

Manhattan College

Docket No. 50-199

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UNITED STATES NUCLEAR REGULATORY COMMISSIONMANHATTAN COLLEGEDOCKET NO. 50-199ZERO POWER REACTORENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering the issuance of a license amendment to Facility Operating License No. R-94, issued to Manhattan College (the licensee) that would allow decommissioning of the Manhattan College Zero Power Reactor (MCZPR) located in the Riverdale section of the borough of the Bronx, New York City.

ENVIRONMENTAL ASSESSMENTIdentification of the Proposed Action

The MCZPR is located on the Manhattan College campus on the first and second floors of the Leo Engineering Building. The Leo Engineering Building provides classrooms, laboratories, library, and computer facilities for an estimated 1800 students at any one time. The Nuclear Engineering Facility is designed for isolation from the rest of the engineering building.

The MCZPR is a very low power research reactor (100 milliwatts), and was in operation from 1964 until 1996, when it was shut down and defueled. There have been no instances of significant contamination during the operating lifetime of the reactor.

The licensee submitted a decommissioning plan in accordance with 10 CFR 50.82(b) on December 18, 1997, as supplemented on July 21, October 29, November 10, 1998 and January 6, 1999. Decommissioning, as described in the plan, will consist of transferring licensed radioactive equipment and material from the site, and decontamination of the facility to meet unrestricted release criteria (this is also called the DECON option). After the Commission verifies that the release criteria have been met, the reactor license will be terminated. The licensee submitted an Environmental Report on July 21, 1998, (Section 8) which was supplemented on January 6, 1999, that addresses the estimated environmental impacts resulting from decommissioning the MCZPR.

A "Notice and Solicitation of Comments Pursuant to 10 CFR 20.1405 and 10 CFR 50.82(b)(5) Concerning Proposed Action to Decommission Manhattan College Zero Power Research Reactor" was published in the FEDERAL REGISTER on February 12, 1999, (64 FR 7214) and in the Bronx Press Review on February 11, 1999. There were no comments.

Need for the Proposed Action

The proposed action is necessary because of Manhattan College's 1997 decision to cease operations permanently. As specified in 10 CFR 50.82, any licensee may apply to the NRC for authority to surrender a license voluntarily and to decommission the affected facility. Further, 10 CFR 51.53(d) stipulates that each applicant for a license amendment to authorize decommissioning of a production or utilization facility shall submit with its application an environmental report that reflects any new information or significant environmental change associated with the proposed decommissioning activities.

Manhattan College is planning to use the area that would be released for unrestricted use for other academic purposes.

Environmental Impact of the Proposed Action

The Commission has completed its evaluation of the proposed action and concludes that the radiological effects of the decommissioning will be minimal because the radiation levels of the fuel are very low (less than 2 mrem/hr on contact at removal from the core) due to low burnup. As noted in Section 3.1.3 (July 21, 1998, submittal), the collective dose to all on site workers of the entire decommissioning program is estimated to be less than one person-rem. There is no estimated exposure to the public from the proposed action and there are no postulated accident scenarios that could release radioactive material outside the facility.

Occupational and public exposure may result from transportation of the fuel to Oak Ridge and a plutonium-beryllium (PuBe) neutron source to Los Alamos. The occupational transportation radiological impact is estimated to be 2.4 person-rem. The general public is estimated to receive 1.8 person-rem from transportation. Over 90 percent of this exposure is due to the shipment of the PuBe source to Los Alamos. All shipments are of sealed solid material unlikely to be dispersed under accident conditions. Shipment will be in compliance with all applicable NRC and DOT regulations and subject to physical security and safeguards oversight.

Based on the review of the specific proposed activities associated with the dismantling and decontamination of the MCZPR, the Commission has determined that the proposed action will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not involve any historic sites. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternatives to the Proposed Action

The three alternatives to the proposed action for the MCZPR are: SAFSTOR, ENTOMB, and no action. SAFSTOR is the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use. ENTOMB is the alternative in which radioactive contaminants are encased in a structurally long-lived material, such as concrete, the entombed structure is appropriately maintained and continued surveillance is carried out until the radioactivity decays to a level permitting release of the property for unrestricted use. The no action alternative would leave the facility in its present configuration. However, the regulations in 10 CFR 50.82(b) only allow a limited time for this condition to exist.

Manhattan College has determined that the proposed action (DECON) is the most efficient use of the existing facility, since it wants to use the space that will become available for other academic purposes. The SAFSTOR, ENTOMB or no action alternatives would entail continued surveillance and physical security measures to be in place and continued monitoring by college personnel.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Environmental Assessment prepared for the renewal of Manhattan College's license in March 1985.

Agencies and Persons Contacted

In accordance with its stated policy, on December 14, 1998, the staff consulted with the New York State official, Barbara Youngberg of the Department of Environmental Conservation, regarding the environmental impact of the proposed action. The state official had no comments.

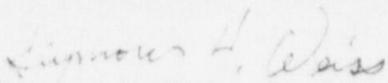
FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated December 18, 1997, as supplemented by letters dated July 21 and October 29, November 10, 1998 and January 6, 1999, which are available for public inspection at the NRC's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC 20555.

Dated at Rockville, Maryland, this 16th day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION


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