

August 22, 2001

MEMORANDUM TO: James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Victor Nerses, Sr. Project Manager, Section 2 /RA/  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: MILLSTONE NUCLEAR POWER STATION, UNIT 3, DRAFT LICENSEE  
RESPONSE CLARIFYING TECHNICAL SPECIFICATION ACTION  
STATEMENT TRANSITIONS (TAC NO. MA9364)

The NRC staff is reviewing a licensee application, dated June 29, 2000, on fuel handling accidents and ventilation.

In relation to this application, on May 9, 2001, the staff in a telecon with the licensee, sought clarification on the licensee's implementation of Technical Specification (TS) action statement transitions. The discussion focused on the simultaneous entry into TS multiple action statements and how transitions between action statements are implemented for Millstone, Unit 3 with TSs that have not been converted to the new improved Standard Technical Specification format. The licensee considered they needed more time to address the matter and decided it would provide the information later.

On July 17, 2001, the licensee e-mailed me the information in the attached draft response.

Docket No. 50-423

Attachment: Draft of Technical Specification Action Statement Transitions

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## **Technical Specification Action Statement Transitions**

The following discussion addresses simultaneous entry into multiple action statements and how to transition between action statements for a plant with Technical Specifications that have not been converted to the new Improved Standard Technical Specifications format (NUREG-1431). The older versions of Technical Specifications do not typically provide detailed guidance in this area. However, NUREG-1431 does contain specific guidance, which is provided below.

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition.

Once a Condition has been entered, subsequent trains, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition.

The current Millstone Unit No. 3 Technical Specifications provide limited guidance in this area. The following is contained in the Technical Specification 3.0.3.

Where corrective measures are completed that permit operation under ACTION requirements, the action may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation.

A question on how to transition between action statements was asked by the NRC in response to the proposed changes to the Control Room Filtration (Technical Specification 3.7.7) and Control Room Pressurization (Technical Specification 3.7.8) action requirements submitted on 6/29/2000 (B18116). The proposed changes added action requirements to address 2 inoperable subsystems along with the action requirements to address one inoperable subsystem. The proposed action requirements for 2 inoperable subsystems do not contain transition statements to apply the one inoperable subsystem action requirement after one of the two inoperable subsystems has been restored based on the initial loss of the remaining inoperable subsystem. The concern raised was that without this guidance the operators would reset the clock when leaving the action requirement for two inoperable subsystems and enter the action requirement for one inoperable subsystem, or

the operators would remain in the action requirement for two inoperable subsystems until both subsystems were restored. In addition, it was expressed that the action requirements for one inoperable subsystem needed to be repeated in the action requirement for two inoperable subsystems, otherwise the action requirements for 1 inoperable subsystem would not be performed.

The current Millstone Unit No. 3 Technical Specifications do not contain specific transition guidance, other than that contained in Technical Specifications 3.0.3 and 3.8.1.1, Electrical Power Sources. However, even though no specific general guidance is contained in the Millstone Unit No. 3 Technical Specifications, the following approach would be taken by the plant operators to address inoperable equipment.

1. When equipment is determined to be inoperable, all appropriate action requirements are entered based on the time that inoperability was determined.
2. If multiple pieces of equipment on the same train become inoperable, the time of inoperability of the equipment is logged. The allowed outage time remains the same based on the first inoperable component, even if the first inoperable component is restored before the remaining inoperable components.
3. If a piece of equipment on the other train becomes inoperable, the time of inoperability of the equipment is logged and the appropriate action requirements are entered. If there is an action statement to address two inoperable trains, that statement is followed until at least one train is returned to operable status or the plant is shut down to below the applicability of that specification. (If no action statement exists to address two inoperable trains, Technical Specification 3.0.3 would apply.) If one train is returned to operable status, the action requirement for two inoperable trains no longer applies. The action requirement for one inoperable train still applies and the remaining available time is based on the initial inoperability of the first inoperable train, unless specified otherwise (e.g., Technical Specification 3.8.1.1).

