

July 28, 1980

SECY-80-354

## COMMISSIONER ACTION

For: The Commissioners

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

Thru: Acting Executive Director for Operations

Subject: PROPOSED LICENSE TO EXPORT LOW-ENRICHED URANIUM FOR  
MAANSHAN UNITS 1 AND 2 IN TAIWAN (SECY-80-317) (XSNM-1431)

Purpose: Commission review of proposed issuance of subject license  
to Westinghouse Electric Corporation.

Review Date: 60-day period expires on August 14, 1980.  
120-day period expires on October 14, 1980.

Discussion: In December 1978, Westinghouse Electric Corporation applied  
for a license to export to Taiwan 325,822 kilograms of uranium  
in the form of fuel assemblies containing uranium dioxide  
enriched to a maximum of 3.3 percent U-235 (see SECY-80-317,  
July 1, which forwarded the views of the Executive Branch on  
this case). The material will be used for the initial cores  
and three reloads each for the Maanshan nuclear power reactor  
Units 1 and 2 (formerly Taiwan Units 5 and 6). The application  
also covers an additional four fuel assemblies for contingencies.

The Maanshan Units 1 and 2, located near the southernmost tip  
of Taiwan, are 907 megawatt electric, pressurized-water reactors.  
Unit 1 is scheduled to begin commercial operation in October 1984;  
Unit 2 in October 1985. Fuel shipments under this proposed  
license are scheduled to begin April 1983 and end April 1990.  
However, the applicant has advised us that, because its contract  
with Taiwan Power Company provides for an emergency fuel assembly  
supply of four additional assemblies in case of a mechanical  
failure during operation, they have requested that the license  
be valid until 2024, the designed life expectancy of the plant. The  
Executive Branch (see SECY-80-317, July 1) has recommended that the  
license be valid only for a period of eight years after the first  
shipment (April 1983) or until April 1991, and limited to the initial

Contact:  
William Upshaw, IP (49-28155)

8008270 006

Discussion:  
(Continued)

cores (including the four spare fuel assemblies) and three reloads for each reactor. In our subsequent discussion with Westinghouse about this matter, they agreed that the Executive Branch's limitations were acceptable.

In connection with its review of this application, the Executive Branch has (1) concluded that the issuance of the license, if limited as proposed, would not be inimical to the common defense and security of the United States; (2) confirmed that the material will be subject to the June 1972 agreement for cooperation between Taiwan and the U.S., as amended in June 1974; and (3) confirmed that Taiwan has adhered to the provisions of that Agreement.

Based upon our independent analysis of this case and the Executive Branch's views, IP has determined that Taiwan meets all of the relevant criteria of the Atomic Energy Act, as amended, and, accordingly, that the license should be issued.

Additional copies of the Executive Branch views of June 12 and a copy of the license application are attached at Appendices A and B, respectively. A copy of the proposed license is attached at Appendix C.

International  
Safeguards and  
Physical  
Security  
Review:

Facility Attachments - IAEA safeguards for the proposed export will be applied under the U.S. trilateral safeguards agreement which entered into force on December 6, 1971. Facility attachments have not been developed for the reactors covered by this export license application. The IAEA would not expect to receive design information until the reactors are in an advanced stage of construction, at which time the appropriate facility attachment(s) could be prepared. The staff does not expect that the IAEA would have any problems in completing the necessary facility attachment(s) at the appropriate time.

Safeguards Effectiveness - A technical assessment of safeguards in Taiwan was transmitted to the Commission in SECY-79-537A. Although insufficient information is available to completely evaluate the effectiveness of safeguards in Taiwan, the staff believes that the control of and accounting for the reactor fuel assemblies, on an item basis, will be within Taiwan's capabilities and will pose no unusual safeguards problems for the IAEA.

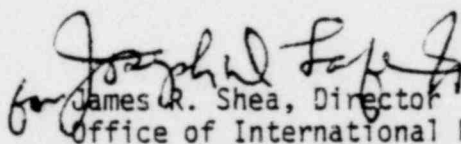
Full Scope Safeguards - It is our understanding that all nuclear materials, equipment and facilities currently in Taiwan are subject, where appropriate, to IAEA safeguards pursuant to bilateral and trilateral arrangements with the U.S. More

specifically, in examining the status of safeguards in Taiwan, the staff reviewed such matters as material that is exempted or suspended from safeguards coverage pursuant to current IAEA agreements, the status of safeguards at other power reactors in Taiwan, and the status of facility attachments for research and development laboratories.

