May 20, 1998

Dr. Weldon Jackson, Provost
Manhattan College
Manhattan College Parkway
Riverdale, New York 10471-4098

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION

Dear Dr. Jackson:

In order to complete our review of the Decommissioning Plan for the Manhattan College Research Reactor, we need additional information. Please provide answers to the questions in the enclosure to this letter within 60 days of the date of this letter. If you have any questions, please contact me at 301-415-1102.

This requirement affects 9 or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P.L.96-511.

Sincerely,

ORIGINAL SIGNED BY:

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

Docket No. 50-199

Enclosure: As stated

cc w/enclosure
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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cc:

Municipal Reference & Research Center
31 Chambers Street
New York, New York 10007

Mr. John P. Spath
NYS Energy Research and Development
Authority
Corporate Plaza West
286 Washington Avenue Extension
Albany, New York 12203-6399

Catherine Stanton
1221 Underhill Avenue
Yorktown Heights, New York 10598

REQUEST FOR ADDITIONAL INFORMATION
MANHATTAN COLLEGE REACTOR (MCZPR)
DECOMMISSIONING

Please provide responses to the following comments.

	PAGE NUMBER	
1.	1	Your application dated December 18, 1997, contains a decommissioning plan and Technical Specifications (TSs) dealing with a possession-only (PO) license. Please confirm that you are requesting a PO license followed by decommissioning (after the decommissioning plan is approved) and after the fuel and PuBe source is removed, termination of the reactor license. If this is not the case, clarify what you are requesting.
2.	2	In a letter dated April 24, 1997, (W. Jackson to T. Michaels) the decommissioning cost estimate was $134,500. Explain the difference between the new estimate of $65,000 and the previous one, and whether the costs of consultants is included in the decommissioning costs. When will all the decommissioning funds be available? Please provide a conformed copy of the escrow agreement.
3.	6	Describe the QA plan associated with the decommissioning of the MCZPR that will be used for the planning, dismantling, radiological survey and material shipments.
4.	6	From the text, it appears that Dr. Berlin will not only provide the QA oversight, but will also oversee the contractor, maintenance personnel and students performing the actual tasks. If this interpretation is correct, please justify this dual role (i.e., supervision of the tasks performed and QA oversight of the same tasks).
5.	6	Paragraph 5 discusses an "anticipated limited occupancy" of the decommissioned laboratory space. Please verify that the calculation of the total effective dose equivalent release criteria are not based on the anticipated limited occupancy of the decommissioned laboratory space and is based on continuous use of the laboratory
6.	8	Describe "secure storage" (second paragraph) based on the proposed TSs and the security plan. Will changes in the TSs be necessary if the storage time is the anticipated several years (e.g., periodic leak testing)? Please explain the changes, if any, that are necessary in the current license for extended storage.

ATTACHMENT

7. 9 Please provide a camera-ready copy of Figures 2-1 and 2-2.

8. 9 Please explain the significance of the radiation levels shown in Figure 2-2. What is the significance of the metal rods? Do the radiation levels in the building remote from the reactor facility represent the "background" levels for purposes of decontamination?

9. 9 Verify the assumption that the "interim" survey mentioned in the first paragraph is the interim survey discussed on page 12.

10. 12 Explain why the final radiation survey should not include those areas and materials which were already acceptable in the interim survey. Is it not possible to contaminate a previously acceptable area during the decommissioning process? Please verify that based on good health physics practice, "final" will mean final. (See page 13).

11. 12 Please verify that operating procedures will be prepared and approved for all decommissioning tasks not previously performed.

12. 13 If the Sylcor shipping containers or the source storage container do not meet the criteria for unrestricted release, that is indicative of a fuel element or source leak. Verify that this test will be performed before the release of the fuel or the source to the transport company.

13. 13 Verify that the radioactive material packaged and shipped for disposal will meet not only DOT regulations but all other applicable regulations.

14. 14 In the first paragraph, verify that "are expected to be used" means "will not be used without appropriate procedures and changes in the fire protection, ventilation and TS, as appropriate."

15. 14 Explain the emphasis placed on making interim surveys the final survey whenever possible. It is not clear that a true, complete final survey in accordance with good health physics practice, will significantly increase the time necessary for the preparation of the final report. (See Question 10)

16. 15,16 Ms. Stanton is described here as a "contracted" individual. As a contracted person, does she come under the supervision of Dr. Berlin?

17. 16 Identify the members of the decommissioning staff who have the expertise described in the second paragraph.

18. 16 Explain why the reporting line for contractors as discussed on this page (to the Dean) differs from the discussion on page 6.

19. 18 Confirm our assumption that the RSO who is responsible for ALARA is the campus RSO.

20. 18 Explain how Figure 1-4 indicates that the RSO reports directly to the Dean, i.e., RSO not on diagram.

21. 18 Clarify the radiation protection program during the decommissioning in terms of the two RSOs, a health physicist and Appendix B to the SAR.

22. 19 Describe the methodology for leak testing the fuel.

