



GAMMA-METRICS
5788 PACIFIC CENTER BLVD
SAN DIEGO, CA 92121
(619) 450-9811

TELECOPY (619) 452-9290
TELEX 5101011912

XSNM02657
11004531

August 7, 1991

Mr. Ronald D. Hauber
Assistant Director
International Security, Exports, and Material Safety
International Programs
Office of Governmental and Public Affairs
United States Nuclear Regulatory Commission
Washington, DC 20555

RE: Export License Application - Special Nuclear Material

Dear Mr. Hauber:

Enclosed is our consolidated application for a license to export Special Nuclear Material in sensing components for neutron flux monitoring and control systems. The remaining components in the systems will be exported under a separate license.

Note that the quantity of enriched ^{235}U in each fission chamber is 3.562 grams, which exceeds the amount presently authorized for export under a general license per 10CFR110.21(a)(3). I have noted for each facility the number of fission chambers to be exported, and I have totaled that amount for each country.

Also, please note that for the Ascó, Almaraz, Ringhals, and Sizewell plants, the amounts shown are in addition to those already covered by licenses or pending license applications.

Thank you for your efforts in reviewing this application. Please contact me if you need additional information.

Sincerely,

GAMMA-METRICS

H. Gordon Shugars
H. Gordon Shugars
Product Manager
Reactor Instrumentation

EXPORT IMPORT
INTL SAFEGUARDS

91 AUG 8 - 8 PM 16

RECEIVED
U.S. NRC

9110040096 910927
PDR XPORT
XSNM-2656 PDR

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 1 HOUR. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (NINBB 7714), U.S.
NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555,
AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

1. APPLICANT'S USE		a. DATE OF APPLICATION 7 August 1991		b. APPLICANT'S REFERENCE		2. NRC USE		a. DOCKET NO. 11004532		b. LICENSE NO. XSNM02658							
3. APPLICANT'S NAME AND ADDRESS						4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material)											
a. NAME GAMMA-METRICS						a. NAME											
b. STREET ADDRESS 5788 Pacific Center Boulevard						b. STREET ADDRESS											
c. CITY San Diego				STATE CA		ZIP CODE 92121		c. CITY									
d. TELEPHONE NUMBER (Area Code - Number - Extension) 619-450-9811						STATE ZIP CODE											
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)									
1 November 1991		31 December 1996		N/A		31 December 1998											
10. ULTIMATE FOREIGN CONSIGNEE						11. ULTIMATE END USE											
a. NAME See attached sheets - Romania						USE CODE											
b. STREET ADDRESS (Facility Site) TOTAL of 20 Fission Chambers						For use in Neutron Flux Monitoring Systems (see attached sheets)											
c. CITY						11a. DATE REQUIRED 1 December 1991 (first use)											
d. COUNTRY						13. INTERMEDIATE END USE											
12. INTERMEDIATE FOREIGN CONSIGNEE						USE CODE											
a. NAME						13a. DATE REQUIRED											
b. STREET ADDRESS (Facility Site)						15. INTERMEDIATE END USE											
c. CITY						USE CODE											
d. COUNTRY						15a. DATE REQUIRED											
14. INTERMEDIATE FOREIGN CONSIGNEE						15. INTERMEDIATE END USE											
a. NAME						USE CODE											
b. STREET ADDRESS (Facility Site)						15a. DATE REQUIRED											
c. CITY						15. INTERMEDIATE END USE											
d. COUNTRY						USE CODE											
16. COM CODE						17. DESCRIPTION											
						(Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)											
Special Nuclear Material - Fission chamber sensing components (ref 110.21(a)(3)). The chemical form is UO ₂ . The uranium is in sealed sources (sealed fission chambers). One or two fission chambers are packaged in a housing, which with its cable is called a detector assembly. Dollar values of detector assemblies are proprietary.						18. MAX. ELEMENT WEIGHT 3.825g (each fission chamber) TOTAL U 76.5		19. MAX. WT. % 93.12		20. MAX. ISOTOPE WEIGHT 3.562 235u (each fission chamber) TOTAL U-235 71.24 gm		21. UNIT gram					
22. COUNTRY OF ORIGIN - SOURCE MATERIAL USA						23. COUNTRY OF ORIGIN - SNM WHERE ENRICHED OR PRODUCED USA 91: Pd 8-09V 16						24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known) 9409100346 2 pp					
25. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION (Use separate sheet if necessary) Balance of neutron flux monitoring system (i.e., cables, amplifiers, signal processors, and documentation for qualification, operation and maintenance) to be exported under separate specific or general license, as applicable.																	
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 H. Gordon Sluggars				b. TITLE Product Manager							