The key point is that the clock is not reset to time zero for the remaining inoperable train after restoration of one of the two inoperable trains. In addition, the plant would not stay in the action requirement for two inoperable trains after one train has been restored to operable status.

The following two examples illustrate the application of action requirements at Millstone Unit No. 3.

Technical Specification 3.7.1.2, Auxiliary Feedwater, requires 3 AFW pumps and associated flowpaths to be operable.

- Action a: If 1 AFW pump is inoperable restore within 72 hours, or be in Mode 3 in the next 6 hours and Mode 4 the following 6 hours.
- Action b: If 2 AFW pumps are inoperable, be in Mode 3 in 6 hours and Mode 4 the following 6 hours.
- Action c: If 3 AFW pumps are inoperable, immediately initiate action to restore at least one AFW pump as soon as possible (no shutdown requirements).

t=0 hours	TD AFW pump is declared inoperable. Action a entered. Restore within 72 hours.
t=12 hours	Both MD AFW declared inoperable due to faulty relay in each automatic actuation control circuit. Action c entered. Restore at least one pump as soon as possible. Action b. also applies, but Action c, which recognizes the safety significance of the situation, takes priority. A plant shutdown should not be performed with no operable AFW pumps.
t=18 hours	One MD AFW pump restored to operable status by replacing the relay. Action c no longer applies. With two AFW pumps inoperable Action b applies and a shutdown to Mode 3 is required to be completed by t=24 hours. There is no allowed outage time in Action b. The 6 hour requirement to reach Mode 3 reflects an acceptable time to shut the plant down from 100% power. A normal controlled plant shutdown is appropriate in this situation and 6 hours is a reasonable time period.
t=19 hours	The other MD AFW pump is restored to operable status by replacing the relay. Action b no longer applies. With one AFW pump inoperable Action a applies and will require restoration of the TD AFW to operable status by t=72 hours, or a shutdown to Mode 3 is required to be completed by t=78 hours.

The action requirements associated with this AFW specification are unique. However, this example illustrates two key points. The operators transition between action requirements based on equipment status even though no specific guidance is provided. The operators would not stay in an action statement that no longer applies just because there is no guidance directing the transition. If such a transition was not acceptable because of a lack of guidance that would imply the operators should remain in Action c until all 3 AFW pumps have been restored. Although that would not create any problem based on the scenario presented, it would not be acceptable to use Action c to allow continued plant operation indefinitely with 2 AFW pumps inoperable, or with one AFW pump inoperable. In addition, when transitioning the operators do not reset the clock. The TD AFW pump is still required to be restored by t=72 hours.

Technical Specification 3.9.2 requires 2 source range monitors to be operable in Mode 6.

Action a:	If 1 source range monitor is inoperable immediately suspend core alterations or positive reactivity changes.
Action b:	If 2 source range monitors are inoperable, periodically verify RCS boron concentration.
t=0 hours	1 source range monitor is declared inoperable. Action a entered. Immediately suspend core alterations or positive reactivity changes.
t=2 hours	The other source range monitor is declared inoperable. Action b entered. RCS concentration verified periodically. Action a is still applicable.
t=4 hours	1 source range monitor is declared operable. Action b no longer applies. Action a is still applicable.

t=6 hours      The other source range monitor is declared operable. Action a no longer applies.

If both source range monitors became inoperable at the same time, plant operators would apply both action a and action b requirements simultaneously (suspend core alterations or positive reactivity changes, and periodically verify RCS boron concentration). This is appropriate since the action requirements are mutually exclusive and do not contradict each other. It is not necessary to include action a requirements in action b. In addition, it is not necessary to include transition guidance between action requirements for the same reason previously given.

An additional example of a current Millstone Unit No. 3 Technical Specification that contains action statements to address one or two inoperable components/subsystems, but does not include action statement transition guidance is Technical Specification 3.6.4.1, Hydrogen Monitors.

#### Conclusion

It is not necessary to include transition guidance between action requirements, nor is it necessary to include the action requirements for one inoperable component/subsystem in the action requirements for two inoperable components/subsystems.