

POLICY ISSUE
(Notation Vote)

August 2, 2001

SECY-01-0144

FOR: The Commissioners

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

SUBJECT: PROPOSED LICENSE TO EXPORT COMPONENTS FOR REPROCESSING PLANT IN
JAPAN (XCOM1142)

PURPOSE:

To request Commission review of the proposed issuance of a license to Westinghouse Savannah River Company involving the export of components for a reprocessing plant. The application is being referred to the Commission in accordance with 10 CFR 110.40(b)(4).

DISCUSSION:

On February 7, 2001, Westinghouse Savannah River Company applied for a license (Attachment 1) to export three controlled-potential coulometer systems, including cell assemblies, valued at \$350,000.00, plus spare and replacement parts as required, valued at \$150,000.00, for a total of \$500,000.00, for ultimate use at Japan Nuclear Fuel Limited's Rokkasho Mura Reprocessing Plant, located in Aomori-Ken Prefecture in Japan, for accurate measurement of plutonium content for the purpose of nuclear material accountancy. The coulometer systems will be installed at Rokkasho by Mitsubishi Heavy Industries (MHI) following initial assembly and testing at MHI's Nuclear Fuel Reprocessing Plant Engineering Section Kobe Shipyard and Machinery Works.

In response to NRC's request for views on the proposed export, the Executive Branch, in a letter dated July 9, 2001 (Attachment 2), recommends that the license be issued to Westinghouse Savannah River Company. It is the Executive Branch judgment that the proposed export will 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.

The Executive Branch letter notes that, as a party to the NPT, Japan has committed itself to maintain IAEA safeguards on all of its peaceful nuclear activities and has pledged not to manufacture or otherwise acquire any nuclear explosive device. It is, therefore, the judgment of

CONTACT: B.L. Wright, OIP
415-2342

-2-

the Executive Branch that criteria (1) and (2) for exports of nuclear components, substances and items under Section 109b of the Atomic Energy Act, as amended, are met. The remaining criterion, agreement not to retransfer any U.S.-supplied component or material without prior U.S. consent, has been satisfied by letters from the Embassy of Japan dated October 5, 1978, and February 28, 1979, the subject of previous correspondence on nuclear component exports to Japan.

International Safeguards and Physical Protection:

Japan is a party to the Non-Proliferation Treaty (NPT) and, as such, accepts IAEA safeguards on all source and special nuclear material in its nuclear activities. Nuclear components, however, are not subject to IAEA safeguards while in NPT countries under Article III(2) of the Treaty. It is noted, however, that the Rokkasho reprocessing plant, where the coulometers will be utilized, will have IAEA safeguards applied to it.

There are no physical protection requirements applicable to this license request.

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 and also meets the three specific export licensing criteria of Section 109b of the Atomic Energy Act of 1954, as amended. There are no applicable international safeguards or foreign physical protection requirements for the proposed export.

RECOMMENDATION:

That the Commission authorize the issuance of the requested license to Westinghouse Savannah River Company.

Janice Dunn Lee, Director
Office of International Programs

Attachments: 1. 2/7/01 Westinghouse Savannah River Company Export License Application
2. 7/09/01 DOS Letter R.J.K. Stratford to JDLee

