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At 1908 on June 13, 1987, and again on October 16, 1987, it was discovered through Main Control Room annunciation that Train DA of the Control Room Ventilation System had shifted to its emergency makeup mode of operation. These actuations were attributed to inadvertently keying radios within the designated exclusion area near radiation monitors DPR31J and OPR32J. The electric pulse generated by the radio is a noise signal which ultimately gets translated into activity by the monitor. In both occurrences all monitor channel activity readings returned to normal within 30 minutes and the lineup for Control Room Ventilation was subsequently restored. The first occurence is considered to be an isolated event and no additional action was taken. After the second occurrence, the possibilities of further protecting these Control Room Ventilation Monitors against errant radio keys are being explored.

There have been no previous occurrences due to keying a radio causing an Engineered Safety Feature actuation.

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Braidwood, Unit 1	0 5 0 0 0 4 5	6 3 1 7	-	0 3 1 1	-	0 1 1	01 2 OF 0

A. PLANT CONDITIONS PRIOR TO EVENT:

Occurrence 1:

Unit: <u>Braidwood 1</u>; Event Date: <u>June 13, 1987</u>; Event Time: <u>1908</u> MODE <u>3 - Hot Standby</u> Rx Power <u>0%</u> RCS [AB] Temperature/Pressure <u>391°F/1300 psig</u>

Occurrence 2:

Unit: Braidwood 1; Event Date: October 16, 1987; Event Time: 1126 MODE 2 - Startup Rx Power <u>3%</u> RCS [AB] Temperature/Pressure <u>558°F/2235 psig</u>

B. DESCRIPTION OF EVENT:

Occurrence 1:

At 1908 on June 13, 1987, it was discovered through Control Room annunciation that Train DA of Control Room Ventilation System [VI] shifted to its emergency makeup mode of operation due to a high radiation signal from the DPR32J ventilation Radiation Monitor [IL] sampling from this train of ventilation. No degraded structures or failed components contributed to this event. Plant conditions remained stable throughout the duration of the event. Operator actions had no influence on the severity of the event. All monitor channel activity readings returned to normal by 1910 that evening. The monitors were never declared inoperable throughout the duration of the event.

Occurrence 2:

At 1126 on October 16, 1987, the Main Control Room Outside Air Intake Train OA Radiation Monitor, OPR313 spiked into high radiation alarm, causing the Train 'A' Ventilation of the control room to shift to its emergency makeup mode of operation. This event was also discovered via Control Room Annunciation. There were no degraded structures or failed components contributing to the event, and again, there was no effect on plant conditions. Operator action had no impact on the severity of the event. Channel activity readings returned to normal by 1152 that morning. This time, the monitor was declared inoperable pending the outcome of Nuclear Work Request #A16694. LCOAR BwOS 3.3.1-1a was entered. The monitor was returned to service at 2246 on October 20, 1987.

These occurrences are being reported pursuant to 10CFR50.73(a)(2)(iv), any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature, including the Reactor Protection System.

C. CAUSE OF EVENT:

Occurrence 1:

The root cause of the event was a radio being keyed repeatedly near the OPR32J radiation monitor. It is suspected that Security Personnel, non-licensed contractor, inadvertently keyed a radio in the immediate area of the radiation monitor. The electric current pulse generated by the radio is a noise signal which ultimately gets translated into activity by the monitor. Also, the aisle is narrow enough that a person moving through the room has to pass within 10 feet of the monitors, making it easier for a monitor to pick up a radio spike.

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Occurrence 2:

The root cause of this event is unknown. It is strongly believed to be a radio being keyed within the exclusion area of the OPR31J, because the magnitude of the spike was so high as to indicate a radio transmission near the monitor. Previous experience of a specific component failure found that the noise spike induced a spurious activity signal of roughly twice the high radiation setpoint. In the October 16 incident, the noise spike was almost a decade over the setpoint. Also, investigation under Nuclear Work Request #Al6694 showed proper operation of the monitor. Further, a security card log history taken very soon after the event showed several contractor personnel were present in the Train 'A' HVAC Room at the time of the event.

D. SAFETY ANALYSIS:

Occurrence 1:

There was no impact on plant or public safety, because there was no actual activity present. A sample of the particulate filter on OPR32J was taken at 2040 hours by the Radiation Chemistry Department, and this sample (File #018613665) verified that there was no radioactivity. If this event had occurred during commercial plant operation, the same consequences would have arisen. Throughout the duration of the event, the OPR31J radiation monitor was available for redundant coverage; this monitor also registered the noise spike.

Occurrence 2:

Again, there was no impact on plant or Public Safety, because it was established that activity didn't cause the actuation. Also, the redundant OPR32J was operational throughout the duration of this event.

E. CORRECTIVE ACTIONS:

Occurrence 1:

No corrective action was taken from this event, since this was considered an isolated instance of personnel error.

Occurrence 2:

Nuclear Work Request #A16694 was written to initiate troubleshooting by Instrument Maintenance Personnel. Technicians verified that the monitor was functioning properly. The monitor was then run under observation for three days, with no irregular behavior. The monitor was then returned to service at 2246 on October 20, 1987.

Possibilities of further protecting these Control Room Ventilation Monitors against errant radio keys are currently being explored.

F. PREVIOUS OCCURRENCES:

Both occurrences of inadvertent actuation due to a radio being keyed are listed in this report.

G. COMPONENT FAILURE DATA:

None



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Commonwealth Edison Braidwood Nuclear Power Station Route #1, Box 84 Braceville, Illinois 60407 Telephone 815/458-2801

EEF/87-1809

November 24, 1987

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

Dear Sir:

The enclosed Licensee Event Report from Braidwood Generating Station is being transmitted to you as a Supplemental Report to LER 87-031-00.

1E22

This report is number 87-031-01; Docket No. 50-456.

Very truly yours,

11/24/87

E. E. Fitźþatrick Station Manager Braidwood Nuclear Station

EEF/PMB/mje (6202z)

Enclosure: Licensee Event Report No. 87-031-01

cc: J. G. Keppler, NRC Region III Administrator T. Tongue, NRC Resident Inspector INPO Record Center CECo Distribution List