

**POLICY ISSUE**  
**(Notation Vote)**

February 14, 2003

SECY-03-0022

**FOR:** The Commissioners

**FROM:** Janice Dunn Lee, Director  
Office of International Programs /RA/

**SUBJECT:** PROPOSED EXPORT OF DEPLETED URANIUM TO JAPAN (XSOU8790)

**PURPOSE:**

To request Commission review of the proposed issuance of a license to Transport Logistics International Inc. (TLI), for the export of 25,983.0 kilograms of depleted uranium to Japan for use as test material for the test operation of the Rokkasho Nuclear Fuel Reprocessing Plant (XSOU8790, Attachment 1). This request is being referred to the Commission in accordance with 10 CFR 110.40(a) as it involves assistance to end uses related to chemical reprocessing.

**URGENCY**

TLI has requested approval of this application by February 19, 2003, if possible, in order to meet a scheduled shipping date from a West coast port at the end of February 2003.

**BACKGROUND:**

The TLI application has been the subject of Congressional (Representative Markey) and public comment letters (Green Action, Greenpeace, and Nuclear Control Institute) urging denial of a license on the grounds of the adequacy of safeguards at the Rokkasho facility, Japan's utilization of plutonium, and the security issues involved in the transport of nuclear material in the post 9/11/2001 environment. We deferred to the Department of State on addressing the policy concerns.

This is not the first application requesting approval for an export to Rokkasho. In August 2001, NRC issued a license authorizing the export of coulometers (XCOM1142) to that facility in accordance with the requirements of Section 109 (b) of the AEA, as amended. No comments were received on that case.

CONTACTS: M. Peterson, OIP, 415-1771  
S. Schuyler-Hayes, OIP, 415-2333

## **DISCUSSION:**

On October 17, 2002, TLI applied for a license requesting authority to export 25,983.0 kilograms of depleted uranium to Japan (Attachment B to Attachment 1) to be used as the test material for the test operation of the Rokkasho Nuclear Fuel reprocessing Plant currently under construction by Japan Nuclear Fuel Ltd. in Rokkasho-Mura, Aomori, Japan. The uranium test is to be performed using depleted uranium solution, which is less radioactive but with similar properties to irradiated uranium fuel, to confirm the design parameters being met in the actual equipment before active testing utilizing actual spent fuel. U.S. depleted uranium is being used instead of stock already in Japan due to the ready availability of depleted uranium in the U.S. at the purity levels required by the Japanese operator.

In response to NRC's request for views on proposed export XSOU8790, the Executive Branch (EB), in a letter dated December 16, 2002 (Attachment 2), recommended that a license be issued to TLI to export 25,983 kilograms of depleted uranium for test operation of the Rokkasho Nuclear Fuel Reprocessing Plant. The EB addressed the export licensing criteria in 10 CFR110.42, and concluded that the proposed export will not be inimical to the common defense and security of the United States, i.e., the export is consistent with the provisions of the Atomic Energy Act (AEA) of 1954, as amended by the Nuclear Non-proliferation Act of 1978. The export will take place pursuant to the U.S.-Japan AEA Section 123 Agreement for Cooperation, which requires that International Atomic Energy Agency (IAEA) safeguards will be applied to the export and the facility under Japan's full-scope safeguards agreement with the IAEA. As a party to the Non-proliferation Treaty (NPT), Japan has committed to maintain IAEA safeguards on all of their peaceful nuclear activities and has pledged not to produce or otherwise acquire any nuclear explosive device, therefore satisfying criteria (1) and (2) of Section 122 of the Atomic Energy Act, as amended, for exports of source material. Finally, Japan has provided generic assurances which confirm the right of U.S. prior consent to re-transfers of U.S.-origin material.

While these initial EB views addressed, in a general sense, the applicable export licensing criteria, they did not respond directly to the policy concerns raised in letters to NRC from Green Action, Greenpeace, and Nuclear Control Institute (NCI) at Attachment 3. Accordingly, on December 24, 2002, the staff requested additional information from the EB to use in completing its analysis of the proposed export (Attachment 4). On January 8, 2003, the NRC received a letter from Congressman Markey (Attachment 5). The EB response, dated January 22, 2003, addressed thoroughly the Greenpeace, Green Action, NCI and Markey policy concerns (Attachment 6). The EB made clear its position that there is no extreme national security or non-proliferation circumstance which would require suspension of U.S. Government approval of the reprocessing of U.S.-obligated spent fuel at Rokkasho for recovery of plutonium for civilian reactor use. On January 29, 2003, the NRC received another letter from Greenpeace which provided additional information related to their earlier comments (Attachment 7). However, no new issues were raised to warrant a formal response.

The NRC staff has reviewed the EB views of why the export should be approved, agrees with its analysis, and therefore has not prepared a point by point discussion of the issues raised by the public and Congressional comments. The following sets forth the staff's basic conclusions.

## Policy Issues to be Addressed

### 1. Consistency with U.S. Policy

The staff agrees that the proposed export is consistent with current U.S. policy which supports the reprocessing of U.S.-origin spent fuel abroad for civilian end use. The staff further finds no basis for challenging current Executive Branch policy in this area on non-proliferation grounds relevant to the statutory export licensing criteria.

### 2. Health and Safety

NRC's export/import regulations provide for a non-inimicality finding from a non-proliferation standpoint. The export poses no significant health or safety risk to the U.S. domestically. The NRC has no jurisdiction over health and safety outside the U.S. nor over the regulation of the Japanese program.

### 3. Security Significance of the Export

The amount of material to be exported does not raise any additional security concerns related to transportation, including the domestic shipping portion of the export, beyond those applicable to other past and current exports of depleted uranium from the U.S. under general or specific NRC export licenses. The licensee is prepared to comply fully with current domestic shipping requirements imposed by NRC. Accordingly, the staff does not believe that security considerations warrant denial of the TLI application.

### 4. Safeguards and Physical Protection

Under the U.S.-Japan Agreement for Cooperation, Japan is required, prior to the startup of Rokkasho, to provide the U.S. with information on the IAEA safeguards approach to be applied. Rokkasho is currently included in Annex 4 of the U.S.-Japan Agreement as a facility which is planned or under construction. It will be added to Annex 1, the list of operating facilities authorized to use U.S.-origin nuclear material, prior to startup. In regard to interim arrangements for the export, we note the January 22, 2003 EB views which state that "(w)hile the facility attachment for the reprocessing plant is not yet in effect, IAEA safeguards will be applied to the exported depleted uranium under ad hoc arrangements agreed between Japan and the IAEA," and that "(t)he great majority of the safeguards equipment for monitoring the solutions and solids in the facility has already been installed, and is now being tested." NRC (Bruce Moran, NSIR) has been a full participant in extensive U.S. Government discussions with Japan concerning IAEA safeguards at Rokkasho. Most recently, NRC participated in an interagency technical team visit to Japan, February 5-7, 2003, for further discussions on this topic. These discussions will ensure that the IAEA's safeguards measures being developed for Rokkasho will be satisfactory to the U.S. Government.

With regard to physical protection, shipments of depleted uranium are subject to the provisions of INFCIRC/225, Category III, as has been the case for the many shipments of low enriched uranium power reactor fuel which have been sent to Japan before and after the events of 9/11. An interagency physical protection evaluation trip to Japan took place in May 1997. The staff (NSIR) has determined, on the basis of information currently available, that physical protection measures to protect against proliferation of nuclear weapons are in conformance with the current version of INFCIRC/225 (i.e., Rev.4).

#### Other Information

The staff has reviewed relevant State Department telegrams and other Executive Branch analyses and information pertinent to the proposed export case. No national security or nuclear non-proliferation grounds have been found which could form the basis for Commission objections to issuing the proposed export license to TLI.

#### **CONCLUSION:**

The staff concurs with the Executive Branch judgment that the proposed export would not be inimical to the common defense and security of the United States. The Office of the Executive Director for Operations concurs. The Office of the General Counsel has no legal objections.

#### **RECOMMENDATION:**

That the Commission should authorize the issuance of the requested license to TLI for a period of two years from date of issue.

Janice Dunn Lee, Director  
Office of International Programs

#### Attachments:

1. TLI Export License Application, dtd 11/20/02
2. Ltr, RJStratford to JDLee, EB Views, dtd 12/16/02
3. Ltrs., Green Action, Greenpeace, and Nuclear Control Institute
4. Ltr, JDLee to RJStratford, Seeking More Information from EB, dtd 12/24/02
5. Ltr, Congressman Markey, dtd 1/8/03
6. Ltr, RJStratford to JDLee, Provides Additional Views, dtd 1/22/03
7. Ltr from Greenpeace, dtd 1/29/03

# APPLICATION FOR LICENSE TO EXPORT NUCLEAR MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

Estimated burden per response to comply with this mandatory collection request: 2.4 hours. This submittal is reviewed to ensure that the applicable statutory, regulatory, and policy considerations are satisfied. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0027), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. APPLICANT'S USE →		a. DATE OF APPLICATION 10/17/2002		b. APPLICANT'S REFERENCE MNF-DUF6		2. NRC USE →		a. DOCKET NUMBER 11005369		b. LICENSE NUMBER X3008790	
3. APPLICANT'S NAME AND ADDRESS a. NAME Transport Logistics International, Inc. b. STREET ADDRESS (Facility Site) 4000 Blackburn Lane, Suite 250 c. CITY Burtonsville d. STATE MD e. ZIP CODE 20866 f. TELEPHONE NUMBER (Area Code - Number - Extension) 301-421-4324						4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier) a. NAME Please see Attachment A b. STREET ADDRESS U.S. Enrichment Corp c. CITY Peters/Palau d. STATE e. ZIP CODE					
5. FIRST SHIPMENT SCHEDULED December 2002		6. FINAL SHIPMENT SCHEDULED		7. APPLICANT'S CONTRACTUAL DELIVERY DATE		8. PROPOSED LICENSE EXPIRATION DATE 2 years from date of issue		9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (if known) EC-SC01-02DF08321			
10. ULTIMATE FOREIGN CONSIGNEE a. NAME Please see Attachment A b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY Japan						11. ULTIMATE END USE (Include plant or facility name) Please see Attachment B Test material for the test operation in the Rokkasho Nuclear Fuel Reprocessing Plant 11a. DATE REQUIRED 2007					
12. INTERMEDIATE FOREIGN CONSIGNEE a. NAME Please see Attachment A b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY Japan						13. INTERMEDIATE END USE Please see Attachment B 13a. DATE REQUIRED					
14. INTERMEDIATE FOREIGN CONSIGNEE a. NAME b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY						15. INTERMEDIATE END USE 15a. DATE REQUIRED					
16. COM CODE		17. DESCRIPTION (Include chemical and physical form of nuclear material, give dollar value of nuclear equipment and components.) Depleted Uranium as Uranium Hexafluoride (DUF6)				18. MAX. ELEMENT WEIGHT 25,983.0		19. MAX. WT. % 0.32	20. MAX. ISOTOPE WEIGHT		21. UNIT Kg
22. COUNTRY OF ORIGIN - SOURCE MATERIAL United States of America			23. COUNTRY OF ORIGIN - SNM WHERE ENRICH OR PRODUCED United States of America			24. COUNTRIES WHICH ATTACH SAFEGUARDS (if known)					
25. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION (Use separate sheet if necessary) XSOU8790 Appl ML022960215 10/24											
26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations; and ... correct to the best of his/her knowledge.											
27. AUTHORIZED OFFICIAL a. SIGNATURE Melissa Mann						b. TITLE Director, Research & Consulting					

