NRC Form 366 19:831						PORT	(LER)	U.S. NUCLEAR REGULATORY COMMISSI APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/88				
FACILIT	Y NAME (1)								DOCKET NUMBER	9 (2)	PACE (3)
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Condition 4 (cold shutdown), the control room operator noticed an upscale/inop alarm for the Radwaste Building gaseous effluent radiation monitor. The operator verified automatic actuation of the emergency (recirculation) mode of the Control Center HVAC (CCHVAC) and isolation of the Radwaste Building HVAC (RWHVAC) and sent a chemistry technician to investigate. The chemistry technician cleared the radiation monitor alarm and the monitor returned to normal. The operator reset the CCHVAC and the RWHVAC and returned the ventilation systems to normal status at 0012 hours on January 7, 1986. A noble gas grab sample, obtained at the radiation monitor, indicated no detectable radioactivity. The upscale alarm is thought to have been spurious, related to radiation monitor system microprocessor communications problems which have frequently occurred at midnight. During this investigation, on January 27, 1986 at 1927 hours an addition actuation signal was generated. The cause and resolution of these problems are still under investigation. A supplemental report will be submitted.

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NRC Form 366A (9-83)	NSEE EVENT REPORT (LER) TEXT CONTINU	ENT REPORT (LER) TEXT CONTINUATION						
FACILITY NAME (1)	DOCKET NUMBER (2)	DOCKET NUMBER (2)				,	PAGE (3)	
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TEXT Iff more space is required, use additional NRC Form 366A's) (17)

At 2359 hours on January 6, 1986, while the plant was in Operational Condition 4 (cold shutdown), the control room Nuclear Supervising Operator (NSO) noticed annunciation in alarm window 3D46, "Radwaste Bldg Vent Exhaust Radiation Monitor Upscale/Inop". Annunciation in this window indicates a high radiation alarm/trip of the Radwaste Building ventilation exhaust gaseous effluent radiation monitor. This monitor is an Eberline System Particulate Iodine and Noble Gas (SPING) 3 monitor. Per plant design and Technical Specifications, this alarm/trip automatically isolates the Radwaste Building HVAC and initiates the Recirculation Mode of the Control Center HVAC; the latter is an Engineered Safety Feature (ESF) actuation. Automatic isolation of Radwaste HVAC and actuation of the Central Center HVAC recirculation mode were verified by the operator.

Concurrently, the shift chemistry technician noticed local (flashing light) alarms at the Radwaste Building SPING monitor, indicating high radiation and/or mechanical trouble conditions. The chemistry technician verified the local reading at the monitor for the low range noble gas channel. The chemistry technician returned to the Control Center and notified the operator of these conditions.

The SPING monitor reading was 9.1 E-7 microcuries per cubic centimeter (uCi/cc) (Xe-133 Equivalent), which was below the high radiation alarm/trip setpoint of 2.0 E-6 uCi/cc. The high radiation alarm/trip setpoint was established at three times average background level, based on guidance in the Offsite Dose Calculation Manual (ODCM), which states that if no release is planned for a particular pathway, the monitor setpoint should be established as close to background as practical, to alarm if an inadvertent release should occur, without causing spurious alarms.

The shift chemistry technician attempted to verify the monitor high radiation alarm at the SPING radiation monitoring system control terminal, the Eberline CT-2B, in the Control Center. The chemistry technician noted that the alarm condition light on the CT-2B was not illuminated. He then cleared and reset the alarm, returning the Radwaste SPING unit to normal status. Detail history printouts from the CT-2B showed an alarm condition and average concentration of 5.08 E-6 uCi/cc in the noble gas channel of the Radwaste Building SPING during the ten minute interval from 23:0-0000 hrs.

