



WORCESTER
POLYTECHNIC
INSTITUTE

Worcester
Massachusetts 01609
(617) 753-1411

July 16, 1979

United States Nuclear Regulatory Commission
Attention: Mr. Steve Ramos
Division of Operating Reactors
Washington, DC 20555

Re: Docket #50-134
License #R-61

Gentlemen:

Facility License R-61 for the Worcester Polytechnic Institute Nuclear Reactor was issued December 16, 1959 and is scheduled to expire on November 23, 1979. In accordance with 10CFR-2.109, we hereby request a 20 year extension of this license.

The WPI Open Pool Reactor first achieved criticality on December 18, 1959 at which time it was licensed for a maximum steady power output of 1 kw. On November 14, 1967 Amendment 4 to License R-61 was issued to authorize a maximum steady state power level of 10 kw and to incorporate Technical Specifications into the license.

The reactor has been used since 1959 primarily as an instructional device. Laboratory work utilizing the reactor is an integral part of three nuclear engineering courses offered at least annually and is used extensively in two additional courses offered in alternate years. A vital part of the WPI educational program requires each student to complete a "Major Qualifying Project" and the facility is used in this connection for studies of an operating reactor, as a neutron activation analysis tool, and as a neutron radiography device.

Since the power increase in 1967 the WPI Reactor has been operated approximately 1200 hours and the total power generated since 1959 is approximately 6300 kw hr. The total consumption of U235 in the WPI core since 1959 is approximately 0.32 g. The mechanical and electronic components of the reactor control and safety systems have been frequently and systematically inspected and have been repaired or replaced promptly as necessary. The pool demineralizer system has consistently worked well and has kept the pool pH very close to 7.0 at all times, thereby keeping corrosion of all aluminum components to a minimum in keeping with the requirements for a 40 year lifetime.

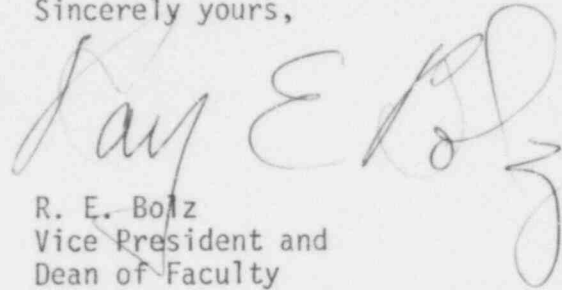
We do not plan any substantive changes in Reactor Facility operation in the foreseeable future. Our Safety Analysis and Technical Specifications are being revised to reflect the current NRC recommended format and to integrate changes and license provisions added to our original license by

569071

②
7907 200 311 P

amendments over the years. These supporting documents for our renewal request will be forwarded before the end of September by the Facility Director, Professor Leslie C. Wilbur. If there are any questions or concerns relative to our license renewal, please contact Professor Wilbur at 617-753-1411, extension 276.

Sincerely yours,



R. E. Bolz
Vice President and
Dean of Faculty

REB/ns

cc: L. C. Wilbur
D. N. Zwiep

569072