

LICENSEE EVENT REPORT

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

01 | N | C | B | E | P | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | _____ | 5
8 9 14 15 25 26 30 57 CAT 58
LICENSRE CODE LICENSE NUMBER LICENSE TYPE

CON'T
 01 | L | 0 | 5 | 0 | - | 0 | 3 | 2 | 5 | 7 | 0 | 1 | 1 | 2 | 7 | 9 | 8 | 0 | 7 | 0 | 3 | 7 | 9 | 9
8 60 61 68 69 74 75 80
REPORT SOURCE SOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 | While performing PT 8.2.4, RHR Service Water System Component Test, RHRSW pump 1B, _____
 03 | Ingersoll-Rand model 8x13AD had a high vibration level of 9.4 mils, and a low differ-
 34 | ential pressure of 228 psid. Acceptable valves for vibration are ≤ 2,3 mils, and _____
 05 | for differential pressure, 257 to 294 psid. _____
 06 | (Technccal Specification 3.7.1.1,6.9.1.9b) _____
 07 | _____
 08 | _____

09 | W | A | 11 | E | 12 | B | 13 | P | U | M | P | X | X | 14 | B | 15 | Z | 16
8 9 10 11 12 13 14 15 16 17 18 19 20
SYSTEM CODE CAUSE CODE CRUSE SY. CODE COMPONENT CODE COMP SUBCODE VALV SUBCODE
 17 | 7 | 9 | 21 | 22 | 0 | 0 | 8 | 24 | 25 | 0 | 3 | 27 | 28 | X | 30 | 31 | 2 | 32
17 21 22 24 25 27 28 30 31 32
LER. BY REPORT NUMBER EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION NO.
 18 | D | 18 | Z | 19 | Z | 20 | Z | 21 | 0 | 0 | 0 | 0 | 40 | Y | 23 | Y | 24 | A | 25 | I | 0 | 7 | 5 | 26
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 NFRD-4 FORM SUB PRIME PUMP SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 | The pump was disassembled and inspected. The restrictor bushing was found seized to _____
 11 | the shaft. Excessive wear was noted of the impeller hub and shaft sleeve and a possible
 12 | twisting of the shaft in the vicinity of the impeller keyway was noted. A new shaft, _____
 13 | impeller, sleeve restrictor bushing and bearings were installed in the pump. When the _____
 14 | pump was started, vibration limits were again exceeded. (Con't) _____

15 | E | 28 | 0 | 9 | 2 | 29 | NA | B | 31 | Periodic Test | 32
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
FACILITY STATUS POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

16 | Z | 33 | Z | 34 | NA | NA | 36
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ACTIVITY CONTENT RELEASED OR RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

17 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION

18 | 0 | 0 | 0 | 40 | NA | 41
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
PERSONNEL INJURIES NUMBER DESCRIPTION

19 | Z | 42 | NA | 43
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
LOTS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

20 | N | 44 | NA | 45
8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
ISSUED DESCRIPTION PUBLICITY
298 140
7907060416 S

Facility: BSEP Unit No. 1

Event Date: 1-12-79

The impeller and shaft were sent to a firm for balancing. When they were reinstalled, pump operation returned to normal limits. RHRSW pumps 1A, 1C, and 1D were also inspected during the outage. RHRSW pump 1C was found to have excessive wear to the impeller hub, shaft sleeve, and vanes on the impeller. The impeller from 1B was rebuilt, balanced, and installed with a new shaft sleeve on 1C pump. 1A and 1D pumps were found to be satisfactory. Failure was due to cavitation, probably caused by a clogged temporary startup strainer. The strainers were on the suction side of the pump and downstream of the suction pressure switches, allowing operation with an inadequate NPSH. The strainers have been replaced with piping spools on both units and an adequate NPSH can now be assured by the low pressure start permissive/trip circuitry. Also, it has been determined that the Ingersol-Rand technical manual on these pumps contains incorrect information on rebuilding the pumps. These pumps contain dual matching thrust bearings. By following the technical manual, the thrust bearings would be installed backward, i.e., the matching ground faces would cause excessive bearing wear and possible high vibration. The local Ingersol-Rand sales representative concurred with this finding. Plant maintenance instructions are being revised to insure that the bearings are correctly installed. We plan on inspecting pumps 1A, C, D, and 2A, C, D over the next six months for proper bearing installation. PT 8.2.4, which is performed monthly, will provide indication of any unusual wear which may develop during this period. Proper bearing installation on pumps 1B and 2B has been verified.