

OCT 09 1990

Docket No. 50-333
Lic. No. DRP-59
EA No. 90-136

New York Power Authority
James A. FitzPatrick Nuclear Power Plant
ATTN: Mr. William Fernandez
Resident Manager
P.O. Box 41
Lycoming, New York 13093

Gentlemen:

Subject: RESULTS OF THE AUGUST 21, 1990 ENFORCEMENT CONFERENCE
(INSPECTION REPORT 50-333/90-04)

On August 21, 1990, you and members of your staff attended an enforcement conference at the Region I office to discuss the apparent violations identified in Inspection Report 50-333/90-04. Specifically, the apparent violations concerned the potential that the FitzPatrick emergency service water (ESW) system would not have performed its designed safety function during the operating cycle prior to the 1990 refueling outage and the adequacy of your previous actions to identify and correct the deficiencies with the ESW system.

At the enforcement conference you stated that your evaluations have determined that although the ESW system was in a degraded condition prior to the 1990 outage, the ESW system would have been able to perform its design function. Based on our review of your evaluation, we agree with the overall conclusion. Accordingly, we are not issuing a notice of violation regarding the operability of the ESW system in Inspection Report 50-333/90-04.

In addition, we reviewed the apparent violation regarding your corrective actions following the 1989 Severity Level III violation. Specifically, those corrective actions addressed the clogging of safety-related unit coolers, but did not address the potential clogging of the piping and check valves within the ESW system. While a more vigorous approach could have addressed this potential problem such that the degraded conditions would have been detected and corrected earlier, we have concluded that your corrective actions were reasonable given the extent of the unit cooler problem. Further, after the degraded conditions were identified during the recent outage, your extensive corrective actions were effective in evaluating the system's condition, repairing and replacing degraded components, and confirming the design of the system with analysis and testing prior to returning the system to service. Accordingly, we are not issuing a notice of violation concerning corrective actions related to the 1989 unit cooler violation.

9010260159 901009
PDR ADOCK 05000333
Q FDC

FE01
11

OCT 09 1990

New York Power Authority

2

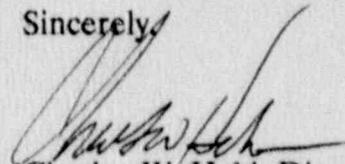
It is important that you continue to review the testing being conducted on safety-related systems and components to ensure that design requirements are being met. In this regard we note that you are currently developing a new surveillance program, including guidelines to be used to determine the adequacy of testing. We encourage the development of such a program.

At the enforcement conference, it was apparent that there was a misunderstanding between us regarding your commitments following the crescent area cooler violation. Specifically, despite the documentation of our understanding of a commitment on testing to be conducted on other coolers in the ESW system in two inspection reports, you stated that you did not have such a commitment and did not recall the discussions documented within the inspection reports. In the future we will reference such discussions in the forwarding letters for inspection reports and request that such commitments be formally acknowledged. We ask that you bring any such future misunderstanding regarding commitments to our attention.

A list of enforcement conference attendees is included as Attachment 1 to this letter. Also attached are pertinent portions of the information package used to support your enforcement conference presentation (Attachment 2), including a section which denotes your knowledge of the status of known commitments to NRC related to the ESW issue. Due to the previously noted conflicts with regard to the understanding of certain ESW commitments, we request that you respond to this letter and update the status of these known commitments with planned dates of completion for those actions indicated as on-going, pending, partially complete or continuing from the previous crescent area cooler issues. Also, please address the status of additional issues discussed during the enforcement conference, namely, the ESW system testing program that is currently being implemented, the submittal of an ESW technical specification change, and the submittal of a revised response to NRC Generic Letter 89-13.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice" a copy of this letter will be placed in the NRC Public Document Room.