**Attachment A**

<b>Box #4</b> Supplier's Name and Address
United States Enrichment Corporation Portsmouth Gaseous Diffusion Plant 3930 State Route 23 Piketon, Ohio 45661
United States Enrichment Corporation Paducah Gaseous Diffusion Plant 5600 Hobbs Road Paducah, Kentucky 42002

<b>Box #10</b> Ultimate Foreign Consignee	<b>Box #11</b> Ultimate End Use
Mitsubishi Nuclear Fuel Co., Ltd. 622-1, Funaishikawa, Tokai-mura, Naka-Gun, Ibaraki Prefecture, 319- 1197, Japan	Please see Attachment B

<b>Box #12</b> Intermediate Foreign Consignee	<b>Box #13</b> Intermediate End Use
Mitsubishi Nuclear Fuel Co., Ltd. 622-1, Funaishikawa, Tokai-mura, Naka-Gun, Ibaraki Prefecture, 319- 1197, Japan	Please see Attachment B

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Attachment B

1. Purpose of Utilization of Depleted Uranium

Depleted Uranium is to be used as the test material for the test operation in the Rokkasho Nuclear Fuel Reprocessing Plant currently under construction by Japan Nuclear Fuel Ltd. in Rokkasho-Mura, Aomori, Japan.

The facilities is now in the "Water-Test Phase", followed by the "Chemical-Test Phase", the "Uranium-Test Phase" and the "Active-Test Phase" and is planned to be in commercial operation in 2005.

The Uranium-Test is to be performed using depleted Uranium solution, which is less radioactive but having similar properties to irradiated Uranium fuel, to confirm the design parameters being met in the actual equipments before the Active-Test utilizing actual spent fuels.

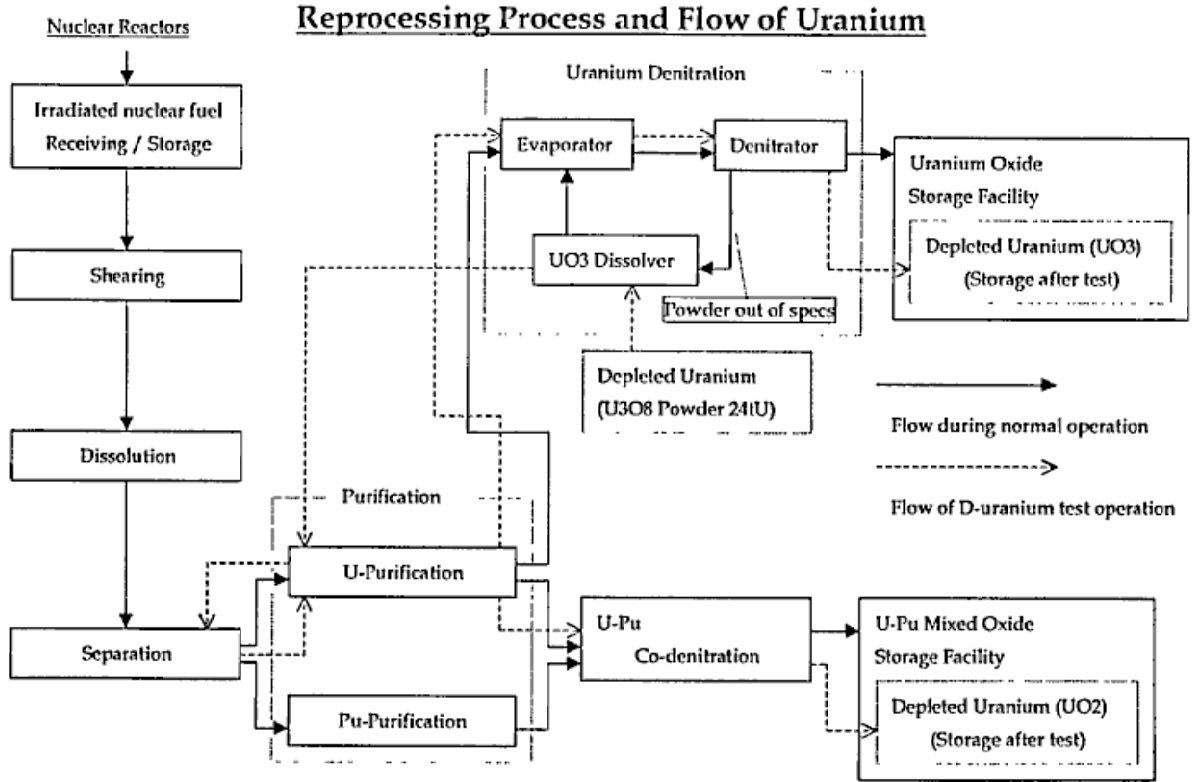
1. The way of utilization

Depleted Uranium in the form of U308 powder is to be dissolved by nitric acid in the U83 Dissolver vessel (designed to dissolve Uranium powder products out of specifications) in the Uranium Denitration Facility. From the U83 Dissolver Vessel, uranyl nitrate solution will be supplied into the Purification Facility, then to the Separation Facility and the Uranium-plutonium Co-denitration Facility. Then tests will be performed in these facilities.

After the tests are finished, some part of uranyl nitrate solution should be kept in the Separation Facility and the Purification Facility for being used during the succeeding "Active-Test Phase". The rest will be transferred to the Uranium Denitration Facility and to the Uranium-plutonium Co-denitration Facility. In these facilities the solution is transformed into uranium oxide and finally stored in the Uranium Oxide Storage Facility and in the Uranium-plutonium Mixed Oxide Storage Facility.

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## Attachment B Reprocessing Process and Flow of Uranium



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Transport Logistics International, Inc.  
4000 Blackburn Lane, Suite 250  
Burtonsville, MD 20866 U.S.A.

October 17, 2002

Ms. Betty Wright  
OIP/NEMR  
Mail Stop 4E 9  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852-2738

Dear Ms. Wright:

Please find enclosed an application requesting authorization to export depleted uranium as uranium hexafluoride ( $\text{DUF}_6$ ) to Japan for use as test material at the Rokkasho Nuclear Fuel Reprocessing Plant currently under construction. The end-user has provided additional clarification regarding the ultimate and intermediate end-uses of the material. (This information is contained in Attachment B.) All information contained in this application is considered non-proprietary and as a result, no confidentiality treatment is requested.

Additionally, our Japanese customer has certified that the material to be exported under this license is of United States origin and was not processed in any other country prior to entering the United States.

Pursuant to the *Federal Register* notice dated June 24, 2002, please also find enclosed the license fee of \$9,900.

Please do not hesitate to contact Melissa Mann or myself at (301) 421-4324 with any questions or comments you may have in this regard. We appreciate your assistance in this matter.

Best regards,

  
Michael McKloskey  
International Affairs Specialist

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United States Department of State

*Washington, D.C. 20520*

December 16, 2002

Ms. Janice Dunn Lee  
Director, International Programs  
United States Nuclear Regulatory Commission  
Rockville, Maryland

Dear Ms. Lee:

I refer to the letter from your office dated October 21, 2002, requesting the views of the Executive Branch as to whether issuance of an export license in accordance with the application hereinafter described meets the applicable criteria of the Atomic Energy Act of 1954, as amended:

NRC No. XSOU8790 -- Application by Transport Logistics International, Inc. for authorization to export to Japan 25,983 kilograms of depleted uranium for test operation of the Rokkasho Nuclear Fuel Reprocessing Plant being completed in Rokkasho-Mura, Aomori.

It is the judgment of the Executive Branch that the proposed export would not be inimical to the common defense and security of the United States, and is consistent with the provisions of the Atomic Energy Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978.

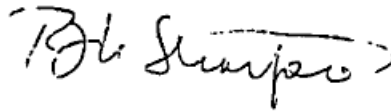
The proposed export to Japan would take place pursuant to the Agreement for Cooperation Between the United States and Japan, as confirmed by the Government of Japan in a Diplomatic Note reported in the enclosed telegram from U.S. Embassy Tokyo.

The Department of State has taken note of the interventions by Greenpeace and Green Action urging denial of the proposed export on the basis of concerns about the adequacy of safeguards at the Rokkasho facility and Japan's utilization of plutonium. The U.S. Government has approved reprocessing of U.S.-obligated spent fuel at Rokkasho for recovery of plutonium for civil power reactor use. The U.S. approval is not subject to suspension

except "in the most extreme circumstances of exceptional concern from a non-proliferation or national security point of view," such as a material breach of or withdrawal from the NPT, Japan's safeguards agreement with the IAEA, or the Agreement for Cooperation. No such action has been alleged or is even remotely conceivable. With regard to safeguards, in order to satisfy the requirements of the U.S.-Japan Agreement for Cooperation, Japan is required to provide the U.S., prior to startup of Rokkasho, information regarding the safeguards approach agreed with the IAEA. The fact that the proposed export and its utilization at the Rokkasho facility are fully subject to all the terms and conditions of the U.S. -Japan Agreement for Cooperation, assures that IAEA safeguards will be applied to the export and the facility in full compliance with Japan's full-scope safeguards agreement with the IAEA.

On the basis of the foregoing, the Executive Branch recommends issuance of the requested license.

Sincerely,



Richard J. K. Stratford  
Director  
Nuclear Energy Affairs

Enclosure: Tokyo telegram.

**GREEN ACTION**

グリーン・アクション

606-8203 京都市左京区田中関田町 22-75-103

Suite 103, 22-75 Tanaka Sekiden-cho, Sakyo-ku, Kyoto 606-8203 Japan

Telephone: 075-701-7773 Facsimile: 075-701-1857 [www.greenaction.jp](http://www.greenaction.jp)

November 15, 2002

Dr. Richard Meserve  
Chairman, Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Facsimile: 1-301-415-1757

Dear Chairman Richard Meserve:

Re: Opposition to Issuance of Export License for Depleted Uranium to Japan's Rokkasho Reprocessing Facility

Green Action is a Japanese NGO based in Kyoto, Japan working mainly on Japanese plutonium fuel cycle issues.

