

LICENSEE EVENT REPORT (LER)

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| FACILITY NAME (1) Dresden Nuclear Power Station, Unit 2 | DOCKET NUMBER (2) 0 5 0 0 0 2 3 7 | PAGE (3) 1 OF 0 4 |
|--|--------------------------------------|----------------------|

TITLE (4)
Inoperable Continuous Particulate Sample Collector Due to Torn Filter

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|--|------------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | | DOCKET NUMBER(S) |
| 0 6 | 0 9 | 8 7 | 8 7 | 0 2 0 | 0 | 0 6 | 2 9 | 8 7 | Dresden Unit 3 | | 0 5 0 0 0 2 4 9 |
| | | | | | | | | | N/A | | 0 5 0 0 0 |

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|---------------------------|--|--|------------------|-------------------|--|-----------------|----------------------|--|--|--|--|
| OPERATING MODE (9) N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11) | | | | | | | | | | |
| POWER LEVEL (10) 0 7 8 | 20.402(b) | | | 20.406(c) | | | 50.73(a)(2)(iv) | | | 73.71(b) | |
| | 20.406(a)(1)(i) | | | 50.38(c)(1) | | | 50.73(a)(2)(v) | | | 73.71(c) | |
| | 20.406(a)(1)(iii) | | | 50.38(c)(2) | | | 50.73(a)(2)(vii) | | | OTHER (Specify in Abstract below and in Text, NRC Form 365A) | |
| | 20.406(a)(1)(iii) | | | X 50.73(a)(2)(ii) | | | 50.73(a)(2)(viii)(A) | | | | |
| | 20.406(a)(1)(iv) | | | 50.73(a)(2)(ii) | | | 50.73(a)(2)(viii)(B) | | | | |
| 20.406(a)(1)(v) | | | 50.73(a)(2)(iii) | | | 50.73(a)(2)(ix) | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|---|
| NAME Joseph Welch Technical Staff Engineer (X-422) | TELEPHONE NUMBER AREA CODE: 8 1 5 9 4 2 - 2 9 2 0 |
|--|---|

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS |
|-------|--------|-----------|---------------|---------------------|-------|--------|-----------|---------------|---------------------|
| X | II L | FI L T G | 0 4 6 | N | | | | | |
| | | | | | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

| | | | | | |
|---|------|-------------------------------|-------|-----|------|
| YES (If yes, complete EXPECTED SUBMISSION DATE) | X NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|------|-------------------------------|-------|-----|------|

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 0745 hours on June 9, 1987, with Dresden Unit 2 at 78% rated thermal power and Unit 3 at 100% rated thermal power, it was discovered that the Unit 2/3 main chimney separate particulate iodine and noble gas (SPING) sampler had been in a potentially degraded condition during the period between 1057 hours on June 2, 1987 and 1620 hours on June 8, 1987. On June 9, 1987 Chemistry supervision discovered that the particulate filter paper was torn and did not appear to have collected a normal amount of sample for the six-day time period it was installed. The cause of this event has been attributed to the Radiation Chemistry Technician (RCT) inadvertently damaging the filter paper when installing it on June 2, 1987.

As a corrective action a new tougher nylon type filter is now being used. The safety significance of this event is considered to be minimal. Any change in the radiological condition of the plant would have been detected by other radiation level monitors which were operable at the time of this event.

Similar previous occurrences were reported by Reportable Occurrence 87-024 and 86-021 on Docket #050237.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | YEAR 8 7 | SEQUENTIAL NUMBER - 0 2 0 | REVISION NUMBER - 0 0 | 0 2 | OF 0 4 |

NOTE: If more space is required, use additional NRC Form 386A's (17)

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 Mwt rated core thermal power. Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

EVENT IDENTIFICATION:

Inoperable chimney continuous particulate sample collector due to torn filter.

A. PLANT CONDITIONS PRIOR TO EVENT:

Event Date: June 9, 1987 Event Time: 0745 hours

Unit 2 - Mode: N - Run Reactor Power: 77.8%
Reactor Pressure/Temperature: 970 psig/515°F

Unit 3 - Mode: N - Run Reactor Power: 99.6%
Reactor Pressure/Temperature: 1006 psig/525°F

B. DESCRIPTION OF EVENT:

On June 9, 1987 at 0745 hours, with Dresden Unit 2 at 77.8% thermal power and Unit 3 at 99.6% thermal power, it was discovered that the Unit 2/3 Main Chimney Separate Particulate Iodine and Noble Gas (SPING) [IL] Sampler had been in a potentially degraded condition during the period between 1057 hours on June 2, 1987 and 1620 hours on June 8, 1987.