XSNM058
11004532

COUNTRY Type of License and Quantity
Ultimate Foreign Consignee
Facility Name Facility Site (City, State)

BULGARIA SNM in Detectors (356.2 grams) U-235
100 Fission Chambers (382.5 " Uranium)
Energitika Association

Kozloduy 5 Kozloduy, Vratsa
Kozloduy 6 (50 Fission Chambers)

Belene 1 Belene, Pleven
Belene 2 (50 Fission Chambers)

CZECHOSLOVAKIA SNM in Detectors (178.1 grams) U-235
50 Fission Chambers (191.3 " Uranium)
Czech Power Board

Temelin 1 Temelin, Jihocesky
Temelin 2 (50 Fission Chambers)

ROMANIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Ministry of Electricla Energy

Cernavoda 1 Cernavoda, Constanta
Cernavoda 2 (20 Fission Chambers)
Cernavoda 3
Cernavoda 4
Cernavoda 5

XSNMD

YUGOSLAVIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Krsko Krsko, Slovenia
(20 Fission Chambers)

REPUBLIC OF SOUTH AFRICA SNM in Detectors (142.5 grams) U-235
40 Fission Chambers (153.0 " Uranium)
ESKOM

Koeberg 1 Melkbosstrand, Cape
Koeberg 2 (40 Fission Chambers)

91 AGO-8 PA:17

RECEIVED
U.S. N.S.



GAMMA-METRICS
5788 PACIFIC CENTER BLVD.
SAN DIEGO, CA 92121
(619) 450-9811

TELECOPY (619) 452-9250
TELEX 5101011912

XSNM0365E
11004532

August 7, 1991

Mr. Ronald D. Hauber
Assistant Director
International Security, Exports, and Material Safety
International Programs
Office of Governmental and Public Affairs
United States Nuclear Regulatory Commission
Washington, DC 20555

RE: Export License Application - Special Nuclear Material

Dear Mr. Hauber:

Enclosed is our consolidated application for a license to export Special Nuclear Material in sensing components for neutron flux monitoring and control systems. The remaining components in the systems will be exported under a separate license.

Note that the quantity of enriched ^{235}U in each fission chamber is 3.562 grams, which exceeds the amount presently authorized for export under a general license per 10CFR110.21(a)(3). I have noted for each facility the number of fission chambers to be exported, and I have totaled that amount for each country.

Also, please note that for the Ascó, Almaraz, Ringhals, and Sizewell plants, the amounts shown are in addition to those already covered by licenses or pending license applications.

Thank you for your efforts in reviewing this application. Please contact me if you need additional information.

Sincerely,

GAMMA-METRICS

H. Gordon Shugars

H. Gordon Shugars
Product Manager
Reactor Instrumentation

EXPORT IMPORT
INTL SAFETY

91 AGO-8-09V 16

RECEIVED
U.S. N.R.C.

1109100388
1P

APPLICATION FOR LICENSE TO EXPORT NUCLEAR MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 1 HOUR. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (IMRB 7714), U.S.
NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555,
AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

