NRC FORM 366
(7-77)

LICENSEE EVENT REPORT

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

0 1 | N J S G S 2 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | (5)

7 8 9 LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

CON'T

0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 3 1 1 (7) | 0 9 0 8 8 2 (8) | 0 6 2 9 8 3 (9)

7 8 60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | At 0500 hours, September 8, 1982, a service water leak was discovered on No. 21 Contain-

0 3 | ment Fan Coil Unit (CFCU), and No. 21 CFCU was declared inoperable. No. 22 and No. 25

0 4 | CFCUs were already inoperable, therefore, Action Statement 3.0.3 was entered at 0500

0 5 | hours, and a unit load reduction was commenced. No. 22 CFCU was declared operable at

0 6 | 0715 hours, September 8, 1982, and Action Statement 3.6.2.3b was then in effect. The

0 7 | unit load reduction was terminated at 76% reactor power. Both containment spray

0 8 | systems were operable throughout the occurrence.

7 8 9 80

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP SUBCODE	VALVE SUBCODE
0 9	S B (11)	B (12)	A (13)	H T E X C H (14)	C (15)	Z (16)

	LER RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.			OCCURRENCE CODE	REPORT TYPE		REVISION NO.
(17)		8 2	—	0 9 2	/		0 1	X	—	1
		21 22	23	24 26	27		28 29	30	31	32

	ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP SUPPLIER	COMPONENT MANUFACTURER
	C (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	A (25)	W 1 2 0 (26)
	33	34	35	36	37 40	41	42	43	44 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | The cause was erosion of the CFCU motor cooler by silt in the service water. The motor

1 1 | cooler was replaced, No. 21 CFCU was tested satisfactorily, No. 25 CFCU was also

1 2 | repaired, and all Action Statements were terminated. Design Change Request 2EC-0507

1 3 | was issued and the cooler was replaced with one of a more erosion resistant material.

1 4 |

7 8 9 80

1 5 | FACILITY STATUS E (28) | % POWER 0 8 2 (29) | OTHER STATUS (30) NA | METHOD OF DISCOVERY A (31) | DISCOVERY DESCRIPTION (32) Operator Observation

7 8 9 10 12 13 44 45 46 80

1 6 | ACTIVITY RELEASED Z (33) | CONTENT OF RELEASE Z (34) | AMOUNT OF ACTIVITY (35) NA | LOCATION OF RELEASE (36) NA

7 8 9 10 11 44 45 80

PERSONNEL EXPOSURES

1 7 | NUMBER 0 0 0 (37) | TYPE Z (38) | DESCRIPTION (39) NA

7 8 9 11 12 13 80

PERSONNEL INJURIES

1 8 | NUMBER 0 0 0 (40) | DESCRIPTION (41) NA

7 8 9 11 12 80

IE22

LOSS OF OR DAMAGE TO FACILITY

1 9 | TYPE Z (42) | DESCRIPTION NA

7 8 9 10 80

8308010292 830629
PDR ADOCK 05000311
S PDR

PUBLICITY

2 0 | ISSUED N (44) | DESCRIPTION (45) NA | NRC USE ONLY

7 8 9 10 68 69 80

NAME OF PREPARER R. Frahm PHONE (609) 935-6000 Ext. 4309

Report Number: 82-092/01X-1

Report Date: 06-29-83

Occurrence Date: 09-08-82

Facility: Salem Generating Station, Unit 2
Public Service Electric & Gas Company
Hancocks Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Containment Service Water Leak - No. 21 Containment Fan Coil Unit.

This report was initiated by Incident Report 82-262.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 82% - Unit Load 900 MWe.

DESCRIPTION OF OCCURRENCE:

On September 8, 1982, during routine operation, the Control Room Operator received indication of leakage within the containment. A containment entry was made to determine the source of leakage. At 0500 hours, it was discovered that No. 21 Containment Fan Coil Unit (CFCU) motor cooler had a service water leak of approximately 0.3 GPM. No. 21 CFCU was declared inoperable and isolated. At this time, Limiting Condition for Operation Action Statement 3.6.2.3b was already in force, due to No. 22 and No. 25 CFCU's being inoperable. Action Statement 3.6.2.3 permits operation with up to two CFCU groups inoperable. Inoperability of No. 21 CFCU created a condition of three CFCU groups inoperable. Therefore, at 0500 hours, September 8, 1982, Action Statement 3.0.3 was entered and a unit load reduction was commenced in compliance with the action statement.

