AUG 7 1985

Mrs. Eleanor Busick, Acting Director
Office of Nuclear Export/Import Control
Bureau of Oceans and International
Environmental & Scientific Affairs
U.S. Department of State, Room 4327A
Washington, D.C. 20520

Dear Mrs. Busick:

Enclosed please find an application from Transnuclear, Inc. for a license to export HEU to France for use in the High Flux Reactor at Grenoble.

Before taking action on this license application, we would appreciate your views, in accordance with established procedures, as to whether the proposed export meets the applicable criteria in the Atomic Energy Act, as amended by the Nuclear Non-Proliferation Act of 1978. Inasmuch as the original EURATOM analysis was dated December 8, 1978, we would appreciate receiving an updated analysis.

Sincerely,

Original Signed by
R. Neal Moore

R. Neal Moore, Acting Assistant Director
Export/Import and International Safeguards
Office of International Programs

Enclosure:
Appl. dtd. 8/2/85,(XSNM02241)

cc w/enclosure:
Mr. Ted Hart, DOE
Ms. Nataly Martin, DOE
Mr. Robi DeLaBarre, DOS
Mr. Gerald Oplinger, DOD
Mr. Gary Bray, ACDA

DISTRIBUTION:
IP r/f
IPEI r/f
EDO r/f
WJDircks, EDO
PDR
JBecker, ELD
LWirfs, NMSS
DSayles, NMSS
GProco, OROO
GEysymontt, OPE
JRussell, OROO
BStout, MM

OFFICE	IPEI	IPEI	IPEI				
SURNAME	BWright/w/tab	CEberhard	RNMoore				
DATE	8/6/85	8/ /85	8/ /85				

TRANSNUCLEAR, INC.

August 2, 1985

Mr. Neal Moore
Nuclear Regulatory Commission
Office of International Programs
Mail Stop 414-A
East-West/South Tower Building
4340 East-West Highway
Bethesda, Maryland 20815

Re: Export License Application
TN Ref: TNH-463

Dear Mr. Moore:

Enclosed is an export application for your handling on the following:

25.0 Kgs U-235, contained in 26.9 Kgs Uranium,
enriched to 93.30 w/o maximum

Thank you for your cooperation.

Very truly yours,

Beverly S. Josephs
Manager - Washington Operations

Encl: as stated above

CC: Ms. Dubois/Euratom

BSJ

8508040589 1p.

ONE SKYLINE PLACE • 5205 LEESBURG PIKE • FALLS CHURCH, VIRGINIA 22041-3876
TELEPHONE 703-820-2450 • CABLE TRANSNUC FSCH • TELEX 64493

FORM NRC-7
(7-78)
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY GAO
B-180225(R0362)

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

2241

1. APPLICANT'S USE	a. DATE OF APPLICATION	b. APPLICANT'S REFERENCE	2. NRC USE	a. LICENSE NO.	b. DOCKET NO.
	2 August 1985	TNH-463		XSNM02244	11003788

3. APPLICANT'S NAME AND ADDRESS — RIS

a. NAME: Transnuclear, Inc.

b. STREET ADDRESS: One North Broadway

c. CITY: White Plains | STATE: NY | ZIP CODE: 10601

d. TELEPHONE NUMBER (Area Code – Number – Extension): ***PLEASE CALL 703-820-2450 UPON ISSUANCE

4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material) — RIS

a. NAME: U.S.D.O.E. C/O Goodyear Atomic Corp.

b. STREET ADDRESS: Route One

c. CITY: Piketon | STATE: OH | ZIP CODE: 45661

5. FIRST SHIPMENT SCHEDULED	6. FINAL SHIPMENT SCHEDULED	7. APPLICANT'S CONTRACTUAL DELIVERY DATE	8. PROPOSED LICENSE EXPIRATION DATE	9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)
January 1986	N/A	Same as Item 5	3 years from date of issuance	Unknown

10. ULTIMATE CONSIGNEE — RIS

a. NAME: Institut Max Von Laue-Paul Langevin

b. STREET ADDRESS: Avenue des Martyrs

c. CITY – STATE – COUNTRY: 156 X - 38042 Grenoble-Cedex-France

11. ULTIMATE END USE (Include plant or facility name)

Will be used in the High Flux Reactor at Grenoble (see attached E.U.S.)