NRC FORM 7 (3-94) 10 CFR 110		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB: NO 3150-0027 EXPIRES 3-31-87		
APPLICATION FOR LICENSE TO EXPORT NUCLEAR MATERIAL AND EQUIPMENT <i>(See Instructions on Reverse)</i>				ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 1.7 HOURS. THIS MANDATORY SUBMITTAL IS REVIEWED TO ENSURE THAT THE APPLICABLE STATUTORY, REGULATORY, AND POLICY CONSIDERATIONS ARE SATISFIED FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-8 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.		
1. APPLICANT'S USE ----->	a. DATE OF APPLICATION 3/7/01 12/22/00	b. APPLICANT'S REFERENCE		2. NRC USE ----->	a. DOCKET NUMBER 11005254	b. LICENSE NUMBER XCOM1142
3. APPLICANT'S NAME AND ADDRESS			RIS			
a. NAME Westinghouse Savannah River Company			4. SUPPLIER'S NAME AND ADDRESS <i>(Complete if applicant is not supplier of material)</i>			
b. STREET ADDRESS <i>(Facility Site)</i> Bldg. 703-45A, Savannah River Site			a. NAME			
c. CITY Aiken		d. STATE SC	e. ZIP CODE 29808	b. STREET ADDRESS		
f. TELEPHONE NUMBER <i>(Area Code - Number - Extension)</i> (803) 725-7011-3505 - Bob Shankle			c. CITY		e. ZIP CODE	
6. FIRST SHIPMENT SCHEDULED 9/01	8. FINAL SHIPMENT SCHEDULED 5/02	7. APPLICANT'S CONTRACTUAL DELIVERY DATE 9/01		8. PROPOSED LICENSE EXPIRATION DATE 12/31/05	9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. <i>(if known)</i> none	
10. ULTIMATE FOREIGN CONSIGNEE			RIS			
a. NAME Japan Nuclear Fuel Limited			11. ULTIMATE END USE <i>(Include plant or facility name)</i> For accurate measurement of plutonium content for the purpose of nuclear material accountancy at JNFL's Rokkasho Reprocessing Plant			
b. STREET ADDRESS <i>(Facility Site)</i> 4-91 Aza-Okitsuke, Oaza-Obuchi			11a. DATE REQUIRED 5/02			
c. CITY Kamikita-Gun, Aomori-Pref.		d. COUNTRY Japan	13. INTERMEDIATE END USE			
12. INTERMEDIATE FOREIGN CONSIGNEE			RIS			
a. NAME Mitsubishi Heavy Industries, Office			For final installation by MHI in JNFL's Rokkasho Reprocessing Plant.			
b. STREET ADDRESS 4-91 Aza-Okitsuke Oaza-Obuchi, Rokkasho-Mura			13a. DATE REQUIRED 5/02			
c. CITY Kamikita-Gun, Aomori-Pref.		d. COUNTRY Japan	16. INTERMEDIATE END USE			
14. INTERMEDIATE FOREIGN CONSIGNEE			RIS			
a. NAME Mitsubishi Heavy Industries, Takasago Research & Development Center			For initial assembly and testing at MHI's Nuclear Fuel Reprocessing Plant Engineering Section, Kobe Shipyard & Machinery Works, prior to transfer and final installation at Rokkasho.			
b. STREET ADDRESS <i>(Facility Site)</i> 2-1-1 Shinhama Arai-Cho, Takasago-City,			16a. DATE REQUIRED 9/01			
c. CITY Hyogo-Pref.,		d. COUNTRY Japan	18. MAX. ELEMENT WEIGHT			
18. COM CODE			19. MAX. WT. %			
17. DESCRIPTION <i>(Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)</i> Three (3) controlled-potential coulometers, including cell assemblies (valued at \$350,000 total); plus spare and replacement parts as required, valued at \$150,000. \$500,000-total			20. MAX. ISOTOPE WEIGHT			
22. COUNTRY OF ORIGIN -- SOURCE MATERIAL			21. UNIT			
23. COUNTRY OF ORIGIN -- SNM WHERE ENRICHED OR PRODUCED		24. COUNTRIES WHICH ATTACH SAFEGUARDS <i>(if known)</i> N/A				
25. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION <i>(Use separate sheet if necessary)</i> See attached. 2001 FEB 8 - 8-831 000						
26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that the information in this application is correct to the best of his/her knowledge.						
27. AUTHORIZED OFFICIAL			b. TITLE			
a. SIGNATURE Donna E. Nichols			WSRC Technology Control Officer			

* See 3/5/01 e-mail to C Coates fr D Nichols

Item #	Additional Information
10-13.	<p>Mitsubishi Heavy Industries (MHI) is the design/construction contractor for the Rokkasho Reprocessing Plant (RRP), which is owned and will be operated by Japan Nuclear Fuel Limited. The purpose of the RRP facility is to reprocess fuel from civilian nuclear power reactors in Japan. JNFL activities are under full-scope International Atomic Energy Agency (IAEA) safeguards.</p> <p>The coulometers will be shipped initially to the MHI corporate facility in Kobe, Japan, where the coulometers will be assembled by WSRC personnel. The WSRC personnel will also train MHI employees on the installation and operation of the coulometers at the Kobe location. MHI will then transfer the coulometers for installation at the RRP.</p>
25.	<p>Additional Information on applicant, consignees, end uses, and product description - WSRC has been requested by MHI to build, calibrate, and install three (3) automated controlled-potential coulometer systems including cell assembly, for use in the Rokkasho Reprocessing Plant (RRP). Each coulometer system includes: two potentiostats (one for oxidation and one for reduction), one integrator, one Ortec 3 channel counter, one automation module, one instrument rack, one NIM Bin, one Digital Voltmeter/Data Acquisition unit, and Analog Isolation circuit. The coulometers will be used for determination of plutonium content for the purposes of material accountancy at the RRP.</p> <p>The coulometer system also can be used to verify preparation of plutonium standards since its automated electronic calibration is directly traceable to fundamental units (i.e. voltage, resistance, current and time). The standards can then be used to calibrate other plutonium measurement systems routinely applied to nuclear safety and other accountability applications. The coulometer features include: a patented current integration system; continuous electrical calibration versus Faraday's Constants and Ohm's Law; the control-potential adjustment technique for enhanced application of the Nernst Equation; a wide operating room temperature range; and a fully automated instrument control and data acquisition capability. The coulometer and instrument controller have been periodically upgraded to remain current with available high-precision potential control and current integration components. The coulometers being provided by WSRC have a demonstrated measurement reliability of ~0.04% for 10-mg. A stability of $\pm 0.0015\%$ RSD for the electronic calibration factor has been demonstrated. Precision of $\pm 0.005\%$ RSD for the electronic calibration has been demonstrated.</p> <p>The IAEA and the Japan Nuclear Cycle Development Institute (JNC) have determined that the coulometer technology developed by WSRC is the only technology available which meets the accuracy and traceability criteria required for both non-proliferation and material accountancy purposes. Under DOE contract, WSRC has previously provided coulometer systems to the IAEA under the United States Program of Technical Assistance to International Atomic Energy Safeguards (POTAS); and also to the Power reactor and Nuclear Fuel Development Corporation (JNC) of Japan, under a DOE/JNC agency-to-agency agreement.</p> <p>WSRC is a wholly-owned subsidiary of Washington Group International (WGI), Incorporated, and is the integrating contractor for the Department of Energy at the Savannah River Site. WGI is wholly-owned by Morrison-Knudsen Corporation, a Delaware corporation with no foreign ownership. Because BNFL Nuclear Services, Inc. (BNSI) holds a passive 40% economic right in WGI, WGI and WSRC operate under a DOE-approved Security Control Agreement and Technology Control Plan to ensure compliance with the National Industrial Security Program (NISP) and to effectively insulate classified and sensitive unclassified interests from foreign ownership, control, or influence.</p> <p>Questions concerning this license application should be addressed to Donna Nichols, WSRC Technology Control Officer, (803) 725-7011; or, for technical specifications and other coulometer, Joe Cordaro, WSRC Principal Investigator, (803) 725-5026.</p>

