

## INFORMATION REPORT

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For: The Commissioners

From: James R. Shea, Director  
Office of International Programs

Thru: Executive Director for Operations *for LUG.*

Subject: EXECUTIVE BRANCH RESPONSE ON PENDING EXPORT LICENSE  
APPLICATION XSNM01190, HEU TO JAPAN.

Purpose: To inform the Commission of the above subject.

Discussion: Enclosed for the information of the Commission are  
copies of the Executive Branch response on a pending  
export license application. Copies of the Executive  
Branch comments have been placed in the Public  
Document Room. A Commission Action Paper will be  
forwarded soon.

Commissioners are requested to advise the staff of  
any particular issues or information which they can  
identify at this stage and which they wish included  
in the staff's analysis.

*James R. Shea*  
James R. Shea, Director  
Office of International Programs

Enclosure:  
Letter dtd 12/12/78  
(XSNM01190)

Contact:  
G. G. Oplinger (492-7366)  
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JAPAN  
XSNM-1190

DEPARTMENT OF STATE

Washington, D.C. 20520

BUREAU OF OCEANS AND INTERNATIONAL  
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

RECEIVED  
U.S. NRC

December 12, 1978

1978 DEC 12 PM 5 51

XSNM01190...

MEMORANDUM FOR JAMES R. SHEA  
NUCLEAR REGULATORY COMMISSION

ENCLOSURE

70-2688

Enclosed is an Executive Branch analysis covering a license application for the export of highly-enriched uranium to Japan. In accordance with P.L. 95-242, the analysis explicitly addresses how the requirements of Section 126 a.(1) of the Atomic Energy Act are met, including the specific criteria of Sections 127 and 128, as well as certain additional factors, envisaged by Section 126 a. (1).

The Executive Branch, on the basis of its review of this case, has concluded that the requirements of the Atomic Energy Act and P.L. 95-242 have been met and that the proposed export would not be inimical to the common defense and security of the United States. Moreover, Japan has adhered to the provisions of its Agreement for Cooperation with the United States. Therefore the Executive Branch recommends issuance of the requested export license.

*Louis V. Nosenzo*  
Louis V. Nosenzo

Deputy Assistant Secretary

Enclosure:  
As stated.

XSNM-1190

Country: Japan

Transaction: The export of 4.572 kilograms of U-235 contained in 4.9 kilograms of uranium in the form of  $U_3O_8$  enriched to a maximum of 93.3 percent U-235

Applicant: Transnuclear, Inc,

Applicant's Reference: NUK-186 77-298101

Date of Application: August 17, 1977

Purpose of the Export

The highly-enriched uranium will be shipped to Nukem, GmbH, Hanau, Federal Republic of Germany for conversion. The highly-enriched uranium dioxide will then be shipped to the Nuclear Fuel Industry for fabrication into fuel assemblies for the Kyoto Company University Critical Assembly. Shipment of this material is scheduled for (KUCA) at the Kyoto University Research Reactor Institute, Osaka, Japan. This research facility first achieved criticality on August 6, 1974.

This critical assembly has three cores--in the A and B cores square plate type fuel is utilized; in the C core a long flat plate type fuel is utilized. The A and B cores combined use about 10 kilograms of uranium per loading; the C core utilizes another 10 kilograms of highly-enriched material. The Research Reactor Institute has 20 kilograms of highly enriched uranium on hand for cores A, B and C. The present application of approximately 5 kilograms is intended for a new core experiment utilizing fuel plates of different dimensions (long and curved).



DELEGATION OF THE COMMISSION OF THE EUROPEAN COMMUNITIES

June 20, 1978  
JM/aks

Mr. Vance H. Hudgins  
Assistant Director for Politico-  
military Security Affairs  
Division of International Security Affairs  
Department of Energy  
Washington, D. C. 20545

Subject: License application XSNM-1190 - S-791 - for the  
export of HEU to Japan, via Nukem GmbH, West Germany.

Reference: Transnuclear Inc. application NUK-186 77-298/01  
of August 17, 1977.

