



Carolina Power & Light Company
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Central File

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Mr. James P. O'Reilly
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U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Northwest
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Atlanta, GA 30303

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
SUPPLEMENTAL RESPONSE TO IE BULLETIN 80-05
VACUUM CONDITION RESULTING IN DAMAGE TO
CHEMICAL VOLUME CONTROL SYSTEM (CCVS) HOLDUP TANKS

Dear Mr. O'Reilly:

The information contained herein concerning the H. B. Robinson Plant, Unit #2, CVCS Holdup Tank System is provided to supplement our initial response to the subject Bulletin dated June 10, 1980. The need for a supplemental response was identified during an inspection conducted by your office during the week of August 18-22, 1980, as documented in IE Inspection Report 50-261/80-21. Each additional concern will be addressed as presented in the inspection report.

ITEM 1

The design operation of PCV-1049 (Backup Nitrogen Supply Valve to the CVCS HUT Cover Gas System) was prevented.

RESPONSE

As documented in the inspection report, PCV-1049 had been removed from service to minimize the volume of waste gas produced without proper review as a facility change. To prevent a recurrence, plant procedures will be modified to ensure that both the normal and backup CVCS HUT cover gas regulators (PCV-1027 and PCV-1049) remain in service during normal operation except for required maintenance. When routine maintenance is required on these valves, only one valve will be removed from service at a time. The plant procedures affected will be modified prior to returning to power operation from the current refueling outage.

ITEM 2

CVCS HUT withdrawal rate for two evaporator operation was not addressed.

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RESPONSE

Contrary to the original response, the gas stripper feed pumps are rated at 25 GPM each. The boric acid evaporators are rated at 12.5 GPM each. With both boric acid evaporators and both gas stripper feed pumps operating, the CVCS HUT withdrawal rate would be 25 GPM (200 SCFH) except for brief periods when the evaporator feed tanks are being filled, at which time the flow could reach 50 GPM (400 SCFH). The capacities of PCV-1027 and PCV-1049 were checked using the valve sizing nomograph available from the control valve vendor. This check verified that either control valve can provide sufficient make up gas at the 50 GPM (400 SCFH) maximum possible withdrawal rate (assuming 15 psig N₂ supply pressure to PCV-1049 and at least 3 psig waste gas supply pressure to PCV-1027). Plant operating experience has also demonstrated that one control valve can provide sufficient make up gas when both boric acid evaporators are operating.

ITEM 3

The absence of a calibration program for PCV-1027, 1049, 1050, and 1051 which would assure satisfaction of the Precautions, Limitations, and Setpoints document was not identified.

RESPONSE

A Preventive Maintenance Program will be established on a refueling outage interval to ensure that the CVCS HUT cover gas regulators (PCV-1027 and PCV-1049) and the vent header regulators (PCV-1050 and PCV-1051) are controlling the respective system pressure within the required band. In addition, maintenance will be performed on these valves to ensure they operate as required by the Precautions, Limitations, and Setpoints document prior to returning to power operation from the current refueling outage.

ITEM 4

The potential for maloperation of PCV-1027 based on downstream piping configuration was not addressed.

RESPONSE

PCV-1027 is physically located well below the CVCS HUT cover gas header with its pressure sensing line connected to the header adjacent to the valve. With this configuration, should a CVCS HUT be overfilled and the cover gas header flooded, the sensing line for PCV-1027 would be filled with water resulting in a false high pressure signal to the valve. Then, as the CVCS HUT is drained, PCV-1027 would not open and, if PCV-1049 was inoperable, a vacuum condition could be created.

The sensing line design for PCV-1027 will be modified to reduce the long vertical sensing line run. The vertical sensing line run cannot be completely eliminated due to the low overhead in the CVCS HUT room, but it can be reduced from approximately 12 feet to

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approximately one foot. A drain valve and a vent valve will be installed to allow any suspected water to be removed from the sensing line.

ITEM 5

The variables of gas decay tank pressure and CVCS HUT level on the rate of HUT depressurization during a withdrawal, with and without failure of PCV-1027 and/or PCV-1049 were not addressed.

RESPONSE

If both PCV-1027 and PCV-1049 are assumed to fail, a vacuum will eventually be created in the system at any withdrawal rate regardless of the amount of make up gas available. Thus, to further protect the CVCS HUT System from a low-pressure condition, a low pressure trip and alarm will be installed which will secure both gas stripper feed pumps whenever the alarm is received and alert the operator to the condition. The design will not include an override capability. This feature will prevent a vacuum condition from being created in the CVCS HUTs should both regulators fail or should the gas decay tank providing cover gas become depleted and PCV-1049 fail to operate.

If the modifications described under Items (4) and (5) are not installed prior to returning to power operation from the current refueling outage due to equipment unavailability or scheduling constraints, operations which reduce the CVCS HUT System waste inventory will not be initiated without increased surveillance. The additional surveillance requirements will be discontinued when the described modifications are installed.

Carolina Power & Light Company believes the above actions satisfy all the concerns of the inspection report and any remaining concerns involving the subject Bulletin. The implementation of these actions per the schedule described above provides adequate justification that the continued operation of the H. B. Robinson, Unit No. 2, facility will have no adverse impact on the health and safety of the public.

If you have any questions or comments, please contact my staff.

Very truly yours,



B. J. Furr

Vice President

Nuclear Operations Department

CSB:kbb*

cc: Mr. V. Stello