1. APPLICANT'S USE		2. NRC USE		3. DOCKET NO.		4. LICENSE NO.	
7 August 1991				11004533		XSWm 02659	
3. APPLICANT'S NAME AND ADDRESS				4. SUPPLIER'S NAME AND ADDRESS			
a. NAME GAMMA-METRICS				(Complete if applicant is not supplier of material)			
b. STREET ADDRESS 5788 Pacific Center Boulevard				a. NAME			
c. CITY San Diego		STATE CA		ZIP CODE 92121		b. STREET ADDRESS	
d. TELEPHONE NUMBER (Area Code - Number - Extension) 619-450-9811				c. CITY		STATE ZIP CODE	
5. FIRST SHIPMENT SCHEDULED		6. FINAL SHIPMENT SCHEDULED		7. APPLICANT'S CONTRACTUAL DELIVERY DATE		8. PROPOSED LICENSE EXPIRATION DATE	
1 November 1991		31 December 1996		N/A		31 December 1996	
10. ULTIMATE FOREIGN CONSIGNEE				11. ULTIMATE END USE			
a. NAME See attached sheets - Yugoslavia				(Include plant or facility name)			
b. STREET ADDRESS (Facility Site) TOTAL of 20 Fission Chambers				For use in Neutron Flux Monitoring Systems (see attached sheets)			
c. CITY		d. COUNTRY		11a. DATE REQUIRED 1 December 1991 (first use)			
12. INTERMEDIATE FOREIGN CONSIGNEE				13. INTERMEDIATE END USE			
a. NAME				USE CODE			
b. STREET ADDRESS (Facility Site)							
c. CITY		d. COUNTRY		13a. DATE REQUIRED			
14. INTERMEDIATE FOREIGN CONSIGNEE				15. INTERMEDIATE END USE			
a. NAME				USE CODE			
b. STREET ADDRESS (Facility Site)							
c. CITY		d. COUNTRY		15a. DATE REQUIRED			
16. COM CODE		17. DESCRIPTION		18. MAX. ELEMENT WEIGHT		19. MAX. WT. %	
		(Include chemical and physical form of nuclear material, give dollar value of nuclear equipment and components)		20. MAX. ISOTOPE WEIGHT		21. UNIT	
		Special Nuclear Material - Fission chamber sensing components (ref 110.21(a)(3)). The chemical form is UO ₂ . The uranium is in sealed sources (sealed fission chambers). One or two fission chambers are packaged in a housing, which with its cable is called a detector assembly. Dollar values of detector assemblies are proprietary.		3.825g (each fission chamber) TOTAL 4 76.5		93.12 235u (each fission chamber) TOTAL 4-235 71.24 gm	
22. COUNTRY OF ORIGIN - SOURCE MATERIAL		23. COUNTRY OF ORIGIN - SNM WHERE ENRICHED OR PRODUCED		24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known)			
USA		USA		91 AGO 8-09V 16			
25. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION (Use separate sheet if necessary)							
Balance of neutron flux monitoring system (i.e., cables, amplifiers, signal processors, and documentation for qualification, operation and maintenance) to be exported under separate specific or general license, as applicable.							
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		b. TITLE			
		H. Gordon Slugars		Product Manager			

XSNM02659
11004533

COUNTRY Type of License and Quantity
Ultimate Foreign Consignee
Facility Name Facility Site (City, State)

BULGARIA SNM in Detectors (356.2 grams) U-235
100 Fission Chambers (380.5 " Uranium)
Energitika Association

Kozloduy 5 Kozloduy, Vratsa
Kozloduy 6 (50 Fission Chambers)

Belene 1 Belene, Pleven
Belene 2 (50 Fission Chambers)

CZECHOSLOVAKIA SNM in Detectors (178.1 grams) U-235
50 Fission Chambers (191.2 " Uranium)
Czech Power Board

Temelin 1 Temelin, Jihocesky
Temelin 2 (50 Fission Chambers)

ROMANIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Ministry of Electricla Energy

Cernavoda 1 Cernavoda, Constanta
Cernavoda 2 (20 Fission Chambers)
Cernavoda 3
Cernavoda 4
Cernavoda 5

YUGOSLAVIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Krsko Krsko, Slovenia
(20 Fission Chambers)

XSNM0

REPUBLIC OF SOUTH AFRICA SNM in Detectors (142.5 grams) U-235
40 Fission Chambers (155.0 " Uranium)
ESKOM

Koeberg 1 Koebergstrand, Cape
Koeberg 2 (40 Fission Chambers)

91 AGO-8 P4:17

RECEIVED
U.S. MAIL



GAMMA-METRICS
5788 PACIFIC CENTER BLVD.
SAN DIEGO, CA 92121
(619) 450-9811

TELECOPY (619) 452-9250
TELEX 5101011912

XSNM102659
11004533

August 7, 1991

Mr. Ronald D. Hauber
Assistant Director
International Security, Exports, and Material Safety
International Programs
Office of Governmental and Public Affairs
United States Nuclear Regulatory Commission
Washington, DC 20555

RE: Export License Application - Special Nuclear Material

Dear Mr. Hauber:

Enclosed is our consolidated application for a license to export Special Nuclear Material in sensing components for neutron flux monitoring and control systems. The remaining components in the systems will be exported under a separate license.