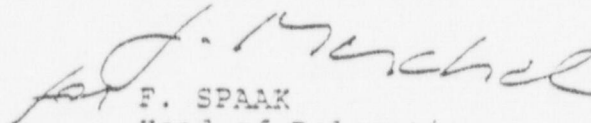
Dear Mr. Hudgins:

We certify that the material mentioned in this application  
namely 4.747 Kg of U-235, contained in 5.088 Kg of uranium, and  
the transfer of this material will be subject to all terms and  
conditions of the Additional Agreement for Cooperation, dated  
July 25, 1960, as amended.

Further we certify that Nukem GmbH, Hanau, West Germany  
and Transnuclear GmbH, Hanau, West Germany as intermediate  
consignees are authorized by EURATOM to receive and possess this  
material pursuant to the aforementioned Agreement for Cooperation.

After conversion at the Nukem plant, the above material  
will be retransferred to Japan, subject to US DOE authorization.

Sincerely yours,

  
F. SPAAK  
Head of Delegation

cc: Mr. R. Delabarre, State Department  
Ms. J. Dunn, Nuclear Regulatory Commission  
Ms. V. Matson, Transnuclear Inc.

EMBASSY OF JAPAN

2520 MASSACHUSETTS AVENUE, N.W.

WASHINGTON, D.C. 20008

(202) 234-2266

November 9, 1978

Colonel Vance H. Hudgins  
Assistant Director for  
Politico-Military Security Affairs  
Division of International Security Affairs  
Department of Energy  
Washington, D.C. 20545

Dear Colonel Hudgins:

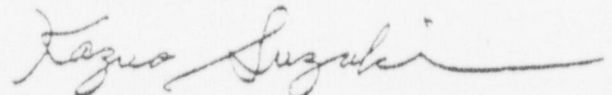
Concerning import of the special nuclear material for the facility noted below, this will confirm that the Government of Japan appointed The Kyoto University as an authorized person under the terms and conditions pursuant to Article VI of the Agreement for Cooperation between the Government of the United States of America and Government of Japan concerning Civil Uses of Atomic Energy which entered into force on July 10, 1968, amended by the Protocol on December 21, 1973.

Fuel for the Kyoto University Critical Assembly: 4,747 grams  
of U-235 (93.30 percent enrichment)

Further, it is confirmed that the transfer of the special nuclear material identified above will take place under all the terms and conditions of the Agreement for Cooperation between our Governments, and that the appointee(s) named above have been authorized to receive and possess the material by both Governments.

Also, the Government of Japan confirms that the safeguards and guarantee of the Agreement for Cooperation will always apply to this special nuclear material, except for that material subsequently retransferred with the written approval of the United States.

Sincerely yours,



Kazuo Suzuki  
First Secretary (Scientific)

Ref: This is in reference to the case number of S-791 stated in  
your letter dated May 8, 1978. (XSNM-1190)

The intermediate consignee, the Nuclear Fuel Industry Company, Ltd. is also authorized to receive and possess the material.

# EXPORT LICENSE APPLICATION ANALYSIS

The proposed export is subject to all of the terms and conditions of the Agreement for Cooperation between the Government of the United States of America and the Government of Japan concerning Civil Uses of Atomic Energy, which entered into force on July 10, 1968. This fact has been confirmed by letter from the Embassy of the Government of Japan, a copy of which follows the description of the transaction.

Japan has adhered to the provisions of its Agreement for Cooperation with the United States.

2. Extent to Which Export Criteria Are Met

A. Section 127 Criteria

As provided in Section 127 of the Atomic Energy Act, the following criteria govern exports for peaceful nuclear uses from the United States of source material, special nuclear material, production or utilization facilities, and any sensitive nuclear technology:

Criterion (1)

"IAEA safeguards as required by Article III(2) of the Treaty will be applied with respect to any such material or facilities proposed to be exported, to any such material or facilities previously exported and subject to the applicable Agreement for Cooperation, and to any special nuclear material used in or produced through the use thereof."

Japan is a Party to the Treaty on the Non-Proliferation of Nuclear Weapons and deposited its instrument of ratification on June 8, 1976. This Japan/IAEA Safeguards Agreement pursuant to the NPT entered into force on December 2, 1977. Therefore, it is the Executive Branch view that criterion (1) is met.



