

1 - 20113768

09/22/2002 11:44:24 [REDACTED] (NUB2B)

- 1.0 Problem statement: On September 22, 2002 a significant steam leak occurred in the Turbine Generator area at the Salem Unit 2 Electric Generating Station. The cause of the steam leak was a body to bonnet leak at the manual main steam supply isolation valve for 22Steam Generator Feed Pump, the 22MS42. The valve is located in the overhead area of Unit 2 Turbine Building 100 ft elevation between the 21 Steam Generator feed pump and the 4KV group busses. During the steam leak the control room experienced several alarm that have been attributed to possible water/ steam intrusion into their respective components. The following alarms were received. Over Head Annunciators A-17(Annunciator ground detection), J-39(4KV group buss transfer failure), and J-45(Turbine Building 460-230 Bus hot spot). Also, the 2B-125VDC bus indicated a ground of 50-100 ohm magnitude. Once the leak was isolated the unusual alarms and grounds cleared.
- 2.0 Impact: The most likely cause of the alarms and ground was water/steam intrusion into components. While the alarms and grounds did clear, this is not positive indication that water does not still exist in components/ panels through out the Unit two turbine building.
- 3.0 Requirements not complied with: None
- 4.0 Cause: Steam/ water intrusion.
- 5.0 Actions Taken: 1.0 wrote this notification and notification 20113757. 2.0 The 12-hour shift walked down the 4KV group busses and performed a visual inspection with satisfactory results.
- 6.0 Recommended Corrective actions: 1.0 Engineering/electrical maintenance to determine and perform further inspections to ensure water/ steam damage to plant components is kept to a minimum. If damage has occurred, the proper notifications need to be generated and repairs initiated. 2.0 The building owner should ensure that the Unit 2 Turbine Building is in compliance with NC.MS-AP.ZZ-0031(Q) (see NBU web page under the work management section.)
- 7.0 No other additional information.

HH-1

09/22/2002 00:59:51 [REDACTED] (NUWSW)

NOTIFICATION SUMMARY [VERIFY CURRENT REQUIREMENTS CONTAINED IN NC.WM-AP.ZZ-0000 (Q) "NOTIFICATION PROCESS"]:

- 1) DESCRIBE THE ACTUAL CONDITION? Steam leak on the bonnett to 22MS42 requires isolation of the main steam to 22 SGFP. This valve will have to be leak repaired and is not isolable from the MS header except by closing itself. The valve is currently closed and the leak is stopped. Significant quantities of steam and water was deposited in the turbine building and on the group busses. The following overhead alarms came in J-45 Turbine building 460-230V Bus hot spot, J-39 4KV Group bus Xfer Fail, and A-17 Annunciator ground detect. The J-45 and A-17 have subsequently cleared, the J-39 alarm remains at this time. The turbine area sump pumps have their breakers opened to ensure sumps are sampled or pumped to non rad waste.
- 2) HOW DOES THIS ISSUE IMPACT PLANT OR PERSONNEL SAFETY? 22 SGFP is not available.
- 3) PSEG NUCLEAR OR REGULATORY REQUIREMENT NOT MET? Leakage from steam systems.
- 4) WHAT CAUSED THE CONDITION? steam leak on the bonnett.
- 5) WHAT ACTIONS, IF ANY, HAVE BEEN TAKEN TO CORRECT THE CONDITION? 22MS42 closed and 22 SGFP is tripped.
- 6) RECOMMENDED ACTION/CORRECTIVE ACTION AND WORK CENTER RESPONSIBLE FOR CORRECTING CONDITION. (USE TITLE/POSITION, NOT NAME) Leak repair 22MS42.
- 7) ANY OTHER RELEVANT INFORMATION? (WHO, WHEN, WHERE, WHY, REFERENCES, ESTIMATED COST, EMISTAG, ECT) Unit at 47% power and holding with 22 SGFP out of service.

09/22/2002 16:51:23 [REDACTED] (NUM4M)

This notification references 3 separate Overhead alarms which were received during the leak on 22MS42. A review of the wiring diagrams for these alarms was performed to determine if a common terminal box or junction box may have been wetted which may have caused these alarms and determine if furthur inspection or drying may be required.

A-17 - Annunciator Ground detection - This alarm was most likely caused by the leak and moisture causing a ground on the 125v dc circuit that originates with in the Annunciator system to monitor field contacts. Since alarms J-45 and J-39 also were received falsely it is reasonable to expect that a ground was developed on the annunciator 125v dc.