Physical Security - Staff has reviewed the physical security program in Taiwan and found it adequate for the purpose of this export.

Recommendation: That the proposed license be issued to Westinghouse Electric Corporation.

Coordination: ELD has no legal objection. NMSS views are presented in the context of the International Safeguards and Physical Security Review.

 **JUN 25 1980**  
James R. Shea, Director  
Office of International Programs

Enclosures:

1. A - Executive Branch  
Views of June 12
2. B - License Application  
of December 1978
3. C - Proposed Export License  
XSNM-1431

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Tuesday, August 5, 1980.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT August 1, 1980, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION

Commissioners  
Commission Staff Offices  
Exec Dir for Operations  
Secretariat



DEPARTMENT OF STATE  
Washington, D.C. 20520

TAIWAN  
XSNM01431

BUREAU OF OCEANS AND INTERNATIONAL  
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

*Taiwan*

June 12, 1980

*XSNM 01431*

*Initial cores ad*

*3 reeds maanshan*

*Unit 1+2*

MEMORANDUM FOR JAMES R. SHEA  
NUCLEAR REGULATORY COMMISSION

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

The Executive Branch, on the basis of its review of this case, has concluded that the requirements of the Atomic Energy Act as amended by P.L. 95-242 have been met and that the proposed export would not be inimical to the common defense and security of the United States. Moreover, Taiwan has adhered to the provisions of the applicable agreement for cooperation and continued U.S. cooperation under this agreement is authorized by the Taiwan Relations Act of 1979.

*Louis V. Nosenzo*  
Louis V. Nosenzo  
Deputy Assistant Secretary

RECEIVED  
JUN 15 1980

Enclosure:

As stated

1980 JUN 15 PM 1 31

EXPORT/IMPORT  
INTERNATIONAL AFFAIRS

*75-251*

EXPORT LICENSE APPLICATION ANALYSIS

XSNM01431

Recipient: Taiwan

Transaction: The export of 8,845 kilograms of U-235 contained in 325,822 kilograms of uranium in the form of fuel assemblies containing uranium dioxide enriched to a maximum of 3.3 percent U-235

Applicant: Westinghouse Electric Corporation

Applicant's Reference: ICS-7823

Date of Application: November 17, 1978

Purpose of Export

This enriched uranium dioxide incorporated into fabricated fuel assemblies will be shipped to the Taiwan Power Company in Taiwan for the initial cores and reloads for the Maanshan nuclear power reactor, units one and two (formerly designated as Taiwan Units 5 and 6). An extra margin of 4 fuel assemblies has been included in the quantity of material requested for contingencies.

The Maanshan Units 1 and 2 are 907 megawatt electric pressurized water reactors supplied by Westinghouse. Located near the southernmost tip of Taiwan, the reactors are owned and will be operated by the Taiwan Power Company. Unit 1 is scheduled to begin commercial operation in October 1984; Unit 2 in October 1985. Shipments of the fuel material are scheduled to begin April 1983 and end April 1990.

Westinghouse has requested that the license be valid until the year 2024 to correspond to the designed life of the reactors.

北( 事務協調委員會駐美辦事處

Coordination Council for North American Affairs

Office in U.S.A.

5161 River Road, Washington, D.C. 20016

October 15, 1979

SI - 68024

Dear Mr. Dean:

I wish to refer to your three letters all dated September 21, 1979 and my interim reply dated October 2, 1979 concerning shipments of nuclear materials for Taiwan Power Company, Taipei, Taiwan, Republic of China, as follows:

(1) five CS-1 plutonium-239 alpha check source electroplated on stainless steel for mounting on eberline AC-3 probes from Ebeline Instrument Corporation, Santa Fe, New Mexico;

(2) reload fuel for Kuo-sheng Units 1 and 2 from General Electric Co., San Jose, California; and

~~(3) nuclear fuel regions 1 through and including region 6 for Maanshan Units 1 and 2 utilization facilities from Westinghouse Electric Co., Pittsburgh, Pennsylvania.~~

I have been requested by the appropriate authority in Taipei to confirm that:

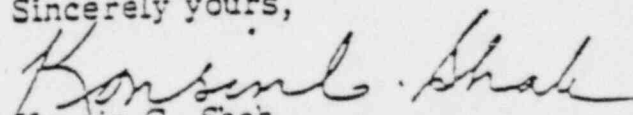
(1) transfers of the above-mentioned materials will be subject to all terms and conditions of the Agreement for Cooperation on Civil Uses of the Atomic Energy signed between our two countries on April 4, 1972 and entered into force on June 2, 1972 and amended on March 15, 1974;

(2) physical security measure comparable to that set forth in IAEA INFCIRC/225/Revision 1 will be strictly maintained; and

(3) Taiwan Power Company is authorized to possess and receive the materials.

