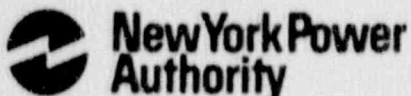


James A. FitzPatrick
Nuclear Power Plant
P.O. Box 41
Lycoming, New York 13093
315 342-3840



William Fernandez II
Resident Manager

October 16, 1990
JAFP-90-0762

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

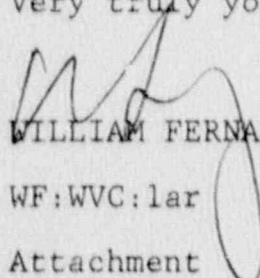
REFERENCE: DOCKET NO. 50-333
LICENSEE EVENT REPORT: 88-005-01

Dear Sir:

Enclosed please find referenced Licensee Event Report in accordance with 10 CFR 50.73.

If there are any questions concerning this report, please contact Mr. W. Verne Childs at (315) 349-6071.

Very truly yours,



WILLIAM FERNANDEZ

WF:WVC:lar

Attachment

cc: USNRC, Region I
INPO Records Center, Atlanta, GA
American Nuclear Insurers
Internal Power Authority Distribution
NRC Resident Inspector
Document Control Center
LER/OR File

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **JAMES A. FITZPATRICK NUCLEAR POWER PLANT** DOCKET NUMBER (2) **0 5 0 0 0 3 3 1 3** PAGE (3) **1** OF (4) **4**

TITLE (4) **Failure of Ventilation Backup Cooling Water Supply Check Valves**

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	DO SUBSTANTIAL NUMBER	DO REPAIR NUMBER	MONTH	DAY	YEAR	FACILITY NAME
05	25	88	88	005	01	10	16	90	
								DOCKET NUMBER	
								0 5 0 0 0	

OPERATING MODE (9) **1,0,0**

THIS REPORT IS CLASSIFIED PURSUANT TO THE REQUIREMENTS OF 10 CFR 19. (Check one or more of the following (11))

<input type="checkbox"/> 20.422(a)	<input type="checkbox"/> 20.72(a)(1)(iv)	<input type="checkbox"/> 20.72(a)(1)(v)	<input type="checkbox"/> 20.72(a)(1)(vi)
<input type="checkbox"/> 20.422(a)(1)(ii)	<input checked="" type="checkbox"/> 20.72(a)(1)(ii)	<input type="checkbox"/> 20.72(a)(1)(iii)	<input type="checkbox"/> 20.72(a)(1)(iv)
<input type="checkbox"/> 20.422(a)(1)(iii)	<input type="checkbox"/> 20.72(a)(1)(v)	<input type="checkbox"/> 20.72(a)(1)(vi)	<input type="checkbox"/> 20.72(a)(1)(vii)
<input type="checkbox"/> 20.422(a)(1)(iv)	<input type="checkbox"/> 20.72(a)(1)(vii)	<input type="checkbox"/> 20.72(a)(1)(viii)	<input type="checkbox"/> 20.72(a)(1)(viii)
<input type="checkbox"/> 20.422(a)(1)(v)	<input type="checkbox"/> 20.72(a)(1)(ix)	<input type="checkbox"/> 20.72(a)(1)(ix)	<input type="checkbox"/> 20.72(a)(1)(ix)

OTHER Facility is subject to NRC Part 29 (20.72(a)(1)(viii))

LICENSEE CONTACT FOR THIS LER (12)

NAME **W. VERNE CHILDS, SENIOR LICENSING ENGINEER** TELEPHONE NUMBER **315 340-6071**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
X	BI		VV085	Y					

ADDITIONAL REPORT EXPECTED (14) YES (If yes, complete suggested submission date) NO

EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

ABSTRACT (NRC Form 820, 10-83) (16)

EIIS Codes are in []

On February 27, 1987 and March 25, 1987, while shutdown for refuel and maintenance, six Emergency Service Water (ESW) [BI] check valves that supply ventilation system backup cooling for normal 4KV [EA] and part of the safety-related 600V AC [ED] systems were found inoperable due to an accumulation of silt when disassembled for inservice tests. An initial evaluation revealed that no Technical Specifications or Final Safety Analysis Report (FSAR) basis for the design or safety significance. Later evaluation established an original design safety basis.

The valves were cleaned to restore operability prior to plant startup at the end of the refuel outage. Periodic flushing will be conducted to maintain operability. An FSAR change has been prepared for incorporation into the next periodic update to reflect the design basis of the ventilation systems which the check valves supply cooling water.

There have been no similar LERs involving lack of design basis or safety classification documentation. LER-90-012 describes a similar event concerning a number of check valve problems.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT	DOCKET NUMBER (2) 0 5 0 0 0 3 3 3	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		88	-005	-01	02	OF	04

TEXT (If more space is required, use additional NRC Form 308A's) (17)

UPDATE REPORT - PREVIOUS REPORT DATE JUNE 24, 1988

EIIS Codes are in []

Description of Event

On February 27, 1987, while shutdown for refuel, maintenance, and modification, Emergency Service Water (ESW) [BI] check valves that supply ventilation system backup cooling water for normal 4KV [EA] and part of the safety-related 600V AC system [ED] located in the east and west electric bays were disassembled for inspection as part of the Inservice Test (IST) program. Both valves that were disassembled (valve 46ESW-19A and -20A) were found inoperable in the closed position due to an accumulation of silt.

