POWER AUTHORITY OF THE STATE OF NEW YORK

10 COLUMBUS CIRCLE NEW YORK, N. Y. 10019

(212) 397-6200

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January 11, 1982
JPN-82-7

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

Attention: Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch No. 2
Division of Licensing

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
NUREG-0737 Post-TMI Requirements Submittals
and Modifications Required by January 1, 1982

Reference: NRC letter, D.G. Eisenhut to all Licensees of Operating Plants, dated October 31, 1980

Dear Sir:

Enclosure 1 contains the Power Authority's response to the following NUREG-0737 items which require submittals or modifications by January 1, 1982:

II.B.1.3	Reactor Coolant System Vent Procedures
II.B.2.2	Plant Shielding Modifications
II.B.3.2	Postaccident Sampling Modifications
II.D.1.2.b	Relief and Safety Valve Plant Specific Test Report
II.F.1.1	Noble Gas Effluent Monitor
II.F.1.2	Postaccident Effluent Sampling for Iodine and Particulates
II.F.1.3	Containment High-range Radiation Monitor
II.F.1.4	Containment Pressure Monitor

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II.F.1.5	Containment Water Level Monitor
II.F.1.6	Containment Hydrogen Concentration Monitor
II.F.2	Instrumentation for Detection of Inadequate Core Cooling
II.K.3.22	Automatic Switchover of RCIC Suction
II.K.3.24	HPCI and RCIC Space Cooling
II.K.3.25	Effects of the Loss of Power on Pump Seals
II.K.3.28	Qualification of ADS Accumulators
II.K.3.30.b	Small-break LOCA Model
III.D.3.4	Control Room Habitability

The following items, including submittals and modifications, are complete or are scheduled for completion during the Reload 4/ Cycle 5 refueling outage currently in progress: II.B.1.3; II.B.2.2; II.D.1.2.b; II.F.1.3; II.F.1.4; II.F.1.5; II.K.3.24; II.K.3.25; II.K.3.30.b. Item III.D.3.4 is scheduled for completion during the 1983 refueling outage.

Modifications required by Items II.F.1.1 and II.K.3.22 are scheduled for completion during the current outage. The unavailability of environmentally qualified equipment may necessitate the installation of partially qualified components in order to meet the implementation dates specified by NUREG-0737. The installed components will be qualified or replaced when qualified substitutes can be obtained. Appendix B or NUREG-0737 acknowledges the acceptability of this approach.

Items II.B.3.2, II.F.1.2, II.F.1.6, II.F.2, and II.K.3.28 cannot be completed by the required implementation dates. Enclosure 1 identifies the reasons for the delays, contains requests for schedule extensions, and provides justification for the extension requests including descriptions of compensating factors.

The Power Authority is preparing a comprehensive schedule of long-term modifications or major work currently forecast for the FitzPatrick plant. The Authority will furnish this integrated work schedule to the NRC in the near future. The dates included in this letter have been taken from this integrated modification schedule. In the future, adjustments to the dates mentioned

within this letter will be provided in the integrated schedule.

If you have any further questions, please do not hesitate to contact us.

Very truly yours,

J. P. Bayne
Senior Vice President
Nuclear Generation

cc: Mr. J. Linville
Resident Inspector
U. S. Nuclear Regulatory Commission
P. O. Box 136
Lycoming, New York 13093

Mr. Ron Barton
United Engineers & Constructors, Inc.
30 S. 17th Street
Philadelphia, Pa. 19101

POWER AUTHORITY OF THE STATE OF NEW YORK

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

NUREG-0737

POST - TMI REQUIREMENTS

ENCLOSURE 1 to JAF-81-

II.B.1.3 Reactor Coolant System Vent Procedures

The Power Authority provided a detailed description of the JAFNPP RCS venting capability in a letter from P. J. Early to D. G. Eisenhut dated December 22, 1979 (JPN-79-65).

The current status of the JAFNPP RCS venting procedures was provided in a letter from J. P. Bayne dated July 7, 1981 (JPN-81-49). This letter stated that the generic positions expressed by the BWR Owners' Group, regarding BWR 4 RCS venting, are applicable to the FitzPatrick plant. This includes the response to NRC questions from D. B. Waters (BWROG) to D. G. Eisenhut dated April 24, 1981, concerning procedures and HPCI/RCIC operations.

Procedures for venting the JAFNPP RCS are contained in F-OP-65 Startup and Shutdown Procedure. The Power Authority is also participating with the BWR Owners' Group in the development of emergency procedure guidelines which will address RCS venting through the operation of the HPCI, RCIC, and ADS Systems.

II.B.2.2 Plant Shielding Modifications

The Power Authority's review of the FitzPatrick plant has identified only one plant modification necessary to comply with the NUREG-0737 criteria for this item. The modification, which consists of repacking valves which currently have teflon packing, is scheduled for completion during the refueling outage now in progress.