23. 21 Explain why the transportation of the fuel element casks to the designated receipt point is the responsibility of DOE.

24. 22 Explain the origin of the specification "3 microRem/hr above background."

25. 24 Verify that removal of fuel from the site will be according to NRC and DOT regulations.

26. 24 Explain why liquid radioactive waste will not be generated if "surfaces and equipment which exceed the removable activity release criteria for unrestricted release," are physically washed (see bottom page 23 and second paragraph of 8.2).

27. 24 Provide an estimate of the total person-rem exposure (occupational and public) that will result from the decommissioning.

28. 25 Verify that changes in the decommissioning plan which involve unreviewed safety questions or TS changes will be submitted to NRC for review before implementation.

29. 6-2 The Radiation Safety Program for Decommissioning (Appendix B) should be modified to replace the Reactor Operations Committee (ROC) with the Radiation Safety Committee (RSC).

30. 6-2 The present TS still list the ROC and until the TS are changed to a possession-only license, the RSC should not be in place. Please explain where the expertise will exist in the membership of the RSC for storage, handling and shipment of the fuel and the source.

31. 6-3 Verify that Chief Reactor Supervisor is now the Acting Reactor Administrator.

32. 6-1-21 Verify the assumption that this Section 6 of the Radiation Protection Program (Appendix B in this submittal) has not been changed from the operational phase of the reactor. If this is the case, please explain why some changes for decommissioning would not be appropriate.

TECHNICAL SPECIFICATIONS

34. 1-1 Review the definition section of the proposed Technical Specifications (TS) and modify to include only those terms necessary for the current state of the reactor.

35. 2-1 Please reconsider the Safety Limits proposed for use during the decommissioning. Should there not be Safety Limits such as (1) fuel shall not be placed back into the reactor; (2) for all conditions of moderation and reflection, the k_{eff} during storage shall be less than 0.6 and (3) fuel storage shall be in containers as discussed herein.

36. 3-1 Please reconsider the Limiting Conditions for Operation (LCO) for use during decommissioning. Should there not be a LCO for each of the proposed surveillance requirements (e.g., a LCO for area monitors)?

37. 4-1 Justify the exemption granted by 4.1.3.E for leak testing the source while in storage.

38. 4-2 Justify the inventory frequency of the fuel and source while in storage awaiting shipment. Where does the experience used in the bases come from for storage as described in the decommissioning plan?

39. 6-3 Please compare the duties of the Quality Assurance Manager as stated on this page with the duties as stated on page 6.

40. 6-1,3 Clarify the positions of RSO. When is the Acting Reactor Administrator the RSO?

41. 6-10 Explain the inclusion of this page in the TSs without modification to reflect decommissioning. Many of the procedures listed have no bearing on decommissioning and it is not clear that the required decommissioning procedures have been included.

42. 6-11 Explain the inclusion of this page in the TS.

43. 6-8/14 Enclosed are pages 6-8 and 6-14 of the TS. Please resubmit these pages with the corrections shown. Also, please review all page numbers throughout the TS and affix the correct page numbers.

EMERGENCY PLAN

44. The letter of agreement with St. Joseph Hospital is dated 1983. Is this the most recent letter?

Enclosure: As stated

6.5 Required Actions

6.5.1 Action To Be Taken in the Event of an Occurrence of the Type Identified in 6.6.2-1.a or 6.6.2-1.b.

1. Occurrence shall be reported to the Acting Reactor Administrator or a designated alternate and to the Nuclear Regulatory Commission. All written reports shall be sent within the prescribed interval to the ~~NRC~~, Washington, D.C., 20555, Attn: Document Control Desk ~~with a copy to the Regional Administrator, Region I.~~

2. Occurrence shall be reviewed by the Radiation Safety Committee at its next scheduled meeting.

6.6 Reports

6.6.1 Operating Reports

Internal reports are kept of minutes of the annual meetings of the Radiation Safety Committee.

A report summarizing facility operations will be prepared annually where the reporting period ends August 31. A copy of this report shall be submitted to the Nuclear Regulatory Commission ~~(NRC) Region I office by October 15 of each year, with a copy to the Director, Office of Nuclear Reactor Regulations, NRC~~, Washington, D.C., 20555. The report shall include the following:

1. A narrative summary of facility experience.

2. A description of actions taken in accordance with the Decommissioning Plan.

3. A summarized result of any radiation surveys performed by the facility personnel.

4. A summary of exposures received by facility personnel and visitors where such exposures are greater than 25% of that allowed or recommended.

6.6.2 Special Reports

1. There shall be a special report not later than the following working day by telephone ~~and confirmed in writing~~ by telegraph or similar conveyance to the Nuclear Regulator Commission to be followed by a written report that describes the circumstances of the event within 14 days of any of the following:

a. Release of radioactivity from the site above allowed limits (see 6.5.2).

~~3. Radiation exposure for all personnel monitored.~~

3 4. Drawings of the reactor facility.

6.7.4 Records of radiation exposures for all personnel shall be kept indefinitely or until the U.S. Regulatory Commission authorizes their disposal