Criterion (2)

"No such material, facilities, or sensitive nuclear technology proposed to be exported or previously exported and subject to the applicable Agreement for Cooperation, and no special nuclear material produced through the use of such materials, facilities, or sensitive nuclear technology, will be used for any nuclear explosive device or for research on or development of any nuclear explosive device."

Pursuant to Article X A. (2) of the Agreement, Japan has guaranteed that no material or equipment transferred thereunder and no special nuclear material produced therefrom, will be used for atomic weapons, or for research or development of atomic weapons, or for research or development of atomic weapons, or for any other military purpose. Japan, as a party to the NPT, has pledged not to manufacture or otherwise acquire any nuclear weapon or other nuclear explosive devices. Further, in accordance with the Safeguards Agreement, Japan is precluded from engaging in any research and development on any nuclear explosive device involving any US-supplied material or facilities or any special nuclear material derived therefrom.

Since these commitments will apply to the proposed export and to any special nuclear material produced through its use, it is the view of the Executive Branch that criterion (2) is met.



### Criterion (3)

"Adequate physical security measures will be maintained with respect to such material for facilities proposed to be exported and to any special nuclear material used in or produced through the use thereof. Following the effective date of any regulations promulgated by the Commission pursuant to Section 304(d) of the Nuclear Non-Proliferation Act of 1978, physical security measures shall be deemed adequate if such measures provide a level of protection equivalent to that required by the applicable regulations."

A USG physical security review team visited Japan in July 1977 to follow up surveys made by security teams in June 1975 and February 1976. During the 1977 survey, the Team met with concerned officials of the Government of Japan and visited a number of typical nuclear facilities including the Kyoto University Research Institute where the KUCA critical assembly and its fresh fuel storage vault were seen. The Team determined that Japanese physical security measures met as a minimum the levels envisaged by INFCIRC 225.

On September 22, 1978, the Ministry of Foreign Affairs of Japan provided the following assurance to the Embassy of the United States in Tokyo:

"The Government of Japan confirms that the maintenance of physical protection measures providing as a minimum a level of protection comparable to that set forth in IAEA document INFCIRC/225/Rev. 1 with respect to nuclear materials and facilities exported from the United States to Japan and with respect to nuclear material used in or produced through the use of such materials and facilities, conforms to the policy of the Government of Japan, and that adequate physical protection measures as necessary are, and will be, implemented in accordance with the relevant laws and regulations and also through the administrative actions by the governmental authorities concerned with respect to the aforesaid materials and facilities. It is the understanding of the Government of Japan that as from the date of this note verbale, the United States Government does not intend to request the Government of Japan on a case-by-case basis to make written confirmation concerning physical protection in connection with each case of license application for the exports of nuclear materials."

On the basis of the Physical Security Review Team visits, and the assurance from the Government of Japan, the Executive Branch has determined that the physical security measures maintained in Japan with respect to nuclear material and facilities are as a minimum compatible with the

level of protection envisaged by IAEA INFCIRC/225/Rev 1 and are therefore adequate for the material covered by these license applications.

Therefore, it is the view of the Executive Branch that criterion (3) is met.

Criterion (4)

"No such materials, facilities, or sensitive nuclear technology proposed to be exported, and no special nuclear material produced through the use of such material, will be retransferred to the jurisdiction of any other nation or group of nations unless the prior approval of the United States is obtained for such retransfer. In addition to other requirements of law, the United States may approve such retransfer only if the nation or group of nations designated to receive such retransfer agrees that it shall be subject to the conditions required by this section."

Article X(A)(3) of the 1968 U.S.-Japan Agreement for Cooperation stipulates that: "No material, including equipment and devices, transferred to the Government of Japan or to authorized persons under its jurisdiction pursuant to this Agreement or the superseded Agreement will be transferred to unauthorized persons or beyond the jurisdiction of the Government of Japan, except as the United States Commission may agree to such a transfer to another nation or international organization, and then only if, in the opinion of the United States Commission, the transfer of the material is within the scope of an Agreement for Cooperation between the Government of the United States...and the other nation or international organization."