Note that the quantity of enriched ^{235}U in each fission chamber is 3.562 grams, which exceeds the amount presently authorized for export under a general license per 10CFR110.21(a)(3). I have noted for each facility the number of fission chambers to be exported, and I have totaled that amount for each country.

Also, please note that for the Ascó, Almaraz, Ringhals, and Sizewell plants, the amounts shown are in addition to those already covered by licenses or pending license applications.

Thank you for your efforts in reviewing this application. Please contact me if you need additional information.

Sincerely,

GAMMA-METRICS

H. Gordon Shugars

H. Gordon Shugars
Product Manager
Reactor Instrumentation

EXPORT IMPORT
INTL SAFEGUARD

91 AGO-8 P4:16

RECEIVED
U.S. NRC

4404147

18

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 1 HOUR. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (NINBB 7714), U.S.
NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555,
AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

1. APPLICANT'S USE	2. DATE OF APPLICATION 7 August 1991	3. APPLICANT'S REFERENCE RIS	4. NRC USE	5. DOCKET NO. 11004534	6. LICENSE NO. XSNM 02660
7. APPLICANT'S NAME AND ADDRESS a. NAME GAMMA-METRICS b. STREET ADDRESS 5788 Pacific Center Boulevard c. CITY San Diego STATE CA ZIP CODE 92121 d. TELEPHONE NUMBER (Area Code - Number - Extension) 619-450-9811			8. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material) a. NAME b. STREET ADDRESS c. CITY STATE ZIP CODE		
9. FIRST SHIPMENT SCHEDULED 1 November 1991	10. FINAL SHIPMENT SCHEDULED 31 December 1996	11. APPLICANT'S CONTRACTUAL DELIVERY DATE N/A	12. PROPOSED LICENSE EXPIRATION DATE 31 December 1998	13. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)	
14. ULTIMATE FOREIGN CONSIGNEE a. NAME See attached sheets - Rep. of South Africa b. STREET ADDRESS (Facility Site) TOTAL of 40 Fission Chambers c. CITY d. COUNTRY			15. ULTIMATE END USE (Include plant or facility name) For use in Neutron Flux Monitoring Systems (see attached sheets) 11a. DATE REQUIRED 1 December 1991 (first use) 13. INTERMEDIATE END USE USE CODE 13a. DATE REQUIRED 15. INTERMEDIATE END USE USE CODE 15a. DATE REQUIRED		
16. INTERMEDIATE FOREIGN CONSIGNEE a. NAME b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY			17. INTERMEDIATE END USE USE CODE 17a. DATE REQUIRED		
18. INTERMEDIATE FOREIGN CONSIGNEE a. NAME b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY			19. INTERMEDIATE END USE USE CODE 19a. DATE REQUIRED		
20. COM CODE	21. DESCRIPTION (Include chemical and physical form of nuclear material, give dollar value of nuclear equipment and components) Special Nuclear Material - Fission chamber sensing components (ref 110.21(a)(3)). The chemical form is UO ₂ . The uranium is in sealed sources (sealed fission chambers). One or two fission chambers are packaged in a housing, which with its cable is called a detector assembly. Dollar values of detector assemblies are proprietary.		22. MAX. ELEMENT WEIGHT 3.825g (each fission chamber) TOTAL 4 153.0	23. MAX. WT. % 93.12	24. MAX. ISOTOPE WEIGHT 3.562 235U (each fission chamber) TOTAL U-235 1425 gm
25. COUNTRY OF ORIGIN - SOURCE MATERIAL USA		26. COUNTRY OF ORIGIN - SNM WHERE ENRICHED OR PRODUCED USA 91:46 8-09V 16		27. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known) 9109110143	
28. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION (Use separate sheet if necessary) Balance of neutron flux monitoring system (i.e., cables, amplifiers, signal processors, and documentation for qualification, operation and maintenance) to be exported under separate specific or general license, as applicable.					
29. 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.					
30. AUTHORIZED OFFICIAL H. Gordon Shugars		31. SIGNATURE H. Gordon Shugars		32. TITLE Product Manager	

XSNM02660
11004534

COUNTRY Type of License and Quantity
Ultimate Foreign Consignee
Facility Name Facility Site (City, State)

BULGARIA SNM in Detectors (356.2 grams) U-235
100 Fission Chambers (385.5 " Uranium)
Energitika Association

Kozloduy 5 Kozloduy, Vratsa
Kozloduy 6 (50 Fission Chambers)

