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July 28, 1997

Re: Indian Point Unit No. 2
Docket No. 50-247

Document Control Desk
US Nuclear Regulatory Commission
Mail Station PI-137
Washington, DC 20555

SUBJECT: Generic Letter 88-17, Loss of Decay Heat Removal,
Revision to Programmed Enhancement Recommendations.

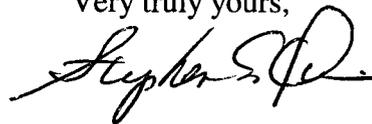
REFERENCE:

- 1) Con Edison letter to the NRC, same subject, dated January 4, 1989
- 2) Con Edison letter to the NRC, same subject, dated February 3, 1989
- 3) Con Edison letter to the NRC, same subject, dated August 22, 1990
- 4) Con Edison letter to the NRC, same subject, dated September 20, 1991

This letter transmits Consolidated Edison Company of New York's (Con Edison) revised response to the subject Generic Letter. The revised response is made to reflect the 1997 Refueling Outage (RFO) installation of a new, redundant level monitoring system. This new system can be used during drain-down and provides additional instrumentation redundancy to the previously installed systems.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



Subscribed and sworn to
before me this 28th day
of July, 1997.

Karen L. Lancaster
KAREN L. LANCASTER
Notary Public, State of New York
No. 60-4643659
Qualified In Westchester County
Term Expires 9/30/97

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ADD1

Attachment



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P PDR

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ATTACHMENT

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
INDIAN POINT UNIT NO.2
DOCKET NO.50-247
JULY, 1997

Reference 2, Response 1(a), states:

As indicated in our response to the first part of the Generic Letter 88-17, two separate and diverse RCS level indicating instrument systems are intended to be operational by the end of the 1989 IP-2 refueling outage (scheduled for June 1989). One scheme employs a differential pressure transducer system which is currently in use at IP-2. The second system is a diverse ultrasonic level indication system for narrow range monitoring of the water level in the reactor coolant hot leg. This latter system is impervious to pressure changes in either the reactor coolant system or the Containment building atmosphere. The response of the ultrasonic system is not subject to the delays due to fluid equalization of the system.

To insure acceptable accuracy both instrument loops will be subject to error analysis. The ultrasonic instrument circuit is being installed with commensurate quality control measures.

Reference 4 confirms that the hardware modifications described in reference 2 were implemented and operational, as applicable.

Prior to the work completed during the 1997 RFO, the wide range level instrumentation did not have a connection below the midpoint of the hot leg and therefore could not measure level below that point. Further, the previously installed impulse tubing layout could potentially make accurate level reading difficult.

A Reactor Coolant System Redundant Level Measuring System at Drain-down (RLMSD) modification was installed, and successfully utilized, during the current 1997 RFO. The intent of this modification is to facilitate reliable reduced inventory operation. This diverse RLMSD system utilizes a newly installed RCS hot leg No. 24 bottom tap, a new Differential Pressure (DP) level transmitter (LT-7610) and new pressure transducers (LE-7611-1,-2,-3,-4,-5, and -6).

One pressure transducer set is located at the top of the pressurizer (LE-7611-3,-4). The second transducer set is near the RCS hot leg No. 24 (LE-7611-1,-2). The third optional transducer set is on the reactor head vent connection (LE-7611-5,-6). The outputs of these transducers can be monitored in the Central Control Room (CCR) on a portable personal computer. The RCS level is calculated based on pressure inputs from the upper and lower pressure transducers. Outputs can also be provided on a portable large display indicator. These transducers can be installed and removed each outage.

The DP transmitter, LT-7610, has been permanently installed with CCR indication on the SG panel and on the Proteus computer.

The new RLMSD is intended to improve RCS level measuring at drain down by providing the operator with additional diverse, independent methods of RCS level indication at drain down.

The two new channels (LE-7611 and LT-7610) are installed backups to each other and to the existing narrow range ultrasonic level channel. These three (L-6008, L-7610, and L-7611) are independent from each other, are manufactured by different vendors, and operate on different principles.

Each channel's different ranges are tabulated below:

<u>Instr. Loop#</u>	<u>Elevation</u>	<u>Span</u>	<u>Range</u>
L-3100	60' to 80'	240"	Wide
L-6008	60'-9.5" to 63'-2.5"	29"	Narrow
L-7610	60'-0" to 80'-0"	240"	Intermediate
L-7611	60'-0" to 124'-5"	733"	Wide

Based upon the system modifications implemented during the 1997 RFO, revisions to Reference 2 and 3 are required as follows :

Reference 2, response 1(c), states: "...It should be noted that the ultrasonic level detector will be mounted on the hot leg (No. 21) most indicative of Reactor Vessel level..." Revise this to read: "It should be noted that the ultrasonic level detector mounting location is hot leg No. 21 and the RLMSD utilizes a bottom tap on hot leg No. 24."

Reference 2, response 1(d), states:

The PROTEUS plant computer monitors all drain down instruments except wide range drain down level. Each analog point can have up to seven alarm levels. In addition, the PROTEUS screen which displays allowable RHR flow-narrow range level flashes when the flow level point approaches the unacceptable zone. The wide range differential pressure instrument has a Control Room annunciator alarm. The narrow range ultrasonic instrument will have an operator adjustable alarm set point in the indicator that can trigger an annunciator. This provides both an audible and visual indication.

Revise this to read: "The determination of RCS level during drain down will be made with the two RCS level monitors. At least two shall be operable, one of which will have alarming capability."

Reference 3 provided a clarified response to G.L. 88-17 and referred to references 1 and 2. Reference 3, page 2 , states: "An ultrasonic level detector has been installed which provides accurate level detection in this region independent of pressure."

Revise this to read:

Multiple methods to monitor RCS level while at drain down have been installed. These include: narrow, intermediate and wide range systems. The narrow range utilizes ultrasonic instrument technology. The intermediate and wide range systems use pressure and differential pressure instrumentation. The pressures and differential pressures are converted into an elevation reference for control room operator monitoring of RCS level during drain down.

With the capabilities of the newly installed RLMSD, supplementing the level monitoring system installed during 1989, further diversity is provided.