

**Annex IV**  
**Joint Project on Cintichem Technology**  
**between**  
**The Department of Energy of the United States of America**  
**and the**  
**Korea Atomic Energy Research Institute**  
**under the**  
**Memorandum of Understanding**  
**between**  
**The Department of Energy of the United States of America**  
**and**  
**The Ministry of Science and Technology of the Republic of Korea**  
**for a Cooperative Laboratory Relationship**

**I. Purpose:**

To provide to the Korea Atomic Energy Research Institute (hereafter referred to as “KAERI”) the Cintichem process technology owned by DOE.

**II. Principals:**

- A. Office of Isotopes for Medicine and Science, Office of Nuclear Energy, Science and Technology, U.S. Department of Energy (hereafter referred to as “NE”); and
- B. KAERI.

**III. Principles:**

- A. This Annex is subject to the terms and conditions of the Memorandum Understanding (MOU).
- B. The implementation of this Annex is also subject to the availability of appropriated funds and personnel, and Principals shall carry out their responsibilities subject to their respective applicable laws and regulations.

IV. Responsibilities:

A. NE shall:

1. Permit KAERI to use and modify the Cintichem process and its technologies for the production of molybdenum-99 (Mo-99).
2. Provide all relevant technical information for Cintichem processing and waste treatment using both low-enriched uranium (LEU) and highly-enriched uranium (HEU) targets, including process descriptions and processing data.
3. Provide, with assistance by the RERTR program, all relevant technical information for the design, fabrication and irradiation of both LEU and HEU targets. The goal will be to implement the LEU targets at the earliest possible date, and to use the HEU targets only if the LEU targets were to prove not to be viable.

B. KAERI shall:

1. Provide Mo-99 at its production cost to the United States to supplement US supply in case of a national health care emergency caused by the shortage of the Mo-99 supply. The specific amount of Mo-99 will be negotiated in the future.
2. Reimburse the DOE for the cost required for generating necessary documents and technical assistance provided by Sandia National Laboratory. Initial consultation cost will be shared by DOE. For a longer term technical consultation, a determination will be made in writing by the responsible DOE contracting officer or authorized designee that the cooperation meets the criteria of DOE Order 481.1 (Work For Others).
3. Pursue use of the Cintichem process with LEU and LEU-modified targets to produce Mo-99, and pursue the use of the Cintichem process with HEU targets until such time as LEU targets prove to be viable.
4. Accept technical cooperation from DOE "as is" with no implied or express warranties whatsoever as to performance.
5. Agree not to transfer the Cintichem technology to third parties unless explicitly authorized in writing by DOE to do so.
6. Let DOE have access to any modification or improvement made to the Cintichem Technology.

- V. This Annex shall enter into force upon signature by the Parties and remain in force for five (5) years or until termination of the MOU, whichever occurs first. This Annex may be amended or extended by mutual written agreement of the Parties.

FOR THE DEPARTMENT OF ENERGY  
OF THE UNITED STATES OF AMERICA:



Date: June 29, 2000

FOR THE MINISTRY OF SCIENCE AND  
TECHNOLOGY OF THE REPUBLIC OF  
KOREA:



Date: 29 / JUN / 2000