REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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FACIL:50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269
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Region 2, Atlanta, Office of the Director

SUBJECT: LER 79-032/03L-0:on 790920,reactor bldg hydrogen purge unit was out of svc for 5-h exceeding Tech Spec limits.Caused by overloading of charcoal filter w/freon.Proceedures will be revised to preclude injecting excessive freon during testing

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	16 EEB	1	1	17 AD FOR ENGR	1	1
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DUKE POWER COMPANY
Oconee Nuclear Station

Report Number: RO-269/79-32

Report Date: October 19, 1979

Occurrence Date: September 20, 1979

Facility: Oconee Nuclear Station, Seneca, South Carolina

Identification of Occurrence: Hydrogen Purge Unit Inoperable Greater Than Seven Days

Conditions Prior to Occurrence: Oconee 1 40% Full Power
Oconee 2 98% Full Power
Oconee 3 Cold Shutdown

Description of Occurrence:

On September 20, 1979, the Reactor Building (RB) hydrogen purge unit was removed from the Oconee 3 penetration room in order to permit the Hydrogen Purge Unit Performance Test to be conducted. At 1400 on September 20 the unit was declared inoperable when its housing was removed in order to allow a charcoal filter sample to be obtained for testing. Oconee Nuclear Station Technical Specification 3.16 allows the unit to be inoperable for up to seven days. On September 21, 1979, the hydrogen purge unit was reassembled and the in-place filter test was begun. However, the charcoal filter became loaded down with freon, and the test could not be completed. The system was operated for 1½ hours in order to purge the freon from the filters. The HEPA filter then met its acceptance criteria. On September 24, 1979, the filter test was again begun, but the charcoal filter was still loaded with freon. The unit was operated overnight, but on the following day the filter was still loaded with freon. At 1600 on September 25, the charcoal filter was replaced. At 2200 the filter test was run, but the HEPA filter which had previously met its acceptance criteria failed to do so again. The HEPA filter was replaced. The filter test was completed by 0800 on September 26, 1979, and the hydrogen purge unit was then installed in the Oconee 1 penetration room, where the performance test was resumed. However, at 1700 on September 26 the unit's heater was found to have a faulty thermoswitch, and no replacement was available on-site. A replacement thermoswitch was obtained and installed on September 27, and the hydrogen purge unit was tested and declared operable by 1900 on that day. This exceeded the seven-day Technical Specification limit by five hours.

Apparent Cause of Occurrence:

The unit was originally declared inoperable in order to obtain a charcoal filter sample. However, during the performance of the filter testing the charcoal filter became loaded down with freon. Completion of the filter test was delayed while attempts were made to purge the freon from the filter. After the filter test had been completed and the unit was installed in the Oconee 1 penetration room, a faulty thermoswitch on the unit's heater was discovered. The unavailability of an immediate replacement further delayed the return of the hydrogen purge unit to service.

Analysis of Occurrence:

The hydrogen purge unit provides a means for controlling the RB hydrogen concentration in the unlikely event of a loss-of-coolant accident (LOCA). In order to limit hydrogen concentration to an acceptable value, the purge is required to be started at 460 hours following the LOCA. The Technical Specification requirement to restore the system to operability within seven days provides assurance of its availability in the event of a LOCA. In the event operation of the unit had been necessary, it could have been returned to full operability long before it would have been needed. In addition, the unit was capable of immediate operation, although manual control of its heater might have been required. However, Technical Specification 3.16 requires that if the unit is not restored to operability within seven days, the Oconee Units are to be shutdown within the following 36 hours. Although the purge unit was restored to operability within five hours after the seven-day limit, this constituted operation in a degraded mode permitted by a limiting condition for operation. Therefore, the incident must be reported pursuant to Technical Specification 6.6.2.1.b(2), although it was of no significance with respect to safe operation, and the health and safety of the public were not affected.

Corrective Action:

When the freon could not be purged from the charcoal filter, the filter was replaced. When the unit was subsequently installed in the Oconee 1 penetration room, it was discovered that its heater had a faulty thermoswitch. A replacement thermoswitch was obtained and installed, and the performance test was successfully completed. In order to preclude a recurrence, the test procedure will be revised to include a precaution against injecting excessive freon into the filters. In addition, a review will be made to assure that necessary spare parts for the unit are available. Further care will be taken to assure that equipment removed from service under a Technical Specification time limit is returned to service within the allowed time.

NRC FORM 366
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

EXHIBIT A

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

0 1 | S C N E E 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
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CON'T 0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 2 6 9 (7) | 0 9 2 0 7 9 (8) | 1 0 1 9 7 9 (9)
DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 The Reactor Building hydrogen purge unit was out of service for five hours
0 3 in excess of the seven-day Technical Specification limit. In the unlikely
0 4 event its services had been required, the unit could have been operated with
0 5 manual control of its heater, and it could have been restored to full oper-
0 6 ability long before operation was required as the result of an accident.
0 7 Therefore, this incident was of no significance with respect to safe operation
0 8 and the health and safety of the public were not affected.

	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
0 9	S E (11)	D (12)	Z (13)	X X X X X X (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	7 9	—	0 3 2	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
A (18)	G (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	Y (24)	L (25)	Z Z Z Z (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The restoration of the unit to operability was originally delayed due to
1 1 overloading its charcoal filter with freon. After the filters were replaced,
1 2 the unit's heater was found to have a faulty thermoswitch. Procedures will be
1 3 revised to preclude injecting excessive freon during testing, and a review
1 4 will be made to assure that spare parts are available.

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	E (28)	0 4 0 (29)	NA	B (31)	Routine test

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

PERSONNEL EXPOSURES

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

PERSONNEL INJURIES

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

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	NA

PUBLICITY

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

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