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

Millstone Nuclear Power Station, Unit No. 2
Response to Request for Additional Information
Concerning a Proposed Revision to Technical Specifications
Containment Isolation Valves (TAC No. M94623)

In a letter dated May 20, 1997,[1] Northeast Nuclear Energy Company (NNECO) requested a change to the Millstone Unit No. 2 Technical Specifications which involved moving the list of containment isolation valves from the Technical Specifications to the Unit No. 2 Technical Requirements Manual. In response to this request, the NRC Staff has requested additional information concerning the control of two of the containment isolation valves, 2-CH-517, Pressurizer Auxiliary Spray Valve, and 2-SI-651, Shutdown Cooling Suction Isolation Valve. The purpose of this letter is to provide the requested information.

During the preparation of the Technical Specification change request, a review of the containment isolation valves that do not receive an automatic containment isolation signal, and that may require operation in Modes 1 through 4, was performed. This review identified the containment isolation valves, whose operation in Modes 1 through 4, will require appropriate administrative controls in accordance with the guidance contained in Generic Letter (GL) 91-08.

The two containment isolation valves in question are associated with Type P penetrations. This type of penetration connects directly to the reactor coolant pressure boundary. Both of these valves are located inside containment. Discussions with the NRC Staff concerning the Technical Specification change raised the issue of exactly how these two valves would be administratively controlled if they were to be opened during a time when containment isolation capability was required. The administrative controls for the operation of each of the valves is explained below.

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(1) M. L. Bowling to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Proposed Revision to Technical Specifications, Containment Isolation Valves (TAC No. M94623)," dated May 20, 1997.

Administrative Controls

2-SI-651

This valve is the inside isolation valve for the containment penetration associated with the Shutdown Cooling (SDC) System suction line. It is normally operated from the control room. It does not receive an automatic containment isolation closure signal, but is interlocked to prevent opening if Reactor Coolant System (RCS) pressure is greater than approximately 275 psia.

Administrative control for operation of 2-SI-651 is only necessary during the initial phase of SDC operation since:

- this valve will only be opened to initiate SDC, and
- once the RCS is cooled to below 200 °F, the plant enters MODE 5 and the containment isolation valve Technical Specification is no longer applicable.

In accordance with the SDC procedure, RCS pressure and temperature are required to be < 260 °F and < 265 psia before SDC flow is initiated. During the initiation of SDC, the procedure directs operators to monitor the RCS for any signs of leakage based on changes in Pressurizer level. If leakage is apparent, the procedure directs the operators to perform a set of leak isolation steps and, if necessary, secure SDC. In securing SDC for leakage concerns, the procedure specifically directs the closing of 2-SI-651.

2-CH-517

This is the Pressurizer auxiliary spray valve. It can be used as an alternate method to decrease Pressurizer pressure, or for boron precipitation control following a loss of coolant accident.

This valve is one of four parallel valves that comprise the set of inside containment isolation valves for the charging system containment penetration. The other three valves are 2-CH-518, RCS Cold Leg 2A Injection Valve, 2-CH-519, RCS Cold Leg 1A Injection Valve, and 2-CH-434, Charging Line Thermal Relief Isolation Valve. During accident conditions, this penetration is required to be open to allow charging flow for RCS makeup through 2-CH-518 and 2-CH-519, and for possible boron precipitation flow through 2-CH-517. Valve 2-CH-434 is locked closed.

Fluid flow in this line is from the Charging System into the RCS. Reverse flow is prevented by check valves located between the RCS and the inside isolation valves in each of the charging lines.

For non-emergency conditions, this valve would be operated from the control room to reduce Pressurizer pressure during a plant cooldown, after Main Pressurizer Spray becomes unavailable or ineffective. Pressurizer Main Spray will typically become unavailable or ineffective at an RCS pressure of approximately 300 psia due to the securing of Reactor Coolant Pumps. At this point the cooldown procedure directs the operators to:

- Open 2-CH-517 and close 2-CH-518 and/or 2-CH-519 in order to establish Auxiliary Spray to the Pressurizer,
- Balance charging and letdown flows,
- Decrease RCS pressure to less than 265 psia, and
- Maintain Pressurizer level.

Once Pressurizer pressure is reduced below 265 psia, SDC will be placed into service and the RCS will be cooled down and depressurized. Pressurizer Auxiliary Spray will be used to continue reducing pressure once the plant enters MODE 5.

The above steps are all procedurally controlled and each step must be initialed and dated by either the Shift Manager or the Unit Supervisor.

Conclusions

Whenever either 2-SI-651 or 2-CH-517 are taken to the open position:

- It is done only in accordance with detailed procedures,
- It is done for only a relatively short period of time (approximately 3 to 4 hours) during which containment isolation is required, and
- It is done at a time when the plant is being very closely monitored, particularly for RCS pressure, temperature, and Pressurizer level.

Generic Letter 91-08 describes adequate administrative controls for the intermittent opening of containment isolation valves as:

- Stationing an operator, who is in constant communication with the control room, at the valve controls,

- Instructing this operator to close these valves in an accident situation, and

- Assuring that environmental conditions will not preclude access to close the valve and that this action will prevent the release of radioactivity outside the containment.

These controls assume that adequate isolation can be performed by an operator stationed at a valve based upon:

- The recognition by the control room personnel that an event is in process which will require the valve to be closed,

- The control room operators directing the dedicated operator to close the valve, and

- The dedicated operator closing the valve manually within a given timeframe.

Even though the operators in the control room will not be dedicated to the operation of either 2-SI-651 or 2-CH-517, the process for closure of the valves will follow essentially the same path with the exception that the valves can be closed directly by the control room operators, and there will not be any concerns with environmental conditions or excessive valve closing times.

Should you have any questions on the information provided, please contact Mr. R. G. Joshi at (860) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

ML Bowling

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