I shall appreciate it very much if export licenses can be issued against the applications as soon as possible.

Sincerely yours,

  
Konsin C. Shah  
Representative

Mr. David Dean  
Chairman of the Board  
and Managing Director  
American Institute in Taiwan  
1700 N. Moore St., 17th floor  
Arlington, VA 22209

1. Applicable Agreement for Cooperation

The proposed export is subject to all of the terms and conditions of the applicable agreement for cooperation which entered into force on June 22, 1972, as amended on June 14, 1974 (23 UST 945, TIAS 7364; 25 UST 913, TIAS 7834). This was confirmed in a letter from the Coordination Council for North American Affairs, a copy of which is enclosed.

Taiwan has adhered to all provisions of that agreement for cooperation.

2. Extent to Which Export Criteria Are Met

A. Section 127 Criteria

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

Criterion (1)

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

Taiwan remains bound by Non-Proliferation Treaty (NPT). As a result of Taiwan's expulsion from the IAEA in December 1971, an NPT safeguards agreement has not been concluded between the IAEA and the authorities on Taiwan. However, IAEA safeguards, essentially comparable to those required under the NPT, are in effect on all nuclear material and facilities on Taiwan under a trilateral safeguards agreement, pursuant to INFCIRC/66/Rev. 2, which entered into force on December 6, 1971 (22 U.S.T. 1837, TIAS 7228). Should the IAEA terminate the application of safeguards on Taiwan for any reason, the United States has the right to apply bilateral safeguards in lieu of IAEA safeguards pursuant to the applicable agreement for cooperation.

Therefore, it is the Executive Branch view that criterion (1) is met.



Criterion (2)

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

Since it remains bound by the obligations under the NPT, Taiwan is committed not to develop or use nuclear explosive devices for any purpose. Moreover, the authorities on Taiwan have provided separate assurances to the U.S. in this regard.

Therefore, it is the Executive Branch view that criterion (2) is met.

Criterion (3)

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

The Executive Branch has assessed the physical security measures maintained by the authorities on Taiwan with respect to nuclear material and facilities and determined that they are adequate for the material covered by this license application.

The Coordination Council for North American Affairs has provided by letter, a copy of which is enclosed, assurances that the material covered by this export request will be accorded physical protection consistent with INFCIRC/-225/Rev. 1.

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

Criterion (4)

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

Article X (3) of the applicable agreement for cooperation, as amended in 1974, stipulates that no material, including equipment and devices, transferred pursuant to the agreement will be transferred to unauthorized persons or to the jurisdiction of another nation or group of nations, unless the U.S. agrees to such a transfer, and then only if, in the opinion of the U.S., the transfer of the material is within the scope of an Agreement for Cooperation between the Government of the United States of America and the other nation or group of nations.

Article VIII E. of the applicable agreement, as amended in 1974, provides that no special nuclear material produced through the use of material transferred pursuant to the agreement will be transferred to the jurisdiction of any other nation or group of nations, except as the U.S. may agree to such a transfer.

These articles give the U.S. an unqualified approval right over the retransfer of material from Taiwan supplied by the U.S. or special nuclear material produced through the use of such material.

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

Criterion (5)

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

Article VIII C. of the applicable agreement for cooperation, as amended in 1974, requires a joint determination of the United States and the authorities on Taiwan prior to the reprocessing, or alteration in form or content of any irradiated fuel elements containing fuel material received from the United States of America pursuant to this Agreement.

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

Criterion (6)

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

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

D. Section 128 Criterion

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

Since Taiwan is bound by the obligations of the NPT, it has accepted IAEA safeguards on all its nuclear activities, thereby satisfying this criterion. (Note special conditions set forth under criterion (1) in Part A.)

### 3. Additional Factors

#### A. Safeguards Implementation

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

4. Inimicality Judgment

Based on review of the proposed export, it is the judgment of the Executive Branch that the proposed export will not be inimical to the common defense and security, and that the license should be issued, provided the validity is limited for eight years from the date of first shipment (April 1983) or until April 1991 and the amount limited to initial core and three reloads.



