UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

June 18, 1984

Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Palladino:

SUBJECT: ACRS REPORT ON PROPOSED RULE FOR LIMITING THE USE OF HIGHLY ENRICHED URANIUM IN DOMESTIC RESEARCH AND TEST REACTORS

During its 290th meeting, June 14-16, 1984, the Advisory Committee on Reactor Safeguards reviewed a proposed rule for limiting the use of highly enriched uranium in research and test reactors and a plan to increase security measures at nonpower reactors that use high-enrichment fuel. These matters were considered also during a Subcommittee meeting in Washington, D.C. on June 12, 1984. During our review, we had the benefit of discussions with representatives of the NRC Staff, affected users, and advocates of reduced availability of highly enriched uranium fuel. We also had the benefit of the documents referenced.

With regard to the proposed rule limiting the use of highly enriched uranium in domestic research and test reactors (contained in SECY-84-211), we believe it would be more appropriate to base the proposal on national policy as articulated in the Nuclear Nonproliferation Policy Act of 1978 than to try to tie it to an unidentified threat. If the proposal is based on national policy, it would be appropriate for the government to pay the costs of conversion from high-enrichment (HEU) to low-enrichment uranium fuel (LEU), including such costs as the licensees may incur to accomplish the conversion. The conversion should be made in a gradual and orderly manner as funds and fuels become available. The rule should provide the licensees with the option of conversion to LEU or retaining HEU and meeting appropriate security requirements.

If, as a consequence of changes needed to effect a conversion, a license amendment is required, then a hearing with the opportunity for public intervention is possible. Before the Commission adopts a rule which might permit unrestricted intervention, we recommend that the Commission obtain an evaluation of the course, nature, costs, and other relevant aspects of previous contested hearings involving nonpower reactors to determine if the hearings are serving their intended function effectively. It may be that the rules regarding hearings involving low power research reactors should be different than those for power reactors.

The exceptions in the proposed rule which would permit special purpose reactors to continue to use highly enriched uranium fuel are appropriate and should be retained.

With regard to the plan and schedule to increase security measures at nonpower reactors that use highly enriched uranium fuel, we find no objections to the proposals. We see no need to proceed on an expedited schedule.

Two of the Committee members who participated in this review are associated with affected institutions listed in the draft public announcement of this rule. Because they are rendering advice of a general nature from which their employers will gain no preference over others, they are not required to refrain from participating in this matter. Dr. M. W. Carbon did not participate in this review.

Sincerely,

Jesse C. Ebersole
Chairman

References:

1. Rulemaking Issue (SECY-84-211) from William J. Dircks to the Commissioners, Subject: Proposed Rule for Limiting the Use of High-Enriched Uranium in Research and Test Reactors, dated May 22, 1984
2. Rulemaking Issue (SECY-84-216) from William J. Dircks to the Commissioners, Subject: Security Measures at Nonpower Reactors, dated May 25, 1984
3. Policy Issue (SECY-84-220) from William J. Dircks for the Commissioners, Subject: Research Reactor Fuel Conversion Developments and Related Issues, dated May 30, 1984
4. Report to NRC Commissioners, "Weapons-Grade Uranium on Campus - The Need to Convert Research Reactors to Lower Enrichment Fuels," by Daniel Hirsch, Stevenson Programs on Nuclear Policy, University of California, Santa Cruz, dated January 27, 1984
5. Letter from Donald E. Feltz, Nuclear Science Center, Texas A&M University System, to John C. McKinley, Advisory Committee on Reactor Safeguards, dated June 12, 1984, Subject: ACRS meeting of June 12, 1984 regarding proposed rule on HEU
6. Letter from James J. McGovern, Business Manager, Radiochemicals, Union Carbide Corporation to U. S. Nuclear Regulatory Commission, Subject: Issue of HEU to LEU conversion of research reactor fuel, dated June 12, 1984
7. Report by Edwin L. Zebroski, Energy Study Center, Electric Power Research Institute, "Relative Diversion Exposures of High Enrichment

Uranium: Relation to University Research Reactors," dated June 4, 1984

8. Statement of William R. Mowry, License Administrator, GA Technologies, Inc. before the ACRS Subcommittee on Safeguards and Security dated June 12, 1984
9. Statement of Dr. David W. Hafemeister Before the NRC Regarding the Need to Convert Domestic Research Reactors from Highly Enriched to Low-Enriched Uranium Fuels, dated June 12, 1984
10. Statement of Paul L. Leventhal, Nuclear Control Institute, Before the Subcommittee on Safeguards and Security, ACRS, Regarding the Need to Convert Domestic Research Reactors From Highly Enriched to Low-Enriched Uranium Fuels, dated June 12, 1984