

June 20, 1994

Docket No. 50-134

Mr. Leo M. Bobek, Director  
Nuclear Reactor Facility  
Worcester Polytechnic Institute  
Worcester, Massachusetts 01609

Dear Mr. Bobek:

SUBJECT: WORCESTER POLYTECHNIC INSTITUTE OPEN POOL REACTOR EMERGENCY PLAN

We have reviewed the revised Emergency Plan dated February 1994, for the Worcester Polytechnic Institute submitted by your letter of April 18, 1994. Our review concluded that the proposed changes do not decrease the effectiveness of the emergency plan and the plan is acceptable in accordance with 10 CFR 50.54(q).

Although your plan is acceptable in its present configuration you may consider the following suggested improvements to your plan. Under Section 10, "Maintaining Emergency Preparedness," there is a discussion of an evacuation drill, but no reference to an integrated drill to test the overall capability of the plan. Perhaps a discussion of an integrated drill would be beneficial.

Also the plan could be improved by establishing an Emergency Action Level which corresponds to an unusual event if the following occurs: if the effluent concentrations (EC) in Table 2 of 10 CFR Part 20 are exceeded by (1) 100 for a period of 24 hours (for nuclides other than noble gases) or (2) 50 for a period of 24 hours (for noble gases). Both these criteria result in approximately a dose of 15 mrem. This is derived from the fact that Table 2 of 10 CFR Part 20 lists concentration values which are equivalent to the radionuclide concentrations which, if inhaled or ingested continuously over the course of a year, would produce a total effective dose equivalent of 50 mrem. However, for noble gases where submersion (external dose) is limiting, the concentration values would produce a total effective dose equivalent of 100 mrem.

If you have any questions, please call me on 301-504-1102.

Sincerely,

Original signed by Al Adams for:

Theodore S. Michaels, Senior Project Manager  
Non-Power Reactors and Decommissioning  
Project Directorate  
Division of Operating Reactor Support  
Office of Nuclear Reactor Regulation

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Also the plan could be improved by establishing an Emergency Action Level which corresponds to an unusual event if the following occurs: if the effluent concentrations (EC) in Table 2 of 10 CFR Part 20 are exceeded by (1) 100 for a period of 24 hours (for nuclides other than noble gases) or (2) 50 for a period of 24 hours (for noble gases). Both these criteria result in approximately a dose of 15 mrem. This is derived from the fact that Table 2 of 10 CFR Part 20 lists concentration values which are equivalent to the radionuclide concentrations which, if inhaled or ingested continuously over the course of a year, would produce a total effective dose equivalent of 50 mrem. However, for noble gases where submersion (external dose) is limiting, the concentration values would produce a total effective dose equivalent of 100 mrem.

If you have any questions, please call me on 301-504-1102.

Sincerely,

A handwritten signature in cursive script, appearing to read "Theodore S. Michaels".

Theodore S. Michaels, Senior Project Manager  
Non-Power Reactors and Decommissioning  
Project Directorate  
Division of Operating Reactor Support  
Office of Nuclear Reactor Regulation

cc: See next page

Worcester Polytechnic Institute

Docket No. 50-134

cc:

Francis J. McGrath  
City Manager  
Worcester, Massachusetts 01608

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