APPLICATION FOR LICENSE TO EXPORT NUCLEAR MATERIAL AND EQUIPMENT (See Instructions of Form 1041)

TLAJEL

1. APPLICANT'S NAME AND ADDRESS: Westinghouse Electric Corporation  
 2. NRC USE: \_\_\_\_\_  
 3. LICENSE NO.: 45-N-MA-1431  
 4. DOCKET NO.: 71-000366  
 5. DATE OF APPLICATION: 11/17/78  
 6. APPLICANT'S REFERENCE: ICS-7823  
 7. SUPPLIER'S NAME AND ADDRESS: Westinghouse Electric Corporation  
 8. STREET ADDRESS: Bluff Road  
 9. CITY: Columbia  
 10. STATE: SC  
 11. ZIP CODE: 29204  
 12. PHONE NUMBER: (412)-373-5115  
 13. EST. DATE OF FIRST USE: April 1983  
 14. EST. DATE OF FIRST USE: January 1990  
 15. EST. DATE OF FIRST USE: April 1983  
 16. EST. DATE OF FIRST USE: 2024

11. ULTIMATE END USE: Taiwan Utilization Facilities Maanshan Unit #1 and Unit #2 (Formerly Taiwan Units 5 & 6)  
 12. INTERMEDIATE END USE: None  
 13. INTERMEDIATE END USE: None  
 14. INTERMEDIATE END USE: None  
 15. INTERMEDIATE END USE: None  
 16. INTERMEDIATE END USE: None

17. DESCRIPTION	18. MAX. ELEMENT WEIGHT	19. MAX. WT. %	20. MAX. ISOTOPE WT.	21. UNIT
Uranium Dioxide Sintered Pellets encapsulated in sealed fuel rods and assembled into fuel assemblies.	162,911	3.3 w/o	4,472.5	kgs.
	162,911	3.3 w/o	4,472.5	kgs.
Totals for #1 and #2	325,822		8,845.0	kgs.

22. COUNTRY OF ORIGIN: Unknown  
 23. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known): \_\_\_\_\_

ADDITIONAL INFORMATION: Fuel assemblies will be shipped in Westinghouse owned Model RCC, RCC-1, RCC-2 or RCC-3 containers in accordance with U.S. NRC Certificate of Compliance No. 5450 Docket No. 71-5450, U.S. D. O. INTERBAER Certificate US/5450/8F will apply.

APPROVED OFFICIAL: [Signature]  
 SIGNATURE: [Signature]  
 800 71 70258 dup

THIS LICENSE EXPIRES 01 April 1991

XSNM01431

**United States of America**  
Nuclear Regulatory Commission

Pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974 and the regulations of the Nuclear Regulatory Commission issued pursuant thereto, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued to the licensee authorizing the export of the materials and/or production or utilization facilities listed below, subject to the terms and conditions herein.

LICENSEE		ULTIMATE CONSIGNEE IN FOREIGN COUNTRY	
NAME	Westinghouse Electric Corporation	NAME	Taiwan Power Company
ADDRESS	P.O. Box 355 Pittsburgh, Pennsylvania 15230	ADDRESS	39 East Hoping Road, Section 1 Taipei, Taiwan Republic of China
	ATTN: R. J. Hess		(Initial core and three reloads including four spare assemblies, each for Maanshan U Units 1 and 2)
INTERMEDIATE CONSIGNEE IN FOREIGN COUNTRY		OTHER PARTIES TO EXPORT	
NAME	NONE	Westinghouse Electric Corporation Bluff Road Columbia, South Carolina	
ADDRESS			

APPLICANT'S REF. NO. ICS-7823

COUNTRY OF ULTIMATE DESTINATION Taiwan

QUANTITY	DESCRIPTION OF MATERIALS OR FACILITIES
8,845 kilograms	Uranium-235  Contained in 325,822 kilograms uranium, as uranium dioxide sintered pellets encapsulated in sealed fuel rods and assembled into fuel assemblies.  Conditions 6 and 8 on page two of this license apply to this export.
//////////////////////END//////////////////////////////////////	

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954, as amended and the Energy Reorganization Act of 1974.  
  
This license is subject to the right of recapture or control by Section 108 of the Atomic Energy Act of 1954, as amended and to all of the other provisions of said Acts, now or hereafter in effect and to all valid rules and regulations of the Nuclear Regulatory Commission.

THIS LICENSE IS INVALID UNLESS SIGNED BELOW  
BY AUTHORIZED NRC REPRESENTATIVE  
  
**James B. Devine, Assistant Director**  
Export/Import and International Safeguards  
Office of International Programs

DATE OF ISSUANCE \_\_\_\_\_

**EXPORT LICENSE**