



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

DCS/DF02
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JAN 10 1991

Mr. Carlton E. Thorne, Director
Office of Nuclear Export Control
Bureau of Oceans and International
Environmental and Scientific Affairs
U.S. Department of State
Washington, D.C. 20520

Dear Mr. Thorne:

Enclosed is an application for an export license (XSNM02580), recently received by the Nuclear Regulatory Commission, for the export of high enriched uranium for use as fuel in the HFR Grenoble research reactor in France.

Before taking action on this request, we would appreciate your views, in accordance with established procedures and from the overall perspective of the Executive Branch, as to whether the proposed export meets the applicable criteria in the Atomic Energy Act of 1954 as amended by the Nuclear Non-proliferation Act of 1978.

Sincerely,

Ronald D. Hauber, Assistant Director
for Exports, Security, and Safety Cooperation
International Programs
Office of Governmental and Public Affairs

Enclosure:
Appl. dtd. 12/19/90
(XSNM02580 - France)

cc w/Enclosure:
T. Hart, DOE
R. DeLaBarre, DOS
N. Martin, DOE
M. Rosenthal, ACDA
L. Burdick, DOD
G. Kuzmycz, DOC
J. Matos, ANL

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT (See Instructions on Reverse)

1. APPLICANT'S USE		a. DATE OF APPLICATION		b. APPLICANT'S REFERENCE		2. NRC USE		c. DOCKET NO.		d. LICENSE NO.		
		Dec. 19, 1990		TNP518				11004389		XSUM02580		
3. APPLICANT'S NAME AND ADDRESS						4. SUPPLIER'S NAME AND ADDRESS						
a. NAME Transnuclear, Inc.						b. NAME c/o Martin Marietta Energy Systems, Inc.						
b. STREET ADDRESS Two Skyline Drive						c. STREET ADDRESS 3930 State Route 23 South						
c. CITY Hawthorne				STATE NY		ZIP CODE 10532		d. CITY Piketon				
STATE				ZIP CODE		STATE				ZIP CODE		
OH				45661		OH				45661		
5. FIRST SHIPMENT SCHEDULED						6. FINAL SHIPMENT SCHEDULED		7. APPLICANT'S CONTRACTUAL DELIVERY DATE		8. PROPOSED LICENSE EXPIRATION DATE		
ASAP						N/A		Same as item 5		Three yrs from date of issuance		
9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)						To be determined						
10. ULTIMATE CONSIGNEE						11. ULTIMATE END USE						
a. NAME Institut Max Von Laue - Paul Langevin						b. NAME Will be used in the RHF reactor at Grenoble (see attached end use statement)						
b. STREET ADDRESS Avenue des Martyrs						11a. EST. DATE OF FIRST USE						
c. CITY - STATE - COUNTRY 156X-38042-Grenoble-Cedex-France						13. INTERMEDIATE END USE						
12. INTERMEDIATE CONSIGNEE						13a. EST. DATE OF FIRST USE						
a. NAME CERCA						For fabrication of fuel elements (see attached end use statement)						
b. STREET ADDRESS						15. INTERMEDIATE END USE						
c. CITY - STATE - COUNTRY Romans - France						15a. EST. DATE OF FIRST USE						
14. INTERMEDIATE CONSIGNEE						15. INTERMEDIATE END USE						
a. NAME Transnucleaire, SA						For transport purposes only						
b. STREET ADDRESS 11 bis rue Christophe Colomb						15a. EST. DATE OF FIRST USE						
c. CITY - STATE - COUNTRY 75008 Paris, France												
16. NRC USE		17. DESCRIPTION <i>(Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)</i>				18. MAX ELEMENT WEIGHT		19. MAX. WT. %		20. MAX ISOTOPE WT.		21. UNIT
		Uranium in the form of Uranium Metal, enriched to 93.3 w/o maximum				(U) 69.345		93.3		(U235) 64.699		Kgs
22. COUNTRY OF ORIGIN - SOURCE MATERIAL				23. COUNTRY OF ORIGIN-SNM WHERE ENRICHED OR PRODUCED				24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known) EURATOM INTL SAFEGUARDS				
25. ADDITIONAL INFORMATION (Use separate sheet if necessary)												
26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application is correct to the best of his/her knowledge.												
27. AUTHORIZED OFFICIAL				a. SIGNATURE Joan McLaughlin				b. TITLE Traffic Coordinator				

9101100357



TRANSNUCLEAR, INC.

