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February 27, 1981
IPN-81-16

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

Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
NUREG-0737 Response, Supplement No. 1



Dear Sir:

This letter provides revised responses to our December 30, 1980 letter (IPN-80-117) entitled, "Post TMI Requirements."

Following transmittal of the response to each of the applicable NUREG-0737 items, the Authority discovered that responses to four (4) items would require revision as follows:

• Item II.E.4.2., Containment Isolation Dependability - the discussion of the valves which have been automated to close upon receipt of a Phase A isolation signal is incorrect and incomplete. To date six (6) valves have been automated rather than four (4) valves. In addition, the statement that all other manual non-essential valves are locked shut during normal operations is incomplete. To be consistent with our February 3, 1980 letter (IPN-80-15), and with the Commission's Feb. 21, 1980 evaluation letter (Item 2.1.4) this statement should continue as follows: "...with the exception of specific valves which may require period cycling to maintain plant operating parameters and/or to perform periodic tests."

• Item II.F.1.(5), Containment Water Level Monitor -

final test reports and certificates of compliance cannot be made available by January 1981, as stated. However, this documentation will be available by January 1, 1982 as required by NUREG-0737.

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Item II.F.2., Instrumentation for Detection of Inadequate Core Cooling - the Authority has chosen the Westinghouse (W) Reactor Vessel Level Instrumentation System (RVLIS) for installation at Indian Point Unit 3. On December 23, 1980, W submitted a summary design report (CAW-80-75) of the RVLIS to the Commission. This report is applicable to the proposed IP-3 system and constitutes the documentation required by January 1, 1981.

The Authority will make every effort to install the RVLIS during our Fall 1981 refueling outage. However, this is contingent on satisfactory equipment lead time and engineering design completion by several consultants.

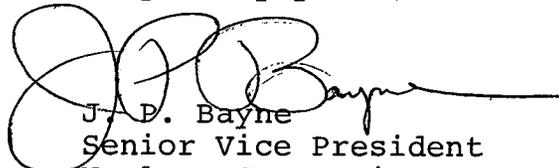
Item III.D.3.4., Control Room Habitability - the Authority will submit a report on March 15, 1981, rather than January as discussed in our December 30, 1980 letter. This delay is due to the late receipt of our consultant's initial report and subsequent Authority review time.

The toxic gas hazards survey of the Indian Point 5 - mile radius is underway. The Authority is confident that this report can be submitted to the Commission by July 17, 1981.

Attachment I contains revised pages 18, 18a, 21, 23, 24 and 30 which replace pages 18, 21, 23, 24 and 30 of Attachment I to our December 30, 1980 letter. Bar lines have been provided in the margins where changes have occurred.

This matter has been discussed with Mr. L. Olshan of your staff.

Very truly yours,


J. D. Bayne
Senior Vice President
Nuclear Generation

cc: Mr. T. Rebelowski
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ATTACHMENT I

NUREG-0737 RESPONSE

SUPPLEMENT NO. 1

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286
FEBRUARY 27, 1981

II.E.3.1 Emergency Power for Pressurizer Heaters

Implementation of this item is complete and the Authority will propose Technical Specifications regarding this item by January 1, 1981 in response to the Commission's July 2, 1980 letter.

II.E.4.2. - Containment Isolation Dependability

Positions 1-4

The Authority complies with NRC positions 1-4 except as follows:

Position 3 states that all nonessential systems shall be automatically isolated by the containment isolation signal. Five utilities were contacted to investigate the possibility of obtaining automated valves from their current nuclear construction projects to satisfy the isolation requirements of NUREG-0578, Section 2.1.4. Some of these utilities did have a few available automated valves, however, none of the valves could be adapted for IP3 application.

