

CONTROL BLOCK: _____ (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | T | N | S | N | P | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5
7 8 9 LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 CAT NO 37

CONT
 0 1 | REPORT SOURCE | L | 5 | 0 | 5 | 0 | 0 | 0 | 3 | 2 | 7 | 7 | 1 | 1 | 0 | 5 | 8 | 2 | 8 | 1 | 1 | 1 | 8 | 8 | 2 | 9
7 8 DCKET NUMBER 58 60 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
 0 2 | _____ With unit 1 in mode 6 (refueling) at 0900 CST on 11/05/82, it was found that the
 0 3 | _____ check valve (1-623) downstream of the main steam isolation valve (MSIV) had failed
 0 4 | _____ This required entry into the action for LCO 3.0.3. There was no effect upon
 0 5 | _____ public health and safety. Previous occurrences - none.

SYSTEM CODE | CAUSE CODE | CAUSE SUBCODE | COMPONENT CODE | COMP. SUBCODE | VALVE SUBCODE
 C | D | 11 | E | 12 | B | 13 | V | A | L | V | E | X | 14 | C | 15 | A | 15
9 10 11 12 13 14 15 16 17 18 19 20

LEA/RD REPORT NUMBER | EVENT YEAR | SEQUENTIAL REPORT NO. | OCCURRENCE CODE | REPORT TYPE | REVISION NO.
 17 | 8 | 2 | 21 | 22 | 1 | 2 | 6 | 24 | 26 | 0 | 1 | 28 | 29 | T | 30 | 0 | 32
 ACTION TAKEN | FUTURE ACTION | EFFECT ON PLANT | SHUTDOWN METHOD | HOURS | ATTACHMENT SUBMITTED | NRC 4 FORM SUB. | PRIME COMP SUPPLIER | COMPONENT MANUFACTURER
 B | 18 | Y | 19 | 33 | 34 | Z | 20 | 35 | Z | 21 | 36 | 0 | 0 | 0 | 0 | 37 | 40 | Y | 23 | 41 | N | 24 | 42 | L | 25 | 43 | A | 5 | 8 | 5 | 44

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
 1 0 | _____ During a walkdown of the mainsteam supply header, it was discovered that the check
 1 1 | _____ valve (1-623) disc had separated from the stem and lodged downstream in the steam
 1 2 | _____ dump header. The disc was retrieved. An inspection was made of the other unit 1
 1 3 | _____ check valves and valve (1-624) was also found defective. Studies are being made to
 1 4 | _____ determine the appropriate corrective actions.

FACILITY STATUS | % POWER | OTHER STATUS | METHOD OF DISCOVERY | DISCOVERY DESCRIPTION
 G | 28 | 0 | 0 | 0 | 29 | NA | 30 | B | 31 | System walkdown | 32
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

ACTIVITY CONTENT | AMOUNT OF ACTIVITY | LOCATION OF RELEASE
 Z | 33 | Z | 34 | NA | 35 | NA | 36
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PERSONNEL EXPOSURES NUMBER | TYPE | DESCRIPTION
 0 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PERSONNEL INJURIES NUMBER | DESCRIPTION
 0 | 0 | 0 | 0 | 40 | NA | 41
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

LOSS OF OR DAMAGE TO FACILITY TYPE | DESCRIPTION
 Z | 42 | NA | 43
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

PUBLICITY ISSUED DESCRIPTION
 N | 44 | NA | 45
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

8211290579 821118
 PDR ADOCK 05000327
 S PDR

NRC USE ONLY

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Sequoyah Nuclear Plant

LER SUPPLEMENTAL INFORMATION

SQRO-50-327/82126 Technical Specification Involved: 6.9.1.12.i

Reported Under Technical Specification: 6.9.1.12.1

Date of Occurrence: 11/05/82 Time of Occurrence: 0900 CST

Identification and Description of Occurrence:

On 11/05/82 during a walkdown of the mainsteam supply header and valves, it was discovered that the unit 1 loop 1 check valve (1-623) downstream of the main steam isolation valve (MSIV) had failed in that the disc had separated from the stem. In the event of a main steam line break and the failure of an MSIV to close, this could result in more than one steam generator blowing down into containment. The unit complied with actions in LCO 3.0.3.

This failure has been evaluated as reportable under 10 CFR 21 and this report provides the necessary part 21 information. There are a total of eight similar valves manufactured by Atwood Morrill in use at SQN and these are located in the main steam supply headers loops 1, 2, 3, and 4 in both units 1 and 2.

Conditions Prior to Occurrence:

Unit 1 in mode 6 (refueling).

Apparent Cause of Occurrence:

Investigation revealed that the check valve disc had separated from the valve stem and lodged downstream in the steam dump header. An evaluation of the failed components revealed that the failure was primarily caused by the check valve counter weights sliding down the swing arms. This allowed the valve disc to oscillate against the disc stop during system operation causing fatigue failure.

Analysis of Occurrence:

The disc to stem connector stud (disc post) was found to be broken in check valve (1-623). An analysis of the failed parts has identified this as cyclic fatigue failure of the disc post. Analysis of the failure is ongoing. Possible contributing factors to the stud failure such as inadequate torquing, metal composition, stud installation, and disc stop design are being evaluated.

Dye penetrant and ultrasonic tests were made on the check valves in the remaining loops on unit 1. A crack was found in the disc post on the unit 1 loop 2 check valve (1-624). Analysis has determined this to be a similar failure to the loop 1 valve. There were no indications of failures or problems with the other two unit 1 valves. Similar inspections have also been made on the check valves for unit 2 and no problems have been found.

2

Corrective Action:

Modifications have been made on the swing arms and counter weights to prevent recurrence of the disc oscillating against the disc stop. Similar changes have been made on both units 1 and 2 check valves.

An evaluation is continuing into the appropriate actions to be taken to repair the check valve disc post and any additional corrective actions which may be appropriate. This information will be provided in a followup report.

Failure Data:

None.