

October 16, 2001

MEMORANDUM TO: A. Randolph Blough, Director
Division of Reactor Projects
Region I

FROM: Ledyard B. Marsh, Acting Deputy Director **/RA/**
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: RESPONSE TO TASK INTERFACE AGREEMENT (TIA 2001-003)
REGARDING FIRE PROTECTION COMPENSATORY MEASURES AT
MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3 (TAC NO.
MB1606)

By memorandum dated March 29, 2001, you requested that the Office of Nuclear Reactor Regulation provide a technical assessment of the acceptability of the licensee operating Millstone Nuclear Power Station, Unit No. 3 (MP3) during the next fuel cycle (18 months) with the CO2 fire suppression system in the cable spreading room inoperable.

You sent the TIA to document the ongoing discussions that resulted from a verbal request from the Resident Inspection staff at MP3. These discussions included telephone conferences with the licensee on March 7 and 9, 2001, and multiple internal staff discussions around these calls with the licensee.

At the time of these calls, we informed you that despite a number of fire protection questions that remained concerning the next fuel cycle, and NRR's concern about the validity of some of the information that the licensee had verbally provided, we had not identified any safety concerns that were significant enough to object to the licensee's decision to return to power operation following its refueling outage. The staff's position was based on the information we had available at that time on most of the issues identified in the attachment to this memorandum.

On receipt of the TIA, we once again reviewed the information available to us. We consider that the current operation of MP3 is acceptable provided that the licensee has addressed the issues raised in this response. Accordingly, we recommend that the Region review the licensee's compensatory measures to ensure the acceptability of these measures for operating with an inoperable CO2 system in the Cable Spreading Room. As we have jointly agreed, we consider that this is best accomplished through Regional inspection during a periodic fire protection inspection at MP3. We understand that you have currently scheduled this inspection for October 2001. We consider this to be an appropriate time to address the licensee's assumptions. To this end, we have attached a list of our specific issues that we recommend you address during your inspection.

Attachment: As stated

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NAME	VNurses	TClark	JHannon	JClifford	JClifford for EAdensam	TMarsh
DATE	10/9/2001	10/9/2001	10/04/2001	10/9/2001	10/9/2001	10/15/2001

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**MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3 (MP3) CO₂ FIRE
SUPPRESSION SYSTEM ISSUES THAT SHOULD BE ADDRESSED -
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED DURING
REGION I INSPECTION**

FOR REGION I CONSIDERATION

To verify the adequacy of the licensee's compensatory actions for operating with an inoperable CO₂ fire suppression system in the Cable Spreading Room (CSR), the following is recommended:

1. Determine if water used to suppress a fire in the CSR could drain through the penetration seals in the floor to the Switchgear Room, which contains the alternate fire safe shutdown equipment.
2. If, as a result of the manual fire fighting efforts to extinguish a fire in the CSR, water intrusion into the Switchgear Room takes place (because it is found that the penetration seals in floor are not hydrodynamically rated), assess whether the alternate shutdown panel will remain operable. This may require Region I evaluation of the licensee's flooding analysis.
3. Defeating the Control Building Purge System (CBPS) may not prevent smoke from entering the Main Control Room (MCR). If prevention is not possible, the transmission of smoke and other airborne contaminants to the MCR and the Switchgear Rooms will expose relays and other sensitive electrical equipment. The exposure of such equipment can result in the shorting out of components. Determine if the licensee has assured operability of MCR equipment (either by prevention of contaminants or by analysis) for airborne contaminants originating in the CSR. Assess whether the licensee has established an adequate leak tight system. If leak tightness is a problem, evaluate whether the licensee has adequately addressed the consequences to the equipment exposed to the smoke and contaminants. The effects of smoke on the control room operators should also be evaluated, including the appropriateness and adequacy of the extended use of self-contained breathing apparatus (SCBA).
4. The use of portable smoke ejectors in the CSR with the CBPS disabled is being employed. The following is recommended for your consideration:
 - a) For a fire in the CSR, the licensee's plan is to vent smoke into the stairwell using portable smoke ejectors. In order to fight the fire in the CSR, access for the fire brigade to the CSR must be established. Considering the expected volume of smoke that will be vented into the stairwell, determine if the fire brigade can access the CSR.
 - b) Control room operators performing alternate shutdown may be required to pass through the smoke being ejected by the fire brigade. If so, those operators attempting to control the reactor while immersed in smoke and airborne

ATTACHMENT

contaminants will be wearing SCBA. Assess whether the operators will be able to perform their necessary functions for alternate shutdown for the expected length of time the operators will be at the alternate shutdown panel wearing SCBA.

- c) Assess the adequacy and availability of electrical power for the portable smoke ejectors to be used for venting the smoke from the CSR. Assess the procedures and equipment for the portable smoke ejectors.
5. The CO₂ fire suppression system was intentionally disabled in January 1999, by the licensee due to the potential problems associated with operation of the system. Given that the system has been disabled for more than 2 years, determine if: 1) the licensee identified their actions to disable the system, given this length of time, as a change to the facility; and 2) the licensee evaluated whether or not this reduced the effectiveness of their Fire Protection plan.

ADDITIONAL INFORMATION

As a byproduct of NRR's review of the fire protection issue at MP3, there are some questions, as noted below, that the Region may want to pursue.

1. Sections C.7.b, C.7.c and C.7.e of Appendix B of the MP3 Fire Protection Evaluation Report credits the CBPS for smoke removal in the event of a fire in the switchgear rooms, CSR, or MCR. The licensee has decided not to use the CBPS for smoke removal in the event of a fire in the CSR. During the January 1999 event when the CBPS was used to purge the switchgear room, the concentration of CO₂ increased significantly in the MCR. With the current level of information, it appears that the CBPS may be a contributor to problems of spreading airborne contaminants if it is used during a fire in the MCR or switchgear rooms. In the event of a fire, does continuing to allow use of the CBPS (as justified by the licensee) in the switchgear rooms adversely affect safe plant operation?
2. A question remains as to whether CO₂ can be contained within the switchgear rooms if the CO₂ system is activated. There was a failure to contain the CO₂ at less than design pressure in the cable spreading room even though further sealing of the penetrations was performed in the barrier between the CSR floor and the switchgear room ceiling. In the event of a fire, is it acceptable to continue use of the CO₂ system in the switchgear rooms? This should include assurances that the CO₂, if the system is activated, will not 1) migrate to the MCR, and 2) if it does migrate, will not make the MCR uninhabitable.