

POWER AUTHORITY OF THE STATE OF NEW YORK

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July 31, 1981  
JPN-81-54

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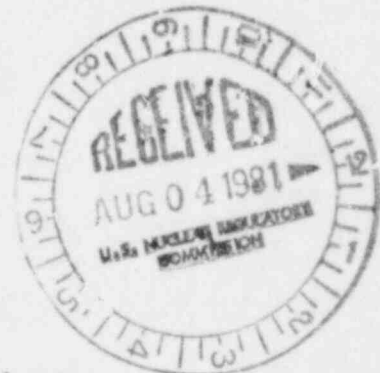
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Director of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
Washington D.C. 20555  
Attention Mr Thomas A. Ippolito, Chief  
Operating Reactors Branch No.2  
Division of Licensing



Subject James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
Implementation of NUREG-0313, Revision 1, July 1981  
(Generic Letter 81-04)

Reference: NRC Letter, D.G. Eisenhower to All BWR Licensees  
(Except Humboldt Bay and LaCrosse), Generic  
Letter 81-04 dated February 26, 1981

Dear Sirs;

The Authority has completed its review of the Reactor Coolant System pressure boundary materials to determine the extent of conformance to the guidelines of NUREG-0313, Revision 1, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping" dated July 1981. The attachment to this letter summarizes the results of this review and responds to the reference letter.

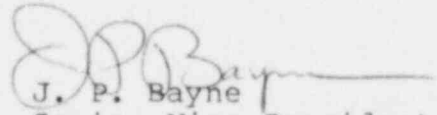
As requested, ASME Code Class 1 and 2 pressure boundary piping, safe ends, and fitting material, including weld metal, were reviewed to determine if they meet the material selection, testing and processing guidelines of NUREG-0313, Revision 1. Those Reactor Coolant System pressure boundary materials not conforming to this criteria have been identified and the affected systems classified as service or nonservice sensitive.

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Proposed changes to the James A. FitzPatrick Technical Specifications to incorporate the augmented inservice inspection program required by NUREG-0313 Revision 0 were submitted January 6, 1978. These proposed changes will be revised in accordance with the model technical specifications and NUREG-0313 Revision 1 by August 15, 1981.

Very truly yours,

  
J. P. Bayne  
Senior Vice President  
Nuclear Generation

## ATTACHMENT

Power Authority of the State of New York  
James A. FitzPatrick Nuclear Power Plant  
Implementation of NUREG-0313, Revision 1  
(Response to Generic Letter 81-04)

Generic Letter No. 81-04 dated February 26, 1981 requested a review of the materials in the Reactor Coolant System pressure boundary to determine conformance to the material selection, testing and processing guidelines set forth in NUREG-0313, Revision 1, "Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping". The nonconforming materials in the Reactor Coolant System pressure boundary have been indentified and the affected components classified as service or nonservice sensitive.

The majority of the material used in the Reactor Coolant System pressure boundary is Type 304 austentic stainless steel, which has a carbon content of greater than 0.035 percent and has been classified as nonconforming material based on NUREG-0313, Revision 1. Type 316 stainless steel is present only in a portion of the recirculation discharge valve bypass line. This material is also classified as nonconforming based on NUREG-0313, Revision 1.

Based on the Authority's review of Reactor Coolant System pressure boundary materials, action with respect to nonconforming, service and nonservice sensitive materials will be as follows:

### 1. Recirculation Piping

The 22 and 28-inch recirculation piping and weld material has been classified as nonconforming and nonservice sensitive. An augmented inservice inspection program has been implemented in accordance with NUREG-0313, Revision 0, and will be modified in accordance with the requirements of Revision 1. The 12-inch recirculation riser piping is nonconforming; however, we do not consider it to be service sensitive. This classification is based on the lack of evidence of intergranular stress corrosion cracking (IGSCC) occuring in recirculation risers in domestic BWRs. Further, the James A. FitzPatrick Inservice Inspection Program included the inspection of welds to this piping during the last three outages. No evidence of IGSCC was found. In view of the concerns stated in NUREG-0313, Revision 1, an augmented inspection will be implemented as described in NUREG-0313, Revision 1, but on an initial 40-month schedule. This schedule will provide sufficiently frequent inspections to discern IGSCC prior to failure, and will minimize occupational radiation exposure to inspection personnel.