The radiation monitoring system on the 2/3 chimney includes two main components, a SPING monitor and a Victoreen PAARM-4 particulate, iodine and noble gas monitor [IL]. These components are backed up by an alternate chimney monitoring system which is supplied by General Electric (GE). Within the SPING are four radiation elements: a low-range iodine monitor, a low-range particulate monitor, a low-range noble gas monitor and a mid-range noble gas monitor. The Victoreen PAARM-4 consists of two particulate and iodine sample collectors and a high-range noble gas monitor.

The 2/3 chimney monitoring system has three modes of operation. In the normal mode, samples are drawn from the chimney through a 3-inch line. The sample enters the SPING and passes through a membrane filter on which particulate is deposited. This filter is monitored by a low-range beta and alpha detector. The sample flow then enters a charcoal cartridge which absorbs iodine and is monitored by a low-range gamma detector. Finally, the sample flow enters a gas chamber which monitors noble gases. This chamber is monitored by a low-range and mid-range beta detector. The sample passes through a pump and then to the outlet.

The particulate sample filter is changed on a weekly basis. A new sample filter was installed on June 2, 1987 at 1057 hours. A chimney SPING low vacuum alarm annunciated at approximately 1530 hours on June 8, 1987. A Radiation Chemistry Technician (RCT) was dispatched and the SPING filter was changed at 1620 hours clearing the low vacuum alarm.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

On June 9, 1987 a Chemistry Supervisor discovered that the particulate membrane filter which had been removed was torn. Upon further observations the filter did not appear to have collected a normal amount of particulate for the six-day time period the filter was installed. Continuous sampling is required by Technical Specification Table 4.8.1.

C. CAUSE OF EVENT:

The cause of the failure to continuously monitor particulate samples has been attributed to the tear in the sample filter. The filter is a Millipore Type SM 5.0 micron membrane filter. It is believed that the filter paper was inadvertently damaged during sampler reassembly on June 2, 1987.

D. SAFETY SIGNIFICANCE:

Any significant increase in main condenser offgas activity during normal operation, such as that postulated during fuel damage, would be monitored by the Main Steam Line Radiation Monitoring System [IL]; a Main Steam Line high radiation alarm would annunciate in the Control Room at 1.5 times the normal radiation level, and an automatic primary containment Group I isolation and reactor scram would occur at 3 times the normal Main Steam Line radiation level. Also, the offgas holdup volume is equipped with Radiation Monitors [IL] having Control Room alarms and which automatically initiate isolation of the off-gas system at prescribed setpoints. Significant increases in airborne activity within the Turbine and Radwaste Buildings would be detected by area Radiation Monitors [IL]. Increases in Reactor Building activity would have been monitored by the 2/3 Reactor Building Ventilation SPING [IL] Monitor, which was operable during this period.

Also, the station's On-Site Dose Calculation Manual (ODCM) allows for the averaging of the previous and following weeks' sample to estimate the release for that week the sampler was inoperable. The results of the isotopal calculations are as follows:

| <u>Isotope</u> | <u>µCi/ml</u> |
|----------------|---------------|
| Mn-54 | 1.3 E-14 |
| Co-60 | 7.6 E-14 |
| I-131 | 3.9 E-14 |
| Cs-137 | 1.7 E-14 |
| Ba-140 | 1.8 E-12 |
| La-140 | 4.3 E-12 |

These levels are all well below the allowable effluent release limits. Therefore, the safety significance of this event is minimal.

E. CORRECTIVE ACTIONS:

In order to prevent future occurrences of this type, a tougher membrane filter paper will be used. The new filter paper is still a 5.0 micron filter, but is fabricated out of a durable nylon type material. This will reduce the possibilities of damaging the filter during installation.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

F. PREVIOUS OCCURRENCES:

1) Reportable Event No. 87-24 on Docket #050237, dated May 18, 1987.

This event concerned the failure of the SPING sampler due to water intrusion. As corrective action a review of Technical Specification requirements and previous events was conducted with all Radiation Chemistry Technicians. Also, additional training on the SPING system was provided to licensed and non-licensed Operations personnel attending the rotating training schedule.

2) Reportable Event No. 86-21 on Docket #050237.

This event involved a six hour and 19 minute lapse in continuous particulate and iodine monitoring due to a SPING filter changing procedural inadequacy.

G. COMPONENT FAILURE DATA:

N/A



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

June 29, 1987

EDE LTR #87-416

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Licensee Event Report #87-020-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(B).

RA. Eissenberg
E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/kjl

Enclosure

cc: A. Bert Davis, Regional Administrator
File/NRC
File/Numerical

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