11a. EST. DATE OF FIRST USE:

12. INTERMEDIATE CONSIGNEE — RIS

a. NAME: NUKEM -Hanau-F.R.G.

b. STREET ADDRESS: CERCA - Romans - France

c. CITY – STATE – COUNTRY:

13. INTERMEDIATE END USE

For conversion (NUKEM) and fabrication (CERCA and NUKEM) of fuel

13a. EST. DATE OF FIRST USE:

14. INTERMEDIATE CONSIGNEE — RIS

a. NAME: Transnuklear GmbH

b. STREET ADDRESS: D-6450 Hanau II

c. CITY – STATE – COUNTRY: FRG

15. INTERMEDIATE END USE

For transport purposes only

15a. EST. DATE OF FIRST USE:

16. NRC USE	17. DESCRIPTION (Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)	18. MAX. ELEMENT WEIGHT	19. MAX. WT. %	20. MAX ISOTOPE WT.	21. UNIT
	Uranium in the form of uranium hexafluoride, enriched to 93.30 w/o maximum	(U) 26.9	93.30	(U-235) 25.0	Kgs

22. COUNTRY OF ORIGIN-SOURCE MATERIAL	23. COUNTRY OF ORIGIN-SNM WHERE ENRICHED OR PRODUCED	24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known)
* see below	U.S.A.	EURATOM

25. ADDITIONAL INFORMATION (Use separate sheet if necessary)

*At this time it is unknown whether there will be any Australian origin material, however Transnuclear will advise NRC if such is the case.

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.

2548 AA584 6pp

27. AUTHORIZED OFFICIAL	a. SIGNATURE	b. TITLE
	Beverly S. Josephs	Manager - Washington Operations

INSTITUT MAX VON LAUE - PAUL LANGEVIN

Grenoble le July 10, 1985

Vlettre du

Notre référence à rappeler :
MJ/ek-85/256

END USE STATEMENT

We certify that the following quantities based on contractual figures, and including DOE allowable tolerances on Uranium weight and enrichment:

Kg U	Kg U 235	Maximum enrichment
26,9	25	93,30 %

which application for export licence will be applied by Transnuklear GmbH will be used in the High Flux Reactor located at GRENOBLE.

For the Director of the INSTITUT
LAUE - LANGEVIN

INSTITUT
MAX VON LAUE
PAUL LANGEVIN

Grenoble, July 10, 1985

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) : 26,9 kg
4. Enrichment in the isotope U-235 : 93 %
5. Quantity of uranium requested (kg U-235) : 25 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 : 44 days

9e. Active core dimensions : diameter : 390 mm - Length : 813 mm

9f. Neutron flux : 1.2×10^{15} $n/cm^2/s$

10. Annual fuel useage (kg U-235) : 6 fuel elements x 8.5 kg = 51 kg
11. Annuel spare fuel requirement, if any (kg U-235) : 2 x 8.5 = 17 kg
12. Plans to increase, decrease reactor power level : None
13. Estimated annual supply of current fuel request : 51 kg
14. Required manufactur's working stock, if any, included in this request (kg U-235) :

    CERCA : 30 kg
    NUKEM : 15 kg

.../...

15. Fabrication loss, if any, included in this request (kg U-235) : 1 kg (for 25 kg)

16. and 17. Names of convertor and fabrication of fuel : Convertor : NUKEM (Germany)
Fabricator of fuel : NUKEM (Germany) and CERCA (France)

18a. Quantity of scrap U-235, useable, non-useable (kg U-235) :

Quantities of scrap U-235 useable are included in manufacture's working stock (see 14). Quantity of scrap U-235 non-useable are 2 kg per year.

18b. Quantity of fabricated unirradiated stored fuel available:

1 fuel element (8.5 kg) at CERCA

4 fuel elements (34 kg) at ILL

18c. Quantity of unirradiated non-fabricated stored fuel (which will be available from fabrication planned or in process) :

at CERCA - 55 kg

at NUKEM - 25,4 kg

18d. Amount of spent fuel stored (kg U-235): - at ILL 2 x 5.1 kg = 10.2 kg

- at SPR for reprocessing:

6 x 5.1 kg = 30.6 kg

- at Portsmouth enrichment plant:

50,5 kg

19. Date at which current inventory, including a, b, c, will be expended:

March 1987

20. Date current requested fuel will be needed at reactor:

Beginning of 1987

21. Date current requested fuel will be needed by convertor and fabricator:

in fabricator's hand: April 1986

in convertor's hand : February 1986

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 : Mid of 1987 (Fabrication : Mid of 1986).

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)

.../...

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

Licence No.	Quantity (kg U-235)	Arrival date in Europe	Observations
XSNM 02143	50,5	Estimated Sept. 85	Recovered from reprocessing at SRP
XSNM 02012	23,2	11/15/83	Fresh Uranium
XSNM 1924	26,1	08/20/82	Recovered from reprocessing 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 reprocessing at SRP
XSNM 1362	67,7	10/23/80	Recovered from reprocessing

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

Amount of fuel of U.S. origin consumed since the first start up in December 1971: 68 fuel elements x 3.4 kg = about 231 kg.

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 U.S. DOE).
- May 7, 1980 : Visit at ARGONNE by MM. GRILLO and JACQUEMAIN (MM. TRAVELLI, STAHL, MATTOS, SNELGROVE)
- September 23, 1981: Visit at ILL Grenoble by Dr. John DARDIS, State Department
- May 4, 1982 : Visit at ILL Grenoble by MM. TRAVELLI and J.E. MATTOS, with exchange of documents and technical data.

.../...

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 suppliers : CERCA (Fr) and NUKEM (Germnay).