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The Honorable Lando W. Zech, Jr.
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Zech:

SUBJECT: LICENSING OF ALL CHEMICAL ISOTOPE ENRICHMENT, INC. FACILITIES

During the 342nd meeting of the Advisory Committee on Reactor Safeguards, October 6-7, 1988, we discussed the applications of All Chemical Isotope Enrichment, Inc. (ALChemIE) to modify and operate a facility for the separation of stable isotopes at Oak Ridge, Tennessee, and to construct a similar facility at Oliver Springs, Tennessee, near Oak Ridge. During the meeting, we had discussions with representatives of the NRC staff, the Applicant, and the Department of Energy. We also had the benefit of the documents referenced.

The Applicant plans to use centrifugal enrichment machines purchased from the Department of Energy. These machines were designed and built for the enrichment of uranium in a demonstration program, and offered for sale when the project was abandoned. The proposed use is for the commercial enrichment of a wide variety of stable isotopes, in larger quantities than have heretofore been available.

Most of these machines, because of their prior use, are slightly contaminated with uranium, in the centrifuges and in the piping. The amounts total a few tens of kilograms. The average enrichment of the uranium 235 is very slightly over the natural concentration of uranium 235 in natural uranium, again because of the earlier use.

There are two principal licensing issues. One involves the potential release of the uranium contaminant, either through leaching into the process stream or through an accident, with consequent health effects to the exposed population. The other involves safeguards, because these machines were designed to separate uranium isotopes, and therefore, regardless of their intended use have that capability.

The NRC staff has concluded that the potential for release of uranium is small, both because of the adherence of the contaminant to the surfaces it now covers and because of the small quantities involved. It has estimated that, even in the event of a substantial accident, the public exposure would be negligible. We concur in this finding.

The safeguards issues have to do with protecting the machines and inspecting the product. It is proposed to deal with these issues through a conventional program of personnel clearances, area controls, and random unannounced inspections. The NRC staff has expressed satisfaction with the proposed program, and we have no reason to disagree.

Subject to implementation of the planned controls, we support issuance

of the proposed licenses.

Sincerely,

William Kerr
Chairman

References:

1. U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Safety Evaluation Report Related to the Construction Modification and Licensing of the ALChemIE Facility-1 CPDF, October 1988
2. U.S. Nuclear Regulatory Commission, Office of Nuclear Material Safety and Safeguards, Safety Evaluation Report Related to the Application for Construction Permit for ALChemIE Facility 2, Oliver Springs, October 1988
3. Security Plan for All Chemical Isotope Enrichment, Inc., ALChemIE Facility 1 - CPDF, Revision 3, August 1988 (Proprietary)
4. Security Plan for All Chemical Isotope Enrichment, Inc., ALChemIE Facility 2, Revision 3, August 1988 (Proprietary)

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