



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-Grenoble
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
Joan McLaughlin
Traffic Coordinator

JMCL:hs
Enclosures

9101100359 901219
PDR XPORT
XSNM-2580

PDR

INT'L SAFEGUARDS
EXPORT IMPORT

90 DEC 33 AM 29

TWO SKYLINE DRIVE • HAWTHORNE, NEW YORK 10532-2120
TELEPHONE: 914-347-2345 • FAX: 914-347-2346 • TELEX: 6801-8082

RECEIVED

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

69.00 ± 0.20 kg of Uranium
93.15 ± 0.15 W/o U-235 enriched
64.27 ± 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.

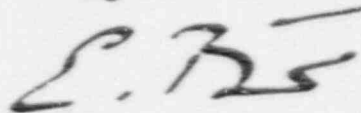
CERCA/ROMANS (FRANCE) shall perform the manufacturing of the fuel elements.

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

EXPORT IMPORT
INT'L SAFEGUARDS

90 DEC 33 18:29

RECEIVED
U.S. MAIL

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.

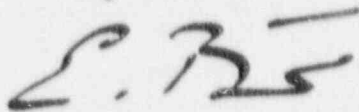
CERCA/ROMANS (FRANCE) shall perform the manufacturing of the fuel elements.

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

INT'L SAFEGUARDS
EXPORT IMPORT

90 DEC 33 18:29

RECEIVED
U.S. MAIL

- *****
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 (g).
 - 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

RECEIVED
U.S. N.P.C.
DEC 33 1980

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

RECEIVED
 U.S.N.B.
 DEC 30 1990

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).

RECEIVED
U.S. M.B.C.

67: 8V 33 331 06

INTL SAFEGUARDS

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 x 5.1 kg = 81.6 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).

INT'L SAFEGUARDS
62: 8V 33 030 06
90 DEC 33 AM 29
RECEIVED
U.S. M.P.C.

XSNM 02454	29.7		
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 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 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.

RECEIVED
U.S. NRC
DEC 30 1981

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.

RECEIVED
U.S. N
DEC 30 1989
62:84 33 030 06

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

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.
- Octobre 23, 1987 Visit at ILL GRENOBLE by M. TRAVELLI, RERT 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).

INT'L SAFEGUARDS
EXPORT IMPORT

90 DEC 33 AM 29

RECEIVED
U.S. N.R.C.



E. BAUER