Article VIII E. provides that: "Special nuclear material produced through the use of material transferred to the Government of Japan or to authorized persons under its jurisdiction pursuant to this Agreement or the superseded Agreement may be transferred to any other nation or international organization provided that such nation or international organization has an appropriate agreement for cooperation with the Government of the United States of America or guarantees the use of such special nuclear material for peaceful purposes under safeguards acceptable to the Parties."

Therefore, it is the Executive Branch view that, as the U.S. has the right of prior approval over retransfer of U.S.-supplied material and the equivalent for material produced through the use of U.S. material, criterion (4) is met.

While it is the U.S. position that Article VIII E. accords the United States the equivalent of a consent right, the provision does not explicitly stipulate whether the U.S. or the other party is responsible for making the determination whether an "appropriate" Agreement for Cooperation exists. (This is more than a CHO FORM finding that an agreement exists, since the word "appropriate" conveys the intent that the contemplated transfer is fully within the scope of the agreement.)



However, it should be noted that the only way in which special nuclear material covered by Article VIII: 2 could become available for transfer is through Japanese reprocessing of U.S.-supplied source or special nuclear material. So long as the produced material remains in the spent fuel it is not separable from the U.S.-supplied material, which is subject to the provisions of article X(A)(3).

Criterion (5)

"No such material proposed to be exported and no special nuclear material produced through the use of such material will be reprocessed, and no irradiated fuel elements containing such material removed from a reactor shall be altered in form or content, unless the prior approval of the United States is obtained for such reprocessing or alteration."

Article VIII C. of the U.S. - Japan Agreement for Cooperation provides that: "When any special nuclear material received from the United States of America requires reprocessing, or any irradiated fuel elements containing fuel material received from the United States of America are to be removed from a reactor and are to be altered in form or content, such reprocessing or alteration may be performed in Japanese facilities upon a joint determination of the Parties that the provisions of Article XI may be effectively applied, or in such other facilities as may be mutually agreed."

As no joint determination under Article VIII C. can be made without the agreement of the United States, and since the facilities to be used must be acceptable to the U.S. as one of the Parties, it is the Executive Branch view that criterion (5) is met.

B. Section 128 Criterion

Section 128 a.(1) of the Atomic Energy Act establishes the following additional criterion: "As a condition of continued United States export of source material, special nuclear material, production or utilization facilities, and any sensitive nuclear technology to non-nuclear-weapon states, no such export shall be made unless IAEA safeguards are maintained with respect to all peaceful nuclear activities in, under the jurisdiction of, or carried out under the control of such state at the time of the export."

As a Party to the NPT, Japan has accepted IAEA safeguards on all its nuclear activities thereby satisfying this criterion.



Criterion (6)

"No such sensitive nuclear technology shall be exported unless the foregoing conditions shall be applied to any nuclear material or equipment which is produced or constructed under the jurisdiction of the recipient nation or group of nations by or through the use of any such exported sensitive nuclear technology."

The proposed export does not involve the transfer of sensitive nuclear technology. Criterion (6) is, therefore, not applicable.

### 3. Additional Factors

#### A. Safeguards Implementation

The IAEA Secretariat has noted in its Special Safeguards Implementation Report that with regard to nuclear material subject to IAEA safeguards, while some deficiencies exist in the system, no diversion of a significant quantity of nuclear material was detected in any of the 45 states in which inspections were carried out. Although recognizing the need to correct existing deficiencies in safeguards implementation, the Executive Branch has no reason to believe that the IAEA Secretariat's report is not valid. In the light of this and other factors associated with the proposed export, the Executive Branch believes the framework of commitments, assurances, and safeguards is adequate for the purpose of this export.

#### B. Special Non-Proliferation and Other Foreign Policy Considerations

The Japanese request is for 4.747 kilograms of U-235, under the 5 kilogram limit, and therefore, a technical and economic justification is not deemed necessary. Moreover, the application was filed on August 17, 1977, substantially prior to the November 30, 1977, implementation by the Executive Branch of the requirement inter alia for an economic and technical justification for all export license applications for HEU received after that date.

4. Inimicality Judgment

Based on review of the proposed export, it is the judgment of the Executive Branch that the proposed export will not be inimical to the common defense and security, and that the license should be issued.