IS C Form 366A	REPORT (LER) TEXT CONTINU	EPORT (LER) TEXT CONTINUATION APPROVED OMB NO 315 EXPIRES 8/31/85							
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The Control Room NSO conferred with the chemistry technician and the Radwaste Control Room operator to verify that there were no known radiological operations in progress in the Radwaste Building, (e.g., radwaste processing), that no area radiation monitors were indicating a high radiation alarm condition, and that the Radwaste Building SPING alarms had been cleared and the unit was indicating normal conditions. In addition, the Control Room NSO had been made aware of spurious alarms which had occurred on previous occasions around midnight. The previous alarms had been attributed to problems in the microprocessor/communications interface between the SPING CT2B control terminal and SPING units. From this information, the Control Room NSO determined that the alarm condition was no longer present and probably was spurious.

At 0012 hours on January 7, the Control Room NSO restored the Control Center HVAC and the Radwaste HVAC to normal status. The chemistry technician was assigned to obtain a followup noble gas grab sample at the Radwaste SPING monitor. This was done at 0150 hours. Sample analysis revealed no activity above the Lower Limit of Detection (LLD) as defined in Technical Specification Table 4.11.1.1.1.1. This was reported to the Control Room NSO at 0300 hours. The Nuclear Shift Supervisor (NSS) notified the NRC Operation Center of the ESF actuation, in accordance with 10CFR50.72(b)(2)(ii), at 0338 hours.

This event has been reviewed jointly by Detroit Edison Operations, Radiation Chemistry, Technical and Engineering staff. It has been determined that system alarm/trips and resulting automatic actuations were in accordance with plant design and Technical Specifications. Automatic actuation of the Control Center HVAC Recirculation mode upon detection of high radiation in building effluent SPING monitors is part of the conservative design basis of the Fermi-2 Control Room.

This design is intended to provide the maximum protection to the Control Room operators in case of a radiological release from any of the buildings of the power plant. In the January 6 event, the Control Center HVAC responded to the high radiation signal as designed.

Response actions of plant personnel appear to have been timely, effective and in accordance with approved plant procedures. It does not appear that there was at any time a deviation from plant Technical Specifications related to this event, nor any release of radioactive effluents in excess of limits prescribed in the Radioactive Effluent Technical Specifications (RETS).

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The possibility of the initiating alarm/trip signal having been spurious is currently being investigated by plant staff. Additional followup actions are being pursued to prevent recurrence. Specific followup action to identify the source of the alarm/trip is being taken as follows:

- Trouble shooting was performed on the SPING unit and the alarm circuitry, and no equipment problems were identified.
- 2. Testing and evaluation of the Radwaste SPING unit and the SPING system are being conducted to identify the source of the trip signal. Diagnostic testing includes the use of a logic analyzer between the SPING and the CT-2B to capture any initiation signal. In addition, a line voltage monitor is being used to explore for voltage transients which could be the source of the trip signal. On January 27, at 1927 hours an additional initiation signal was generated during this testing. This sequence of events is still under investigation and will be described in a supplemental report.

Robert S. Lenart Plant Manager



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Fermi-2 6400 North Dixie Highway Newport, Michigan 48166 (313) 586-5201

February 5, 1986 NP860055



Nuclear Operations

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

Gentlemen:

- Reference: Fermi 2 NRC Docket No. 50-341 NRC Operating License No. NPF-43
- Subject: Transmittal of Licensee Event Report 86-001

Please find enclosed LER No. 86-001-00, dated February 5, 1986, for a reportable event which occurred on January 6, 1986. As indicated below, a copy of this LER is being sent to the Administrator Region III.

If you have any questions, please contact us.

Sincerely,

R. S. Lenart Plant Manager

Enclosure: NRC Forms 366, 366A

cc: P.M. Byron M.D. Lynch

> Regional Administrator USNRC Region III 799 Roosevelt Rd. Glen Ellyn, IL 60137

Wayne County Emergency Management Division 1250 Middlebelt Road Detroit, MI 48242

Director/Coordinator Monroe City-County Office of Civil Preparedness 965 South Raisinville Road Monroe, MI 48161

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