Sincerely,



Charles W. Hehl, Director
Division of Reactor Projects

Attachments: As Stated

OCT 09 1990

New York Power Authority

cc w/encl:

- J.P. Bayne, President
- J.C. Brons, Executive Vice President-Nuclear Generation
- R.E. Beedle, Vice President Nuclear Support
- S.S. Zulla, Vice President Nuclear Engineering
- A. Klausmann, Senior Vice President-Appraisal and Compliance Services
- G. Tasick, Quality Assurance Superintendent
- G.H. Wilverding, Manager, Nuclear Safety Evaluation
- Gerald C. Goldstein, Assistant General Counsel
- Department of Public Service, State of New York
- State of New York, Department of Law
- Public Document Room (PDR)
- Local Public Document Room (LPDR)
- Nuclear Safety Information Center (NSIC)
- NRC Resident Inspector
- State of New York

bcc:

- Region I Docket Room (with concurrences)
- Management Assistant, DRMA
- W. Hehl, DRP
- J. Wiggins, DRP
- J. Linville, DRP
- G. Meyer, DRP
- D. Vito, DRP
- W. Hodges, DRS
- J. Durr, DRS
- R. Gallo, DRS
- R. Capra, NRR
- K. Abraham, PAO
- M. Miller, SLO
- D. LaBarge, NRR
- J. Caldwell, EDO
- D. Holody, Enforcement Specialist
- J. Lieberman, OE

Concurrence:

10/1/90
Schmidt

10/1/90
Meyer

10/3/90
Linville

10/ /90
Hehl

fm
[Signature]

[Signature]

[Signature]
10/5/90

OFFICIAL RECORD COPY

ATTACHMENT 1

ATTENDEES OF AUGUST 21, 1990 ENFORCEMENT CONFERENCE IN REGION I

NRC

C. Hehl, Director, DRP
C. Cowgill, Acting Chief, Projects Branch No. 1, DRP
G. Meyer, Chief, Reactor Projects Section 1B, DRP
W. Schmidt, Senior Resident Inspector, FitzPatrick
R. Plasse, Resident Inspector, FitzPatrick
R. Capra, Director, Projects Directorate I-1, NRR
D. LaBarge, NRR Project Manager, FitzPatrick
M. Case, Operations Engineer, NRR
R. Gallo, Chief, Operations Branch, DRS
M. Chiramal, Acting Chief, Special Test Programs Section, DRS
D. Florek, Senior Operations Engineer, DRS
D. Holody, Enforcement Officer, Region I
W. Troskoski, Office of Enforcement

NYPA

S. Zulla, Vice President - Nuclear Engineering
R. Beedle, Vice President - Nuclear Support
W. Fernandez, Resident Manager
V. Walz, Technical Services Superintendent
D. Wallace, Performance Engineering Supervisor
D. Kerr, Performance Engineer
C. Ponzi, System Engineer
B. Young, Manager, Mechanical Engineering
J. Elmers, Acting BWR Licensing Manager
D. Wille, Manager, Nuclear Projects Manager (Stone & Webster)
H. Greenberg, Assistant Manager, Nuclear Projects Division (Stone & Webster)

**NEW YORK POWER AUTHORITY
JAMES A. FITZPATRICK NUCLEAR POWER PLANT**

NRC ENFORCEMENT CONFERENCE

AUGUST 21, 1990

NRC REGION I INSPECTION REPORT 90-04

TABLE OF CONTENTS

- I. EMERGENCY SERVICE WATER SYSTEM DESIGN OVERVIEW**
- II. PRESENTATION SUMMARY**
- III. EVOLUTION OF ESW SYSTEM AND CHECK VALVE INSPECTION/TESTING ISSUES**
- IV. SAFETY REVIEW OF 1990 REFUELING OUTAGE FINDINGS**
 - A. ELECTRIC BAY (EAST)
 - B. ELECTRIC BAY (WEST)
 - C. CABLE TUNNEL (EAST)
 - D. CABLE TUNNEL (WEST)
 - E. CONTROL ROOM/RELAY ROOM VENTILATION
 - F. CRESCENT (ECCS EQUIPMENT) AREAS (EAST AND WEST)
- V. STATUS OF PREVIOUS NRC COMMITMENTS**
- VI. JAF SERVICE WATER SYSTEM UPGRADE MODIFICATIONS AND IMPROVEMENTS**
- VII. APPENDICES**
 - A. NRC INSPECTION REPORT 50-333/90-04
 - B. CHRONOLOGY OF ESW/SW SYSTEM AND CHECK VALVE ISSUES
 - C. 1990 REFUELING OUTAGE ACTION CHRONOLOGY
 - 1. SHORT-TERM TASK LISTING
 - D. ESW/SW CHECK VALVE INSPECTION RESULTS (1987-1990)
 - E. 1988 CRESCENT AREA UNIT COOLER REFERENCE DOCUMENTS
 - 1. LER-88-09 - INOPERABLE ECCS AREA COOLING DUE TO INADEQUATE PROCEDURES
 - 2. ENFORCEMENT CONFERENCE CORRECTIVE ACTION MATRIX (01/13/89)
 - 3. NYPA LETTER JAFP 89-0284 (04/12/89) - RESPONSE TO NOTICE OF VIOLATION