Belene 1 Belene, Pleven
Belene 2 (50 Fission Chambers)

CZECHOSLOVAKIA SNM in Detectors (178.1 grams) U-235
50 Fission Chambers (191.3 " Uranium)
Czech Power Board

Temelin 1 Temelín, Jihočeský
Temelin 2 (50 Fission Chambers)

ROMANIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Ministry of Electrica Energy

Cernavoda 1 Cernavoda, Constanta
Cernavoda 2 (20 Fission Chambers)
Cernavoda 3
Cernavoda 4
Cernavoda 5

YUGOSLAVIA SNM in Detectors (71.24 grams) U-235
20 Fission Chambers (76.5 " Uranium)
Krsko Krsko, Slovenia
(20 Fission Chambers)

REPUBLIC OF SOUTH AFRICA SNM in Detectors (142.5 grams) U-235
40 Fission Chambers (153.0 " Uranium)
ESKOM

Koeberg 1 Melkbosstrand, Cape
Koeberg 2 (40 Fission Chambers)

91 AGO-8 PA:17

RECEIVED
U.S. MAIL



GAMMA-METRICS
5788 PACIFIC CENTER BLVD.
SAN DIEGO, CA 92121
(619) 450-9811

TELECOPY (619) 452-9250
TELEX 5101011912

XSNM02662
11004534

August 7, 1991

Mr. Ronald D. Hauber
Assistant Director
International Security, Exports, and Material Safety
International Programs
Office of Governmental and Public Affairs
United States Nuclear Regulatory Commission
Washington, DC 20555

RE: Export License Application - Special Nuclear Material

Dear Mr. Hauber:

Enclosed is our consolidated application for a license to export Special Nuclear Material in sensing components for neutron flux monitoring and control systems. The remaining components in the systems will be exported under a separate license.

Note that the quantity of enriched ^{235}U in each fission chamber is 3.562 grams, which exceeds the amount presently authorized for export under a general license per 10CFR110.21(a)(3). I have noted for each facility the number of fission chambers to be exported, and I have totaled that amount for each country.

Also, please note that for the Ascó, Almaraz, Ringhals, and Sizewell plants, the amounts shown are in addition to those already covered by licenses or pending license applications.

Thank you for your efforts in reviewing this application. Please contact me if you need additional information.

Sincerely,

GAMMA-METRICS

H. Gordon Shugars
H. Gordon Shugars
Product Manager

Reactor Instrumentation

EXPORT IMPORT
INT'L SAFEGUARD

91 AGO-8-P4:16

RECEIVED
U.S. NRC

9109110139

1P

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT

(See Instructions on Reverse)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 1 HOUR. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION
AND RECORDS MANAGEMENT BRANCH (MNH88 7714) U.S.
NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555
AND TO THE PAPERWORK REDUCTION PROJECT (3150-0027),
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

1. APPLICANT'S USE		2. NRC USE		3. DOCKET NO. 11004535		4. LICENSE NO. XENMD2661	
5. APPLICANT'S NAME AND ADDRESS a. NAME GAMMA-METRICS b. STREET ADDRESS 5788 Pacific Center Boulevard c. CITY San Diego STATE CA ZIP CODE 92121 d. TELEPHONE NUMBER (Area Code - Number - Extension) 619-450-9811				6. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material) a. NAME b. STREET ADDRESS c. CITY STATE ZIP CODE			
7. FIRST SHIPMENT SCHEDULED 1 November 1991		8. FINAL SHIPMENT SCHEDULED 31 December 1996		9. APPLICANT'S CONTRACTUAL DELIVERY DATE N/A		10. PROPOSED LICENSE EXPIRATION DATE 31 December 1998	
11. ULTIMATE FOREIGN CONSIGNEE a. NAME See attached sheets - USSR b. STREET ADDRESS (Facility Site) TOTAL of 700 Fission Chambers c. CITY d. COUNTRY				12. ULTIMATE END USE (Include plant or facility name) For use in Neutron Flux Monitoring Systems (see attached sheets) 13a. DATE REQUIRED 1 December 1991 (first use)			
14. INTERMEDIATE FOREIGN CONSIGNEE a. NAME b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY				15. INTERMEDIATE END USE USE CODE			
16. INTERMEDIATE FOREIGN CONSIGNEE a. NAME b. STREET ADDRESS (Facility Site) c. CITY d. COUNTRY				17. DATE REQUIRED			
18. COM CODE		19. DESCRIPTION (Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)		20. MAX. ELEMENT WEIGHT		21. MAX. ISOTOPE WT. %	
		Special Nuclear Material - Fission chamber sensing components (ref 110.21(a)(3)). The chemical form is UO ₂ . The uranium is in sealed sources (sealed fission chambers). One or two fission chambers are packaged in a housing, which with its cable is called a detector assembly. Dollar values of detector assemblies are proprietary.		3.825g (each fission chamber) TOTAL U 2,677.5		93.12 3.562 235U (each fission chamber) TOTAL U-235 2,493.0 gm	
22. COUNTRY OF ORIGIN - SOURCE MATERIAL USA		23. COUNTRY OF ORIGIN -SNM WHERE ENRICHED OR PRODUCED USA 91:4d 8-08V 16		24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known) 9109120227 2pp			
25. ADDITIONAL INFORMATION ON CONSIGNEES, END USES, AND PRODUCT DESCRIPTION (Use separate sheet if necessary) Balance of neutron flux monitoring system (i.e., cables, amplifiers, signal processors, and documentation for qualification, operation and maintenance) to be exported under separate specific or general license, as applicable.							
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 H. Gordon Shugart		b. TITLE Product Manager			

