NRC Form 366
(9-83)

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)
Indian Point, Unit 3	0 5 0 0 0 2 8 6	1 OF 0 4

TITLE (4)

FAILURE OF MS-2-34

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 5 0 0 0
0 4	1 0	8 9	8 9	— 0 0 8	— 0 0	0 5	1 5	8 9		0 5 0 0 0

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10) 0 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)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	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
Edward Diamond, Senior Plant Engineer	AREA CODE 9 1 4 7 3 6 8 0 4 5

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	
X	S B	V	S 0 7 5	N							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	NO				

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

This LER is a voluntary submittal. On April 10, 1989, with the reactor defueled for a steam generator replacement outage, a visual, internal inspection of main steam check valve MS-2-34 was conducted. The inspection revealed that the valve disc retaining nut was missing. Additionally, the disk retaining stud was found to be eroded. Damage to the stud resulted from vibration and steam induced erosion. The threaded stud on MS-2-34 will be replaced, and a new nut will be lock welded in place during the current outage. The other three main steam line check valves were inspected and found to have cracked welds on their locking pins. The retaining nuts on these valves will also be lock welded.

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DESCRIPTION OF THE EVENT

On February 7, 1989 with the reactor in the cold shutdown condition during the steam generator (SG) replacement outage, the main turbine generator (TA)(MTG) was being disassembled for maintenance. A nut was found in the steam strainer for the number 32 MTG control valve (V). Research determined that it was from a main steam check valve (SB)(V). As the components of the nuclear steam supply system (NSSS) and the MTG are numbered independently, number 32 MTG control valve is connected to the steam line of number 34 SG.

On April 10, 1989, with the reactor defueled, a visual, internal inspection of main steam check valve MS-2-34 (Schutte and Koerting Co.) (Tag No. 28C36)(S075)(SB)(V) revealed that the retaining nut that holds the valve clapper disc on the swing arm was missing. The disk retaining stud was eroded. Roughly one inch of diameter of the two inch threaded stud had been eroded away. However, the valve clapper disc was still suspended from the swing arm. It is not known how long this condition had existed.

The main steam check valves on the other three steam lines were inspected. While no similar problems were found, the weld on the locking pin inserted through the nut and stud was broken on all three valves. The MS-2-34 valve will be repaired during the current outage by replacing the retaining nut and threaded stud on the clapper disc. Past practice had been to weld the locking pins in place. Following the valve manufacturer's newest recommendations, the nut will be pinned and lock welded over its full diameter. The retaining nuts on the other three main steam check valves will similarly be lock welded after their locking pins have been replaced.

INVESTIGATION OF THE EVENT

Subsequent investigation revealed that the threaded stud had become severely eroded by vibration induced motion of the retaining nut. Further damage was inflicted by steam cutting.

CAUSES OF THE EVENT

The following root cause was determined from the investigation of the event:

> The design specification of a locking pin inserted through the nut and stud was less than adequate. Intended to prevent relative rotation between the nut and stud, the pin was not adequately sized for the task.

CORRECTIVE ACTIONS

As a result of this event the other three main steam check valves were inspected and found to have cracked welds on their locking pins. The retaining nuts on all four main steam check valves will be lock welded in place.

ANALYSIS OF THE EVENT

This event is being reported as a voluntary LER. The Indian Point Three Final Safety Analysis Report (FSAR) Section 14.2.5 states the following:

> Each steam line has a fast-closing stop valve with a downstream check valve. These eight valves prevent blowdown of more than one steam generator for any break location even if one valve fails to close. For example, in the case of a break upstream of the stop valve in one line, closure of either the check valve in that line or the stop valves in the other lines will prevent blowdown of the other steam generators. In particular, the arrangement precludes blowdown of more than one steam generator inside the Containment and thus prevents structural damage to the Containment. In addition, each main line incorporates a 16 inch diameter venturi type flow restrictor which is located inside the Containment. The components serve to limit the rate of release of steam for an outside break.

In this event, the clapper for the check valve was still attached to the swing arm and the mating surfaces of the clapper and valve seat were intact; the valve, for all intended purposes, was still functional.

Both the main steam isolation valve, MS-1-34 (refer to LER 286-89002), and the main steam check valve, MS-2-34, potentially could have failed to close during a postulated steam line rupture. However, since both valve failures occurred in the steamline from 34 SG, the concern expressed in the FSAR regarding steam line isolation was satisfied. Closure of the main steam isolation valves in the other steam lines would have prevented blowdown of more than one steam generator inside containment. This is consistent with the analysis done for a single valve failure, and, therefore, the level of safety of the plant was not degraded.

SECURING FROM THE EVENT

Corrective action associated with this event will be completed during the current SG replacement outage. No similar events or LERs have occurred or been reported to date.

Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 739.8200

New York Power Authority

May 15, 1989
IP3-89-037

Docket No. 50-286
License No. DPR-64

Document Control Desk
Mail Station PI-137
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

The attached Licensee Event Report LER 89-008-00 is hereby submitted in accordance with the requirements of 10CFR50.73. This event is of the type defined in the requirements per 10CFR50.73 Other.

Very truly yours,

William A. Josiger
Resident Manager
Indian Point Three Nuclear Power Plant

VC/rj
Attachment

cc: Mr. William Russell
Regional Administrator
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U.S. Nuclear Regulatory Commission
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King of Prussia, Pennsylvania 19406

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