

# DEVIATION INVESTIGATION REPORT

TITLE U-1 Recombiner INOP															PAGE 1 OF 0 2				
EVENT DATE			DVR					REPORT DATE			OPERATING MODE								
MONTH	DAY	YEAR	STA	UNIT	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	4								
0	2	0	3	8	5	0	4	0	1	8	5	-	0	0					
0	2	0	3	8	5	0	4	0	1	8	5	-	0	0					
CONTACT FOR THIS DIR																			
NAME A. Blamey										TELEPHONE NUMBER				EXT					
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT																			
CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPROS		CAUSE	SYSTEM	COMPONENT	MANUFAC. TURER	REPORTABLE TO NPROS									
X	W	F	T	R															
SUPPLEMENTAL REPORT EXPECTED												EXPECTED SUBMISSION DATE		MONTH		DAY		YEAR	
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO							

## Deviation Description

On Sunday, February 3, 1985 Unit One was in the RUN mode operating at 100 percent rated core thermal power when the ejector off gas flow recorder spiked high. This flow spike indicated that a recombination occurred somewhere in the off gas system (WF) other than in the recombinder (RCB). (This usually indicates an "ignition" with a small pressure surge upstream of the flow element at the air ejector.)

While performing QOA 5450-6, Off Gas Recombination at a Location Other Than the Recombiner, the Nuclear Station Operator (NSO) observed a low temperature reading on the recombinder. The recombinder was then declared inoperable. At this time, temporary procedure no. 2408, Explosive Gas Mixture Surveillance, was started as per Technical Specification 3.8.A.5.

After the completion of QOA 5450-6, the ejector off gas flow returned to normal. This flow, however, was higher than the reading from the flow meter on the off-gas hold up line. This flow element is downstream of the recombinder. This indicated that recombination was occurring in the recombinder based on the principle that hydrogen and oxygen, when combined, occupy less volume. Using the above flow data, the NSO concluded that the problem was with the recombinder temperature recorder and not the recombinder; however, to be conservative, the recombinder was declared inoperable.

The instrument maintenance department tested the temperature recorder (TR) and found the recorder was out of calibration. The temperature recorder was recalibrated and became operational on February 3, 1985. The total time the temperature recorder was inoperative was 15 hours and 8 minutes. During the time the temperature recorder was inoperative 136,200 standard cubic feet and 3.5 curies of waste gasses were discharged via this pathway. However, all waste gasses were processed because the recombinder remained functional, only the temperature recorder was inoperable.

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The temperature recorder was inoperable for a period less than the 48 hour time limit given in Technical Specification 3.8.A.5.b. Thus, safety consequences of this incident were minimal.

### Cause

The cause of this deviation was the temperature recorder. The instrument maintenance department tested the recorder and found it was out of calibration. The temperature recorder is a Leeds and Northrup Speedomax recorder, Type W, Serial No. E72-39402-7-1.

### Corrective Action

Immediate corrective action was to initiate the Explosive Gas Mixture Surveillance (temporary procedure 2408). The temperature recorder was recalibrated and returned to service on February 3, 1985.

Procedure QOA 5450-6 is being revised so that voltage reading will be taken over the recombiner's thermocouple to verify operability of the recombiner when the temperature recorder is inoperable

Failure history of this component indicates that this is not a recurrent problem, therefore, no further corrective action is considered at this time.



**Commonwealth Edison**

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NJK-85-73

March 4, 1985

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

Reference: Quad-Cities Nuclear Power Station  
Docket Number 50-254, DPR-29, Unit One

Enclosed please find Deviation Investigation Report (DVR) 04-01-85-009, Revision 0, for Quad-Cities Nuclear Power Station.

This report is submitted to you in lieu of a Licensee Event Report in accordance with the requirements of Technical Specification 3.8.A.6; operation above 30 percent of rated thermal power with one Recombiner inoperable.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis  
Station Superintendent

NJK:HQP/bb

Enclosure

cc B. Rybak  
A. Madison  
INPO Records Center  
NRC Region III

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