EMERGENCY SERVICE WATER

Description of System:

The system consists of two independent supply loops, each supplied from one emergency service water pump which takes suction from the Pumphouse forebays. Each loop is designed to supply raw cooling water to one train of the following equipment:

- EDG Jacket Cooling Water Heat Exchangers (93WE-1A,B,C,D)
- Electric Bay Unit Coolers (67UC-16A,B)
- Cable Tunnel/Switchgear Room Coolers (67E-11, 14)
- Control Room Chiller Condensers (70RWC-2A,B)
- Control Room Ventilation Chiller Condenser Room Air Handling Units (70AHU-19A,B)
- Crescent Area Unit Coolers (66UC-22A through K)
- *RHR Pump Seal Coolers (10E-3A,B,C,D)
- *CRD Pump Oil and Bearing Coolers (03P-16A,B)
- *Drywell Equipment Drain Sump Cooler (20E-9A)
- *Recirc. Pump and Motor Coolers (02-2P-1A,B)
- *PASS Cooler (SSC-LSC-1)
- *Drywell Area Coolers (68E-1A,B,C,D/68E-3A,B,C,D)

- * Normally supplied cooling by Reactor Building Closed Loop Cooling System.

The ESW System operates automatically on a loss of Reactor Building Closed Loop Cooling (RBCLC) by low RBCLC System pressure or upon start of the Emergency Diesel Generators. The ESW pumps and associated injection valves can also be remotely operated from the Control Room.

The individual trains of EDG jacket cooling water heat exchangers, Electric Bay unit coolers, Cable Tunnel/Switchgear Room coolers, Control Room chiller condensers, Control Room ventilation chiller condenser room AHUs, Crescent Area unit coolers, RHR pump seal coolers, CRD pump coolers, and recirc. pump and motor coolers receive ESW supply when the associated train of ESW pump is started and the train injection valve 46MOV-101A or B is opened. The drywell equipment drain sump cooler, drywell coolers, and Control Room and Relay Room air handling units require operator action to initiate ESW supply.

EMERGENCY SERVICE WATER

Additional flexibility of the system has been provided through the capability of cross-tying the A and B train supply of ESW to the Reactor Building ESW loads. This option is only for flexibility and is not a design requirement. A summary of the Emergency Service Water System safety-related heat loads and required raw water flow rates as defined in JAF Safety Evaluation JAF-SE-90-067, Clarification of the Design Basis Requirements for the JAFNPP Emergency Service Water System (46), is shown on the following two pages.

Safety-Related Functions:

Each train of the ESW System is required to supply raw water cooling to one train of the following safety-related loads:

- EDG Jacket Cooling Water Heat Exchangers
- Electric Bay Unit Coolers
- Cable Tunnel/Switchgear Room Coolers
- Control Room and Relay Room Air Handling Units
- Crescent Area Unit Coolers

The Control Room chiller condensers and Control Room ventilation chiller condenser room air handling units were previously considered safety-related, but have since been downgraded to non-safety related. All other ESW loads not listed above are not safety-related.