The replacement of these recirculation risers will be considered if evidence of IGSCC is found. The use of Induction Heating Stress Improvement on all or part of the recirculation system, including the risers is, however, under consideration.

Nonconforming safe-ends will be inspected in accordance with the requirements of NUREG-0313, Revision 1.

The 4-inch recirculation discharge bypass loops are classified as nonconforming and service sensitive. An augmented inservice inspection program has been implemented as described in NUREG-0313, Revision 0 and will be modified in accordance with the requirements of Revision 1. Consideration will be given to the replacement of these bypass loops if evidence of IGSCC is found.

## 2. Core Spray Piping

The two core spray piping segments, between the reactor vessel and the first valve, have been classified as nonconforming and service sensitive. The remaining portions of the core spray system are constructed of carbon steel. An augmented inservice inspection program will be implemented as described in NUREG-0313, Revision 0 and has been modified in accordance with the requirements of Revision 1. Inspections of this piping have been performed during the past three outages. Consideration will be given to the replacement of this piping with conforming material if evidence of IGSCC is found.

## 3. Control Rod Drive Hydraulic Return Piping

Control rod drive hydraulic return piping between the vessel nozzle and the first manual valve has been classified as nonconforming and service sensitive. All other control rod drive hydraulic return piping within the Reactor Coolant System pressure boundary is constructed of carbon steel.

An augmented inservice inspection program as described in NUREG-0313, Revision 0 has been implemented and will continue until this piping is re-routed in accordance with the criteria of NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking." Inspections of this piping have been performed during the past three outages. It is anticipated that this modification will be completed during the 1983 refueling outage.

## 4. Residual Heat Removal and Reactor Water Cleanup Piping

Four segments of the Residual Heat Removal and Reactor

Water Cleanup piping are constructed of nonconforming material. These nonconforming segments are between:

- a. Recirculation piping and manual isolation valve RHR-81A;
- b. Recirculation piping and manual isolation valve RHR-81B;
- c. Recirculation piping and manual isolation valve RHR-88; and
- d. RHR piping and manual isolation valve RWC-46.

These piping segments have shown no evidence of stress corrosion. Based upon this, the Authority has classified these piping segments as nonservice sensitive. An augmented inservice inspection program has been implemented as described in NUREG-0313, Revision 0 and will be modified in accordance with the requirements of Revision 1. Inspections of this piping have been performed during the past three outages.

5. Reactor Coolant Boundary Vent, Drain and Instrument Piping

Vent, drain and instrument lines which form part of Reactor Coolant Boundary that are 1-inch or less in diameter have been classified as nonconforming and nonservice sensitive. These lines are currently exempt from inspection under the FitzPatrick Plant Technical Specifications which are based on Section XI of the ASME Boiler and Pressure Vessel Code, 1970 Edition. The revised James A. FitzPatrick Inservice Inspection Program, which is based on the 1974 Edition of Section XI through the Summer 1975 addenda of the ASME Code and is currently under review by the Commission, also exempts these lines from volumetric examination. These lines will be visually inspected in accordance with code requirements.

Nuclear Boiler Instrument lines (1/2 to 1-inch), and the Standby Liquid Control line (1 1/2-inch) to the reactor vessel from manual valve SLC-18 to check valve SLC-16, have been classified as nonconforming and nonservice sensitive. These lines are currently exempt from inspection under the FitzPatrick Plant Technical Specifications which are based on the 1970 Edition of Section XI of the ASME Code. The revised inservice inspection program is based on the 1974 Edition of Section XI of the ASME Code through the Summer 1975 addenda which allows for the exemption of these lines from volumetric examination. These lines will be visually examined in accordance with code requirements.

There are no plans for replacement of any of these vent, drain and instrument lines nor for the Standby Liquid Control System lines.

Since the issuance of NUREG-0313, Revision 0, and the initial submittal of proposed changes to Technical Specifications on January 6, 1978, the Authority has been performing an augmented inspection program based on our response to Revision 0 of NUREG-0313. Nonconforming, service sensitive piping has been inspected every refueling outage, and no indications of IGSCC have been discovered. Therefore, these inspections will be performed on a 36-month schedule as described in NUREG-0313, Revision 1. Leakage from these lines is already monitored by an integrated leak rate detection system as described in the FSAR.