Later in the same outage on March 25, 1987 additional investigation revealed that check valves 46ESW-19B, -20B, -21A&B, and -22A&B, which are backup supplies to the other three ventilation cooling coils for the electric basis and associated cable tunnels, were also inoperable due to silt accumulation.

Review of Technical Specifications and the Final Safety Analysis Report (FSAR) did not reveal any operability requirements or design basis for classification of the valves as safety-related except that, during design of the ESW system [BI], the need to provide a backup cooling water supply to the electric bay and cable tunnel ventilation systems was considered by the Architect-Engineer.

During review of the inoperable check valves by the Plant Operations Review Committee (PORC) on March 11, 1987 and April 8, 1987, PORC classified the event as not requiring submittal of a Licensee Event Report (LER) under 10 CFR 50.73 based on review of Technical Specifications and the FSAR.

Concurrent with discovery of the inoperable check valves, the New York Power Authority was working on development of a Master Equipment List and verification of the safety-related and Quality Assurance classification (Q-list) of all plant components. This project established that providing backup cooling water to the electric bay ventilation was a safety-related function. The project, including publication of a new Q-list, was completed in May 1988.

During NRC Inspection 88-04 on February 22, through 26, 1988, the Inspector noted the PORC review and initiated Unresolved Item 88-04-05 for verification of the safety classification of the ESW check valves.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT	DOCKET NUMBER (2) 0 5 0 0 0 3 3 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 8	- 0 0 5	- 0 1	0 3	OF 0 4

TEXT (If more space is required, use additional NRC Form 388A's) (17)

Further review of the original design calculations by the plant Architect-Engineer established that the backup cooling water supply (ESW) [BI] would be required to maintain electric bay area temperature less than the original design value during events resulting loss of Normal Service Water [KG] or loss of offsite power. This safety function was not previously identified in the Technical Specification or FSAR.

On May 25, 1988 PORC determined that the event would be reported to the NRC to note the inconsistent documentation of basis of the classification of the valves.

Cause of Event

The cause of the buildup of silt to the extent that the valves were inoperable is believed to be a combination of the location (physical arrangement) and the buildup of silt in normal and emergency service water pump suction forebay area. The valves are expected to operate (open) only if the Normal Service Water System [KG] supply to the coolers is at a lower pressure than the Emergency Service Water (ESW) [BI] pressure in the headers which supply reactor building ESW loads. This condition would most likely exist only during periods of plant shutdown and loss of offsite power.

With respect to the inconsistent documentation of the basis for classification of the valves, no cause has been found.

Analysis of Event

As noted above under 'Cause of Event', the ESW supply check valves would only be expected to operate when Normal Service Water [KG] pressure is lower than ESW [BI] pressure and ESW injection has been initiated. ESW injection would be automatically initiated due to a low pressure condition in the Reactor Building Cooling (RBC) [CC] system due to system failures such as rupture, pump failures, or loss of electric power to RBC pumps.

Events which result in automatic ESW injection also result in large load reductions of the normal 4KV [EA] and safety-related 600V AC systems. These load reductions, in turn, reduce the need for cooling to a lower level. Calculations indicate electric bay heat load under accident conditions with loss of offsite power is approximately two-thirds of the normal load and cable tunnel heat loads are less than one-fourth of the normal heat load.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT	DOCKET NUMBER (2) 0 5 0 0 0 3 3 3	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8	005	01	04	OF	04

TEXT: If more space is required, use additional NRC Form 388A's (17)

Corrective Action

Immediate corrective action and other completed actions:

- 1) Cleaning of the internals restored valves 46ESW-19A&B, -20A&B, -21A&B, and -22A&B to an operable condition.
- 2) Reanalysis of safety-related loads in the electric bays and cable tunnels was completed to determine the heat loads. The reanalysis confirmed that backup cooling is required during loss of offsite power or other events which result in loss of the normal ventilation cooling water supply. Changes to the FSAR to reflect the reanalysis have been initiated and will be included in the next periodic update of the FSAR.
- 3) Periodic flushing of the check valves and associated cooling water lines will prevent accumulation of silt and verify proper operation of the valves. Refer to LER-90-012 for a more detailed explanation of flushing and valve operability testing.

Additional Information

Failed component identification:

Valve Manufacturer: Velan Valve Corp.

Valve Model Number: W8-234B-2TY

Manufactured NPRD Code: V085

LER-90-012 is a similar event which describes a number of check valve corrosion, silting, and similar problems with valves in service water systems.

There have not been any similar LERs involving inadequate design basis or safety classification documentation at this facility.