Green Action recently obtained a copy of an application to export approximately 26 tons of depleted uranium from the United States to Japan for use as test material in the test operation of Japan's Rokkasho nuclear fuel reprocessing facility. [License Number XSOU8790, Date of Application 10/17/2002]

Green Action notes that Japan has already stockpiled more than 32 tons of plutonium in Europe for which it has demonstrated no concrete plans to consume. The Rokkasho reprocessing facility has the potential to separate 8 tons of plutonium annually, and full-scale operation of this facility will result in domestic stockpiling of large quantities of weapons-usable plutonium. Japan clearly has no demonstrable use for plutonium, and operation of Rokkasho will do nothing but greatly increase nuclear proliferation concerns in northeast Asia.

Attachment B of the above license application confirms that uranium-testing is an integral part of the start-up of the Rokkasho facility, and for this reason, we believe that the NRC and the Executive Branch of the United States Government should conduct a

nuclear proliferation assessment of the impact of operation of Rokkasho prior to issuing a license to export depleted uranium to this facility.

Green Action is concerned that stockpiling of large quantities of plutonium in Japan is not only an inherent environmental and security risk in and of itself, but will also threaten world security since such a large domestic stockpile will encourage other countries to obtain or enlarge their stocks of fissile materials. Considering the enormous security risk associated with operating this facility, we believe that failure to conduct a nuclear proliferation assessment prior to issuing a license for the export of depleted uranium to Rokkasho is tantamount to the United States abdicating its responsibility concerning the management of US origin nuclear materials.

Japan's Atomic Energy Commission which is responsible for drafting Japan's Long-Term Program for Research, Development and Utilization of Nuclear Energy (LTP), continues to claim that plutonium utilization will go forward as planned. However, the track record of previous LTPs is dismal when it comes to plutonium utilization plans. (See table and chart in Attachment A.)

The AEC expects electric utilities to cooperate with the government to implement the programs outlined in the LTP, but there is no guarantee the electric utilities will do so. For example, in the eighth LTP finalized in 1994, the AEC proclaimed advanced thermal reactor (ATR) technology as "capable of flexibly and efficiently using plutonium and recovered uranium". However, only thirteen months after the 1994 LTP was finalized, the Federation of Electric Power Companies (FEPCO) submitted a letter to the AEC which stated, "...due to social pressure to reduce electricity costs it is no longer possible to proceed with the costly development of an ATR demonstration reactor". This letter went on to request a full-scale review of the entire ATR development program. As a result of FEPCO's position on the ATR, all mention of the ATR program disappeared with no explanation from the ninth LTP issued by the AEC in November 2000.

In previous LTPs, plutonium utilization was to center around fast breeder reactor (FBR) technology. However, efforts to develop commercial FBRs have proven to be more difficult than originally estimated, and development plans have been put back further and further in time in every single LTP. On December 1995, a sodium leak and fire accident occurred at the Monju prototype fast breeder reactor in Fukui Prefecture. The

accident and subsequent cover-up of the extent of the accident by the operator of the plant severely damaged public confidence in the entire nuclear industry and brought FBR development plans to a standstill.

With the ATR program scrapped and the FBR program at a standstill, the pluthermal program (the use of MOX fuel in light water reactors) became the key program for reducing Japan's stockpiles of plutonium. The pluthermal program was originally scheduled to begin in 1999, and MOX fuel has been shipped from Britain and France to reactors in Fukui, Fukushima, and Niigata Prefectures. However, the program remains unimplemented due to the December 1999 BNFL MOX fuel data falsification scandal, and the May 2001 referendum in Kariwa village which resulted in a majority of residents voting against the use of MOX fuel at Tokyo Electric's Kashiwazaki-Kariwa Unit 3 nuclear power plant. Following the September 2002 announcement that Tokyo Electric systematically concealed inspection results from government regulators, the governors of Fukushima and Niigata prefectures withdrew their advance permission for the pluthermal program. On October 9, 2002 the governor of Fukushima Prefecture called on Prime Minister Junichiro Koizumi and the national government to review the justification for the nuclear fuel cycle.

Regardless of the AEC's advocacy of the nuclear fuel cycle, there is widespread public opposition to all plutonium utilization plans, and there is no guarantee that these plans will ever gain the consent of the Japanese public.

Given the abovementioned track record of previous LTPs, Green Action believes Japan's AEC is incapable of providing the United States government with a convincing schedule for the timely utilization of plutonium separated in Europe and plutonium to be separated at Rokkasho. Based on the reasons outlined in this letter, we strongly urge the NRC to deny issuing a license to export this material.

Sincerely,



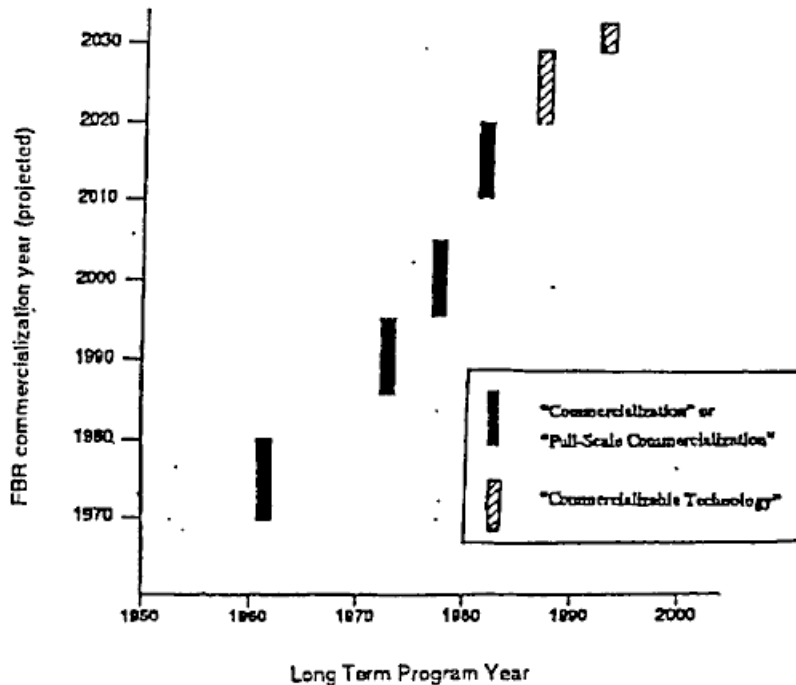
Aileen Mioko Smith  
Director,  
Green Action

Attachment A

**Table 1:  
Track Record of Long Term Programs**

<ul style="list-style-type: none"> <li>● Construct a 600,000 kW demonstration reactor with the goal of having it operating by the latter half of 1990s</li> </ul>	<ul style="list-style-type: none"> <li>● Construct a demonstration reactor in Oma Village in early 2000s</li> </ul>	<ul style="list-style-type: none"> <li>● Not mentioned</li> </ul>	<ul style="list-style-type: none"> <li>● ABR development program was cancelled as a result of a July 1995 decision by FEPCO not to build an ATR reactor in Oma</li> </ul>
<ul style="list-style-type: none"> <li>● Construct first demonstration plant by latter half of 1990s.</li> <li>● Realize Commercial Use between 2010 — 2030</li> </ul>	<ul style="list-style-type: none"> <li>● Construction of first demonstration plant in the early 2000s</li> <li>● Realize commercial use around 2030</li> </ul>	<ul style="list-style-type: none"> <li>● Restart Monju as soon as possible</li> <li>● Research many types of FBR</li> <li>● Be flexible with commercialization and the development plan</li> </ul>	<ul style="list-style-type: none"> <li>● The Monju prototype FBR had a fire leak and sodium accident in December 1995, and continues to be shut down.</li> </ul>
<ul style="list-style-type: none"> <li>● Have one PWR and one BWR use MOX in the first half of 1990s</li> <li>● Have around 10 units use MOX by latter half of 1990s</li> </ul>	<ul style="list-style-type: none"> <li>● Have some units use MOX in latter half of 1990s</li> <li>● Have about 10 units use MOX around 2000.</li> <li>● Have about 15 units use MOX during 2000 — 2010</li> </ul>	<ul style="list-style-type: none"> <li>● Have 16 — 18 units use MOX by 2010</li> </ul>	<ul style="list-style-type: none"> <li>● The plutermal program is on hold due to the BNFL data falsification scandal, a referendum in Kariwa Village, and opposition of the Fukushima Governor</li> </ul>

**Graph 1:  
Projected FBR Development Dates as Outlined in Previous LTPs**





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

1 011  
*Handwritten signature*  
Suzanne

December 2, 2002

Ms. Aileen Mioko Smith, Director  
Green Action  
Suite 103, 22-75 Tanaka Sekiden-cho, Sakyo-ku  
Kyoto 606-8203  
Japan

Dear Ms. Smith:

I am responding on behalf of the U.S. Nuclear Regulatory Commission (NRC) to your letter of November 15, 2002, concerning the application of Transport Logistics to export 25,983 kilograms of depleted uranium as uranium hexafluoride to Japan as test material for the Rokkasho reprocessing facility (export license application XSOU8790).

The NRC is currently conducting its review of this export license application. This process includes consultation with Executive Branch agencies, which provide their views for Commission consideration. Green Action's arguments opposing the issuance of a license for the Rokkasho facility will be taken into account in the ongoing review.

Sincerely,

Richard A. Meserve



# GREENPEACE

November 11, 2002

Dr. Richard Meserve  
Chairman, Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
fax: 1-301-415-1757

## Denial of Export License of "Source Material" to Japan's Rokkasho Reprocessing Plant

Dear Chairman Meserve:

We are writing to you on behalf of Greenpeace International in opposition to the issuance of export license XSOU8790, which concerns the export of depleted uranium for test purposes in Japan's Rokkasho reprocessing facility. In reviewing the license application, the Nuclear Regulatory Commission (NRC) must take into consideration that operation of Rokkasho will simply lead to continued stockpiling of weapons-usable plutonium by Japan.

We request that this letter be included as part of the official record concerning the export license application and that you respond specifically to the issues raised in this letter. We further request that this letter be provided to the Executive Branch for review and response. Given the public interest involved in proliferation of weapons-usable fissile material in northeast Asia, we reserve the right, as stipulated in NRC regulations, to request a hearing on this export license application or to file an intervention petition.