**JAFNPP EMERGENCY SERVICE WATER EQUIPMENT
FLOW RATES AND CALCULATION REFERENCES (EMERGENCY OPERATING MODE)**

DESCRIPTION	COMPONENT	NORMAL FLOW SOURCE		NORMAL HEAT LOADS PER COMPONENT	CURRENT DESIGN BASIS					NOTES
					PER COMPONENT	PER TRAIN	REF.	LAKE TEMP. BASIS	AS-BUILT HEAT DUTY	
EDG JACKET	93WE-A,B,C,D (TWO PER TRAIN)	ESW	FLOW (GPM)	N/A	625	1,250	2,9	82	YES	
			DUTY (BTU/HR.)	N/A	907,632	1,815,264	31	82	YES	
ELECTRIC BAY	67UC-16A,B	SW	FLOW (GPM)	60	23 (A) 25 (B)	23 (A) 25 (A)	3,4, 9	82	YES	
			DUTY (BTU/HR.)	294,000	156,070 (A) 199,450 (B)	156,070 (A) 199,450 (B)	3,4, 33, 34	82	YES	
CABLE TUNNEL	67E-11 67E-14	SW	FLOW (GPM)	52.5 (11) 67.8 (14)	12	12	5,9	82	NO	A
			DUTY (BTU/HR.)	263,000 (11) 339,000 (14)	58,000	58,000	5,6, 9	82	NO	B
CRESCENT AREA	66UC-22A TO K	SW	FLOW (GPM)	22	24	120	7,8	82	YES	
			DUTY (BTU/HR.)	235,000	---	588,655 (A) 672,720 (B)	7,8, 36, 37	82	YES	C

**JAFNPP EMERGENCY SERVICE WATER EQUIPMENT
FLOW RATES AND CALCULATION REFERENCES (EMERGENCY OPERATING MODE)**

DESCRIPTION	COMPONENT	NORMAL FLOW SOURCE		NORMAL HEAT LOADS PER COMPONENT	CURRENT DESIGN BASIS					NOTES
					PER COMPONENT	PER TRAIN	REF.	LAKE TEMP. BASIS	AS-BUILT HEAT DUTY	
CONTROL ROOM	70AHU-3A,B	GLYCOL	FLOW (GPM)	101	110	110	10, 23	82	NO	D
			DUTY (BTU/HR.)	449,000	213,000	213,000	23	82	NO	
RELAY ROOM	70AHU-12A,B	GLYCOL	FLOW (GPM)	80	90	90	10, 24	82	NO	E
			DUTY (BTU/HR.)	332,000	182,000	182,000	24	82	NO	

- NOTES:
- A) Normal operating SWS flow is 4 to 5 times higher than emergency.
 - B) The 12 gpm set in Reference 5 is assumed a 10°F water temperature rise. Based on the heat exchanger actual design as assessed in Reference 6, a much higher temperature rise can be expected, which means there is considerable margin for increased heat load in the cable tunnels.
 - C) The 588,655 and 672,720 BTU/Hr. heat loads shown are only that portion of the heat load required to be removed by the Crescent Area coolers. The Reference 7 and 8 analyses are transient computer models which account for other heat sinks, but credit the unit coolers for removing the above maximum heat loads. The actual heat loads are 784,000 and 875,000 BTU/Hr., respectively.
 - D) The 110 gpm is the required ESW flow, these coolers normally operate on 101 gpm of glycol flow from the chillers.
 - E) The 90 gpm is the required ESW flow, these coolers normally operate on 80 gpm of glycol flow from the chillers.

II. PRESENTATION SUMMARY

A. INSPECTION TERMINOLOGY: "FAILURE" AND "UNSATISFACTORY"

- VISUAL INSPECTION CRITERIA DIFFERED YEAR-TO-YEAR.**
- TERMS ARE USED TO DEFINE RESULTS OF VISUAL INSPECTION NOT FUNCTIONALITY.**

B. SAFETY CONCERNS MINOR - WITH REASONABLE ASSUMPTIONS - COOLERS ABLE TO PERFORM SAFETY FUNCTION IF REQUIRED

II. PRESENTATION SUMMARY

C. CHECK VALVE ASME SECTION XI, IST PROGRAM HAS BEEN PREVIOUSLY APPROVED OR REVISED

- **ASME SECTION XI IST PROGRAM FIRST INTERVAL (1977-1984)**

FIVE (5) ESW/SWS DISASSEMBLY GROUPS. APPROVED BY NRC IN 1983.

- **ASME SECTION XI IST PROGRAM SECOND INTERVAL, REVISION 0 (1985-1989)**

SAME PHILOSOPHY USED FOR VALVE GROUPING.

THREE (3) OF FIVE (5) FIRST INTERVAL GROUPS CARRIED OVER.

