

NRC FORM 366
(12-81)
10 CFR 50U.S. NUCLEAR REGULATORY COMMISSION
LICENSEE EVENT REPORTAPPROVED BY OMB
3150-0011

CONTROL BLOCK:

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 P A S E S 1 2 0 0 - 0 0 0 0 0 0 - 0 0 3 4 1 1 1 1 4 5
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 51 52 53 54 55 56 57 58 59 60

CONT

01 REPORT SOURCE L 6 0 5 0 0 0 3 8 7 7 0 5 2 7 8 3 8 9
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EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 While at 40% power, the 'A' Containment H₂/O₂ Analyzers were found to have erratic
03 readings. The analyzers were declared inoperable in accordance with Technical
04 Specification 3.3.7.5. Accident Monitoring Instrumentation. There were no adverse
05 consequences in that the 'B' Analyzers were available and operating properly.
06 This event is similar to LER 83-053.
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09 SYSTEM CODE S E 11 CAUSE CODE E 12 CAUSE SUBCODE B 13 COMPONENT CODE P U M P X X 14 COMP. SUBCODE C 15 VALVE SUBCODE Z 16
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 51 52 53 54 55 56 57 58 59 60

17 LER/RO REPORT NUMBER 8 3 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 51 52 53 54 55 56 57 58 59 60

18 ACTION TAKEN A 18 19 FUTURE ACTION X 19 20 EFFECT ON PLANT Z 20 21 SHUTDOWN METHOD Z 21 22 HOURS 0 0 0 0 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 51 52 53 54 55 56 57 58 59 60

22 ATTACHMENT SUBMITTED Y 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 51 52 53 54 55 56 57 58 59 60

24 NPD-4 FORM SUB. N 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 51 52 53 54 55 56 57 58 59 60

25 PRIME COMP. SUPPLIER A 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 51 52 53 54 55 56 57 58 59 60

26 COMPONENT MANUFACTURER D 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 51 52 53 54 55 56 57 58 59 60

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 Upon inspection of the 'A' analyzer components, the pressure control valve and
11 sample pump were found to be degraded to a point where proper flow could not be
12 maintained. The failed components were replaced and the system calibrated and
13 declared operable. An engineering review has been tasked with determining the
14 long term resolution.
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15 FACILITY STATUS B 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

16 ACTIVITY CONTENT RELEASED OF RELEASE Z 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

17 PERSONNEL EXPOSURES NUMBER 0 0 0 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

18 PERSONNEL INJURIES NUMBER 0 0 0 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

19 LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

20 PUBLICITY ISSUED N 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

21 NAME OF PREPARER L.A. Kaczynski

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23 NRC USE ONLY

ATTACHMENT

LER # 83-087/03X-1

Pennsylvania Power & Light Company
Susquehanna Steam Electric Station
Docket Number: 50-387

While at 40% power, the 'A' Containment H_2/O_2 analyzers were found to have erratic readings. The analyzers were declared inoperable in accordance with Technical Specification 3.3.7.5, Accident Monitoring Instrumentation. There were no adverse consequences in that the "B" analyzers were operable and operated properly. This event is similar to LER 83-053, which was written about the "B" containment H_2/O_2 analyzers.

The suspect components, the pressure control valve and sample pump, were inspected and found to be degraded to a point where proper flow could not be maintained. The valve and pump were replaced and the "A" Containment H_2/O_2 analyzers were returned to service and declared operable.

It is believed that previous operation of the H_2/O_2 analyzers in a nonerted containment during the Power Ascension testing program caused accelerated degradation of the system components. With the higher than normal concentration of oxygen in the containment, abnormal amounts of moisture were present in the system. This coupled with the amount of outage activities in the containment (grinding, welding, insulation work, etc.) allowed quantities of particulate matter to accumulate in various components and restricted flow.

Sample pumps have been sent to Comsip-Delphi for failure analysis. As a result of the valve disc/valve body valve guide wear noted in their analysis, Comsip developed a new valve disc design which provides for more bearing surface on the valve disc. The Nuclear Plant Engineering group has been continuing their investigation and evaluation of the life expectancy of the H_2/O_2 analyzers sample pumps and other system components. The question of equipment design versus equipment application is also a part of the engineering review.

The method of operation has been changed to keep one channel of analyzers in the standby mode while the other channel is kept in continuous analyze. Until a permanent fix is developed, system malfunctions will continue to be corrected as they arise. Since the problems associated with the continuous operation of the H_2/O_2 analyzers are intrinsic and this topic is presently tracked as an Inspection Report Unresolved Item (Reference: Inspection Report 50-387/UNR 85-01-02) no further updates to this LER are planned. Future problems with the analyzers will be reported when they meet the requirements of 10 CFR 50.73.



Pennsylvania Power & Light Company

Susquehanna Steam Electric Station
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SYSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 83-087/03X-1
FILE R41-2
PLA- 190

Docket No. 50-387
License No. NPF-14

Attached please find a copy of Licensee Event Report No. 83-087/03X-1. This event was determined to be reportable per Technical Specification 6.9.1.9.b, in that the 'A' channel of Containment Hydrogen/Oxygen analyzers was found to have erratic readings and declared inoperable. This event is similar to LER 83-053 and an engineering review is in progress to determine proper system design versus application.

T.M. Crimmins, Jr.
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LAK/cdn

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