A parallel valve search effort was directed at nuclear qualified, valve manufacturers. Twelve companies were contacted of which two (2) companies were able to deliver four (4) out of the seven (7) required air-operated valves within an acceptable period of time to support installation during the planned outage of October, 1980. The following nonessential, air operated, containment isolation valves have been provided with the required phase A isolation circuitry:

- o 863 - N₂ supply to accumulator
- o 959 - RHR loop sampling system

The following nonessential manually operated containment isolation valves have been replaced with an air operated type valve with the required phase A isolation circuitry:

- o 1610 - N₂ supply to RCDT
- o 550 - N₂ supply PRT

The following nonessential, air operated containment isolation valve have been newly installed with the required phase A isolation circuitry:

- o DW-1 - New demineralized water system
- o DW-2 - New demineralized water system

The three remaining air-operated valves could not be delivered on time for the October 1980 installation but have been purchased with a July 6, 1981 tentative delivery date. These are nonessential, air-operated valves for the Sampling System to replace manual valves 958, 990A and 990B. The valves have been purchased on IP-PO-549 and will be installed during the scheduled Fall 1981 refueling outage.

As stated in our February 3, 1980 letter (IPN-80-15) all other manual non-essential valves are locked shut during normal operations with the exception that specific valves (those marked with an asterisk in the table attached to item 2.1.4 of our February 3, 1980 letter) may require periodic cycling to maintain plant operating parameters and/or to perform periodic tests. The plant operating procedures re-emphasize to the operating personnel that these asterisked valves shall not be opened unless absolutely essential for plant operations or testing, that an operator will be dedicated to the operation of these valves as long as they are in the open position and that their first response to any emergency condition while any of these are open shall be to insure that the valves are immediately returned to the closed position.

Status All equipment has been delivered to the site and installation is approximately 50% complete. The Authority feels that the schedule specified in NUREG-0737 of January 1, 1982 for implementation will be met. This commitment supersedes any other commitments that may have been made by the Authority previously regarding this item.

II.F.1.(5) - Containment Water Level Monitor

The Authority is in the process of installing six safety related water level measurement channels including two channels measuring RHR Recirculation Sump level, two channels measuring Containment Sump level and two channels measuring Containment Building level. Level transmitters will be located inside the containment building; safety related recorders and electronic devices will be located in the control room. Electronic signals are transmitted from the containment building to the control room through existing electrical penetrations.

Conformance to Action Plan "Clarification"

1. All six (6) level channels meet the design and qualification criteria prescribed in Table 1 of Draft Reg. Guide 1.97, Rev. 2, dated June 4, 1980 for category 1 instruments.
2. The two (2) Containment Building level transmitters will be capable of measuring water level to Elevation 52'-4". The available water which could flood the containment is the 360,000 gallons from the Refueling Water Storage Tank; this quantity of water would result in flooding to Elevation 49'-4". A quantity of 500,000 gallons would result in flooding to Elevation 51'3" +; 600,000 gallons would result in flooding to Elevation 53'-0" + I. All level transmitters are located at elevation 54'-0" or above.
3. During normal operation the overall accuracy of each level measurement channel is less than $\pm 1\%$, well within the $\pm 5\%$ limit set by the Commission. However, based on preliminary information, the accuracy could deteriorate due to LOCA conditions; the temperature effect on the transmitter could be $\pm 10\%$; the radiation effect on the transmitter could be $\pm 5\%$. The Authority is proceeding with implementation of this instrumentation since it is the best available at this time.

II.F.1.(6) - Cont'd

2. During normal operation the Hydrogen Concentration Measurement Cabinets are kept in the "STANDBY" mode; the containment isolation valves are closed. To satisfy the requirement of a hydrogen concentration reading 30 minutes after safety injection, the operating personnel in the control room must activate the system by opening the appropriate isolation valves and starting up the sample pump. All of these controls are located at the Control Room Cabinets. The Authority will verify that a containment building air sample requires less than 30 minutes to travel from the containment building to the analyzer cabinets.
3. The overall measurement accuracy is within $\pm 2.50\%$ of range for the entire measurement channel. We are proceeding with implementation of this instrumentation since it is the best available at this time.