Additionally, we request that all documents concerning this export license application, including those related to review by the NRC and the Executive Branch, be either e-mailed or sent to Tom Clements in hard copy as your staff has unfortunately not been able to successfully provide assistance in accessing documents on the NRC's ADAMS document system.

### License Opposed on Nuclear Nonproliferation Grounds

We oppose the issuance of a license for the export of depleted uranium "source material" to Rokkasho as use of this material is an integral part of the startup of the Rokkasho reprocessing facility, the operation of which will lead to continued stockpiling of weapons-usable plutonium by Japan. We believe that the nuclear proliferation and security impacts in northeast Asia associated with operation of the Rokkasho reprocessing facility must be analyzed as part of NRC and Executive Branch review of the export licenses application.

Application for export of depleted uranium to Rokkasho presents an opportunity to conduct a nuclear proliferation assessment of the impact of operation of the facility and must not be avoided. As use of the material in question is key to Rokkasho operation, the wider impact of its use must be included in the export license review; the NRC cannot simply determine that the material in and of itself is not of proliferation concern and authorize its export.

Our opposition stems from three main issues: 1) the facility in which the material will be used is planned to produce up to 100 metric tonnes of weapons-usable plutonium for which no need has been demonstrated and which will have a negative proliferation and security impact in northeast Asia, 2) no safeguards agreement between Japan and the International Atomic Energy Agency exists for the Rokkasho facility, though such a safeguards agreement will not guarantee diversion of weapons-usable plutonium, and 3) the facility has not been added to Annex 1 of the United States-Japan Nuclear Cooperation Agreement and thus does not have the necessary concurrence between the Japanese and United States governments to operate.

## Export License Application and Rokkasho Reprocessing Plant

Export license application XSOU8790, marked as received by the NRC's Office of International Programs (OIP) on October 18, 2002, concerns the export of 25,983 kilograms of "depleted uranium as uranium hexafluoride (DUF6)" for use in testing the Rokkasho Nuclear Fuel Reprocessing Plant in Japan. According to Attachment B to the export license application, the depleted uranium (DU) would be used both in the "Uranium-Test Phase" and "Active-Test Phase" of the Rokkasho facility. Initially, "depleted uranium in the form of U3O8 powder is to be dissolved in the UO3 Dissolver Vessel" and the subsequent uranyl solution will be used "to confirm the design parameters" in the Purification Facility, the Separation Facility and the Uranium-plutonium Co-denitration Facility. After being used in this test phase, some of the uranyl nitrate solution will be retained to be used during the "Active-Test Phase," in which "actual spent fuels" will be involved. Thus, some of the DU will undergo reprocessing with materials bearing plutonium.

The Rokkasho reprocessing facility is currently under construction in Rokkasho-Mura, located in Aomori Prefecture on the northern tip of the main Japanese island of Honshu, by Japan Nuclear Fuel Limited (JNFL). The facility, which has undergone the "Water-Test Phase" and has now entered the "Chemical-Test Phase," has been reported by various news articles to cost over \$20 billion for construction alone. The export license presents that the facility "is planned to be in commercial operation in 2005" in spite of no demonstrated need for or use of the product produced by the facility - oxides of weapons-usable plutonium and uranium. Rokkasho has a designed reprocessing capacity of 800 metric tonnes (MT) of spent commercial nuclear reactor fuel per year, with a goal of reprocessing 10,000MT of spent fuel over a 15-year period after startup. Reprocessing of this amount of fuel could result in separation of almost 100MT of weapons-usable plutonium. Construction of Rokkasho is perhaps the most financially embarrassing part of a failed plutonium program, a program which is proving to be a net energy and financial drain to Japan and an on-going regional security concern.

## Skyrocketing Plutonium Stocks

On December 10, 2001, Japan reported to the International Atomic Energy Agency (IAEA) in Information Circular 549 (INFCIRC 549) that it held at the end of 2000 about 5.3MT of plutonium domestically and 32.1MT in "other countries," for a total of 37.4MT. According to information released by the Government of Japan on August 27, 2002, the amount of plutonium stored in Japan in various forms at the end of 2001 had reached 5.6MT domestically and 32.4MT in the United Kingdom and France, for a total of 38MT and an increase of 600 kilograms from the previous year. Japan also reported that 90MT of commercial spent fuel was being stored at the end of 2001 at the spent fuel storage pools located at Rokkasho. No INFCIRC 549 filing by Japan for 2002 has yet been publicly posted by the IAEA.

Stocks of Japanese plutonium have risen dramatically over the last decade due to the reprocessing of Japanese spent fuel at state-owned reprocessing facilities operated by British Nuclear Fuels Limited (BNFL) in the United Kingdom and Cogema in France, as well as at a domestic facility located at Tokai. In 1998, the first year of voluntary reporting under INFCIRC 549, Japan reported that at the end of 1997 that it held a domestic plutonium stockpile of 5.0MT and a foreign stockpile of 15.1MT. Thus, in the four years from the end of 1997 to the end of 2001, the stockpile of Japanese plutonium skyrocketed from a total of 20.1MT to 38.0MT. Meanwhile, the stockpile continues to rise due to the continued reprocessing in Europe of Japanese spent fuel previously shipped and the failure to implement any plutonium fuel utilization program domestically. Total Japanese stocks of separated plutonium in Europe are expected to rise to above 40MT within the next five years. In short, it is clear that Japan has simply carried a plutonium stockpiling program and it is time that such stockpiling be halted.

## "Principle of No Surplus Plutonium" - Violated in the Extreme

Japan's rapid accumulation of a vast surplus of plutonium clearly violates numerous statements made that no surplus stocks would be made and runs directly counter to plutonium

plans presented at the time the U.S.-Japan Nuclear Cooperation Agreement was being negotiated in 1987. Not only has the pledge to accumulate no surplus stocks been violated but stocks have risen to levels far beyond any conceived of ability to use them. Given the well-established weapons-usability of the material now being accumulated as well various forms of plutonium previously placed in storage, the long-term nuclear weapons proliferation implications are severe. While some Japanese officials still deny the weapons-usability of reactor grade plutonium, all evidence presented by the U.S. Government shows that such assertions are simply false.

In the early 1990s, Japan sought to assure the international community that it would not accumulate a plutonium stockpile, as reflected by the following statements:

"There is a national principle that Japan will not possess plutonium beyond the amount required to implement its nuclear fuel recycling program. Therefore, there is no possibility that Japan will possess 100 tons of plutonium at any point of time by the year 2010." Ministry of Foreign Affairs, *Japanese Retransfer of Plutonium*, Tokyo, June 1992, p.9

"Supply and demand of plutonium will continued to be balanced. There will be no chance to stockpile large amounts of excess plutonium in Japan even if temporarily." Nuclear Fuel Division, Science and Technology Agency, *Nuclear Energy Development and Utilization in Japan*, Tokyo, July 1992, p.2

In spite of this pledge not to stockpile plutonium, reprocessing of Japanese spent fuel continued in Europe and planning for construction of the Rokkasho reprocessing plant proceeded without clear plans or ability to use the resulting plutonium. Although the stockpile surged dramatically, Japan pledged to the IAEA in INFCIRC 549 on March 31, 1996 that a policy of "no surplus plutonium" was being followed:

"The nuclear fuel cycle is being promoted based on the principle that plutonium beyond the amount required to implement the program is not to be held, i.e. the principle of no surplus plutonium. Nuclear materials are also strictly managed, so as not to give rise to any international doubts concerning nuclear proliferation. Japan intends to ensure transparency of the plutonium utilization program through these efforts."

Obviously, Japan has repeatedly broken its word concerning accumulation and use of plutonium. That Japan was proceeding with a program which was merely stockpiling plutonium has long been warned about by public interest groups such as Greenpeace International and Greenpeace Japan.

Japan's accumulation of plutonium has hinged on the failure of both the Monju breeder reactor program due to a sodium accident in December 1995 and the long-anticipated failure to implement use of mixed uranium-plutonium oxide fuel (MOX) in light-water reactors (LWRs). Programs to use MOX in reactors owned by Tokyo Electric Power Company (TEPCO) and Kansai Electric Power Company (KEPCO) have been brought to a halt due to the scandal involving falsification of quality control data for MOX shipped to Japan from BNFL and due to reluctance of prefectural governments and local citizens to allow the controversial program to go forward. In total, more than 2MT of plutonium have been transported to Japan from Europe since 1992, yet not one gram of this material has been loaded into a reactor.

Recent developments in Japan have further compounded the significant problems for Japan's controversial plutonium program. Following disclosures of extensive cover-up and falsification of safety inspection reports at TEPCO reactors, Japan's largest utility announced that its MOX program was indefinitely frozen. Since then, approval for MOX loading in the two prefectures where the utility has reactors licensed to use MOX has been withdrawn by the prefectural governments. Recent reports have cited that KEPCO assessments have concluded that it may not be possible to load MOX fuel before 2008, three years after the start-up date of the Rokkasho-mura reprocessing facility as presented to the NRC in the export license application. This is a clear indication that if Rokkasho were somehow able to begin commercial operation in 2005 that the Japanese plutonium stockpile will grow even more dramatically than to date.

Greenpeace estimates made in June 2002, before the most recent setbacks to the MOX program, show that there will be a massive increase in Japan's plutonium stockpile over the coming years due to continued problems with the MOX program and due to Rokkasho operation. Even on the basis that as many as ten reactors would be loaded with MOX fuel by 2010, which will almost certainly not be attained, Greenpeace has calculated that plutonium stocks surplus to MOX demand by 2020 will be in excess of 110MT. By way of comparison this is more than the total stock of plutonium within the entire U.S. nuclear weapons program. Thus, the Japanese MOX program itself is proving to be a driver behind plutonium accumulation.

It is clear that there are many both within the nuclear industry and in the Japanese government who see the folly in pursuit of MOX and look forward to a change in policy against reprocessing and use of weapons-usable plutonium as a nuclear fuel. In spite of the problems facing plutonium use and chronic violation of the "no surplus plutonium" pledge, reprocessing of Japanese spent fuel in Europe continues and start-up testing for the Rokkasho reprocessing facility has begun.

While Japan has made feeble attempts to redefine its plutonium stockpile as a "working inventory" or "running stock" it is clear that it possesses a vast stockpile of excess weapons-usable plutonium for which no use has been presented. Given the sensitivity in the Northeast Asia region over the proliferation of nuclear weapons materials, a strong argument can be made against the further accumulation of such materials in the region. While all eyes are on North Korea's nuclear weapons program and the small amounts of fissile materials which it may have accumulated under that program, the stockpile of weapons-usable plutonium in Japan has soared to a level which could soon rival plutonium stocks in the largest nuclear weapons states. This is a clear proliferation concern which cannot be ignored by the Nuclear Regulatory Commission, the U.S. Department of Energy, the U.S. Department of State or any other branch of the U.S. Government concerned about international security issues related to theft or diversion of fissile materials.

