

May 14, 1985

Docket No. 50-223

Dr. Leon Beghian
Director Nuclear Center
University of Lowell
One University Avenue
Lowell, Massachusetts 01854

Dear Dr. Beghian:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - UNIVERSITY OF LOWELL
LICENSE RENEWAL

We are continuing our review of the documentation that has been submitted in support of your application for renewal of the operating license for your reactor facility. An additional review was recently performed during our visit to your facility in April 30, 1985. During these reviews, several questions have arisen for which we require answers. You are requested to provide written responses to the enclosed questions by June 7, 1985. Following receipt of this information we will continue our safety evaluation.

If you have any questions concerning this request, please contact our Project Manager for your facility, Harold Bernard, at (301) 492-9799.

Sincerely,

Original signed by
Cecil O. Thomas, Chief
Standardization and Special
Projects Branch
Division of Licensing

Enclosure:
As stated

cc: See next page

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

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As stated

cc: See next page

University of Lowell

50-223

Mayor of Lowell
City Hall
Lowell, Massachusetts 08152

Mr. Thomas J. Wallace
Nuclear Reactor Supervisor
University of Lowell
One University Avenue
Lowell, Massachusetts 01854

Office of the Attorney General
Environmental Protection Division
19th Floor
One Ashburton Place
Boston, Massachusetts 02108

FINAL QUESTIONS
UNIVERSITY OF LOWELL

1. What is the effective delayed neutron fraction?
2. What is the range of core inlet coolant temperatures? What is the nominal value?
3. What is the range of core outlet coolant temperatures? What is the nominal value?
4. How was the limiting value of the withdrawal rate for the control blades determined?
5. How much water does each reactor pool contain?
6. What is the vertical position of the core in relation to the bottom and the surface of the pool?
7. What are the individual rod worths and what is the measured total shut-down worth?
8. What is the maximum excess reactivity of the reactor?
9. Are the values of reactivity worths of experiments absolute values?
10. Provide a list of signals that activate the rod withdrawal inhibit and rod withdrawal prohibit circuit.
11. How is the ULR administration committed to and actively practicing ALARA principles?
12. What is the sewer effluent dilution factor that is applied to the annual release rate (0.711 mCi/yr) to meet 10 CFR 20 release limits?
13. What are the corrected values of average annual ⁴¹Ar release rate and the associated whole-body dose calculated for an individual outside the facility? What reference describes the expanding balloon cloud model used to calculate this dose?
14. Provide information on extreme wind conditions, hurricanes, and tornadoes and the notification system, if any.
15. Section 10.5 of the SAR is titled "Review and Audit;" however, there is no discussion of auditing reactor operations and performance. Provide information on the organization, number of professionals in the "auditing" group, and procedures used at ULR for auditing the reactor facility operations, performances, records, and so on.

16. What is the composition of the Radiation Safety Committee?

17. What are the limitations on fueled experiments?

Figures Needed

1. SAR Fig. 4.10 with basic dimensions only.

ROUTING AND TRANSMITTAL SLIP

Date 4/22/85

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REMARKS

George,

Attached are the recently revised UMTRA document schedules. As can be seen, the RFC and GUN schedules are still being finalized. I'll get them to you as soo as available. Call me if you have any questions.

WM Record File

WM Project 39

Docket No.

PDR ☒

LPDR

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