

U.S. NUCLEAR REGULATORY COMMISSION
LICENSEE EVENT REPORT

CONTROL BLOCK / / / / / / / (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)
 /0/1/ /V/A/N/A/S/1/ (2) /0/0/-/0/0/0/0/0/-/0/0/ (3) /4/1/1/1/1/ (4) / / / (5)
 LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT
 /0/1/ REPORT /L/ (6) /0/5/0/0/0/3/3/8/ (7) /1/2/1/7/8/1/ (8) /0/1/0/6/8/2/ (9)
 SOURCE DOCKET NUMBER EVENT DATE REPORT DATE
 EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On December 17, 1981, while at 99% power, the Turbine Driven Auxiliary Feedwater /
 /0/3/ / pump was removed from service in order to inspect the internals of three upstream/
 /0/4/ / check valves, one valve in each steam supply line to the pump. Since two 50% /
 /0/5/ / capacity motor driven auxiliary feedwater pumps remained available for service /
 /0/6/ / and the inspection was completed within the time constraints of the Technical /
 /0/7/ / Specification, the public health and safety were not affected. This event is /
 /0/8/ / reportable pursuant to T.S. 6.9.1.9.6. /

SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
/0/9/ /S/H/ (11)	/B/ (12)	/B/ (13)	/V/A/L/V/E/X/ (14)	/C/ (15)	/A/ (16)
LER/RO REPORT NUMBER	EVENT YEAR	SEQUENTIAL REPORT NO.	OCCURRENCE CODE	REPORT TYPE	REVISION NO.
(17)	/8/1/	/-/	/0/8/9/	/ \ /	/0/3/
	/L/	/-/	/0/		

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	SHUTDOWN HOURS	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME SUPPLIER	COMP. MANUFACTURER
/A/ (18)	/X/ (19)	/Z/ (20)	/Z/ (21)	/0/0/0/0/ (22)	/Y/ (23)	/N/ (24)	/A/ (25)	/C/6/6/5/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / This event occurred because there was reason to believe that one or more of the /
 /1/1/ / check valves previously referenced may have missing or loose disc nuts. The three/
 /1/2/ / valves were disassembled and a disc nut, washer and retaining pin were found /
 /1/3/ / missing on one valve. One disc nut was loose and one nut improperly secured. The/
 /1/4/ / disc nuts, washer and pins were replaced on all three valves. /

FACILITY STATUS	%POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
/1/5/ /E/ (28)	/0/9/9/ (29)	/ NA / (30)	/B/ (31)	/ Special Inspection /

ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
/1/6/ /Z/ (33)	/Z/ (34)	/ NA /	/ NA /

PERSONNEL EXPOSURES NUMBER	TYPE	DESCRIPTION (39)
/1/7/ /0/0/0/ (37)	/Z/ (38)	/ NA /

PERSONNEL INJURIES NUMBER	DESCRIPTION (41)
/1/8/ /0/0/0/ (40)	/ NA /

LOSS OF OR DAMAGE TO FACILITY TYPE	DESCRIPTION (43)
/1/9/ /Z/ (42)	/ NA /

ISSUED	DESCRIPTION (45)	PUBLICITY
/2/0/ /N/ (44)	/ NA /	

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NRC USE ONLY

NAME OF PREPARER W. R. CARTWRIGHT PHONE (703) 894-5151

Description of Event

On December 17, 1981, with Unit No. 1 at 99% power, the Turbine Driven Auxiliary Feedwater Pump was removed from service in order that an inspection could be made of the internals of three upstream check valves - one in each steam supply line to the feedwater pump. This inspection was prompted by the finding of a disc nut jammed in the seat of one of two parallel steam trip valves to the Unit - Turbine Driven Auxiliary Feedwater Pump. In the case of Unit 2, a further investigation concluded that the disc nut was missing off of the disc hinge assembly of one of the previously mentioned check valves (See LER N2-81-89). For Unit 1, the inspection of the same type check valves indicated that the disc nut, washer and pin were missing off of one check valve (the nut and washer were previously retrieved), one disc hinge assembly was securely fastened, and one assembly was fastened by a smaller size nut and pinned through the stem by a cotter pin instead of through the disc nut and stem by a solid pin as shown in the manufacturer's drawing. This event is contrary to T.S. 3.7.1.2 and reportable pursuant to T.S. 6.9.1.9.b.

Probable Consequences of Occurrence

During the time the Turbine Driven Auxiliary Feedwater Pump was out of service for the inspection of the three steam supply upstream check valves, the two 50% capacity motor driven Auxiliary Feedwater pumps were available for service. In addition, at no time was the turbine driven pump in danger because of the damaged check valve due to a screen inserted in the governor trip valve that would prevent loose parts from entering the turbine, therefore, the public health and safety were not affected.

Cause of Event

The Turbine Driven Auxiliary Feedwater Pump was removed from service in order to inspect the three check valves in the steam supply line to the pump. This inspection was prompted by a similar event on Unit 2 and as described in LER N2-81-89. In both the Unit 1 and Unit 2 cases the disc nut retaining pins were suspected of not being properly peened thus allowing the disc nut and washer to back off of the disc stem.

Immediate Corrective Action

Upon removing the feedwater pump from service, the three upstream check valves - one in each steam supply line to the pump were disassembled and inspected. On one check valve the disc nut, washer and disc nut retaining pin were missing off of the disc hinge assembly, one check valve was properly constructed and one check valve had a smaller than required disc nut. The disc nut for this check valve was not pinned as shown in manufacturer's drawing but was secured with a cotter pin through the disc stem only.

The disc nut, washer and retaining pin for each valve were replaced, the pins peened to lock them in place and the valves reassembled and replaced in the system.

Scheduled Corrective Action

Other check valves of the same type have been identified and a portion or all of these check valves will be inspected for similar defects as described in this LER.

Actions Taken to Prevent Recurrence

No further action is required.

Generic Implications

The check valves identified as defective in this LER are Crane 600# Cast Steel Swing Check Valves part number 175 $\frac{1}{2}$ X. The manufacturer has been contacted and has no other reports of the same types of failures of these check valves by other customers. North Anna will conduct an inspection of all or a portion of these types of valves now installed and a determination of its generic implication will then be made.