#### Safeguards Challenges at Reprocessing Facilities

As is well understood, application of effective safeguards at large facilities which handle plutonium in bulk are essentially impossible. The IAEA itself stated prior to the 1995 review of the Nuclear Nonproliferation Treaty (NPT) that "the major challenge facing the IAEA in the next years is to prepare for and implement effective safeguards at a large commercial reprocessing facility." (*Activities of the International Atomic Energy Agency Relevant to Article III of the Treaty on the Non-Proliferation of Nuclear Weapons*, NPT/CONF/1995/PC.III/7, Document presented to the Third Session, Geneva, September 12-16, 1994)

Implementation of effective safeguards at Rokkasho will not be possible based upon existing available technology, including the application of Near Real Time Accountancy (NRTA) as is planned for Rokkasho. At this point no such safeguards agreement with the IAEA for Rokkasho even exists. Discussions are underway between the IAEA and Japanese about a safeguards agreement but such an agreement is likely not to be finalized in the near term. Additionally, due to the absence of such an agreement, no matter how ineffective, and lack of request from Japan, the Rokkasho facility has not been added to Annex 1 of the U.S.-Japan Nuclear Cooperation Agreement.

The "Implementing Agreement" of the U.S.-Japan agreement stipulates in Article 2, Section 2 (b)(i) the requirement that "a statement affirming that the safeguards arrangement is in accordance with the relevant safeguards concept that has been agreed upon between the parties and a description of the key elements contained in the safeguards arrangement." As this requirement has not been met, the Rokkasho reprocessing facility is not eligible to be added to Annex 1. Thus, for all practical purposes the Rokkasho reprocessing facility does not exist as far as the U.S.-Japan agreement is concerned and thus is not authorized to process or store plutonium.

It should be noted that Article 1 of the U.S.-Japan agreement defines "nuclear material" to include "source material" and it is thus clear that conditions laid out in that agreement apply to

the export in question. Likewise, both the Nuclear Suppliers Group (NSG) and the Zangger Committee view depleted uranium to be source material and thus subject to export controls. The NSG recognizes that the export of nuclear materials to non-nuclear weapons states poses a proliferation risk. Given recent statements by Japanese politicians that Japan should seek nuclear weapons, via use of the plutonium it holds, concerns expressed by the NSG about exported materials which may aid a nuclear weapons program are validated.

#### Export License Application Review

According to NRC regulations, depleted uranium is defined as "source material" and export of more than small amounts can only be carried out under a specific NRC export license. While depleted uranium cannot be used in nuclear explosive devices due to the low uranium-235 content, it can be used as a fertile material from which plutonium is created in nuclear reactors and, in this case, can aid in the validation of the chemical process in a reprocessing facility which employs the PUREX process. The role of the DU exported from the U.S. in validating a process to separate weapons-usable plutonium must be analyzed as part of the license application review process.

The depleted uranium stipulated in the export license in question will aid in the operation of a plutonium facility for which no safeguards agreement has been developed and which has thus not been added to Annex 1. While safeguards themselves are inherently ineffective, it is clear that they must be in place on the Rokkasho facility for it to be recognized by the United States. At this point, it is unknown when or if a safeguard agreement will be reached between the IAEA and Japan and how effective any such agreement would be in preventing theft or diversion of weapons-usable plutonium. Given the stockpiling of Japanese plutonium and the crisis now taking place in North Korea over plutonium and highly enriched uranium, the issue of separating and stockpiling fissile materials must be looked at in a regional and global context. The buildup of fissile material stocks in the northeast Asia region is of great concern to the United States and well could be considered to be "inimical to the common defense and security." Such stocks in Japan not only present an inherent risk in and of themselves but also play a role in stimulating interest by other countries in obtaining or enlarging their own fissile material stocks. Thus, the risk to the "common defense and security" presented by operation of a large new reprocessing facility in the region must be analyzed in the context of the export license application in question.

In the letter from Transport Logistics International, Inc., which was submitted as part of the export license application, it is stated that "our Japanese customer has certified that the material to be exported under the license is of United States origin and was not processed in any other country prior to entering the United States." The applicant should provide proof that the depleted uranium in question, coming from the United States Enrichment Corporation (USEC) facilities located in Paducah, Kentucky and Portsmouth, Ohio, is solely of U.S. origin. Those facilities have processed uranium from a number of countries around the world and have received uranium which was processed before arrival in the U.S. If USEC has been able to guarantee to the applicant that the depleted uranium it would provide is solely of U.S. origin then those documents should be requested of USEC for the record.

The applicant should also provide information as to the schedule for operation of Rokkasho, how much plutonium will be separated and what the end use of the material will be. Given the freeze on use of MOX in Japan, all earlier statements concerning plutonium use have proved inaccurate in the extreme. Vague or unrealistic plans, which will simply result in more plutonium stockpiling, must be taken as justification to reject the current export request.

To further underscore the concern we hold about this export license application, we will submit for the record a copy of a report prepared by Greenpeace International on safeguards at the Rokkasho reprocessing plant and the proliferation implications of operating this facility.

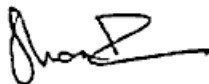
#### U.S. Must Act as a Reliable Partner Against Fissile Material Proliferation

We urge the NRC to consider the global proliferation implications as it reviews the export

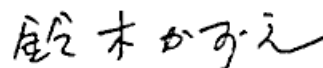
license application and that the application therefore is denied. Demonstration of U.S. reliability as a global partner against proliferation, theft and diversion of nuclear weapons materials is an essential step in controlling such materials. The opportunity to demonstrate such unbiased reliability now rests in the hands of the NRC and the Executive Branch as it reviews this export license application.

Thank you for consideration of these comments for the record. We look forward to your response to them.

Sincerely,



Shaun Burnie  
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Greenpeace International  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 6, 2002

Mr. Tom Clements  
Senior Campaigner  
Greenpeace International  
Nuclear Campaign  
6703 Gude Avenue  
Takoma Park, Maryland 20912

Dear Mr. Clements:

I am responding on behalf of the U.S. Nuclear Regulatory Commission (NRC) to your letter of November 11, 2002, concerning the application of Transport Logistics to export 25,983 kilograms of depleted uranium as uranium hexafluoride to Japan to be used as test material for the Rokkasho reprocessing facility (export license application XSOU8790).

The NRC is currently reviewing this export license application. This process includes consultation with Executive Branch agencies, which provide their views for Commission consideration. These views will no doubt include consideration of relevant U.S. Government nuclear non-proliferation policies. Greenpeace's reasons for opposing the issuance of a license for the Rokkasho facility will be taken into account in the ongoing review.

With regard to your request for documents concerning this application, please contact Ms. Suzanne Schuyler-Hayes, Office of International Programs, 301-415-2333, for assistance in locating publicly available documents.

Sincerely,

Richard A. Meserve



NUCLEAR CONTROL  
INSTITUTE

1000 CONNELLICUT AVE NW SUITE 410 WASHINGTON DC 20036 202-822-8444 FAX 202-452-0892

E-mail: [nucle@nucinst.org](mailto:nucle@nucinst.org) XEROX  
November 22, 2002

The Honorable Richard Meserve  
Chairman  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

**Nuclear Control Institute Comments on  
Application to Export Depleted Uranium Hexafluoride to Japan  
For Testing of the Rokkasho Reprocessing Plant**

Docket Number 11005369  
License Application Number XSOU8790

Dear Chairman Meserve:

We are writing on behalf of Nuclear Control Institute ("NCI") to urge the Commission to reject the application by Transport Logistics International Inc., dated October 17, 2002, for a license to export over 25.9 metric tons of depleted uranium as hexafluoride ("DU") to Japan for use as "test material for the test operation in the Rokkasho Nuclear Fuel Reprocessing Plant."<sup>1</sup> The Rokkasho plant has already undergone water testing, and chemical testing has begun. The DU would be used for the uranium testing stage prior to the introduction of irradiated spent fuel.

The Rokkasho reprocessing plant, scheduled to begin operation in 2005, has a nominal capacity of 800 MT of irradiated nuclear fuel per year, meaning it could separate on the order of eight tons of plutonium annually. This would significantly increase Japan's substantial surplus of separated plutonium, bomb-usable material for which there is no assured civilian power demand in the foreseeable future.

NCI generally concurs with the comments of Greenpeace International on this proposed DU export, as conveyed to the Commission in a November 11 letter to you.<sup>2</sup> We particularly wish to emphasize the non-proliferation and terrorism risks posed by an enormous and growing Japanese surplus of separated plutonium. Furthermore, material support of large-scale reprocessing in Japan, such as the proposed DU export, contravenes over 25 years of U.S. non-proliferation policy, beginning with declarations

<sup>1</sup> NRC Export License Application XSOU8790, October 17, 2002.

<sup>2</sup> Greenpeace International, Letter to NRC Chairman Richard Meserve, November 11, 2002.

*Strategies for stopping the spread and reversing the growth of nuclear arms*

Paul T. Loventhal, President, Peter A. Bradford, Julian Koenig, Sharon Tanzer, Roger Richter, Dr. Theudoric E. Taylor  
BOARD OF DIRECTORS



by Presidents Ford and Carter in the 1970s.<sup>3</sup>

President Bush's administration has reaffirmed the importance to non-proliferation of avoiding accumulation of large surplus stockpiles of weapon-usable material, such as plutonium and HEU, stating last year in its National Energy Policy that "the United States will continue to discourage the accumulation of separated plutonium worldwide."<sup>4</sup> Japan's program to introduce MOX fuel into light-water reactors has ground to a halt and is unlikely to consume any significant portion of Japan's plutonium stockpile in the foreseeable future.

Even if Japanese nuclear utilities and prefectural governments could be convinced to use MOX fuel, Japan does not have a commercial-scale MOX fuel fabrication facility. Plans to construct such a facility at Rokkasho have not advanced beyond the drawing board stage, and the project was behind schedule even before the recent quality-control and inspection scandals led to an indefinite moratorium on MOX fuel loading in Japan.<sup>5</sup> Without sufficient MOX fabrication capacity, any plutonium separated at Rokkasho cannot be irradiated even if the considerable political hurdles to MOX use are overcome. Given these facts, and the enormous surplus of separated plutonium that Japan has already accumulated, it is clearly contrary to the interest of U.S. common defense and security for the United States to provide material assistance to Japan's efforts to commission the Rokkasho plant.

