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FEB 07 1991

Docket No. 50-199

Manhattan College Corporation  
ATTN: Dr. Robert E. Berlin  
Reactor Administrator  
Manhattan College Zero Power Reactor  
c/o Mechanical Engineering Department  
Riverdale, New York 10471

Gentlemen:

Subject: Inspection No. 50-199/90-01

This refers to your letter dated January 28, 1991, in response to our letter dated December 27, 1990.

Thank you for informing us of the corrective and preventive actions documented in your letter. These actions will be examined during a future inspection of your licensed program.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:  
James H. Joyner

James H. Joyner, Chief  
Facilities Radiological Safety  
and Safeguards Branch  
Division of Radiation Safety  
and Safeguards

cc:

Dr. L. R. Solon, Director, Bureau of Radiation Control  
New York City Department of Health  
Dr. William Vernetson, TRTR  
Dr. W. P. Duggan, Chief, Reactor Supervisor  
Dr. J. Lestingi, Dean of the School of Engineering  
Dr. V. Antonetti, Chairman, Mechanical Engineering Department  
Public Document Room (PDR)  
Local Public Document Room (LPDR)  
Nuclear Safety Information Center (NSIC)  
State of New York

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bcc:  
Region I Docket Room (w/concurrences)  
Management Assistant, DRMA (w/o encl)  
T. Dragoun, DRSS  
S. Weiss, NRR (OWFN 10D21)

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02/05/91

January 28, 1991

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington D.C. 20555

Reply to a notice of violation

Subject: Manhattan College Zero Power Reactor (MCZPR)  
Docket No. 50-199, License No. R-94  
Inspection No. 50-199/90-02  
Letter, J. Joyner, NRC to R. Berlin of December 27, 1990

Gentlemen:

Your letter of December 27, 1990 transmitted, as enclosure A, a notice of violation identifying two violations of NRC requirements, and inspection report no. 50-199/90-02 documenting the results of an inspection performed on December 10-12, 1990. The inspection report noted the existence of "several weaknesses" in our radiological protection and measurements program in addition to the two violations. The violations and weaknesses and our potential actions to correct these situations were discussed at a meeting at Manhattan College on January 7, 1991. This reply responds to the two violations; our actions to correct the weaknesses in the program are discussed in a separate response.

Violation A: "The two radiation monitoring channels of the Radiation Monitoring System had not been calibrated for at least the last three years". This violates MCZPR Technical Specification 4.7.3.A "Radiation Monitoring System" that requires that a calibration of these two radiation monitoring channels be performed at least annually.

Reply:

1. The Reason For The Violation - The situation was originally noted as a "weakness" in the program in the inspection report 50-199/87-02 prepared by Mr. S. Sherbini dated 11/23/87. As discussed in this report, and recently verified in conversation with him, the former chief reactor supervisor Dr. Hu stated that he conducted operability and calibration test of the two gamma radiation monitors "regularly" but did not record this fact in the log. However, as Mr. Sherbini's inspection report indicates (and discussed in our meeting of January 7, 1991), calibrations are conducted near the low end of the scale on the monitor channels (up to 1.5 mr/hr) and it was suggested they be performed at higher dose rates (to at least the 6 mr/hr and 10mr/hr trip points for the two instruments)

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In response to this weakness noted by Mr. Sherbini, our consulting health physicist Dr. Malsky developed a proposed approach permitting calibration at higher dose rates which was discussed with Mr. Sherbini on the phone and transmitted in a letter dated 11/13/87 from Dr. Hu. No response was received. Subsequent inspections by the NRC did not note the existence of this item as a weakness until the inspection performed by Mr. Austin on December 10-12, 1990 which resulted in the issuance of this violation. Further, the reactor has not had fuel in it since November 1989. Thus no operation other than maintenance has been performed since that time. We are proceeding to correct this violation.

2. Corrective steps that have been taken - the portable survey instruments have been calibrated at NDL during January, 1991, and arrangements have been made through our health physicist to use a source of sufficient strength to provide the calibration up to at least the T.S. trip points for the instruments. This approach will only be used prior to loading of the new LEU fuel in February. Actions have been initiated to obtain our own source to permit future calibrations at the higher dose rates.
3. Corrective actions that will be taken - as noted above, the gamma monitors will be calibrated against the calibrated survey instruments using an outside source prior to the loading of the LEU fuel in February. This procedure will be documented in the Log Book. The necessary license will be obtained and a source purchased for future calibrations of the monitors. The calibration will be performed at least annually, with the next calibration done no later than January 1992. All future calibrations will be documented in the Log Book.
4. Date When Full Compliance Will Be Achieved - compliance with the T.S. requirements will be achieved with the calibration to be performed prior to the February fuel loading. We understand that 2-3 months may be required to obtain our own calibration source.

Violation B: "--- the Reactor Operations Committee had not caused a biennial audit to be performed by an outside individual or group familiar with the research reactor operations within at least the last three years".

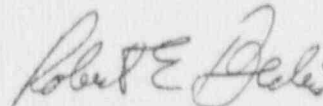
#### Reply

1. Reason for the Violation - The audit has not been conducted in part because the Reactor has not been operable for an extended period during which maintenance was being conducted. Personnel changes were also made in the position of Chief Reactor Supervisor and membership on the Reactor Operations Committee (ROC). It was felt that the audit could be deferred until a more stable situation existed.

2. Corrective Steps That Have Been Taken - Arrangements have been made for Mr. William G. Ruzicka of Consolidated Edison's staff at Indian Point 2 to conduct the audit during February, 1991. Mr. Ruzicka is a highly qualified individual who was formerly Manager of Nuclear Operations at Cintichem. He is quite familiar with reactor operations audit procedures and safety requirements and is currently a Management Operations Analyst at Con Edison.
3. Corrective Steps That Will Be Taken - Mr. Ruzicka will conduct an audit of the safety aspects of reactor facility operations and prepare a report to the ROC documenting the results of the audit. The ROC will review the audit report and assure that its findings are implemented through corrective actions or are satisfied through further explanation or documentation. Responses to the audit report will be documented and provided to Mr. Ruzicka. Both the audit and documented response will be kept on file for NRC review during subsequent inspections.
4. Date When Full Compliance Will Be Achieved - The initial audit will be completed by Mr. Ruzicka by the end of February, 1991. Subsequent audits will be conducted at no greater than biennial intervals.

I believe the actions described above should result in elimination of violations A & B. Please let us know if further action or clarification is required.

Sincerely,



Robert E. Berlin  
Reactor Administrator

cc: Regional Administrator, Region 1  
M. Austin, NRC Inspector, Region 1  
U. S. Nuclear Regulatory Commission  
Region 1  
475 Allendale Road  
King Prussia, Pennsylvania 19406  
Dr. William Duggan  
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