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August 20, 1985
JPN-85-65

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

Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
NUREG-0619 BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking

References:

1. NUREG-0619, "BWR Feedwater Nozzle and Control Rod Drive Return Line Nozzle Cracking", dated November, 1981.
2. NRC letter to All Operating Reactors, dated February 20, 1981. (Generic Letter 81-11).
3. GE Report NEDE-21821-A, "Boiling Water Reactor Feedwater Nozzle/Sparger Final Report", February, 1980.
4. NYPA Letter, J.P. Bayne to D.B. Vassallo, dated July 7, 1983 (JPN-83-64).
5. NRC Letter, D.B. Vassallo to J.P. Bayne, dated August 25, 1983 (JAF-83-290).

Dear Sir:

This letter addresses the requirements discussed in References 1 and 2.

NUREG 0619 (Ref. 1) required the operating reactors to install a low flow feedwater controller with the characteristics described in GE Report NEDE-21821-A, Subsection 3.4.4.3 (Ref. 3), and to re-route the reactor water clean-up system (RWCU) return flow to all feedwater Lines. Generic Letter 81-11 (Ref. 2) later clarified that if a fracture mechanics evaluation predicts an end of life crack size of less than one inch, a new low flow

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controller need not be installed. In addition, in discussing the generic letter, the NRC advised GE that the necessity of RWCU system re-route would be considered on a plant unique basis if an ASME Section III Sub-Section NB fatigue analysis showed the usage factor to be less than 1.0. The Authority has performed these analyses for the FitzPatrick Plant as discussed below.

Attachment 1 provides a plant specific fracture mechanics assessment of the FitzPatrick feedwater nozzle with the existing low flow feedwater controller to show compliance with Reference 2 and Reference 3. The evaluation considered an initial crack depth of 0.25 in. as specified in Reference 2. The results show that stress cycling from conservative temperature and flow profiles, when added to those resulting from other crack growth phenomena, such as startup and shutdown cycles, do not result in the growth of an initial 0.25 in. crack to greater than 1" during the remaining life of the plant. The existing controller is, therefore, acceptable based on the requirements of Reference 2.

This report (Attachment 1) contains information which the General Elecric Company customarily maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to General Electric, as indicated in the attached affidavit (Attachment 2), and we hereby request that NEDC-30799-P be withheld from public disclosure in accordance with the provisions of 10CFR 2.790.

Attachment 3 provides the results of a rapid cycling fatigue analysis for the FitzPatrick feedwater nozzle. This analysis shows the maximum usage to be less than 1.0 with seal refurbishments required every sixteen (16) years. The Authority is, however investigating alternatives to seal refurbishment, including a leak detection system.

Attachment 4 provides an evaluation of re-routing the discharge of the RWCU to all feedwater nozzles. This analysis indicates that the reduction in feedwater nozzle fatigue usage associated with RWCU re-route is sufficiently small that RWCU re-route is not considered to be justified.

Regarding the Control Rod Drive Return Line (CRDRL), Nozzle, the Authority has opted to implement the requirements of NUREG 0619, Section 8.2(4) - Cut and Cap the CRDRL Nozzle Without Re-Routing the CRDRL. In accordance with NUREG 0619, Section 8.1(4), this option is acceptable for FitzPatrick since it is a 218-inch BWR/4. The Authority has cut and capped the FitzPatrick CRDRL nozzle during the 1983 refueling outage (see Refs. 4 and 5), and has completed the following additional modifications required by this option during the 1985 refueling outage:

1. Installation of equalizing valves between the cooling water header and the normal drive movement exhaust water header; and

2. Removal of carbon steel piping in the flow stabilizer loop.

It is our understanding that with the exception of the inspections required by Table 2, NUREG 0619, the actions summarized above complete conformance with the requirements of NUREG 0619 for the James A. FitzPatrick Plant.

If you have any questions on the above, please contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,

John C. Brons
Senior Vice President
Nuclear Generation

cc: Office of the Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 136
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ATTACHMENT 1 TO JPN-85-65

General Electric Report, NE DC-30799-P
James A. FitzPatrick Nuclear Power Plant
Feedwater Nozzle Fracture Mechanics Analysis to
Show Compliance with NUREG-0619

December, 1984

New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333

August 20 , 1985