NCI also objects to any U.S. export of nuclear material to a facility that is not yet under IAEA safeguards. It is our understanding that the IAEA is still working with Japan to develop safeguards technologies for the Rokkasho plant but that a facility attachment has not yet been concluded between the Agency and the Government of Japan.<sup>6</sup> A number of nations, Russia and China in particular, would like to be free to send even more sensitive nuclear materials and technologies to unsafeguarded facilities in India, Pakistan and other states. For the United States to export nuclear material, even DU, to a facility not yet under safeguards (even if the material itself is safeguarded) sends the wrong signal at the wrong time.

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<sup>3</sup> President Gerald Ford, "Statement on Nuclear Policy," October 28, 1976; President Jimmy Carter, "Presidential Directive/NSC-8," March 24, 1977; President William Clinton, "Nonproliferation and Export Control Policy," September 27, 1993.

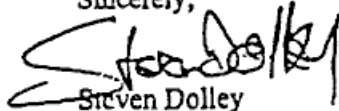
<sup>4</sup> Report of the National Energy Policy Development Group, *National Energy Policy*, May 2001, Appendix One, "Summary of Recommendations."

<sup>5</sup> Mark Hibbs, "AEC Chairman Claims QA Coverup Won't Deter Rokkashomura Startup," *NuclearFuel*, November 11, 2002, pp. 8-9.

<sup>6</sup> In its 2001 annual report, IAEA states that "the safeguards approach for the new large reprocessing plant that is being built by Japan Nuclear Fuel Ltd. (JFNL) was further refined.... Specifications for the design, procurement, installation, testing and acceptance of safeguards equipment and software systems were produced." *IAEA Annual Report 2001*, p. 99. This language suggests that the development of safeguards for Rokkasho is still underway and has not been concluded, let alone fully implemented. Furthermore, the Rokkasho Reprocessing Plant is not included on IAEA's list of "Facilities Under Agency Safeguards or Containing Safeguarded Material on 31 December 2001." (*ibid.* Additional Tables, Table III)

NCI urges the Commission to reject the DU export license application on common-defense and security grounds. We would be glad to discuss this matter with you and your staff. Thank you for your attention to this important matter.

Sincerely,



Steven Dolley  
Research Director



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON D C 20555-0001

December 18, 2002

Mr. Steven Dolley, Research Director  
Nuclear Control Institute  
1000 Connecticut Ave., NW, Suite 410  
Washington, D.C. 20036

Dear Mr. Dolley:

I am responding on behalf of the U.S. Nuclear Regulatory Commission (NRC) to your letter of November 22, 2002, concerning the application of Transport Logistics to export 25,983 kilograms of depleted uranium as uranium hexafluoride to Japan to be used as test material for the Rokkasho reprocessing facility (export license application XSOU8790).

The NRC is currently reviewing this export license application. This process includes consultation with Executive Branch agencies, which provide their views for Commission consideration. These views will no doubt include consideration of relevant U.S. Government nuclear non-proliferation policies. The Nuclear Control Institute's reasons for opposing the issuance of a license for the Rokkasho facility will be taken into account in the ongoing review.

Sincerely,

Richard A. Meserve



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

ATTACHMENT 4

December 24, 2002

Mr. Richard J.K. Stratford, Director  
Nuclear Energy Affairs  
U.S. Department of State  
2201 C Street, N.W.  
NP/NE, Room 3320  
Washington, D.C. 20520

Dear Mr. Stratford:

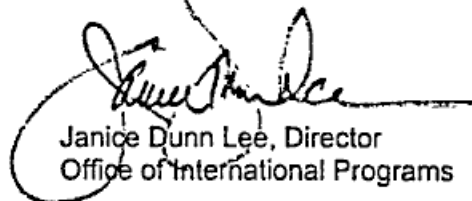
Thank you for your letter of December 16, 2002, concerning NRC Export License Application XSOU8790, the proposed export of 25,983 kilograms of depleted uranium for test operation of the Rokkasho Nuclear Fuel Reprocessing Plant in Japan.

We take note of your recommendation that the requested export license be issued. However, to assist the Commission's final review of this application, I would appreciate the Executive Branch's response to the questions posed in the attachment to this letter. Answers to these questions will enable the Commission to address, more authoritatively, substantive issues concerning this case that are relevant to the applicable criteria of the Atomic Energy Act of 1954, as amended, in particular the requirement to make a judgment that the proposed export would not be inimical to the common defense and security of the United States.

There have been significant nuclear proliferation and nuclear security related developments since the Executive Branch and the Commission last reviewed and approved an export license for the Rokkasho Plant. Accordingly, the Commission would benefit from the Executive Branch's updated views on these developments and confirmation that they have not resulted in changed circumstances that would warrant any reconsideration of the Executive Branch's previous decision in favor of allowing the reprocessing of U.S.-obligated spent fuel at Rokkasho.

Thank you for your assistance in this matter.

Sincerely,



Janice Dunn Lee, Director  
Office of International Programs

**Proposed Export of Source Material to Rokkasho Reprocessing Plant  
NRC Export License Application XSOU8790  
Questions for the Executive Branch**

Background Transport Logistics International, Inc., is proposing to export approximately 25.9 metric tons of depleted uranium to Japan for cold test operations in the Rokkasho Reprocessing Plant. Before approving this export, the Executive Branch and NRC must make a judgment that the export will not be inimical to the common defense and security of the United States. The answers to the questions posed below to the Executive Branch are relevant to making this judgment.

1. Explain why changed circumstances in recent years, including such factors as reduced economic justification, terrorist concerns and the various causes for the delays in Japan's plans to utilize separated plutonium, do not warrant revising the original U.S. Government decision and related conditions that authorized reprocessing of U.S.-obligated spent fuel at Rokkasho.
2. The President's December 2002 policy statement on the National Strategy to Combat Weapons of Mass Destruction reaffirms that the U.S. "will continue to discourage the worldwide accumulation of separated plutonium....." In view of this policy decision, and the reduced need for separated plutonium in Japan within the timeframes originally contemplated, does the Executive Branch anticipate reaching any formal understandings with Japan on the production levels planned for Rokkasho in advance of the decision to authorize the plant to begin operation?
3. What is the anticipated time frame for consultations between the U.S. and Japan on the safeguards approach for Rokkasho?
4. When does the Executive Branch anticipate that Rokkasho will be added to the list of facilities in Annex 1 of the U.S./Japan Nuclear Cooperation Agreement?
5. Since the safeguards approach being developed for the fully operating Rokkasho facility has not yet been reviewed and approved by the U.S. Government, what interim arrangements have been made to ensure that the source material (depleted uranium) proposed for export to Rokkasho by TLI will be subject to appropriate IAEA safeguards measures?

January 8, 2003

Dr. Richard Meserve  
Chairman  
Nuclear Regulatory Commission  
Washington, DC 20555

Dear Dr. Meserve:

I am writing to express my opposition to export 13 tons of depleted uranium to Japan for use at the Rokkasho Nuclear Fuel Reprocessing Plant as detailed in the Application for License to Export Nuclear Material and Equipment by Transport Logistics International, Inc. (application number XSOU8790). Allowing such a shipment sends the wrong message about U.S. commitment to nuclear nonproliferation, since it could lead to a large stockpile of weapons-grade plutonium. Our treaty obligations require us to decrease, not increase, the amount of available weapons-grade plutonium, and to provide for the safekeeping of both highly-enriched uranium and weapons-grade plutonium. Allowing this shipment to take place would do neither.

Inspectors from the International Atomic Energy Agency are currently stationed at nuclear facilities throughout Japan, including at Rokkasho. Rokkasho is a multipurpose facility that serves to extract plutonium from spent uranium fuel, fabricate mixed oxide fuel (MOX) and store spent fuel. Given that the plutonium produced at Rokkasho would be of weapons-quality, it must be properly safeguarded to ensure it is never used in nuclear weapons, lost, or stolen. No indications of the nature and adequacy of safeguards and physical security at the Rokkasho facility are mentioned in the application, which should be a prerequisite for any license to ship sensitive nuclear materials to another country.

As you may know, after several recent nuclear-related accidents, some with fatal consequences, Japanese politicians and citizens are becoming increasingly opposed to the use of nuclear power in their country. This has led to a new Ministry of Economy, Trade and Industry policy that forbids the use of MOX fuel in local civilian reactors. As a result, MOX fuel produced at Rokkasho would simply be stockpiled onsite for the foreseeable future. Experts predict the eventual production of 100 tons of plutonium and 110 tons of MOX at this site. Since neither of those materials can be used in Japanese nuclear reactors, they will simply pile up at Rokkasho, increasing the Japanese stockpile. While the license states this material will be used to test the new reprocessing facility at Rokkasho, it is likely that there is equivalent material already in Japan.

The license application makes the statement that the "Japanese customer has certified that the material ... is of United States origin and was not processed in any other country prior to entering the United States." The U.S. facilities, United States Enrichment Corporation plants in

Portsmouth, Ohio and Paducah, Kentucky, from which the material originates, process uranium from several different countries. How do we know whether the fuel that is proposed to be exported is purely from U.S. sources? The application provides no documentation that would clearly and convincingly substantiate this claim. Furthermore, Box 24 on the application ("Countries Which Attach Safeguards") of the license application is left blank. Since the United States and Japan both attach safeguards, this omission is quite curious.

The application also makes no mention of any safety precautions to be taken during shipment. Uranium hexafluoride is quite toxic and any release into the environment would be extremely dangerous. Further, the material is quite radioactive and could be used in a dirty bomb. Transport Logistics International provides no details of how it will protect the material during shipment. Again, given recent statements from Al Qaeda members regarding their desire to acquire nuclear materials, it would be folly to allow radioactive material to be shipped without detailed and extensive safety and security precautions. The Commission has a responsibility to ensure there are such measures in place before approving the application.

As you know, Section 3 of Article 2 of the 1998 US-Japan Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy, states that "prior to the notified transfer of such items, the supplying party shall obtain from the receiving party a written confirmation that the transferred item will be held subject to this Agreement." Section 2 of Article 8 states that "material ... transferred pursuant to this Agreement ... shall not be used for any military purpose." Annex B of that Agreement states that transportation of any material under the Agreement requires strict precautions and safeguards. The application for transfer does not contain a confirmation from Japan that the material will be held to the terms of the Agreement, does not contain assurances that this material—or the facility it will be used to test—will be not be used for military purposes or later sold to a country that has a military program, and does not contain any mention of security and safeguards during or after transport.