The NRC was notified by telephone with written confirmation transmitted on September 8, 1982, in compliance with NRC IE Bulletins 80-24 and 81-09. Both containment spray systems were operable throughout the occurrence. At 0715 hours, September 8, 1982, No. 22 CFCU was declared operable and Action Statement 3.0.3 was terminated. The conditions of Limiting Condition for Operation Action Statement 3.6.2.3b were then applicable, and the unit load reduction was terminated at 76% reactor power. No. 21 CFCU motor cooler was replaced and the CFCU was tested satisfactorily. At 0005 hours, September 9, 1982, No. 21 CFCU was declared operable and Limiting Condition for Operation Action Statement 3.6.2.3b was terminated. No. 25 CFCU remained inoperable for maintenance and the conditions of Limiting Condition for Operation Action Statement 3.6.2.3a were then in effect.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Investigation of the problem showed that the leakage on No. 21 CFCU motor cooler was due to the failure of the cooling coils. The coils are fabricated of copper nickel alloy which is susceptible to erosion by silt laden service water. Similar failures of other CFCU's had been noted, with most leaks occurring at bends where erosion is more significant. No. 25 CFCU was inoperable due to being tagged out for scheduled maintenance and was therefore not a reportable occurrence. No. 22 CFCU was inoperable due to a service water flow problem and was addressed in LER 82-105/03L.

ANALYSIS OF OCCURRENCE:

Primary containment is a design feature which ensures that the release of radioactive materials in the event of accident conditions will be restricted such that site boundary radiation doses will be within the limits of 10CFR100. NRC IE Bulletin 80-24 requires that any service water leak inside the containment be considered as a degradation of the containment boundary. If containment pressure increased to the design pressure of 47 psig during an accident, there is a possibility of the release of radioactive materials through the service water discharge. The occurrence therefore constitutes an abnormal degradation of the primary containment and is reportable in accordance with Technical Specification 6.9.1.8.c.

The CFCU's operate in conjunction with the containment spray systems to remove heat and radioactive contamination from the containment atmosphere in the event of a design basis accident. Operability of either all fan coil groups, or of both containment spray systems is necessary to ensure offsite radiation dose is maintained within the limits of 10CFR100.

Because the leakage was immediately isolated, containment integrity was maintained. Redundant containment cooling capability was provided by the containment spray systems. The occurrence therefore involved no undue risk to the health or safety of the public.

Action Statement 3.0.3 requires:

> When a Limiting Condition for Operation is not met, except as provided by the associated action requirements, within one hour action shall be initiated to place the unit in a mode in which the specification does not apply by placing it in hot standby within the next 6 hours, or in hot shutdown within the following 6 hours, and in cold shutdown within the subsequent 24 hours.

ANALYSIS OF OCCURRENCE: (continued)

Action Statement 3.6.2.3b requires:

> With two groups of CFCU's inoperable, and both containment spray systems operable, restore at least one group of CFCU's to operable status within 72 hours, or be in at least hot standby within the next 6 hours, and in cold shutdown within the following 30 hours. Restore both required CFCU's to operable status within 7 days of initial loss or be in at least hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

Action Statement 3.6.2.3a requires:

> With one group of the CFCU's inoperable, and both containment spray systems operable, restore the inoperable group of cooling fans to operable status within 7 days, or be in at least hot standby within the next 6 hours, and in cold shutdown within the following 30 hours.

CORRECTIVE ACTION:

As noted, the leak on No. 21 CFCU was isolated and prompt notification was made to the NRC in accordance with Technical Specification 6.9.1.8.c. No. 21 CFCU motor cooler was replaced and the CFCU was tested satisfactorily. At 0005 hours, September 9, 1982, No. 21 CFCU was declared operable and Action Statement 3.6.2.3b was terminated. No. 25 CFCU was still inoperable for maintenance, therefore, the conditions of Limiting Condition for Operation Action Statement 3.6.2.3a were then applicable.

Design Change Request 2EC-0507 was submitted to replace the CFCU motor cooler cooling coils with coils manufactured of AL-6X steel or titanium for improved erosion and corrosion resistance in the service water environment. The change was completed June 1983 during the first Salem Unit 2 refueling; all CFCU motor cooler coils were replaced with ones of improved material.

FAILURE DATA:

Westinghouse Electric Corporation
Containment Fan Coil Unit
U-Tube Cooling Coil

Prepared By R. Frahm

J. M. Zupko
General Manager -
Salem Operations

SORC Meeting No. 83-086

PSE&G

Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

July 7, 1983

Mr. J. Allan
Acting Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Allan:

LICENSE NO. DPR-75
DOCKET NO. 50-311
REPORTABLE OCCURRENCE 82-092/01X-1
SUPPLEMENTAL REPORT

Pursuant to the requirements of Salem Generating Station Unit No. 2 Technical Specifications, Section 6.9.1.8.c, we are submitting supplemental Licensee Event Report for Reportable Occurrence 82-092/01X-1.

Sincerely yours,

J. M. Zupko, Jr.
General Manager -
Salem Operations

RF:ks

CC: Distribution

1/1 IE22