J-39 Group bus Xfer failure This alarm has wiring which is terminated in the plant area where the leak occurred. Terminations points are with in cubicles 2EAD, 2HAD, 2FAD, 2GAD, 21HSD, 21ESD, 22GSD and 22 FSD.

J-45 Turbine Building 460- 230v Bus Hot Spot This alarm also has wiring which is terminated in the plant where the leak had occurred. Terminations points are at the 2H 460v transformer, 2F 460v transformer, 2F 230v transformer, 2H 230v transformer, 2HL 208-120v lighting transformer, and JT 517 junction box located at Elevation 116 col. K14 K15.

There are no common termination point panels or boxes associated with the alarms that were received except for the commonality of the Annunciators ground detection which would be common for both of the alarms. Both alarms J-39 and J-45 utilize the annunciator 125V dc to monitor the N.O. contacts for these alarms.

Based upon a walkdown of the area , inspection in a spare 4kv cubicle near the origin of the leak and the fact that the alarms have cleared it is apparent that the moisture from the leak which caused all 3 alarms has dried. Therefore no further action is recommended for this notification.

09/24/2002 07:04:13 ([REDACTED]) (NUMAT)
CRRC NOTE: DOWNGRADED TO SL-3 AT THE SM MEETING ON 09/23/02.

76

09/23/2002 15:43:27 [REDACTED] (NUDJM)

- 1) This notification written to document the sudden gasket failure of the 22MS42 valve that occurred on 9/22/0. The body to bonnet gasket of the valve failed in approximately 30 minutes from first indication, resulting the need to secure 22 steam generator feedpump until an emergency leak repair was prepared. The valve is a William Powell 6. gate valve. This notification was written to evaluate the gasket design and determine the apparent cause of the gasket failure so that corrective actions can be taken.
- 2) There is no operability issue. An emergency leak repair was performed on 9/22/01 to repair the leak and the 22 steam generator feedpump was restored to an operable status.
- 3) This notification is written to determine why the gasket failed and what can be done to prevent future failures. An expectation is that components do not suddenly fail in service as this gasket did.
- 4) The apparent cause of the failure is not known at this time. The short period of time between identification of a leak and gasket failure warrants an apparent cause determination.
- 5) The valve was leak repaired on 9/22/02.
- 6) Assign the CR-Eval to R-PEV. Component Engineering-Valves
- 7) This notification submitted by [REDACTED] x7214.

09/24/2002 07:16:31 [REDACTED] (NUM3C)
See CR 70027084 (SL-3) for inclusion into this level 2 eval.

09/24/2002 09:50:26 [REDACTED] (NUMAT)
CRRC NOTE: VALIDATED AS SL-2 AT THE SM MEETING ON 09/24/02.

20113931

09/23/2002 15:18:28 [REDACTED] (NUL1B)

N1
Level 3

1) ACTUAL CONDITION:

Steam leak on the bonnett to 22MS42 was repaired using a TEMPORARY leak repair under Order # 60031982. This notification is to establish leak repair removal and valve repair to original design of 22MS42 #Main steam to 22SGFP Turbine#

2) HOW DOES THIS ISSUE IMPACT PLANT OR PERSONNEL SAFETY?

22 SGFP will not be available for leak repair removal and valve repair.

3) PSEG NUCLEAR OR REGULATORY REQUIREMENT NOT MET?

N/A.

4) WHAT CAUSED THE CONDITION?

Steam leak on the bonnet that was a temporarily repair using #leak repair# process IAW VSH.MD-GP.ZZ-0199.

5) WHAT ACTIONS, IF ANY, HAVE BEEN TAKEN TO CORRECT THE CONDITION?

Wrote this notification to document and correct temporary leak repair.

6) RECOMMENDED ACTION/CORRECTIVE ACTION AND WORK CENTER RESPONSIBLE FOR CORRECTING CONDITION.
(USE TITLE/POSITION, NOT NAME)

Remove Leak Repair on 22MS42 and downstream component AND repair/restore 22MS42 to original design configuration.

7) ANY OTHER RELEVANT INFORMATION? (WHO, WHEN, WHERE, WHY, REFERENCES, ESTIMATED COST, EMISTAG, ECT).

None

09/30/2002 15:09:47 [REDACTED] (NUM3C)

WMSC Data

Planning Group - 099
Main Work Center - M-PMA
Maint Act Type - CM
Priority - 4
Start Date - 10/10/03
Planning Level - 2
Outage Requirement - Y
Performance Indicators - SL-PI
FEG - NA

Notes - LEAK REPAIR PERFORMED.

20113982

09/24/2002 07:04:04 [REDACTED] (NUMAT)

09/22/2002 00:59:51 [REDACTED] (NUWSW)

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