

Nebraska Public Power District

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March 1, 1979

Director, Nuclear Reactor Regulation
Attention: Mr. Thomas A. Ippolito, Chief
Operating Reactors Branch No. 3
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

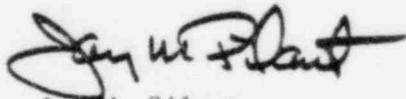
Subject: IE Bulletin No. 78-03
Request for Additional Information
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Dear Mr. Ippolito:

In a telephone conversation on February 28, 1979 between NPPD, NRC Consultants, and the NRC Staff, questions were discussed concerning NPPD's response to IE Bulletin No. 78-03 submitted March 23, 1978. Enclosed please find the additional information requested by the Staff in the telephone conversation.

If you have any further questions on this subject, please contact me.

Sincerely,



Jay M. Pilant
Director of Licensing and
Quality Assurance

JDW/cmk

Enclosure

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REQUEST FOR ADDITIONAL INFORMATION
IE BULLETIN NO. 78-03
POTENTIAL EXPLOSIVE GAS MIXTURE ACCUMULATIONS
ASSOCIATED WITH BWR OFFGAS SYSTEM OPERATIONS

Question 1:

Where does the condensed steam drain to from the SJAE intercondensers and after condensers?

Response:

They are hard piped to the main condenser.

Question 1 continued:

If these drains are not hard piped to the main condenser, are there provisions for detecting gas leaks?

Response:

None are required.

Question 2.1:

Regarding the drain line on the original delay line which drains to the Elevated Release Point (ERP) sump; does the drain line extend into the water level of the sump to provide a secondary seal which is automatically refilled?

Response:

Yes.

Question 2.1 continued:

If so, what is the vertical distance between the low water level in the sump and the bottom of the line, and what is the maximum pressure at the SJAE after condenser?

Response:

4 inches - Maximum pressure of SJAE is 1.25 psig (34.56" H₂O).

Question 2.2:

If the SJAE after condenser pressure is greater than the head between the sump level and the bottom of drain line, what is the non-off-gas flow rate in the ERP and what type of level sensors are used in the sump?

Response:

Total flow rate in the ERP is approximately 3000 cfm and consists of approximately 100 cfm off-gas, approximately 600 cfm gland exhaust gas, and 2300 cfm dilution. The level sensors are of the sonic probe type and are acceptable for use in an explosive gas atmosphere.

NOTE: With the AOG recombiner in service there is essentially no hydrogen going up the ERP and the "off-gas" flow is much less than 100 cfm. The holdup line drain line to the sump has an air operated valve that closes upon high radiation signal.

Question 2.3:

Where is the environmental sample point in the ERP in relation to the sump vent?

Response:

The environmental sample point is downstream of the sump vent to ERP connection.

Question 2.3 continued:

Would activity associated with an off-gas leak from the sump be measured by the environmental sample point?

Response:

Yes, it would be measured but an off-gas leak from the sump could not be detected by the environmental sample instrumentation.

NOTE: The off-gas line contains saturated gases and condensation keeps the loop seal full. We also fill loop seals any time we suspect pressurization to blow loop seals. We have a periodic surveillance test for maintenance of loop seals. This includes blowing back loop seals with air and refilling with demineralized water.