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May 14, 1990

United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Attention: R. C. Knop, Chief
Reactor Projects Branch 3

Dear Sirs:

This letter is sent in response to your inspection report and notice of violation dated 3 May 1990, concerning the University of Wisconsin Nuclear Reactor, Docket 50-156.

We strongly disagree that event cited was a violation. It appears that we are being cited for wording in our emergency plan that, if considered inappropriate by NRC, should have been pointed out at the time the plan was under review for approval under NUREG-0949, **Standard Review Plan for the Review and Evaluation of Emergency Plans for Research and Test Reactors**. As author of both the Emergency Plans and Emergency Procedures at this facility I believe the response to the event was in accordance with procedural guidance.

In support of this opinion I offer the following:

1. UWNR 155, Abnormal Operating Procedure, Annunciator Responses indicates that the pool level alarm may occur for high or low water levels. For low water levels it directs "Investigate possible leaks (See UWNR 151 and 006) or add pool water level lost through evaporation."
2. UWNR 151, Leak Resulting in Draining of Reactor Pool, begins with a caution indicating radiation levels that could result from if water level drops to only a few feet above the core. It then states that the reactor should be shut down, and that pool-connected pumps and the pneumatic tube blower should be shut down, and that a SRO should be notified as the first 3 immediate actions.
Step 4 states that an attempt should be made to locate and seal the leak, with a reference to a step in the procedure (under follow-up actions) that indicates amount of water that can be lost (due to system design)

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and corrective measures (to limit the level decrease even further) for possible leak locations. For the Makeup and Cleanup system, this step states:

"Close valves 704 (pump inlet) and 719 (extension handle through grid). This will isolate the demineralizer system from the pool and repair can be done on a routine basis."

The wording of this step was intended as a deliberate exit from the procedure.

Subsequent immediate and follow-up actions deal with attempting to maintain pool level to allow unloading the core to the storage pit and placing a shielding cover over the pit. The final step of the procedure deals with required notifications and reports. None of these subsequent steps should have been considered in this event due to the exit from the procedure.

3. Technical Specification 5.7 requires that purification, cooling, and other auxiliary systems be designed to preclude draining of more than 15 feet of water from the pool, and that a pool level alarm shall occur if pool level drops approximately 1 foot below normal level. The Bases for the specifications are such that water losses should be prevented by system design, and corrective action should be taken if level drops more than 1 foot. (Loss of 15 feet of water would leave approximately 5 feet of water above the core, assuring sufficient shielding for protection of the public from excessive radiation levels.)

We have chosen to operate within a more restrictive envelope, limiting water loss through the make-up and clean-up system to 1 foot, and setting the pool level alarm/reactor scram/external alarm to allow only a 4 inch variation in pool level without a pool level alarm. It does not appear appropriate that setting an alarm to initiate corrective action more conservatively than required by Technical Specifications should be grounds for a Notice of Violation.

4. UWNR 006, University of Wisconsin Nuclear Reactor Emergency Plan, for the event "Loss of reactor pool water (without fuel damage) indicates an Emergency Action Level of "pool level alarm from low pool level due to a leak or discovery of significant leak by direct observation". The action level is so stated because it is our desire that entry into UWNR 151 be

made upon either of those conditions, since this procedure deals with all magnitudes of leaks, and it will result in classification and notification under UWNR 006 if that is where the procedure leads.

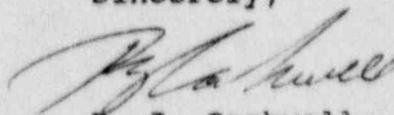
The definition of Notification of Unusual Events from NUREG-0849 Appendix I states the action level is actual or projected effluents at site boundary exceeding 10 MPC averaged over 24 hours, 15 mrem whole body dose in 24 hours, severe natural phenomenon, or bomb threat. None of these conditions was present, so no declaration of unusual event was warranted or made.

Our position remains that no violation occurred and that the SRO responding to the alarm acted correctly in accordance with our procedures.

Since commission representatives seem to have agreed that Emergency Plan wording be interpreted literally and without regard to standard emergency classification definitions, changes to the Emergency Plan have been submitted to and approved by the Reactor Safety Committee that:

- a. Change the description of the event in question to "Substantial loss of reactor pool water (without fuel damage)".
- b. Change the Emergency action level by adding "and pool level is or is likely to become greater than 15 feet below the pool curb".
- c. Change other events in the emergency plan that indicate "pool water is lost" or "pool empty" to state "pool near empty".
- d. Change action level for these other events to indicate "pool water greater than 15 feet below pool curb" instead of "pool empty".

Sincerely,



R. J. Cashwell
Reactor Director