II.B.3.2 Postaccident Sampling Modifications

A Postaccident Sampling System modification to the FitzPatrick plant is currently in progress. Due to delays in obtaining qualified equipment, particularly solenoid valves, additional engineering and procurement necessary to provide an alternate power supply to the system, and the magnitude of the installation, this modification cannot be completed during the current refueling outage.

Therefore, the Power Authority requests an extension of the due date for the completion of this item to December 31, 1982.

The Power Authority considers that adequate compensating factors exist to justify this extension. The objective of the permanent postaccident sampling system is to enable the sampling and analysis of high-activity reactor coolant. This objective is met by existing equipment and an approved procedure, now in effect and available at the plant for review, for obtaining and analyzing high-activity reactor coolant

samples. The existence of this interim capability was identified in a letter from P. J. Early to T. A. Ippolito dated January 2, 1980 (JPN-80-1).

II.D.1.2.b Relief and Safety Valve Plant Specific Test Report

In a letter, J. P. Bayne to T. A. Ippolito dated September 30, 1981 (JPN-81-80), the Power Authority provided a response to this item. The Authority's letter endorsed the BWR Owners' Group final report on the Generic BWR Safety Relief Valve Test Program submitted in a letter from T. J. Dente (BWROG) to D. G. Eisenhut dated September 25, 1981.

The Authority's letter explained the applicability of the test report to the FitzPatrick plant and stated that the test report demonstrates the integrity of the FitzPatrick SRVs and discharge piping for the conditions specified in this NUREG-0737 item.

II.F.1.1 Noble Gas Effluent Monitor

The design package for this modification is complete and is available at the plant for review. The modification is scheduled for completion during the current refueling outage. However, the equipment being installed may not meet the environmental qualifications imposed by Regulatory Guide 1.97 Revision 2. Additionally, concerns have recently been identified regarding NUREG-0737 requirements for adequate range overlap with existing equipment.

The Power Authority is currently working with the vendors to resolve these deficiencies. The acceptability of this approach is acknowledged in Appendix B of NUREG-0737. The NRC staff will be kept informed of the Authority's progress on this matter.

II.F.1.2 Postaccident Effluent Sampling For Iodine And Particulates

The Power Authority addressed this item in responses to NUREG-0578. In letters from P. J. Early to D. G. Eisenhut dated October 22, 1979 (JPN-79-65) and January 2, 1980 (JPN-80-1), the Authority stated that the existing instrumentation and plant procedures were adequate to satisfy the NUREG-0578 item.

Due to the new requirements of NUREG-0737, the Power Authority utilized an expert consultant to re-evaluate this issue. The report was recently completed and is presently under evaluation. The Authority's initial review has identified potential areas of discrepancy primarily due to the different regulatory positions in Regulatory Guides 1.97 and 1.3. The NRC staff will be kept advised on this issue.

II.F.1.3 Containment High-Range Radiation Monitor
II.F.1.4 Containment Pressure Monitor
II.F.1.5 Containment Water Level Monitor

The design packages for these modifications are complete and are available at the plant for review. These three modifications to the FitzPatrick plant are scheduled for completion during the current refueling outage.

II.F.1.6 Containment Hydrogen Concentration Monitor

The Power Authority is developing a design package for installation of a hydrogen monitor in the FitzPatrick plant. However, substantial delays have been encountered in obtaining solenoid valves and qualified electrical, instrumentation and control equipment. Although the Authority is making every reasonable effort to expedite the procurement of the necessary equipment, this modification cannot be completed during the current refueling outage.

The objective of hydrogen monitoring is to provide the capability to detect the potential for breaching containment, due to hydrogen build up. The hydrogen and oxygen monitoring equipment now installed in the FitzPatrick plant provides this capability, although it does not meet the requirements of Regulatory Guide 1.97 Revision 2. Operability of this equipment is assured by Technical Specification 3.7.A.9. In addition, Technical Specification 3.7.A.6 required containment inerting during power operation. The FitzPatrick plant also has safety related systems designed to mitigate hydrogen build up in containment.

A qualified hydrogen monitor has been received at the plant. The Power Authority may return this unit to the manufacturer and obtain a qualified unit to monitor both hydrogen and oxygen levels in containment. The additional capability to monitor oxygen would enable the Authority to achieve compliance with Regulatory Guide 1.97, Revision 2 and IE Bulletin 79-01B.

For reasons of material unavailability, the possible addition of an oxygen monitoring capability, and the magnitude of the installation, the Power Authority requests an extension of the due date for completion of this modification until December 31, 1982.

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

The Power Authority is participating in the current BWR Owners' Group activities with regard to this item. Studies recently completed by technical consultants to the Owners'

Group, show that installation of incore thermocouples will not increase the operators' ability to diagnose inadequate core cooling. The Power Authority considers this finding applicable to the FitzPatrick plant.