XSNM02661
11004535

COUNTRY Type of License and Quantity
Ultimate Foreign Consignee
Facility Name Facility Site (City, State)

USSR SNM in Detectors (2493 grams) 4-225
700 Fission Chambers (2,677.5 " Uranium)

Ministry of Nuclear Power

Balakovo 1 Balakovo, Saratov
Balakovo 2 (125 Fission Chambers)
Balakovo 3
Balakovo 4
Balakovo 5

Bashkir 1 Agidel, Bashkir
Bashkir 2 (50 Fission Chambers)

Kalinin 1 Udomlya, Kalinin
Kalinin 2 (100 Fission Chambers)
Kalinin 3
Kalinin 4

Khmel'nitskiy 1 Neteshin, Ukraine
Khmel'nitskiy 2 (100 Fission Chambers)
Khmel'nitskiy 3
Khmel'nitskiy 4

Novovoronezhskiy 5 Novovoronezhskiy, Voronezh
(25 Fission Chambers)

Rovno 3 Kuznetsovsk, Ukraine
Rovno 4 (50 Fission Chambers)

South Ukraine 1 Konstantinovka, Ukraine
South Ukraine 2 (100 Fission Chambers)
South Ukraine 3
South Ukraine 4

Zaporozhye 1 Energodar, Ukraine
Zaporozhye 2 (150 Fission Chambers)
Zaporozhye 3
Zaporozhye 4
Zaporozhye 5
Zaporozhye 6

INT'L SAFEGUARDS
EXPORT IMPORT

XSNM0

91 AGO-8 P4:17

RECEIVED
U.S.N.S.



GAMMA-METRICS
5786 PACIFIC CENTER BLVD.
SAN DIEGO, CA 92121
(619) 450-9811

TELECOPY (619) 452-9250
TELEX 5101011912

XSNM02661
11004535

August 7, 1991

Mr. Ronald D. Hauber
Assistant Director
International Security, Exports, and Material Safety
International Programs
Office of Governmental and Public Affairs
United States Nuclear Regulatory Commission
Washington, DC 20555

RE: Export License Application - Special Nuclear Material

Dear Mr. Hauber:

Enclosed is our consolidated application for a license to export Special Nuclear Material in sensing components for neutron flux monitoring and control systems. The remaining components in the systems will be exported under a separate license.

Note that the quantity of enriched ^{235}U in each fission chamber is 3.562 grams, which exceeds the amount presently authorized for export under a general license per 10CFR110.21(a)(3). I have noted for each facility the number of fission chambers to be exported, and I have totaled that amount for each country.

Also, please note that for the Ascó, Almaraz, Ringhals, and Sizewell plants, the amounts shown are in addition to those already covered by licenses or pending license applications.

Thank you for your efforts in reviewing this application. Please contact me if you need additional information.

Sincerely,

GAMMA-METRICS

H. Gordon Shugars

H. Gordon Shugars
Product Manager
Reactor Instrumentation

EXPORT IMPORT
INT'L SAFEGUARDS

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