March 21, 1989

Docket No. 50-294

Dr. R. E. Wilkinson, Vice President
Finance & Operations
412 Administration Building
Michigan State University
East Lansing, Michigan 48824

Dear Dr. Wilkinson:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING DECOMMISSIONING - MICHIGAN STATE UNIVERSITY

In order for us to complete our review of your decommissioning plan, we need additional information as indicated in the enclosure. Please feel free to call me on 301-492-1102 if you have any questions regarding this request.

Sincerely,

/s/

Theodore S. Michaels, Project Manager
Standardization and Non-Power
Reactor Project Directorate
Division of Reactor Projects - III, IV,
V and Special Projects
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

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(LTR TO DR. WILKINSON)

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
March 21, 1989

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V and Special Projects
Office of Nuclear Reactor Regulation

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cc: See next page

cc: Office of the Mayor
410 Abbott Road
East Lansing, Michigan 48823

Special Assistant to the Governor (2)
Office of the Governor
Room 1 - Capitol Building
Lansing, Michigan 48909

Dr. Bruce Wilkinson, Assistant Dean
College of Engineering
Division of Engineering Research
Michigan State University
East Lansing, Michigan 48823

Chief, Division of Radiological Health
Department of Public Health
P. O. Box 30035
Lansing, Michigan 48909

ENCLOSURE

1. The decommissioning organization and responsibilities are outlined in Section 1.5 of the decommissioning plan, however the specific identity of key personnel and their personal qualifications that apply to the decommissioning and decontamination are not included. Submit the names and personal qualifications for the following positions regarding this decommissioning: Michigan State University Reactor Supervisor or the person who will be in direct control of the facility during the decommissioning and decontamination; the members of the Michigan State University Office of Radiation, Chemical and Biological Safety and the Department of Public Safety who are designated to review decommissioning plans and tasks; the contractor's Project Manager; Radiological Control Supervisor; Radiological Control Technicians; Decommissioning Supervisor; and Corporate Health Physicist.

   Further, submit signed and dated statements from each of the above individuals acknowledging their understanding of their position with respect to decommissioning and decontamination. Each of these statements should include the individual's understanding of the duration of his or her commitment and the percentage of full-time employment anticipated in the fulfillment of these duties.

2. How will the generation and spread of "hot particles" (microscopic or nearly microscopic radioactive particles with high specific activity) be monitored and controlled?

3. Section 1.6.7 of the decommissioning plan references, among others, "Guidance and Discussion of Requirements for an Application to Terminate a Non-Power Reactor Facility Operating License," prepared by the Standardization and Special Projects Branch, U. S. Nuclear Regulatory Commission (September 15, 1984). The guidance specifies that a decommissioning plan should describe an organized means for moving all radioactive components and essentially all radioactivity within the reactor facility that was covered by the facility operating license. In addition, it specifies that the acceptance criteria being used by the staff for unrestricted use are either 5 micro-Roentgen/hr above background at 1 meter from the surface or 10 mrem/yr above background, considering reasonable proximity and occupancy. In Section 3.3.5 of the decommissioning plan it is stated that the expected dose rate at 1 meter above the opening to the tank cavity will be less than 5 micro-R/hr.

   Section 3.3.6 then appears to indicate that if the dose rate is as expected in Section 3.3.5 and if Table 1 of Regulatory Guide 1.86 is satisfied, Michigan State University intends to fill the reactor cavity with concrete. The concrete would be flush with room 184 of the first floor of the Engineering Building and fill the reactor tank which is adjacent to the shop beneath room 184. The apparent intent is to make the reinforcing steel in the concrete beneath the reactor tank (that is radioactive due to neutron activation) inaccessible.

The NRC staff advises Michigan State University that unless the above stated dose rate and contamination limits are met with the dose rate measurements taken at 1 meter from the bottom of the reactor tank, i.e., 24 feet 8 inches closer to the bottom than described in Section 3.3.5, then filling the reactor tank with concrete would be an exercise of the entombment option. The entombment option requires appropriate and continuing surveillance program under a possession-only license.

4. How will beta dose rates be measured, and how will skin exposures be controlled during the decommissioning and decontamination operations?

5. Provide a copy of the contractor Radiological Control Procedure and supporting materials used ensure that all onsite personnel are properly trained and qualified as mentioned in Section 1.7.1.

6. Section 3.3.1 c) does not provide details of the criteria that will be used to determine whether a submersible shielded container will be used to place the rotary specimen rack in its shipping container or whether the rack will simply be pulled from the pool and placed directly into the shipping container. Furthermore, no information is provided elaborating ALARA considerations for this step of the operations. Provide details of these aspects of the operations.

7. Section 3.3.2 refers to "satisfactory results" of pool water analyses as a criteria for disposal to the public sewer system. Provide the specific criteria to be used.

8. Provide details on the techniques to be used for decontamination.

9. What criteria will be applied to determine the need for respiratory protection? How will these criteria be implemented and users qualified?

10. How will the dust and radioactive particles be controlled with respect to contamination of workers and equipment in the reactor tank in the presence of air blown to the bottom of the tank, as described in Section 3.3.9?

11. Specify the release criteria for the miscellaneous nonradioactive wastes mentioned in Section 6.2.