



Public Service Electric and Gas Company P.O. Box 236 Hancock Bridge, New Jersey 08038
Hope Creek Generating Station

DATE November 17, 1992

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

Dear Sir:

HOPE CREEK GENERATING STATION
DOCKET NO. 50-354
UNIT NO. 1
LICENSEE EVENT REPORT 92-012-00

This Licensee Event Report is being submitted pursuant to
the requirements of 10CFR 50.73(a)(2)(i)(B).

Sincerely,

J.J. Hagan
General Manager -
Hope Creek Operations

LLA/

Attachment
SORC Mtg. 92-080
C Distribution

230116

The Energy People

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PDR ADOCK 05000354
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LICENSEE EVENT REPORT

FACILITY NAME (1) HOPE CREEK GENERATING STATION DOCKET NUMBER (2) 0 5 0 0 0 3 5 4 PAGE (3) 1 OF 5

TITLE (4): Operation prohibited by Plant Technical Specification 5.3.7.11. North plant vent Rad monitor was determined to be inoperable for a period of time longer than allowed by Technical Specification.

EVENT DATE (5) MONTH DAY YEAR LER NUMBER (6) YEAR * NUMBER * REV REPORT DATE (7) MONTH DAY YEAR OTHER FACILITIES INVOLVED (8) FACILITY NAME(S) DOCKET NUMBER(S)

OPERATING (9) MODE 4 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR: (CHECK ONE OR MORE BELOW) (11)

20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text)
20.405(a)(1)(iii)	xx	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME Louis Aversa, Senior Staff Engineer - Technical TELEPHONE NUMBER 6 0 9 3 3 9 3 3 8 6

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS?	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS?
B	IL	FA							

SUPPLEMENTAL REPORT EXPECTED? (14) YES NO x DATE EXPECTED (15) MONTH DAY YEAR

ABSTRACT (16)

On October 17, at 1757 hours, the North Plant Vent (NPV) Radiation Monitoring (RMS) Skid was declared inoperable due to low sample flow indication on the particulate, iodine and noble gas (PIG) monitor portion of the RMS skid. Shortly after declaring the skid inoperable, a Radiation Protection (RP) Supervisor reviewing the RMS skid indications determined that only the non tech spec flow element associated with the skid was inoperable and that the Wide Range Noble Gas sample monitor (WRGM) did indicate proper flow and the skid could be returned to operable status. The RP supervisor reviewed his findings with the Senior Nuclear Shift Supervisor (SNSS -SRO licensed), who agreed with the evaluation and returned the skid to operable status at 1920 hrs on 10/17/92. A work request was generated to investigate the cause of the low flow on the non tech spec flow element. Subsequent investigation on October 23, determined that the sample pump diaphragm had failed and that the sample pump was drawing in air resulting in a diluted sample being monitored by the Wide Range Gas Detector. The NPV WRGM was again declared inoperable due to the diluted sample, and the actions required per tech spec 3.3.7.11 were implemented. The sample pump was repaired and the skid was returned to operable status. A design review of the RMS skid will be performed; as well as, revisions to alarm response procedures to direct personnel to declare the skid inoperable when any of the low flow alarms annunciate. Engineering will also evaluate the need to perform periodic leak testing of the RMS skid.

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PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor (BWR/4)
Radiation Monitoring System (IF)

IDENTIFICATION OF OCCURRENCE

TITLE: Operation prohibited by Plant Technical Specification 3.3.7.11. North plant vent Rad Monitor was determined to be inoperable for a period of time longer than allowed by Technical Specifications.

Event Date: October 23, 1992
Event Time: 1757
This LER was initiated by Incident Report No. 92-157

CONDITIONS PRIOR TO OCCURRENCE

Plant in OPERATIONAL CONDITION 4 (Cold Shutdown)
Reactor Power 0% of rated, 0 MWe.

DESCRIPTION OF OCCURRENCE

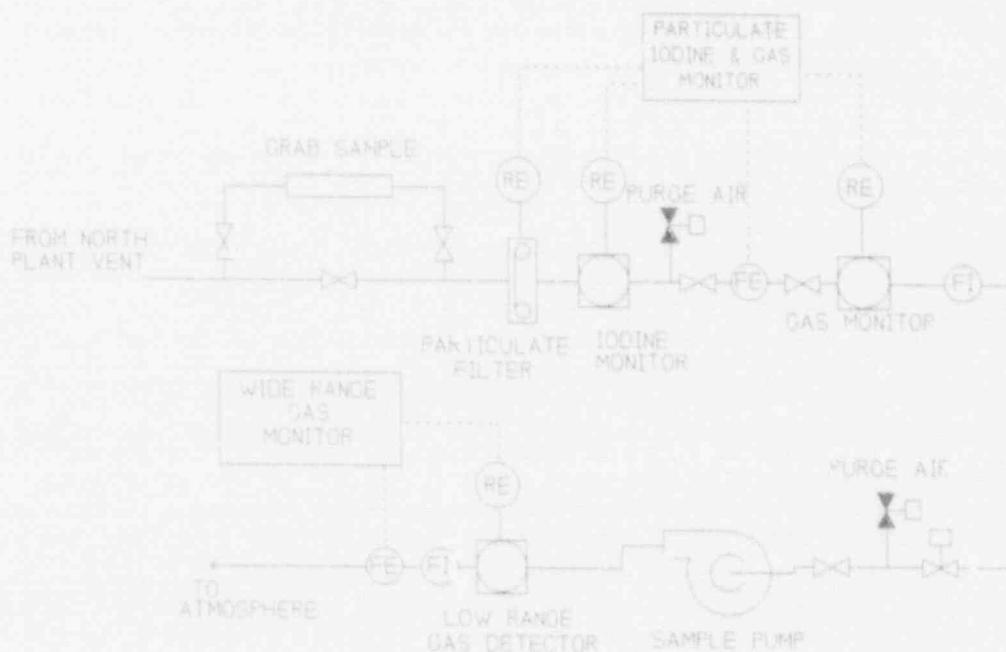
On October 17, at 1757 hours, the North Plant Vent (NPV) Radiation Monitoring (RMS) Skid was declared inoperable due to low sample flow indication on the particulate, iodine and noble gas (PIG) monitor portion of the RMS skid. Shortly after declaring the skid inoperable, a Radiation Protection (RP) Supervisor reviewing the RMS skid indications determined that only the non tech spec flow monitor on the skid was inoperable and that the Wide Range Noble Gas monitor (WRGM) sample flow rate monitor did indicate proper flow and the skid could be returned to operable status. The RP supervisor reviewed his findings with the Senior Nuclear Shift Supervisor (SNSS - SRO licensed), who agreed with the evaluation and returned the skid to operable status at 1920 hrs on 10/17/92. A work request was generated to investigate the cause of the low flow on the non tech spec flow sensor. Subsequent investigation on October 23, determined that the sample pump diaphragm had failed and that the sample pump was drawing in air resulting in a diluted sample being monitored by the Wide Range Gas Detector. Although proper sample flow was indicated by the skid monitoring circuit, the NPV WRGM was again declared inoperable due to the diluted sample, and the actions required per tech spec 3.3.7.11 were implemented.

