

NRC FORM 7  
(8-2011)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0027

EXPIRES: 08/31/2012

**APPLICATION FOR NRC EXPORT OR IMPORT  
LICENSE, AMENDMENT, RENEWAL,  
OR CONSENT REQUEST(S)**

(See Instructions on Pages 4 and 5)

Estimated burden per response to comply with this mandatory collection request: 2.4 hours. This submittal is reviewed to ensure that the applicable statutory, regulatory, and policy considerations are satisfied. Send comments regarding burden estimate to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0027), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**PART A. FOR NRC USE ONLY**☒ PUBLIC OR ☐ NON-PUBLIC

DATE RECEIVED

MAR 04 2013

LICENSE NUMBER

XCOM 1264

DOCKET NUMBER

11006089

ADAMS ACCESSION NUMBER

**PART B. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, RENEWALS, OR CONSENT REQUESTS**

(If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)

1. NAME AND ADDRESS OF APPLICANT/LICENSEE  
CIANFLONE SCIENTIFIC  
INSTRUMENTS CORPORATION  
135 INDUSTRY DRIVE  
PITTSBURGH, PA 15275

1a. NAME OF APPLICANT'S CONTACT  
THOMAS G. CRONIN

1b. APPLICANT'S REFERENCE NUMBER  
11152012-CBNF

1c. PHONE NUMBER  
412-787-3600

1d. FAX NUMBER  
412-787-5022

FED EIN #25-1473783

1e. E-MAIL ADDRESS  
sales@cianflone.com

**2. TYPE OF ACTION REQUESTED (Check One)**EXPORT  
(Parts B, C, E)IMPORT  
(Parts B, D, E)AMENDMENT/RENEWAL  
Current License Number:CONSENT REQUEST  
(Parts B, C)  
Current License Number:

3. CONTRACT NUMBER(S)

UNK

4. FIRST SHIPMENT DATE

UNK

5. LAST SHIPMENT DATE

UNK

6. PROPOSED EXPIRATION DATE

UNK

**PART C. TO BE COMPLETED FOR EXPORT LICENSES, AMENDMENTS, RENEWALS OR CONSENTS**

(If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)

7. NAME(S) / ADDRESS(ES) OF SUPPLIERS  
AND/OR OTHER PARTIES TO THE EXPORT

SEE ATTACHED

8. NAME(S) / ADDRESS(ES) OF INTERMEDIATE  
FOREIGN CONSIGNEE(S)

SEE ATTACHED

9. NAME(S) / ADDRESS(ES) OF ULTIMATE  
FOREIGN CONSIGNEE(S)

SEE ATTACHED

7a. FUNCTION(S) PERFORMED/SERVICE(S) PROVIDED

SEE ATTACHED

8a. INTERMEDIATE USE(S)

SEE ATTACHED

9a. ULTIMATE END USE(S)

SEE ATTACHED

10. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES,  
NUCLEAR FACILITIES, EQUIPMENT, OR COMPONENTS; FOR  
NUCLEAR EQUIPMENT INCLUDE TOTAL DOLLAR VALUE OF  
EQUIPMENT FOR EXPORT

SEE ATTACHED

10a. MAX TOTAL VOLUME /  
ELEMENT WGT (KG), OR  
TOTAL ACTIVITY (TBq)10b. MAX ENRICHMENT  
OR WGT %10c. MAX ISOTOPE  
WGT (KG)

11. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME)

SEE ATTACHED

MAR 04 2013

JC

NRC FORM 7  
(8-2011)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT OR IMPORT  
LICENSE, AMENDMENT, RENEWAL, OR CONSENT REQUEST(S) (Continued)**

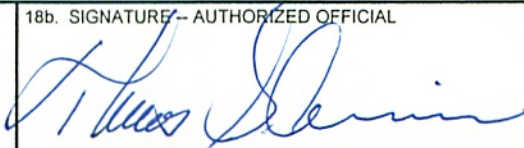
LICENSE NUMBER <b>XCOM 1264</b>	DOCKET NUMBER <b>11006089</b>	ADAMS ACCESSION NUMBER	<input checked="" type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC
------------------------------------	----------------------------------	------------------------	---

**PART D. TO BE COMPLETED FOR IMPORT LICENSES, AMENDMENTS, OR RENEWALS**

(If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)