RECEIVED OIP

2001 FEB 8 AM 11:11

WESTINGHOUSE SAVANNAH RIVER COMPANY

FEB 07 2001

TSD-CIS-2000-00237

Ms. Betty Wright
Export/Import Licensing Officer
Office of International Programs
US Nuclear Regulatory Commission
Washington, DC 20555

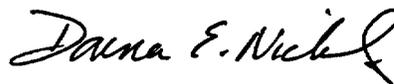
Dear Ms. Wright:

Export License Application for Transfer of Coulometers to Japan

Please find enclosed an NRC Form 7 export license application, including an application fee of \$9300, for export of three (3) controlled-potential coulometer systems to Mitsubishi Heavy Industries (MHI) in Japan, for assembly, testing, and ultimate installation in the Rokkasho Reprocessing Plant. The Rokkasho Reprocessing Plant is owned by Japan Nuclear Fuel Limited (ultimate consignee), and is under full-scope International Atomic Energy Agency (IAEA) safeguards. The coulometers will be utilized at the Rokkasho Reprocessing Plant for performing accurate measurement of plutonium content for the purpose of nuclear material accountancy.

Westinghouse Savannah River Company (WSRC) is the integrating contractor for the Department of Energy (DOE) at the Savannah River Site. WSRC has previously built coulometer systems under DOE-sponsored agency-to-agency programs for the IAEA and the Japan Nuclear Cycle Development Institute (JNC). Mr. William C. O'Connor, DOE Office of International Safeguards (NN-44), is available to answer any questions at an agency level. Mr. O'Connor may be contacted at (202) 586-4867. In addition, activities in regard to this license application have been coordinated with Janet Goldman, Nuclear Transfer and Supplier Policy Division (NN-43), DOE Headquarters.

Due to the contractual delivery date of September, 2001, expedited processing of this license application would be appreciated. Please do not hesitate to contact me at (803) 725-7011 if there are any questions.



Donna E. Nichols
WSRC Technology Control Officer

Attachments:

- 1) NRC Form 7 license application
- 2) License application fee

cc w/att 1: J. Goldman, NN-43
B. S. Drouin, DOE-SR, 703-42A
M. B. Baxter, 730-B

S. R. Formby, 703-A
J. V. Cordaro, 723-A



RECEIVED OIP
2001 FEB -8 AM 11:17



United States Department of State

Washington, D.C. 20520

July 9, 2001

Docket Number

11005254

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 February 9, 2001 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. XCOM1142 -- Application by Westinghouse Savannah River Company for authorization to export to Japan three controlled-potential coulometers including cell assemblies and replacement parts with a total value of ~~\$350,000~~ ^{\$500,000.00 *} for use by the Japan Nuclear Fuel Limited's Rokkasho Reprocessing Plant for material accountancy plutonium measurements. The coulometers will be installed at Rokkasho by Mitsubishi Heavy Industries (MHI) following initial assembly and testing at MHI's Nuclear Fuel Reprocessing Plant Engineering Section Kobe Shipyard and Machinery Works.

It is the judgment of the Executive Branch that the proposed export will 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.

As a party to the NPT, Japan has committed itself to maintain IAEA safeguards on all of its peaceful nuclear activities and has pledged not to manufacture or otherwise acquire any nuclear explosive device. It is therefore the judgment of the Executive Branch that criteria (1) and (2) for exports of nuclear components, substances and items under Section 109b of the Atomic Energy Act, as amended, are met. The remaining criterion, agreement not to retransfer any U.S.-supplied component or material without prior U.S. consent, has been satisfied by letters from the Embassy of Japan dated October 5, 1978 and February 28, 1979, the subject of previous correspondence on nuclear component exports to Japan

On the basis of the foregoing, the Executive Branch recommends that the license be issued.

Sincerely,

Richard J. K. Stratford
Director
Nuclear Energy Affairs

* Corrected to \$500,000.00.
OK per R. De laBarro, DOS
B RW

RECEIVED OIP
2001 JUL 10 AM 11:28