



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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The Honorable Allen E. Ertel  
Member, United States  
House of Representatives  
Washington, D. C. 20515

**Dear Congressman Ertel:**

This letter responds to your letter of July 31, 1979, addressed to Chairman Hendrie concerning the release of 4000 gallons of water into the Susquehanna River from Three Mile Island Unit #1 reactor on July 26, 1979.

Chairman Hendrie has asked me to respond to your letter in view of the fact that there are now adjudatory proceedings for Three Mile Island Unit #1 underway before an Atomic Safety and Licensing Board. Under the Nuclear Regulatory Commission (NRC) rules of practice, Chairman Hendrie and the members of the Commission will be called upon to review the orders and decision of the Licensing Board and hence it would be inappropriate for him or other members of the Commission to comment on the matters raised in your letter.

The entire event started as a normal routine release of waste water from the Unit #1 waste evaporator condensate test tank. Prior to initiating a release, the licensee is required by plant Technical Specifications to sample the contents of the tank and analyze the sample for the principal gamma emitters. In addition, the licensee is required by the Technical Specifications to take a portion of that sample and add it to the composite sample of all previous batches of liquid releases made during the month. At the end of the month the composite sample is analyzed for strontium - 89 and 90. Both of the above actions were completed by the licensee. It should be noted that the staff does not require that the analysis for strontium be performed on every batch prior to release because the concentrations of strontium are (1) normally well below the detection limits of the analytical method, and (2) normally orders of magnitude lower than the principal gamma emitters such as iodine and cesium.

Approximately a week prior to the incident, an NRC inspector discussed with the licensee's Unit #2 operating staff the desirability of performing a gross beta analysis on each batch of waste water to be discharged from Unit #2. It should be recognized that this type of analysis has never been a Technical Specification requirement for this or any plant prior to releasing liquid waste for the reasons noted previously. In making this recommendation the NRC inspector felt that because of the higher-than-normal levels of strontium in the waters in the Unit #2 auxiliary building that analysis would be a prudent course of action in case there was cross contamination between Units #1 and #2. The Unit #2 operating staff, which is completely independent

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from the Unit #1 operating staff, informally agreed to perform the gross beta analysis on all waste waters to be discharged from Unit #2 prior to the actual discharge. Although there was no formal documentation of the discussion and commitment, the NRC inspector's log book does make reference to this meeting. In discussing this analysis with the Unit #2 staff, the NRC inspector was under the assumption that the same analysis would be performed on all waste waters including those from Unit #1. However, the information was never conveyed to the Unit #1 operating staff.

On July 26, 1979, the release from Unit #1 was initiated and during the release an NRC inspector questioned the licensee as to whether or not a gross beta analysis had been performed in accordance with the previous commitment. At this point, Met-Ed management suspended the release and performed the required analysis. The analysis showed that the gross beta was  $1.8 \times 10^{-7}$  uCi/ml or 1.8 times the maximum permissible concentration (MPC) noted in 10 CFR Part 20, Appendix B, Table 2, Column 2 for unidentified beta emitters released to unrestricted areas. As a result of this analysis, the licensee collected another sample and had it sent offsite for a detailed analysis for strontium-89 and 90. The analysis performed by Radiation Management Corporation showed this sample contained a total strontium (89 and 90) concentration of  $8.5 \times 10^{-5}$  uCi/ml. The licensee's calculations showed that, after dilution and prior to discharge to the river, the effluent concentration of Sr-89 and 90 was  $2.6 \times 10^{-8}$  uCi/ml. This represented 8.7% of the MPC for average annual release for strontium.

Since this event, the operating procedures for both Unit #1 and Unit #2 have been modified to require that a gross beta analysis be performed on all waste waters prior to release. The procedures further require that if the concentration exceeds  $1 \times 10^{-7}$  uCi/ml, the MPC for unidentified beta emitters, a detailed isotopic analysis for beta emitters be performed prior to initiating the release. I am satisfied that this action will prevent further occurrences of this type.

I believe Met-Ed's failure to conduct the gross beta analysis can be characterized as a misunderstanding that stemmed from a lack of communications between the licensee and the NRC staff. In order to minimize future occurrences of this type I have personally requested that the NRC on-site staff at Three Mile Island be more diligent in overseeing the activities of its licensee.

Sincerely,

(Signed) Lee V. Gossick

Lee V. Gossick, Executive Director  
for Operations

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