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ANALYSIS OF OCCURRENCE

The North Plant Vent Radiation Monitoring Skid provides for continuous indication of NPV effluent as well as, sample collection and high range indication during accident conditions. The skid is comprised of two sections, a particulate, iodine and noble gas monitor section (PIG) and a wide range gas monitor section (WRGM). The wide range gas monitor is required to be operable at all times. The monitor provides the start signal for the medium and high range monitors for post accident monitoring requirements. The sample is routed from the north plant vent stack through the particulate, iodine and noble gas monitor, through the sample pump and through the wide range detector. Two independent flow elements monitor sample flow conditions at the PIG and WRGM. If a low flow is detected, only the radiation monitoring detectors associated with flow element sensing the low flow will indicate trouble. The radiation monitoring system processes all information through a computer network which provides indication of each rad monitors status. The system will indicate when a monitor is inoperable based on self test capability, sample flow rate monitors and power availability. When all measured parameters are in expected ranges, the computer will indicate a detector as being operable.



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ANALYSIS OF OCCURRENCE (con't)

Initial operability determination was based on the computer indications that the WRGM was operating properly. Adequate sample flow was indicated at the WRGM and no obvious reason for the sample flow discrepancy between the WRGM and the PIG, other than a failed sensor, was readily apparent. Subsequent investigation performed on 10/23/92 revealed the sample pump was not operating properly, and the skid was again declared inoperable. The sample skid employs a diaphragm type vacuum pump to draw the sample gas through the skid. One of the two diaphragms on the sample pump had failed which allowed air to be drawn into the system thereby creating an insufficient adequate flow condition for the WRGM detector downstream of the pump. The diluted sample stream had the affect of increasing the WRGM alarm point by approximately 80%. The alarm response procedure for the PIG or WRGM low sample flow alarms does not identify the type of failure mode experienced during this event.

The review of the RMS skid operation also determined that the flow monitoring instruments may provide erroneous sample flow indication if a leak were to develop on the skid. As a major portion of the skid operates at negative pressure, room air will enter the sample stream if a leak were to develop on the system. Due to the location of the flow sensing elements it is possible for a diluted sample to go undetected by the sample flow rate monitors.

APPARENT CAUSE OF OCCURRENCE

The root cause of this event is design deficiency. The location of the sample flow rate monitors does not ensure a valid sample is being monitored by the radiation detectors. The alarm response procedure not identifying system inleakage as a possible cause for low flow indications also contributed to this event.

PREVIOUS OCCURRENCES

No previous similar event has been reported.

SAFETY SIGNIFICANCE

Only two of the systems which normally discharge to the North plant vent were in service during the period the skid was inoperable. The Extruder Evaporator Vent Hood Blower was in service, however, no waste processing had been performed. In addition, the blower exhausts through both a high efficiency particulate filter and charcoal adsorber. The chemistry lab exhaust fan also discharges to the north plant vent. Local area air samples in the chemistry lab, which are routinely taken, indicated no evidence of any airborne activity during the period. The Condenser off gas system which normally discharges to the north plant vent was out of service during the period. Based on the above information the health and safety of the general public was not compromised during this event.

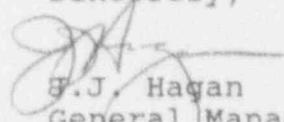
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CORRECTIVE ACTIONS

1. The sample pump was repaired and returned to service.
2. Alarm response procedures for the RMS skid will be revised to declare the entire skid inoperable when either low flow alarm associated with the RMS skid annunciates.
3. Engineering will review the feasibility of relocating one of the flow elements to enable detection of system inleakage.
4. Engineering will evaluate the need to perform periodic leakage testing of the RMS skid.
5. This report satisfies the 14 day written report requirement of Technical Specification 3.3.7.5.

Sincerely,



F.J. Hagan
 General Manager -
 Hope Creek Operations

LLA/

SORC Mtg. 92-080