

LICENSEE EVENT REPORT

CONTROL BLOCK: 1 (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 FILITPIS3 2 001-01010101-010 3 41111111 4 1 5
7 3 9 14 13 25 28 30 37 38
 LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT

CONT
01 L 5 0151010121510 7 11210131719 3 01110121810 9
7 3 58 59 74 75 30
 REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10
02 During refueling shutdown while conducting steam generator inspections,
03 foreign material was observed on the "as found" 3B steam generator
04 tubesheet photographs. Subsequent inspection by both licensee and NSSS
05 vendor personnel resulted in discovery and retrieval of additional foreign
06 material.
07
08

09 C A 11 A 12 X 13 Z Z Z Z Z Z 14 Z 15 Z 16
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE

17 7 9 1 0 3 9 0 3 1 0
21 22 23 24 25 26 27 28 29 30 31
 EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE

X 18 X 19 Z 20 Z 21 0 0 0 0 Y 23 N 24 Z 25 Z 9 9 9 26
32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
 ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NRC FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27
10 Subsequent examination and evaluation determined the objects to be from a
11 single piece of unalloyed plain carbon steel and a steam generator tube
12 plug skirt. Visual examinations and planned use of a MIMS during startup
13 provide assurance that all foreign material was retrieved. Current pro-
14 grams/procedures should prevent recurrence of an event of this type.

15 H 23 0 0 0 0 29 NA C 31 Steam Generator inspection
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

15 Z 33 Z 34 NA NA
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 ACTIVITY RELEASED OF RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

17 0 0 0 37 Z 38 NA
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION

13 0 0 0 40 NA
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 PERSONNEL INJURIES NUMBER TYPE DESCRIPTION

19 Z 42 NA
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

20 N 44 NA
7 3 9 10 11 12 13 14 15 16 17 18 19 20 21 22
 PUBLICITY ISSUED DESCRIPTION

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Additional Event Description and Probable Consequences:

During refueling shutdown while conducting steam generator inspections, foreign material was observed on the "as found" 3B steam generator tubesheet photographs. Subsequent inspection by both licensee and NSSS vendor personnel resulted in discovery and retrieval of the following:

3B S/G - hot leg

- 7 pieces of sheet metal type (approximately 16 gauge), ferromagnetic material
- 1 piece which was apparently part of a tube plug skirt (ring), non-ferromagnetic
- total weight of the above 8 pieces: 243 grams

- 1 piece which was apparently part of tube plug skirt, non-ferromagnetic material, was removed from R-8, C-12. (The material was retrieved from a point approximately 2 inches up from the primary face of the tubesheet).
- total weight of the above piece: 4.5 grams

3C S/G - hot leg

- 4 pieces of sheet metal type (approximately 16 gauge), ferromagnetic material
- total weight of the above 4 pieces: 116 grams

Additional Cause Description and Corrective Actions:

Independent laboratory analyses of a sample of the ferromagnetic material confirmed that the sample is an unalloyed plain carbon steel. Additionally, visual examination of the foreign material supports the conclusion that the objects were from separate sources, i.e., the ferromagnetic objects originated from the same base piece and that the non-ferromagnetic objects were part of a tube plug skirt.

Based on the fact that unalloyed carbon steel is not used within the reactor coolant system, an examination of equipment in proximity to the reactor vessel/refueling cavity was conducted. However, the source of the material could not be located. The logical conclusion is that the ferromagnetic material was introduced into the reactor coolant system during a previous refueling shutdown, steam generator inspection outage, or during construction. The source of the non-ferromagnetic material was confirmed to be a tube plug that expanded improperly during the plugging process.

The steam generator inspection program augmented by a visual examination of both the steam generator primary side and the reactor vessel provides assurance that all foreign objects were retrieved from the reactor coolant system. However, we currently plan to employ a Metal Impact Monitoring System to monitor startup.

The occurrence was a unique event. Current inspection, surveillance, and quality control programs/ procedures should prevent recurrence of an event of this type.