The Power Authority is supporting, and will continue to support, the Owners' Group efforts to resolve this item with the NRC staff and to explore other technical alternatives. When this NUREG-0737 item is resolved, the Authority will review the resolution and notify the NRC of its intentions.

II.K.3.22 Automatic Switchover of RCIC Suction

The Power Authority is currently modifying the FitzPatrick plant to provide automatic switchover of RCIC suction from the condensate storage tank to the suppression pool. However, qualified level switches cannot be obtained in time for installation during the current outage.

Therefore, the Power Authority has scheduled this modification for completion during this outage using available partially qualified switches. The switches will be replaced when qualified substitutes can be obtained.

II.K.3.24 HPCI and RCIC Space Cooling

A description of the Reactor Building Ventilation System, which provides cooling for the HPCI and RCIC equipment areas, is contained in Section 9.9.3.3 of the FitzPatrick FSAR. This section states that Reactor Building Elevation 227'-6", where the HPCI and RCIC equipment is located, is supplied with sufficient outside air to cool the area during normal operation. When this ventilation system is not operating, area cooling is accomplished by unit coolers.

The FSAR states that the unit coolers have sufficient capacity to handle the entire heat load without outside air. The unit coolers are 100% redundant and separately located. Each cooler is connected to a separate emergency power supply and receives water from separate loops of the Emergency Service Water (ESW) System. The ESW System is also provided with emergency power.

As a result of fire protection modifications, a fireproof enclosure has been constructed around the RCIC pump. This enclosure is equipped with two exhaust fans with dampers and two intake dampers. One fan provides normal cooling and is powered from a non-emergency source. The other fan provides automatic emergency cooling and is powered from the same

electrical division as the RCIC system. The dampers are normally open and close only in case of fire inside the RCIC enclosure. The entire ventilation system is automatic and fully redundant, with annunciation in case of malfuntion or failure.

The air drawn into the enclosure by the fans is from the general area. This air is normally supplied by the Reactor Building Ventilation System which is backed up by the unit coolers as described above. The unit cooler nearest the RCIC enclosure is powered from the same electrical division as the RCIC system.

The existing FitzPatrick HPCI and RCIC space cooling equipment satisfies the acceptance criteria of this NUREG item. Therefore, no modifications to the plant are required.

II.K.3.25 Effects of the Loss of Power on Pump Seals

The Power Authority responded to this requirement in a letter, from J. P. Bayne to T. A. Ippolito dated July 7, 1981 (JPN-81-49), which endorsed a BWR Owners' Group generic analysis as applicable to the FitzPatrick plant.

In addition, the FitzPatrick recirculation pump seals are cooled by both the Reactor Building Closed Loop Cooling Water System (RBCCW) and the Recirculation Pump Mini-Purge System (RPMP). RBCCW supplies cooling water to the recirculation pump seal coolers during normal operation. Upon loss of offsite power, the Emergency Service Water System (ESW) supplies the seal coolers. The ESW System is powered by onsite emergency power.

The Mini-Purge System supplies cool seal purge water directly to the recirculation pump seals during normal operation and upon loss of offsite power. The Mini-Purge System receives water from the Control Rod Drive Pumps which are powered by onsite emergency power.

Therefore, the existing FitzPatrick design meets the intent of the NUREG without modification and the Power Authority considers its efforts on this item to be complete.

II.K.3.28 Qualification of ADS Accumulators

The Power Authority has participated in BWR Owners' Group generic review of this item and has only recently received the final result of this study. The Authority has had insufficient time to review the study, to determine if plant modifications are required, and complete the modifications by the required date. In view of the Power Authority's efforts to complete all of the post-TMI requirements and the resulting burden on the

Authority's staff, the Authority requests an extension of the January 1, 1982 completion date for this item. The Power Authority proposes to review the results of the Owner's Group efforts and respond to the NRC by April 1, 1982. This response will include a description of the modifications, if any, necessary to comply with this requirement and a schedule for their implementation.

II.K.3.30.b. Small-break LOCA Model

The General Electric Company provided a response to this item in a letter from R. H. Buchholz (GE) to D. G. Eisenhut dated June 26, 1981. This response demonstrated that the existing GE small-break LOCA model is in full compliance with 10 CFR 50 Appendix K and therefore satisifies this NUREG item.

III.D.3.4 Control Room Habitability

The Power Authority provided an analysis of the FitzPatrick control room in a letter from J. P. Bayne to T. A. Ippolito dated August 13, 1981 (JPN-81-60). This letter committed to the performance of a control room pressurization test and the installation of additional breathing apparatus by January 1, 1982. These tests and modifications are scheduled for completion during the current refueling outage. This letter also committed to install a redundant damper. This modification is scheduled for completion during the 1983 refueling outage.

The Authority also committed to change the FitzPatrick Technical Specifications to require control room makeup air capacity tests. A request for a change to the Technical Specifications will be submitted to the NRC in the near future.