

## LICENSEE EVENT REPORT

UPDATE REPORT:

PREVIOUS REPORT DATE: 11-12-82

CONTROL BLOCK: 1 2 3 4 5 6 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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100CON'T  
0 1 REPORT SOURCE L 6 0 5 0 - 0 3 2 5 7 1 0 1 0 8 2 8 0 5 1 8 8 4 9  
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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

## EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

0 2 While performing ADS Valve Operability Test, PT-11.1.2, at 200 psig reactor pressure  
0 3 on 10-10-82, S/RV valve 1-B21-F013J failed to reclose until 50-100 psig reactor pres-  
0 4 sure. Performance of this PT on 10-13-82 revealed S/RV valves 1-B21-F013D and E  
0 5 would not open at 200 psig reactor pressure. However, while performing this PT on  
0 6 10-14-82, S/RV F013E was manually opened, but responded slowly. In each case, the unit  
C 7 was then placed into cold shutdown. Neither event affected the health and safety of  
0 8 the public. Technical Specifications 4.5.2b, 6.9.1.9b  
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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 1000 9 SYSTEM CODE C J 11 CAUSE CODE E 12 CAUSE SUBCODE B 13 COMPONENT CODE V A L V O P 14 COMP. SUBCODE F 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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
17 LER/RO REPORT NUMBER 8 2 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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100  
ACTION TAKEN A 18 FUTURE ACTION X 19 EFFECT ON PLANT A 20 SHUTDOWN METHOD A 21 HOURS 0 0 8 0 22 ATTACHMENT SUBMITTED Y 23 NPD-4 FORM SUB. Y 24 PRIME COMP. SUPPLIER N 25 COMPONENT MANUFACTURER T 0 2 0 26  
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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

## CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

1 0 F013J failed to reclose because its solenoid valve failed to close, attributed to  
1 1 a faulty spring within the solenoid valve. The defective solenoid valve was replaced  
1 2 along with the valve pilot assembly and F013J was tested satisfactorily. The problems  
1 3 affecting F013D and E were not determined. Both valves were replaced in their  
1 4 entirety and tested satisfactorily.  
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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100FACILITY STATUS C 28 % POWER 0 0 4 29 OTHER STATUS NA 30 METHOD OF DISCOVERY B 31 DISCOVERY DESCRIPTION Periodic Test 32  
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 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100ACTIVITY CONTENT RELEASED OF RELEASE Z 33 Z 34 AMOUNT OF ACTIVITY NA 35 LOCATION OF RELEASE 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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100PERSONNEL EXPOSURES NUMBER 0 0 0 37 TYPE Z 38 DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100PERSONNEL INJURIES NUMBER 0 0 0 40 DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100LOSS OF OF DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100PUBLICITY ISSUED N 44 DESCRIPTION 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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

NAME OF PREPARER M. J. Pastva, Jr.

PHONE 919-457-9521

LER ATTACHMENT - RO #1-82-108

Facility: BSEP Unit 1

Event Date: October 10, 1982

While performing the ADS System Valve Operability Test, PT-11.1.2, during Unit 1 startup at a reactor pressure of 200 psig, S/RV 1-B21-F013J failed to reclose until reactor pressure was 50-100 psig. The reactor was then placed in cold shutdown. On October 13, 1982, while performing this PT, S/RV valves 1-B21-F013D and E failed to open at a reactor pressure of 200 psig. Following this event, the unit was again placed into cold shutdown.

An inspection of the F013J, Model No. 7567F, revealed the F013J solenoid valve opened with noninterruptible instrument air still exhausting through the solenoid valve outlet port. When the solenoid valve air supply was isolated, the solenoid valve closed. The F013J solenoid valve was then removed and bench tested satisfactorily. An investigation of this problem by an on-site representative of the valve vendor concluded the unusual valve operation was caused by a faulty spring within the solenoid valve. The valve vendor, Target Rock Corporation, acknowledges that solenoid valve spring relaxation is a design problem, and consequently, they have developed a more reliable replacement spring. The design modification changed the material from the original 302SS to Inconel-718. This modification was completed for the solenoid valves in Unit 2 during the Unit 2 1982 refueling outage. The remaining Unit 1 solenoid valves were modified during the Unit 1 1983 refueling outage.

The problem solenoid valve on S/RV F013J was modified with the improved spring material. As a preventive measure, the valve pilot assembly was also replaced. During subsequent performance of PT-11.1.2 on October 13, 1982, F013J tested satisfactorily.

Following the discovery of problems affecting the opening capabilities of S/RV F013D and E, an inspection of both valves was performed. This inspection, which was conducted with the assistance of the valve vendor representative, was unsuccessful in determining what problems affected both valves. Both valves were replaced in their entirety and were tested satisfactorily. Also, the solenoid valves for these valves were modified with the improved spring material. It is felt the incurred F013D and E failures each resulted from one or both of the following identified two-stage S/RV generic problems:

1. High friction in the valve labyrinth seal guide area associated with a clearance less than minimum required by design.
2. Corrosion at the valve pilot valve seat-disc interface which results in sticking of the S/RV disc-to-seat assembly.

The BWR Owners' Group has concluded that the frequency of S/RV setpoint drift problems can be adequately controlled by improved maintenance practices during valve refurbishment/maintenance. Wyle Laboratory, which tests the setpoints of two-stage S/RVs, is currently revising their procedures as required to reflect the BWR Owners' Group recommendations. In addition, General Electric Company plans to issue a service/information letter regarding the suggested changes to S/RV procedures.

**CP&L**

84 MAY 22 12:02  
Carolina Power & Light Company

Brunswick Steam Electric Plant  
P. O. Box 10429  
Southport, NC 28461-0429  
May 18, 1984

FILE: B09-13510C  
SERIAL: BSEP/84-1168

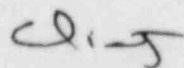
Mr. James P. O'Reilly, Administrator  
U. S. Nuclear Regulatory Commission  
Region II, Suite 3100  
101 Marietta Street N.W.  
Atlanta, GA 30303

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 1  
DOCKET NO. 50-325  
LICENSE NO. DPR-71  
SUPPLEMENT TO LICENSEE EVENT REPORT 1-82-108

Dear Mr. O'Reilly:

In accordance with Section 6.9.1.9b of the Technical Specifications for Brunswick Steam Electric Plant, Unit 1, the enclosed supplemental Licensee Event Report is submitted. The original report fulfilled the requirement for a written report within thirty (30) days of a reportable occurrence and both are in accordance with the format set forth in NUREG-0161, July 1977.

Very truly yours,



C. R. Dietz, General Manager  
Brunswick Steam Electric Plant

RMP/pms/LETPS1

Enclosure

cc: Mr. R. C. DeYoung  
NRC Document Control Desk

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