Finally, granting the application would be inconsistent with the *National Strategy to Combat Weapons of Mass Destruction* recently released by President Bush, which states that "the United States will continue to discourage the worldwide accumulation of separated plutonium and to minimize the use of highly-enriched uranium." Since this shipment will result in the Japanese accumulation of plutonium, I believe that the Commission should not grant this license.

In addition, in order to perform my ongoing oversight and legislative responsibilities with respect to the Commission's operations, I would appreciate your assistance and cooperation in providing answers to the following questions regarding the pending license application:

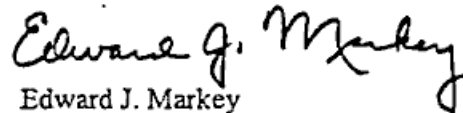
1. What is the timeframe for the decision to issue or deny the application?
2. What studies have been or will be done regarding the safety and security needs of such a shipment as required by Annex B of the 1998 US-Japan Agreement? What safeguards will be imposed to protect against theft or diversion of nuclear material from this facility?
3. Please provide documentation demonstrating that that uranium is, indeed, of solely U.S. origin, and please explain why Box 24 ("Countries Which Attach Safeguards") on the license application was left blank.

- C
4. What studies have been or will be done regarding the nonproliferation implications of such a shipment? Please provide copies. If no such studies will be done, why not?
  5. Has the NRC requested or received any comments on the application from the Executive Branch regarding nonproliferation impacts or consequences? If so, please provide copies. If not, why not?
  6. If and when the NRC takes action on the application, I request that I be promptly provided with a copy of any letter, statement or other document setting forth the rationale for the Commission's decision in this matter.

Thank you very much for your prompt attention to this important matter. Please provide your responses to questions 1-5 by close of business February 1, 2003. Should you have any questions or concerns, please have your staff contact Dr. Benn Tannenbaum of my staff at (202) 225-2836.

There are many reasons to deny, and no reasons to permit, the shipment of depleted uranium to Japan. I urge you to deny this application.

Sincerely,



Edward J. Markey  
Member of Congress





## United States Department of State

*Washington, D.C. 20520*

January 22, 2003

Ms. Janice Dunn Lee  
Director, International Programs  
United States Nuclear Regulatory Commission  
Rockville, Maryland

Dear Ms. Lee:

I refer to my letter of December 16, and your letter of December 24, 2002 regarding NRC license application XSOU8790 for the proposed export to Japan of 25,983 kilograms of depleted uranium for test operation of the Rokkasho Nuclear Fuel Reprocessing Plant. Your letter requested Executive Branch responses to several questions regarding the U.S. Government approval of reprocessing U.S. origin spent fuel at Rokkasho and arrangements for the application of safeguards at the facility. I also refer to the letter dated January 8, 2003 from Congressman Markey to Chairman Meserve raising various concerns and questions about the export. Executive Branch responses to these questions are provided below:

#### NRC Questions

1. Q. "Explain why changed circumstances in recent years, including such factors as reduced economic justification, terrorist concerns and the various causes for the delays in Japan's plans to utilize separated plutonium, do not warrant revising the original U.S. government decision and related conditions that authorized reprocessing of U.S.-obligated spent fuel at Rokkasho."

A. As stated in my letter of December 16, the U.S. Government approval of reprocessing of U.S.-obligated spent fuel at Rokkasho for recovery of plutonium for civil power reactor use is not subject to suspension except "in the most extreme circumstances of exceptional concern from a non-proliferation or national security point of view." Extreme circumstances are understood to be actions on the part of Japan such as a material breach of or withdrawal from relevant treaties or agreements such as the NPT, Japan's safeguards agreement with the IAEA, or the Agreement for Cooperation. The "changed circumstances" cited in the NRC's question do not constitute legal grounds under the U.S./Japan Agreement for Peaceful Nuclear Cooperation for reconsideration or suspension of the U.S. approval. With respect to physical protection, shipments of depleted uranium are subject to the provisions of INFCIRC/225 Category III, as has been the case for the many shipments of low enriched uranium power reactor fuel which have been made to Japan over the years, including shipments undertaken since the events of 9/11.

2. Q. "The President's December 2002 policy statement of the National Strategy to Combat Weapons of Mass Destruction reaffirms that the U.S. "will continue to discourage the worldwide accumulation of separated plutonium...". In view of this policy decision, and the reduced need for separated plutonium in Japan within the timeframes originally contemplated, does the Executive Branch anticipate reaching any formal understandings with Japan on the production levels planned for Rokkasho in advance of the decision to authorize the plant to begin operation?"

A. As part of its commitment to policies laid out in the "Guidelines for the Management of Plutonium", Japan has committed itself to the "management of plutonium in ways which are consistent with its national decisions on the nuclear fuel cycle and which will ensure the peaceful use or the safe and permanent disposal of plutonium." Among the factors to be taken into account in the formulation of its national strategy is the importance of balancing supply and demand, including demand for reasonable working stocks for nuclear operations. Japan's plutonium utilization plan adopts the principle of no surplus plutonium and has adopted the policy of publishing its projected supply and demand for plutonium in order to demonstrate that it follows this principle. The United States welcomes these commitments, but believes that it is up to Japan to determine how it implements them.

Nothing in the US-Japan Agreement for Peaceful Nuclear Cooperation provides a basis for U.S. involvement in determining production levels at Rokkasho. Moreover, the question could be read to suggest that the United States is or will be confronted by a decision on whether to "authorize the plant to begin operation." Pursuant to Article 1.1(a)(i) of the US-Japan Implementing Agreement, the United States has *already* authorized reprocessing at Rokkasho, provided only that Japan add the facility to Annex 1 of the Implementing Agreement. Japan may do this by a notification procedure that involves provision of certain safeguards and physical protection information to the United States. The Agreement does not provide the United States with a right to approve the addition of Japanese facilities to Annex 1.

3. Q. "What is the anticipated time frame for consultations between the U.S. and Japan on the safeguards approach for Rokkasho?"

A. Informal consultations have been ongoing on a regular basis since before the start of construction of the facility. During the past year these consultations have intensified, involving as well meetings with the IAEA. The next meeting with Japan will take place early in 2003 at the Rokkasho site. These informal consultations take place in parallel with Japan's negotiation with the IAEA of a Facility Attachment for Rokkasho, which will be completed before irradiated nuclear fuel is introduced into the facility.

4. Q. "When does the Executive Branch anticipate that Rokkasho will be added to the list of facilities in Annex 1 of the U.S./Japan Nuclear Cooperation Agreement?"

A. While we have had informal discussions with Japanese officials on this subject, we are not currently able to specify the date at which Japan will give the United States the requisite notification. The Rokkasho facility must of course be added to Annex 1 before any reprocessing of U.S.-obligated nuclear material takes place there.

5. Q. "Since the safeguards approach being developed for the fully operating Rokkasho facility has not yet been reviewed and approved by the U.S. Government, what interim arrangements have been made to ensure that the source material (depleted uranium) proposed for export to Rokkasho by TLI will be subject to appropriate IAEA safeguards measures?"

A. As stated in my letter of December 16, with regard to safeguards, the U.S.-Japan Agreement for Cooperation requires Japan to provide the U.S. prior to startup of Rokkasho information on the safeguards approach agreed with the IAEA. The fact that the proposed export and its utilization at the Rokkasho facility will be fully subject to all the terms and conditions of the U.S. -Japan Agreement for Cooperation, and the fact that Japan is a non-nuclear weapon state Party to the NPT with the requisite IAEA full-scope safeguards agreement, ensure that IAEA safeguards will be applied to the exported depleted uranium and the facility where it will be utilized. While the facility attachment for the reprocessing plant is not yet in effect, IAEA safeguards will be applied to the depleted uranium under ad hoc arrangements agreed between Japan and IAEA. The great majority of the safeguards equipment for monitoring the solutions and solids in the facility has already been installed, and is now being tested.

With respect to the longer term, the safeguards approach for regular operation of the Rokkasho plant has been developed cooperatively between Japan, the U.S. and the IAEA, and has been under U.S. technical review since August of 2001 when a team of U.S. experts toured the facility. Here again, however, the wording of the question could be read to suggest a U.S. Government right of approval of the safeguards approach. Although the US-Japan Implementing Agreement requires Japan to affirm that the safeguards arrangement is in accordance with a "safeguards concept" previously agreed by the United States and Japan, it does *not* provide the United States with a right to "approve" the safeguards arrangement.

#### **Congressman Markey's Questions**

1. Q. " What is the timeframe for the decision to issue or deny the application?"

A. The Executive Branch defers to the NRC regarding discussion of the timeframe for a decision on the application.

2. Q. "What studies have been or will be done regarding the safety and security needs of such a shipment as required by Annex B of the 1998 US-Japan Agreement? What safeguards will be imposed to protect against theft or diversion of nuclear material from this facility?"

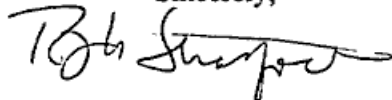
A. Given that this export involves source material (depleted uranium), no additional studies of safety or security were deemed necessary. Pursuant to the US-Japan Agreement, there have been hundreds of shipments from the United States to Japan of low enriched uranium power reactor fuel that have been made without incident. With regard to the question about safeguards, see the answer to NRC question 5 above.

3. Q. "Please provide documentation demonstrating that the uranium is, indeed, of solely U.S. origin, and please explain why Box 24 ("Countries Which Attach Safeguards") on the license application was left blank."

- A. The Executive Branch finds no reason to question USEC's information as provided in the application that the depleted uranium proposed for export is entirely of U.S.-origin. Assuming that is the case, there are no "other" countries which attach safeguards to this material. In any case, no countries that attach obligations on their nuclear material exports to the United States pursuant to Agreements for Cooperation require safeguards conditions more stringent than required by U.S. law, regulation and policy for approval of nuclear exports. The safeguards arrangements currently in place for Rokkasho, which will apply to the proposed export, fully meet U.S. statutory, regulatory and policy requirements for approval and would meet any other supplier country safeguards requirements, if any of the material proposed for export were subject to third country obligations.
4. Q " What studies have been or will be done regarding the nonproliferation implications of such a shipment? Please provide copies. If no such studies will be done, why not?"
- A. No special studies have been done regarding the "nonproliferation implications" of the proposed export because the transfer is entirely in accordance with: 1) the U.S. Government approval of reprocessing of U.S. obligated spent fuel at Rokkasho for recovery of plutonium for civil power reactor use; 2) the safeguards arrangements for Rokkasho already in place and under development; 3) the terms and conditions of the US-Japan Agreement for Peaceful Nuclear Cooperation; and 4) the benign nature of a shipment of depleted uranium. With regard to nuclear cooperation with Japan pursuant to the US-Japan Agreement, a Nuclear Proliferation Assessment Statement covering the Agreement was done by ACDA prior to the Agreement being submitted to Congress.
5. Q. "Has the NRC requested or received any comments on the application from the Executive Branch regarding nonproliferation impacts or consequences? If so, please provide copies. If not, why not?"
- A. This letter and the Executive Branch's letter of December 16, 2002 are a matter of public record and may be provided by the NRC to any requester.
6. Q. "If and when the NRC takes action on the application, I request that I be promptly provided with a copy of any letter, statement or other document setting forth the rationale for the Commission 's decision in this matter."
- A. This appears to be a request for the NRC directly.

