority has taken positive steps towards improving mid-loop operations at IP3. The attachment to this letter responds to the observations of the staff, stated in Reference 4, regarding the IP3 response (Reference 1) to GL 88-17.

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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
Executive Vice President
Nuclear Generation

Attachment

cc: U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Resident Inspector's Office
Indian Point 3
U.S. Nuclear Regulatory Commission
P.O. Box 337
Buchanan, New York 10511

Mr. J. D. Neighbors, Sr. Project Manager
Project Directorate I-1
Division of Reactor Projects-I/II
U.S. Nuclear Regulatory Commission
Mail Stop 14B2
Washington, D.C. 20555

**DISCUSSION OF STAFF OBSERVATIONS
RELATED TO MID-LOOP OPERATIONS**

1. Training (Refer to Reference 4, Enclosure 1, Item 1)

- (a) The Indian Point 3 operators have received extensive plant specific training on all issues related to reduced RCS inventory. Additionally, training on the Diablo Canyon and other industry events has been conducted.
- (b) Appropriate I&C and maintenance personnel have been trained regarding how their activities can affect reduced RCS inventory conditions during the upcoming maintenance outage .
- (c) The outage list for the upcoming outage has been carefully reviewed to minimize the impact of any work which could affect reduced RCS inventory conditions.

2. Containment Closure (Refer to Reference 4, Enclosure 1, Items 2, 3, and 4)

For mid-loop operations during the 1990 mid-cycle outage, it is the Authority's intention to either maintain containment closure, or be able to establish containment closure within thirty minutes.

3. RCS Water Level Indication (Refer to Reference 4, Enclosure 1, Item 5)

Modifications to the existing tygon tubing level indication system, which will be completed prior to mid-loop operations during the upcoming outage, will include:

- (a) The tygon tubing will be replaced with hard piping (both clear plastic and a minimal amount of stainless steel piping).
- (b) An enhanced level gauge will be installed in the area of most concern during mid-loop operations.
- (c) During mid-loop operations, a permanently mounted TV camera will be used, with a monitor available in the Control Room for monitoring of the RCS level.

4. Kinking of Tygon Tubing (Refer to Reference 4, Enclosure 1, Item 6)

Kinking of the tygon tubing is no longer a concern, due to the fact that the system will be hard-piped.

5. **RCS Inventory Addition (Refer to Reference 4, Enclosure 1, Item 7)**

The IP3 mid-loop procedures allow for two diverse backup means of adding sufficient water to the core to prevent the onset of boiling (gravity fill via the RWST, and high pressure injection into the RCS via hot or cold leg paths). The analytical work necessary to support the use of these flow paths has been completed for the mid cycle outage. Makeup tables based on the plant specific analyses of decay heat loads have been provided to the operators.

6. **RWST Gravity Feed (Refer to Reference 4, Enclosure 1, Item 8)**

During the previous refueling outage a gravity feed flow test (ENG-375) was performed to ensure that sufficient makeup is available to prevent boiling. This test was performed with a fully loaded, unvented core. A makeup rate of greater than 2000 gpm was established. The calculated makeup rate necessary to prevent boiling during this condition was approximately 700 gpm, based on a three day shutdown period.