December 19, 1990

Mrs. Betty Wright
United States Nuclear Regulatory Commission
One White Flint North
Mail Stop 3-H-5
Washington, DC 20555

Re: Export License Application for ILL- renoble
TNY Ref: TNP 518

Dear Betty:

Enclosed is the export license application along with corresponding end use statement and reactor checklist for your handling of 64.699 Kgs U235 contained in 69.345 Kgs Uranium, in the form of Uranium metal, enriched to 93.3 w/o maximum. These figures include tolerances.

Please call if you have any questions.

Very truly yours,

TRANSNUCLEAR, Inc.

Joan McLaughlin
Traffic Coordinator

JMCL:hs
Enclosures

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TWO SKYLINE DRIVE • HAWTHORNE, NEW YORK 10532-2120
TELEPHONE: 914-347-2345 • FAX: 914-347-2346 • TELEX: 681-8082

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TO WHOM IT MAY CONCERN
END USE STATEMENT

The undersigned certify that the following maximum quantities, i.e.

69.00 \pm 0.20 kg of Uranium
93.15 \pm 0.15 W/o U-235 enriched
64.27 \pm 0.20 kg of U-235 content

in the form of metal

will be furnished to us under a Short-term Fixed-Commitment Contract with DOE and will be used as fuel in the HFR - reactor at GRENOBLE.

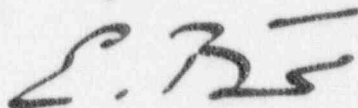
CERCA/ROMANS (FRANCE) shall perform the manufacturing of the fuel elements.

We authorise TRANSNUCLEAIRE/PARIS (France), to apply for the U.S. export license.

For the Director of ILL

Date : 07/12/1990

Signature :



E. BAUER

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CHECKLIST FOR USE IN REVIEW OF REQUESTS FOR HEU
TO DETERMINE TECHNICAL AND ECONOMIC JUSTIFICATION

1. Name of reactor and facility : Réacteur à Haut Flux - High Flux Reactor at INSTITUT LAUE - LANGEVIN (ILL).
2. Location : GRENOBLE (France).
3. Quantity of Uranium requested (kg U) : 69.00 ± 0.20 kg.
4. Enrichment in the isotope U-235 : 93.15 ± 0.15 %.
5. Quantity of Uranium requested (kg U-235) : 64.27 ± 0.20 kg.
6. Type of fuel element and form of Uranium : M T R, U AL_x.
7. Current reactor power level (MW th) : 57 MW th.
8. Duty factor, average burn-up : Duty factor : 74 % - Average burn-up 40 %.
- 9a. Current core loading (kg U-235) : 8.5 kg.
- 9b. Amount of fuel per element (kg U-235) : 8.5 kg.
- 9c. Number of elements in core : 1.
- 9d. Average core life : 47 days.
- 9e. Active core dimensions : diameter : 390 mm, length : 813 mm.
10. Annual fuel usage (kg U-235) : 6 fuel elements x 8.5 kg = 51 kg.
11. Annual spare fuel requirement, if any (kg U-235) : 3 x 8.5 = 25.5 kg.
12. Plans to increase, decrease reactor power : None.
13. Estimated annual supply of current fuel request : 51 kg.
14. Required manufacturer's working stock, if any, included in this request (kg U-235) :

CERCA : 55.8 kg

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15. Fabrication loss, if any, included in this request (kg U-235):
1 kg for 25 kg Uranium.
16. Names of convertor and fabrication of fuel :
and Convertor : DOE - USA.
17. Fabrication CERCA (France).
- 18a. Quantity of scrap U-235, usable, non-usable (kg U-235) :
Quantities of scrap U-235 usable are included in manufacturer's working stock (see 14). Quantity of scrap U-235 non-usable are 2 kg per year.
- 18.b Quantity of fabricated unirradiated stored fuel available :
At ILL : 8,5 kg U-235..
- 18c. Quantity of unirradiated non-fabricated stored fuel (which will be available from fabrication planned or in process) :