STATUS - All equipment except the hydrogen analyzers (Comsip-Delphi model K-III) have been delivered to the site. Most cable and conduit has been installed. Piping installation is approximately 25% complete. The Authority feels that the schedule for installation specified in NUREG-0737 will be met. This commitment supercedes all other commitments that may have been made by the Authority previously regarding this item.

II.F.2. - Instrumentation for Detection of Inadequate Core Cooling

1. Subcooling meter - The Authority has completed installation of the analog system discussed in our February 3, 1980 letter (IPN-80-15). This system will automatically choose the conservative reactor coolant system (RCS) pressure out of two inputs and the conservative temperature out of four inputs and then compute the saturation margin using these parameters. The Authority will not utilize the analog system until Commission approval is received.
2. Tech. Specs. The Authority will propose Technical Specifications for the subcooling meter by January 1, 1981 in response to the Commission's July 2, 1980 letter.
3. Install Level Instrumentation - The Authority has chosen the Westinghouse Reactor Vessel Level Instrumentation System (RVLIS) for installation at Indian Point Unit 3 (IP-3). On December 23, 1980, Westinghouse submitted a summary design report (CAW-80-75) of the RVLIS to the Commission. This report is applicable to the proposed IP-3 system and constitutes the documentation required by January 1, 1981.

II.F.2. - Cont'd

The Authority will make every effort to install the RVLIS during our fall 1981 refueling outage. However, this is contingent upon satisfactory equipment lead time and engineering design completion by several consultants.

II.G.1. - Power Supplies for Pressurizer Relief Valves, Block Valves, and Level Indicators

Implementation of this item is complete and the Authority will propose Technical Specifications regarding this item by January 1, 1981 in response to the Commission's July 2, 1980 letter.

II.K.2.13 - Orders on B&W Plants; Thermal - Mechanical Report

To completely address the NRC Requirements of detailed analysis of the thermal-mechanical conditions in the reactor vessel during recovery from small breaks with an extended loss of all feedwater, a program will be completed and documented to the NRC by January 1, 1982. This program will consist of analysis for generic W PWR Plant Groupings. Following completion of this generic program, additional plant specific analyses, if required, will be provided. A schedule for the plant specific analysis will be determined based on the results of the generic analysis.

II.K.2.17 - Order on B&W Plants; Voiding in RCS

The Westinghouse Owners Group is currently addressing the potential for void formation in the Reactor Coolant System (RCS) during natural circulation cooldown conditions, as described in Westinghouse letter NS-TMA-2298 (T.M. Anderson, W. to P.S. Check, NRC). We believe the results of this effort will fully address the NRC requirement for analysis to determine the potential for voiding in the RCS during anticipated transients. A report describing the results of this effort will be provided to the NRC before January 1, 1982.

III.D.1.1 - Primary Coolant Outside Containment

Implementation of this item is complete and the Authority will propose a license condition regarding this item by January 1, 1981 in response to the Commission's July 2, 1980 letter.

III.D.3.3 - Inplant Radiation Monitoring

The Authority presently complies with the NUREG-0737 requirements regarding this item. Compliance was verified by the Commission in March 1980. Based on the NUREG-0737 clarification, no documentation is required to be submitted.

III.D.3.4. - Control Room Habitability

The Authority will submit a report by March 15, 1981, which will include the information requested in NUREG-0737, item III.D.3.4, attachment 1, with the exception of subsections (4) and (5).

The item (4) toxic gas hazards survey of the Indian Point 5 - mile radius is underway. The Authority is confident that this report can be submitted to the Commission by July 17, 1981.

The Technical Specification requirements referred to in NUREG-0737 will not be proposed since the Authority has determined that a chlorine detection system and an independent air filtration system are not required at this time. Justification for this position will be documented in the above mentioned report.

This response supercedes our June 16, 1980 response (IPN-80-58) regarding this item.