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

New York Power Authority

William Fernandez II
Resident Manager

July 11, 1990
JAFP-90-0526

United States Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

SUBJECT: DOCKET NO. 50-333
LICENSEE EVENT REPORT: 90-018-00
Safety Relief Valve Setpoint
Drift

Dear Sir:

This Licensee Event Report is submitted in accordance with 10 CFR 50.73(a)(2)(i)(c).

Questions concerning this report may be addressed to Mr. Hamilton Fish at (315) 349-6013.

Very truly yours,

WILLIAM FERNANDEZ

WF:HCF:lar

Enclosure

cc: USNRC, Region I
USNRC Resident Inspector
INPO Records Center
American Nuclear Insurers

Cust No P229764385

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NRC Form 366 (5-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

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

TITLE (4)

Reactor Safety Relief Valve Pilot Assembly Setpoint Drift

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
0 6	1 5	9 0	9 0	- 0 1 8	- 0 0	0 7	1 1	9 0		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Hamilton C. Fish	3 1 5 3 4 9 - 6 0 1 3

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
B	A D	R V	T 0 2 0	Y							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 8	3 1	9 0

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

EIIS Codes are in []

During the refueling outage beginning 03/31/90, the actuating topworks mechanism for eight safety relief valves (SRVs) [AD] were removed for testing. The valve test facility provided notice to the Authority on 6/15/90, that one valve actuated at a pressure of 1077 psig which deviated from the setpoint of 1090 psig by 0.1% below the +/-1.0% tolerance allowed by Technical Specifications. Evaluation of the possible cause awaits disassembly and vendor examination.

A plant specific evaluation stated that for a nominal setpoint of 1090 psig (setpoint of the SRV that failed), a setpoint drift for a tolerance of 3% is permitted down to 1057 psig. This value is 12 psi above the high pressure scram setpoint prescribed in Section 2.2 of JAFNPP Technical Specifications. This is an adequate margin between allowable SRV settings and normal reactor pressures during power operation. Corrective action included replacing the failed SRV with a recertified valve, continued participation in the BWR Owners' Group to resolve SRV issues, and previous submission to the NRC of proposed changes to Technical Specifications to take credit for excess installed SRV capacity.

LER-85-009, 85-013, 87-004, 88-004, 88-010, and 89-026 are similar events involving SRV setpoint drift.

EIIS Codes are in []

Description

During the refueling outage which began on March 31, 1990, the actuating topworks mechanisms were removed from eight safety relief valves (SRVs) [AD]. Seven SRVs were sent to a contractor facility for testing. Because of a limited availability of shipping containers, testing of the eighth valve has been delayed until return of other valves currently at the test facility. Written notification from the contractor received on June 15, 1990 informed the plant that one of the seven SRVs which were tested actuated 0.1% beyond the +/-1.0% tolerance above or below the nameplate setpoint that is required by current Technical Specification 2.2.1.B. The initial set pressure observed by the contractor was:

Plant Valve Number	Pilot Assembly Serial No.	Nameplate Set Pressure (psig)	Observed Initial Set Pressure (psig)	Difference From Specification (psi)	(%)
02RV-71K	1062	1090	1077	-13	-1.1%

Cause

A detailed examination of the valve pilot assembly is required to determine possible causes. Vendor examination will be scheduled in the future. This LER will be updated when the results are known.

Analysis

The observed setpoint of one SRV deviated 0.1% from the values permitted in Technical Specification 2.2.1.B. Therefore, this event is reported under the provisions of 10 CFR 50.73(a)(2)(i)(C) as a deviation from the plant's Technical Specifications.

The remote actuation (operator demand) and automatic depressurization system (ADS) functions would not have been effected by this event. An evaluation to determine the effects of SRV setpoint drift was initiated as a result of earlier similar events (LER-87-004 and LER-88-004) and has been completed.

The evaluation addressed the possibility of an inadvertent opening of an SRV due to setpoint drift within a 3% tolerance. The evaluation examined the lowest current nominal setting of 1090 psig. This evaluation bounds all other proposed nominal SRV setpoints with respect to this concern.

For a nominal setpoint of 1090 psig, setpoint drift for a tolerance of 3% is permitted down to 1057 psig. This value is 12 psi above the high pressure scram setpoint prescribed in Section 2.2 of JAFNPP Technical Specifications. This is an adequate margin between allowable SRV settings and normal reactor pressures during power operation. Increasing SRV setpoint tolerances to as much as +/-3% will not cause the inadvertent opening of SRVs.

Based on the evaluation, it is concluded that the 1.1% setpoint drift of the single valve did not represent a hazard. Plant response to any of the accident conditions described in the Final Safety Analysis Report (FSAR) would have been acceptable.

Corrective Action

Immediate Corrective Action: The valve was replaced with a refurbished and recertified valve. The failed SRV will be refurbished and recertified for future installation.

Long-Term Corrective Action:

1) A proposed change to Technical Specifications to allow continuous operation of the plant with SRV operations consistent with the new analysis was submitted to the NRC on December 20, 1989.

2) The plant had previously modified approximately half of the SRVs by installing pilot valve discs made of PH-13-8MO. This action was part of the Boiling Water Reactor Owners' Group (BWROG) plan for correction of the Target Rock 2-Stage SRV drift problem. Testing of these valves was completed during this refueling outage. Based on results of the evaluation performed by the BWROG SRV Setpoint Drift Fix Committee on use of this material at other plants, the discs will be replaced with those made of the original material. Leaking and bonding of the disc to the seat continued to be a problem at other plants. The BWROG testing program results indicate that a high oxygen environment in the area of the pilot disc seat leads to corrosion induced bonding between pilot disc and seat. The BWROG is currently pursuing the practicality of installing a catalyst to recombine excess oxygen with hydrogen in an attempt to reduce corrosion bonding. The BWROG hopes to have a design available for installation toward the end of 1990.

3) All SRVs (rather than half of the valves as specified by Technical Specifications) will continue to be subjected to test, inspection, refurbishment, and recertification once each operating cycle until the test data, or the BWROG SRV Setpoint Drift Fix Committee recommendations indicate otherwise, or the Technical Specifications are amended.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Additional Information

Failed Component Identification:

- SRV Manufacturer: Target Rock Corp.
- Valve Model Number: 7567F
- Manufacturer NPRDS Code: T020
- NPRDS Component Code: Valve

LER-85-009, 85-013, 87-004, 88-004, 88-010, and 89-026 are similar events which reported SRV setpoint drift.