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GENERAL MANAGER  
CALVERT CLIFFS

October 11, 1990

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

Docket No. 50-317  
License No. DPR 53

Dear Sirs:

The attached LER 90-025, Revision 0, is being sent to you as required under 10 CFR 50.73 guidelines.

Should you have any questions regarding this report, we would be pleased to discuss them with you.

Very truly yours,

RHB/bjd  
Attachment

cc: Mr. T. T. Martin  
Director, Office of Management Information  
and Program Control  
Messrs: G. C. Creel  
R. E. Denton  
C. H. Cruse  
D. V. Graf  
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20546, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  
Calvert Cliffs, Unit 1

DOCKET NUMBER (2)  
0 5 0 0 0 3 1 7

PAGE (3)  
1 OF 0 4

TITLE (4)  
Power Lost to Sample Pump for Gaseous Effluent Monitoring

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)
09	11	90	90	025	0	10	11	90	None	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9) 5

POWER LEVEL (10) 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

<input type="checkbox"/> 20.602(b)	<input type="checkbox"/> 20.606(e)	<input type="checkbox"/> 60.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.605(a)(1)(i)	<input type="checkbox"/> 60.73(a)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.605(a)(1)(ii)	<input type="checkbox"/> 60.73(a)(2)	<input type="checkbox"/> 60.73(a)(2)(vi)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 306A)
<input type="checkbox"/> 20.605(a)(1)(iii)	<input checked="" type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.605(a)(1)(iv)	<input type="checkbox"/> 60.73(a)(2)(ii)	<input type="checkbox"/> 60.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.605(a)(1)(v)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: R. H. Bense

TELEPHONE NUMBER: 3 0 1 2 6 0 - 3 7 3 8

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On September 11, 1990, the Gaseous Effluent Monitoring sampling pump for Iodine and Particulate was inadvertently de-energized for approximately one hour. No gaseous effluent releases were in progress other than Auxiliary Building ventilation. The pump collects samples which are counted weekly and used to calculate cumulative offsite dose and does not provide alarms or continuous indication of release rates.

The cause of the event is inadequate design coupled with a personnel error. The pump is not provided with a dedicated power supply. An inexperienced Health Physics technician mistakenly disconnected an extension cord being used to power the pump temporarily while maintenance was being performed in the area.

A design change has been prepared to provide a dedicated power supply for the Gaseous Effluent Monitoring Equipment to minimize the potential for losing power to the circuit. Until the design change is implemented, additional information tags have been installed to minimize the potential for inadvertent de-energization.

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TEXT (if more space is required, use additional forms)

### I. DESCRIPTION OF THE EVENT:

On September 11, 1990 at 1100 hours, the Gaseous Effluent Monitoring sampling pump for Iodine and Particulate was found unplugged. The sample pump had been without power for less than one hour. While the sample pump was not operating, no gaseous effluent releases were in progress other than the continuous ventilation of the Auxiliary Building. Auxiliary Building Ventilation contains no significant level of radioactivity.

Continuous monitoring and the alarm function for radioactive releases to the environment via the Main Vent are provided by the Main Vent Gaseous Monitor which was not affected by this event. The equipment affected, the Iodine and Particulate Samplers, collect samples which are counted weekly and the information is used to calculate cumulative Offsite Dose. The Iodine and Particulate Samplers do not provide alarms or continuous indication of release rates. This event is reportable under 10 CFR 50.73(a)(2)(i)(B) because Technical Specification (TS) 3.3.3.9, Radioactive Gaseous Effluent Monitoring System, requires the Iodine and Particulate Samplers to be operated at all times.

#### Details:

Iodine and Particulate Sampling is performed using portable skid mounted equipment located in a fan room on the 69 foot level of the Auxiliary Building. Both samples are collected using a common pump. The sample pump receives power from a receptacle which is part of lighting (general service) circuit. This circuit also includes 4 other receptacles. The receptacle which supplies the sample pump is labeled "Prior to disconnecting sampler call plant Chemistry". Proper operation of the sample pump is verified daily by a chemistry technician but there is no alarm if power is lost.

On August 3, 1990, power was lost to the Iodine and Particulate Sample Pump. This interruption of power resulted from an overload when personnel performing maintenance in the area were using the other receptacles on the same circuit. Power was promptly restored to the circuit. Corrective actions for this event included initiation of a design change to provide a dedicated power supply for the Iodine and Particulate sampling equipment. Informal corrective action was also taken. This consisted of using an extension cord to provide power to the sampling equipment from a receptacle away from the area in which the maintenance was being performed. The extension cord was installed and informally tagged by Chemistry personnel because of continuing maintenance in the area.

On September 11, 1990 at 1100 hours, the engineer assigned to prepare the design change to provide a dedicated power supply for the sampling equipment found the sampling equipment unplugged. The Shift Supervisor was immediately informed and power was promptly restored to the system. The Shift Supervisor conducted an immediate investigation. He determined the extension cord used to supply the



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TEXT: if more space is required, use additional forms

Sampling equipment had been unplugged by an inexperienced contractor Health Physics Technician. The Sampling pump had been without power for less than one hour.

The Health Physics Technician needed a receptacle for an electric fan in an adjacent room and failed to adequately investigate the application of the extension cord before disconnecting it. The number of extension cords in the area contributed to the confusion.

II. CAUSE OF EVENT:

The cause of the event is inadequate design. Equipment required by Technical Specifications to be operated continuously was not provided with a dedicated power supply or a remote alarm indicating loss of power. Two personnel errors also contributed to the event: the failure of the HP Technician to adequately investigate before disconnecting the extension cord; and, the failure to adequately identify the extension cord indicating its function and importance.

III. ANALYSIS OF EVENT:

The Iodine and Particulate Samplers do not provide alarms or continuous indication of radioactive release rates. The samples are collected and counted weekly to calculate the cumulative release. While the sample pump was not operating, the plant was shutdown and no gaseous effluent releases were in progress other than the continuous ventilation of the Auxiliary Building. Auxiliary Building Ventilation contains no significant level of radioactivity. The Main Vent Gaseous Monitor was operable and no increase in radioactivity levels was noted during the event. This event is not considered safety significant.

IV. CORRECTIVE ACTIONS

Power was promptly restored to the sampling equipment from the designated receptacle. The Health Physics Technician was counselled about attention to detail when performing even routine tasks in the plant.

To prevent unauthorized personnel from removing the power cord from the designated receptacle, in both Units temporary instruction tags marked "Do Not Unplug. Required to meet TS LCO 3.3.3.9 (e)" were added to the cord. These information tags are in addition to the existing sign on the receptacle.

A design change is being prepared for both Units to provide a dedicated power supply for the Gaseous Effluent Monitoring Equipment to minimize the potential for losing power to the circuit.

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TEXT (if more space is required, use additional forms)

Until the design change is implemented, the two circuit breakers which control the lighting circuit powering the sample pump will be marked to indicate that the breaker controls TS related equipment. The 4 other receptacles on the lighting circuit will be covered and marked to indicate their relationship to the Technical Specification. Similar actions are being taken on Unit 2.

V. ADDITIONAL INFORMATION

A. Affected Components:

Component	IEEE 804 System ID	IEEE 803 Component ID
Iodine and Particulate Sample Pump	N/A	1L

B. Previous Similar Events:

There were no previous Licensee Event Reports involving inadvertent loss of power to the Gaseous Effluent Monitoring Equipment.