At CERCA : 133.3 kg U-235
- 18d. Amount of spent fuel stored (kg U-235) :

At ILL : $16 \times 5.1 \text{ kg} = 81.6 \text{ kg}$
At SRP for reprocessing : None.
At Enrichment Plant : None.
19. Date at which current inventory, including a, b, c, will be expended :
February 1992.
20. Date current requested fuel will be needed at reactor :
February 1993.
21. Date current requested fuel will be needed by convertor and fabricator :

In fabricator's hand : April 1992.
In convertor's hand : October 1991.
- 22a. Time taken for shipment from USA to convertor/fabricator :
1 month.
- 22b. Lead time for ordering in USA : 6 months.
23. Date at which current requested fuel will be expended i.e., when a further HEU supply will be needed at reactor :
April 1993 (Fabrication : June 1992).
24. Date at which reactor could be converted to 45 % fuel ; to 20 % fuel, including time required for licensing procedure :

Unknown (until now no technical possibility).

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25. History and dates of previous HEU supplies by the US :

Licence n° (kg U-235)	Quantity in Europe	Arrival date	Observations
XSNM 02454	29.7	October 89	Fresh Uranium
XSNM 02315-2	20.7	October 89	Fresh Uranium (29,8) and recovered from reprocessing at SRP (40.9)
UE - EU 7	32.5	Unknown before 1978	US-DOE to COGEMA under contract UE-EU7
XSNM 02315	23.2	October 88	Fresh Uranium
XSNM 02241/1	48.8	October 88	43.2 recovered from reprocessing at SRP + 5.6 kg Fresh Uranium
XSNM 02241	25	04/03/86	Fresh Uranium
XSNM 02143	50.5	10/09/85	Recovered from re- processing at SRP
XSNM 02012	23.2	11/15/83	Fresh Uranium
XSNM 1924	26.1	08/20/82	Recovered from re- processing at SRP
XSNM 1764	23.2	12/18/81	Fresh Uranium
XSNM 1536	23.2	12/18/81	Fresh Uranium
XSNM 1521	30.6	12/10/81	Recovered from re- processing at SRP
XSNM 1362	67.7	10/23/80	Recovered from re- processing

26. Amount of fuel of U.S. origin previously consumed during operation
of reactor :

Amount of fuel of U.S. origin consumed since the first start up in December
1971 : 97 fuel elements x 3.4 kg = about 329.8 kg.

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27. Status of cooperation between reactor operator and Argonne National Laboratory in reduced enrichment program (RERTR) :

Close cooperation e.g. :

December 12, 1979 Visit at ILL (Grenoble by D. STAHL and J.L. SNELGROVE (accompanied by MM. CEJA and MATTERN of US DOE).

May 7, 1980 Visit at Argonne by MM. GRILLO and JACQUEMAIN (MM. TRAVELLI, STAHL, MATOS, SNELGROVE).

September 23, 1981 Visit at ILL GRENOBLE by Dr. John DARDIS, State Department.

May 4, 1982 Visit at ILL GENOBLE by MM. TRAVELLI and J.E. MATOS with exchange of documents and technical data.

October 23, 1987 Visit at ILL GRENOBLE by M. TRAVELLI, RERTR Program Manager, for discussions about the feasibility of using fuels with reduced enrichment in the RHF.

28. Status of agreement between reactor operator and ANL to reduce enrichment :

Until now no formal agreement.

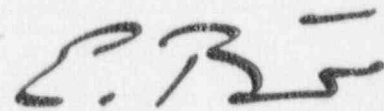
29. Status of cooperation between reactor operator and IAEA reduced enrichment program :

No direct cooperation between ILL and IAEA. However, connections by the ILL associates : French CEA and German KFK and also by the ILL's fuel elements supplier : CERCA (France).

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