12. NAME(S) / ADDRESS(ES) OF FOREIGN SUPPLIERS AND/OR OTHER PARTIES TO IMPORT	13. NAME(S) / ADDRESS(ES) OF INTERMEDIATE CONSIGNEE(S)	14. NAME(S) / ADDRESS(ES) OF ULTIMATE U. S. CONSIGNEE(S)	
12a. NRC EXPORT LICENSE NUMBER(S) (if applicable)	13a. LICENSE NUMBER(S) / EXPIRATION DATE(S)	14a. LICENSE NUMBER(S) / EXPIRATION DATE(S)	
	13b. INTERMEDIATE USE(S)	14b. ULTIMATE END USE(S)	
15. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES, NUCLEAR FACILITIES	15a. MAX TOTAL VOLUME / ELEMENT WGT (KG), OR TOTAL ACTIVITY (TBq)	15b. MAX ENRICHMENT OR WGT %	15c. MAX ISOTOPE WGT (KG)
16. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME)			

**PART E. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, RENEWALS OR CONSENT REQUEST(S)**

17. ADDITIONAL INFORMATION PROVIDED ON PAGES 3, 4, AND/OR ON SEPARATE SHEETS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	17a. COPIES OF RECIPIENTS' AUTHORIZATIONS PROVIDED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CERTIFICATION: I, the applicant's authorized official, hereby certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information provided is correct to the best of my knowledge.	
18a. PRINT NAME AND TITLE OF AUTHORIZED OFFICIAL  THOMAS G. CRONIN PRODUCT MANAGER	18b. SIGNATURE -- AUTHORIZED OFFICIAL 
18c. DATE  11/15/12	

MAR 04 2013

JC

NRC FORM 7  
(8-2011)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT OR IMPORT  
LICENSE, AMENDMENT, RENEWAL OR CONSENT REQUEST(S) (Continued)**

LICENSE NUMBER <b>XCOM 12-64</b>	DOCKET NUMBER <b>1100 6089</b>	ADAMS/ACCESSION NUMBER	<input checked="" type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC
-------------------------------------	-----------------------------------	------------------------	---

ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

**BLOCK 7 – Name(s) / Address(es) of suppliers and/or other parties to the export:**

Applicant:                      Cianflone Scientific Instruments Corporation  
    135 Industry Drive  
    Pittsburgh, PA 15275-1015

Contact: Thomas G. Cronin, Product Manager  
 Citizenship: USA

Phone: 412-787-3600  
 Toll Free: 800-569-9400  
 Fax: 412-787-5022  
 Email: [sales@cianflone.com](mailto:sales@cianflone.com)  
 Web Site: [www.cianflone.com](http://www.cianflone.com)

Incorporated: State of Pennsylvania, 1984  
 Foreign Ownership: None

**BLOCK 8 – Name(s) / Address(es) of intermediate foreign consignee(s):**

CSIC's Exclusive China Distributor for Sales & Service:  
 Beijing Creditable Science & Technology Development Co., Ltd.  
 10F Tower A, Information Plaza No.28  
 Xinx Road, Haidian District  
 Beijing 100085 P.R. China

Contact: Rose Wang, Sales Manager  
 Mobile: 13701391783  
 CSIC's Exclusive China Distributor since 03/25/2010

Phone: +86 10 62964685/62964688 ext. 201 (Voice)  
 Fax: +86 10 82790012 (Fax)  
 Email: [wang@wateroil.cn](mailto:wang@wateroil.cn)

MAR 04 2013

JC

NRC FORM 7  
(8-2011)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT OR IMPORT  
LICENSE, AMENDMENT, RENEWAL OR CONSENT REQUEST(S) (Continued)**

LICENSE NUMBER <b>XCOM1264</b>	DOCKET NUMBER <b>11006089</b>	ADAMS/ACCESSION NUMBER	<input checked="" type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC
-----------------------------------	----------------------------------	------------------------	---

ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

**BLOCK 9 – Name(s) / Address(es) of ultimate foreign consignee(s):**

China Baotou Nuclear Fuel Co., Ltd. (CBNF)  
202 Chaoyanglu, Wusutu, Qingshan District  
Baotou, Inner Mongolia, China 014035