TWO (2) NEW GROUPS ADDED BASED ON FURTHER SCOPING REVIEW.

SECOND INTERVAL NRC RAI RECEIVED RECOMMENDED REGROUPING BY NRC GENERIC LETTER 89-04 GUIDELINES. NRC DID NOT COMPLETE REVIEW.

- **ASME SECTION XI IST PROGRAM SECOND INTERVAL, REVISION 1 (1990-DATE)**

FOURTEEN (14) GROUPS ESTABLISHED.

CONSISTENT WITH NRC GENERIC LETTER 89-04 GUIDELINES.

CURRENTLY UNDER REVIEW BY NRC STAFF.

**V. STATUS OF PREVIOUS
NRC COMMITMENTS**

A. LER 88-009-01 (APPENDIX E.1)

COMMITMENTS

STATUS

- | | | |
|----|---|----------|
| 1. | Modification to provide permanent instrumentation to monitor crescent cooler thermal performance. | COMPLETE |
| 2. | Biweekly crescent cooler testing until modifications are completed. | ON-GOING |
| 3. | Modify unit cooler fan and water controls to allow full water flow and cycle fan and additional thermal performance instrumentation. Modification prior to start-up from 1990 Refuel Outage. Completion date was delayed until September 30, 1990 (JPN-90-11). Modification package is approved and issued for installation. Installation imminent. | PENDING |

B. RESPONSE TO VIOLATION 88-17 - INOPERABLE CRESCENT COOLERS (APPENDIX E.3)

COMMITMENTS

STATUS

- | | | |
|----|---|----------|
| 1. | Revise ST-19A to better measure cooler performance bi-weekly. | COMPLETE |
| 2. | Cooler cleaning and inspection. | COMPLETE |
| 3. | Reanalyze crescent cooler heat loads allowing operation up to 82°F service water temperature. | COMPLETE |
| 4. | Modify piping to reduce accumulation of suspended solids. | PENDING |
| 5. | Larger mesh strainers. | COMPLETE |
| 6. | Replace missing section of flanged pipe to UC-22J. | COMPLETE |
| 7. | Revise piping arrangement to UC-22D. | COMPLETE |
| 8. | Initiate performance testing of other service water-cooled safety-related heat exchangers. | COMPLETE |
| 9. | Accelerated test frequency for crescent area unit coolers maintained until performance trend indicates they can be relaxed. | ON-GOING |

B. RESPONSE TO VIOLATION 88-17 - INOPERABLE CRESCENT COOLERS (APPENDIX E.3) (cont'd.)

COMMITMENTS

STATUS

- | | |
|---|--------------------|
| 10. Review all Technical Specification surveillance requirements and ensure they are performed. | COMPLETE |
| 11. Establish System Engineering Group (response to Flakt Report). | COMPLETE |
| 12. Reorganize WPO Staff to assign to Nuclear Generation (response to Flakt Report). | COMPLETE |
| 13. Develop Modification Control Manual and Design Change Manual. | PARTIALLY COMPLETE |
| 14. Develop formal root cause analysis program. July 1989. | PENDING |

C. RESPONSE TO VIOLATION 88-23 - HIGH SERVICE WATER TEMPERATURE (APPENDIX E.3)

COMMITMENTS

STATUS

- | | |
|--|----------|
| 1. Revise FSAR to address 82°F lake temperatures. Safety evaluation is complete. Awaiting incorporation into revision. | PENDING |
| 2. Training of Engineering personnel on 10CFR50.59 safety evaluation preparation and importance. | COMPLETE |
| 3. Streamline method for reviewing FSAR and other design issues that affect operability (JCO). | PENDING |
| 4. Re-emphasize reportability requirements of 10CFR50.72. | COMPLETE |

D. ENFORCEMENT CONFERENCE (APPENDIX E.2)

COMMITMENTS

STATUS

Commitments contained in violation response (B) above with the following additions:

- | | | |
|----|--|------------|
| 1. | Trend test data to establish testing and maintenance frequency to prevent flow restrictions. | CONTINUING |
| 2. | Feasibility and necessity of testing other safety-related coolers. | COMPLETE |
| 3. | Administrative procedures describing the responsibilities and establishing the various channels to be utilized by the Systems Engineering Group. | COMPLETE |