I hope the foregoing will be helpful to the Commission in its review of the subject application.

Sincerely,



Richard J. K. Stratford  
Acting Deputy Assistant Secretary  
for  
Nuclear Nonproliferation



i n t e r n a t i o n a l

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Copy to OIP

January 29, 2003

Chairman Richard Meserve  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
5-page fax

Additional Reasons to Deny XSOU 8790 -- Plutonium Problems Increase in Japan

Dear Chairman Meserve:

I am writing to you to provide additional information pertinent to the Nuclear Regulatory Commission's consideration of export license application XSOU 8790, concerning export of depleted uranium (DU) for start-up testing in Japan's Rokkasho reprocessing plant. We continue to believe that the NRC should strongly oppose the export of DU for use in Rokkasho as operation of the facility will only lead to continued stockpiling of weapons-usable plutonium, further exacerbating the on-going plutonium crisis in Japan.

This week alone the Japanese plutonium industry has faced two major crises which impact the plutonium utilization program:

- 1) On January 27, the Nagoya High Court ruled that the safety assessment prepared before the start-up of the Monju breeder reactor was inadequate and that it could not be used as a basis for operation of the reactor. The court ruled in agreement with the plaintiffs' arguments that this faulty assessment was responsible for the sodium leak and fire in 1995. The court further ruled that merely updating the faulty report was inadequate as basis for future operation of the reactor.
- 2) On January 28, Japanese authorities acknowledged that 200 kilograms of plutonium were not accounted for at the Tokai Reprocessing Plant. The International Atomic Energy Agency issued a statement that it did not suspect diversion of the material had occurred, though Japanese authorities had allowed the accounting questions to remain unclear for many years. It is unsettling that this discrepancy has been revealed at the very time when operation of the much larger commercial-sized Rokkasho is being considered, raising questions about the ability of Japan to properly account for plutonium processed in that facility.

I am attaching articles about these two incidents and urge the NRC to assess the impacts of the incidents on the beleaguered plutonium program, including any plans to operate Rokkasho. It is clear that the plutonium utilization program lacks both political consensus and technical justification for it to move forward. The NRC should deny the license in question, particularly until such time as it is clear that the political, technical and economic problems associated with plutonium use and stockpiling in Japan are fully resolved.

Sincerely,

Tom Clements

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re X500 8790

Deutsche Presse-Agentur January 27, 2003, Monday 05:46  
Central European Time

**Japan court annuls approval of Monju nuclear reactor**

DATELINE: Tokyo

Japan's Nagoya High Court on Monday annulled the government's approval of the trouble-plagued Monju fast-breeder nuclear reactor in Tsuruga in northwestern Fukui prefecture, effectively keeping it shut. The court ruled in response to an appeal by plaintiffs, who are local residents, in a civil lawsuit seeking the permanent shutdown of the reactor. The court supported the plaintiffs' argument that shortcomings in the government's safety screenings before construction of the 280,000-kilowatt reactor were responsible for a massive leak of sodium coolant at the plant in December 1995.

Construction of the plant began in October 1985 in Tsuruga on the Sea of Japan coast some 370 kilometres west of Tokyo. The reactor was operating at 40 per cent of capacity when the leak of sodium coolant occurred, sparking a fire.

The governmental operator of the plant tried to cover up the accident and submitted a falsified report. Monju is an experimental reactor designated by the government as a prototype for future reactor models that would play a key part in the government's nuclear fuel recycling policy, under which plutonium will be produced through spent-fuel reprocessing. By burning plutonium-uranium mixed oxide (MOX), fast-breeder reactors like Monju can produce more plutonium than they consume. Plutonium, an extremely toxic substance, can be used to make nuclear warheads. The Monju reactor, though shut down, still has about 1.4 tons of plutonium inside it. Countries, including Britain, Germany, France and the United States, have scrapped projects for fast-breeder reactors after a series of accidents involving the reactors.

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Japan Economic Newswire January 27, 2003

**High court nullifies approval of Monju reactor**

DATELINE: KANAZAWA,

The Nagoya High Court on Monday nullified the government's approval of the trouble-plagued Monju fast-breeder nuclear reactor in Tsuruga, Fukui Prefecture, effectively keeping it shut down. The court's Kanazawa branch ruled in response to an appeal by plaintiffs in a civil lawsuit seeking the permanent shutdown of the reactor. The court thus supported the plaintiffs' argument that shortcomings in the government's safety screenings before construction of the 280,000-kilowatt reactor were responsible for a massive leak of sodium coolant at the plant in December 1995. The central government will consider if it appeals the high court ruling to the Supreme Court, lawyers for the state said. In March 2000, the Fukui District Court dismissed the suit filed by local residents, saying the fast-breeder reactor's basic design was not at fault in the accident.

The government has since proceeded to allow the Japan Nuclear Cycle Development Institute to renovate the reactor, which has been shut down since the accident. The

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32 plaintiffs, mainly residents of Tsuruga, are asking the high court to overturn the district court ruling that rejected their suit seeking annulment of the government's permission to build the plant. Construction of the plant began in October 1985 in the city on the Sea of Japan coast some 370 kilometers west of Tokyo. The reactor was operating at 40% of capacity when the leak of sodium coolant occurred, sparking a fire. The governmental operator of the plant tried to cover up the accident and submitted a falsified report. The lower court said the reactor does not pose 'any visible danger' to the lives or health of the plaintiffs despite the accident. The suit was initially filed with the district court in September 1985.

In the appeal, the plaintiffs said the lower court declared the reactor safe based on the basic design of conventional light-water reactors powered by uranium. They said the light-water type is completely different from fast-breeder reactors, which use plutonium-uranium mixed-oxide fuel. They claimed almost no safety assessments were done based on fast-breeder reactors, and alleged the ruling wrongly concluded that the reactor would be safe based on testimony by the defendants. Monju is an experimental reactor designated by the government as a prototype for future reactor models that would play a key part in the government's nuclear fuel recycling policy, under which plutonium will be produced through spent-fuel reprocessing. By burning plutonium-uranium mixed oxide (MOX), fast-breeder reactors like Monju can produce more plutonium than they consume. Plutonium, an extremely toxic substance, can be used to make nuclear warheads. The Monju reactor, though shut down, still has about 1.4 tons of plutonium inside it. A number of countries, including Britain, Germany, France and the United States, have scrapped projects for fast-breeder reactors after a series of accidents involving the reactors.

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Missing plutonium probe latest flap for Japan's beleaguered nuclear power industry

Tuesday, January 28, 2003

By KENJI HALL, Associated Press Writer

TOKYO - Japanese officials acknowledged Tuesday that it took a 15-year investigation to account for a more than 200-kilogram (440-pound) shortfall in plutonium at a major nuclear power facility, further damaging the industry's already wobbly safety record.

Tokyo began investigating a fuel-reprocessing plant in Tokai, central Japan, after the U.N. International Atomic Energy Agency pointed out in 1987 that the plant's records showed less plutonium than it was supposed to have.

A report wrapping up the investigation — submitted Tuesday to a government nuclear safety commission — found the nuclear material had either been safely disposed of or never existed to begin with, said Education and Science Ministry spokesman Keiji Tsukamoto.

Investigators ruled out the possibility that any plutonium had been taken from the facility or that any radiation had leaked outside the plant, which has produced a total of 6,890 kilograms (15,190 pounds) of plutonium since it began operating in 1977, Tsukamoto said.

"We never thought the plutonium had been stolen," another ministry spokesman, Masanori Nagai, said.

Instead, officials believe much of the plutonium was never produced.

Flawed plutonium output projections at Tokai forecast the facility would produce about 100 kilograms (220 pounds) more than it was actually capable of. Tsukamoto said another 94 kilograms (207 pounds) of plutonium had leaked into waste water that was contained at the plant, and 29 kilograms (64 pounds) was damaged in storage and rendered unusable.

The IAEA on Tuesday backed Tokyo in saying it believed no plutonium was removed from the plant.

"The agency remains confident in its conclusion that no nuclear material has been diverted from the facility," IAEA Director-general Mohamed ElBaradei said in a statement.

The IAEA began inspecting the facility in 1977. In November, it conducted a review of data from the past 25 years, the agency said.

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While clearing up the case of the missing plutonium, the news of calculation errors and the time it took to find them underscored public concerns about safety from an industry already awash in reports of negligence and cover-ups.

"The Tokai plant is just a small, experimental fuel reprocessing plant. If that much plutonium went unaccounted for at Tokai, how does the government expect to deal with a larger, commercial-sized plant now being built?" asked Kazue Suzuki, an activist at Greenpeace Japan.

Resource-poor Japan relies on nuclear power for over a third of its electricity. Current plans call for as many as 10 new plants to boost nuclear-generated power to 42 percent of total output by 2011.

But the Japanese public has become increasingly wary of nuclear power since a 1999 radiation leak at a fuel-reprocessing plant — also in Tokai — killed two workers.

That leak, the worst-ever nuclear accident in Japan, forced 161 people to evacuate their homes, and another 310,000 to stay indoors for 18 hours as a precaution. In all, 439 people were exposed to radiation.

Safety fears have been worsened by allegations last year that the nation's largest utility, Tokyo Electric Power Co., did not fully disclose data about structural problems at some of its nuclear reactors.

In a serious blow to the industry, a Japanese high court on Monday ruled in favor of residents seeking the permanent closure of a controversial fast-breeder reactor that has been closed since a 1995 accident.

The court cited a bungled cover-up of the accident, which included falsified reports and concealed video footage, in its decision.

The experimental reactor, which uses plutonium fuel instead of uranium and produces more plutonium that can be reused as fuel, had been the centerpiece of Japan's ambitions to expand its nuclear facilities.

Officials indicated they would appeal the ruling.

Japan's national Mainichi newspaper predicted the ruling would have far-reaching repercussions for the industry.

"The government may be faced with re-inspecting and revamping its (nuclear) standards and practices," it said in an editorial Tuesday. "There are concerns that energy companies are hiding their problems."

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