

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

P.O. BOX 270
HARTFORD, CONNECTICUT 06101
(203) 666-6911

June 9, 1980

Docket No. 50-423
AEC-MP3-208
A00917

Mr. B. H. Grier, Director
United States Nuclear Regulatory
Commission
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Reference: (1) Letter B. H. Grier to W. G. Council
Dated March 10, 1980.

Gentlemen:

Millstone Unit No. 3
I.E. Bulletin No. 80-05
Vacuum Conditions Resulting in Damage
to Chemical Volume Control System (CVCS)
Holdup Tanks

In accordance with the requirements of Reference (1), a design review has been accomplished which addresses the potential for damage to low pressure or hold-up tanks due to vacuum conditions with a potential for radioactive release. Attachment A is a report of that design review.

The report provides a list of all systems in Millstone Unit No. 3 that contain low pressure or holdup tanks that can be valved to contain primary system water. A review of the existing protective features in these systems to protect the tanks against vacuum conditions is included. Other protective measures that will be incorporated in the design to preclude such damage are also identified.

8007170 519

We trust that this information satisfactorily responds to the concerns of Bulletin 80-05.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



William G. Council
Senior Vice President

Attachment

cc: Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, D.C. 20555



MILLSTONE UNIT NO. 3

RESPONSE TO I&E BULLETIN 80-05INTRODUCTION

This report is prepared in response to I&E Bulletin 80-05, "Vacuum Conditions Resulting in Damage to Chemical Volume Control System (CVCS) Holdup Tanks", for Millstone Unit No. 3. It provides a list of all the systems that contain low pressure or holdup tanks that can be valved to contain primary system water. It identifies the vacuum protection measures incorporated in the design of these systems, as well as those protection measures to be incorporated in the design and installation prior to system preoperational testing. The adequacy of these measures to provide acceptable protection is evaluated.

SYSTEMS

Systems containing low pressure or holdup tanks that can be valved to contain primary system water are:

1. Gaseous Drains System (GDS).
2. Reactor Coolant System (RCS).
3. Boron Recovery System (BRS).
4. Radioactive Liquid Waste (LWS).

The chemical and volume control system in Millstone Unit No. 3 does not contain low pressure or holdup tanks. Hence, it is excluded from this review.

TANKS

1. Primary Drains Transfer Tank (3DGS-TK2)

This tank is part of the reactor plant gaseous drains system which will collect the clean hydrogenated reactor coolant system leakage and pump the drains to storage tanks for further processing. The tank is located in the auxiliary building at elevation 4'6". Its capacity is 1,500 gallons, and it has been delivered to the plant site.

The tank is designed for full vacuum which precludes the possibility of a damage similar to that reported in I&E Bulletin 80-05.

2. Containment Drains Transfer Tank (3DGS-TK1)

This tank is also a part of the reactor plant gaseous drains system. It is located in the containment at elevation (-) 24'6", its capacity is 1,000 gallons, and it has been delivered to the plant site.

The tank is designed for full vacuum to preclude any damage similar to that addressed in I&E Bulletin 80-05.

3. Pressurizer Relief Tank (3RCS-TK2)

This tank is part of the reactor coolant system. It is located in the containment with a capacity of 1,800 ft³. It has been delivered to the plant site.

The tank is designed for full vacuum to preclude any damage similar to that reported in I&E Bulletin 80-05.

4. Boron Recovery Tanks (3BRS-TK 1A & 1B)

These two (2) tanks are part of the boron recovery system. The system will process reactor drains, concentrating the boron and sending the effluent to holdup tanks for release to the environment or for reuse. Both tanks are located in the yard. Their capacity is 150,000 gallons each. The tanks are designed but not fabricated yet.

The design of the tanks includes a three inch non-valved vent on each tank to accommodate tank maximum pump-down rate. Because of their location, the tanks are protected against freezing by external forced circulation heating circuits. This design will protect the tanks against any damage similar to that addressed in I&E Bulletin 80-05.

5. High Level Waste Drain Tanks (3LWS-TK 1A & 1B)

These two (2) tanks are part of the radioactive liquid waste system which reduces the concentration of radioactive nuclides in liquid effluents to the lowest levels practicable. Both tanks are located in the waste disposal building at elevation 24'0". Their capacity is 25,000 gallons each. The tanks have been delivered to the plant site.

Both tanks were not originally designed nor fabricated considering the type of damage addressed in I&E Bulletin 80-05. As a corrective action, the following will be implemented and will be in place prior to system preoperational testing.

"For each tank, a non-valved vent, sized to accommodate tank maximum pump-down rate, will be added to the three inch overflow line common to both tanks."

6. Low Level Waste Drain Tanks (3LWS-TK 4A & 4B)

These two (2) tanks are also part of the radioactive liquid waste system. Both tanks are located in the waste disposal building at elevation 24'0". Their capacity is 4,000 gallons each. The tanks have been delivered to the plant site.

Both tanks were not originally designed and fabricated considering the type of damage addressed in I&E Bulletin 80-05. As a corrective action, the following will be implemented and will be in place prior to system preoperational testing.

"For each tank a non-valved vent, sized to accommodate tank maximum pump-down rate, will be added to the three inch overflow line common to both tanks."

7. Waste Bottoms Holding Tank (3LWS-TK5)

This tank is also a part of the radioactive liquid waste system. The tank is located in the waste disposal building. Its capacity is 4,000 gallons. The specification for the tank has not yet been issued. The specification will include the requirements for a non-valved vent, sized to accommodate tank maximum pump-down rate, to preclude any damage similar to that addressed in I&E Bulletin 80-05.

CONCLUSION

All tanks listed in Items 1, 2, 3 and 4 above have protective measures already incorporated in their design and fabrication.

Tanks listed in Items 5 and 6 do require installation of corrective measures, as detailed, which will be incorporated prior to system preoperational testing.

The specification for the tank listed in Item 7 will include requirements for installation of protective measures. The specification has not been issued.