Contact: Yang Lu  
Phone: +86-472-3139025  
Fax: +86-472-3105587

Contact: Gao Jia Nan (Gao Jianan), Quality Inspection Center  
Mobile: 13634723156  
Phone: 0472-3105590  
Email: [gaojianan@cbnf-app1000.com](mailto:gaojianan@cbnf-app1000.com)

**BLOCK 7a Function(s) performed/service(es) provide / BLOCK 8a Intermediate use(s)/ BLOCK 9a ultimate end use(s)**

- 7a. Proposed Activity: End User (CBNF) requires CSIC's WDXRF Instrumentation to determine if Tungsten contamination is present in their nuclear fuel rods.
- 8a. Intermediate Uses: None
- 9a. Project: See Attached –"Brief Introduction for CBNF and Instrument application"

MAR 04 2013

JC

NRC FORM 7  
(8-2011)  
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

**APPLICATION FOR NRC EXPORT OR IMPORT  
LICENSE, AMENDMENT, RENEWAL OR CONSENT REQUEST(S) (Continued)**

LICENSE NUMBER <b>XCOM 1264</b>	DOCKET NUMBER <b>11006089</b>	ADAMS/AGGESSION NUMBER	<input checked="" type="checkbox"/> PUBLIC <input checked="" type="checkbox"/> OR <input type="checkbox"/> NON-PUBLIC
------------------------------------	----------------------------------	------------------------	---

ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

**BLOCK 10 Description of radioactive material, sealed sources, nuclear facilities equipment, or components; for nuclear equipment include total dollar value of equipment for export:**

**Attachments:**

Model 2501X-2 Portaspec® X Series X-ray Spectrograph Product Bulletin

*Note: This instrument to be configured for End User's application, which is stated on Proposal 2888-12 as Catalog No. 2501X-OL.*

Portaspec® X-2 Technical Data

Proposal No. 2888-12, dated 05/17/12

Approx. Monetary Value: CSIC's Cost to Distributor: \$: **██████** USD  
(per instrument)  
Distributor's Cost to End User: UNK

**BLOCK 10a / 10b / 10c:** Not Applicable

**BLOCK 11 Foreign obligations (by country and by percentage of maximum total volume)**

Peoples Republic of China  
Inner Mongolia, China

MAR 04 2013

JC



**CIANFLONE  
SCIENTIFIC INSTRUMENTS CORPORATION**

135 Industry Drive Pittsburgh, PA 15275-1015 Phone: 412-787-3600 1-800-569-9400 FAX: 412-787-5022

November 15, 2012

Ms. Margaret M. Doane, Director  
Office of International Programs  
U.S. NUCLEAR REGULATORY COMMISSION  
Office of International Regimes and Agreements  
Washington, DC 20555-0001

XCOM 1264

RE: Request for Part 110 Approval for export of WDXRF Analytical Spectrograph to a  
China Corporation listed on the BIS Entity List Supplement No. 4 to Part 744 of the EAR

Dear Ms. Doane,

We hereby apply for approval for Part 110 Authorization as required under 10 CFR 110. Proposed details are as follows:

- Our company, Cianflone Scientific Instruments Corporation (CSIC) manufactures analytical Wavelength-Dispersive X-ray Fluorescence (WDXRF) Spectrographs known worldwide as the Portaspec®. This family of instruments can be used for analyzing elements whose K $\alpha$  lines range include from element 22 Ti to 47 Ag and L $\alpha$  lines from 56 Ba to 92 U. These instruments have been manufactured since 1960, and exclusively since 1984 under our company name.
- CISC Federal Tax ID #25-1473783
- CSIC's 2012 FDA Product Accession Number 1230648-000
- CSIC's PA DEP- Division of Radiation Control – PA Registration #80-00058
- CSIC's exclusive Chinese Distributor for sales and service would like to resale our instrument to China Baotou Nuclear Fuel Co., Ltd. (CBNF) located in Inner Mongolia, China. This company, however, is listed on the US Government Entity List (Supplement No. 4 to Part 744 – Entity List) and requires export licensing. Due to it being to a Nuclear Fuel facility, we are required to apply for a Part 110 Application.
- Applicant's Reference No.: 11152012-CBNF
- Part 810 Application request was sent to Mr. Richard Goorevich on 09/26/12. Attached are his comments stating this request is outside the scope of the DOE 10 C.F.R. Part 810 requirements.

Enclosed are the required documents for your review. Should you have any questions, please feel free to contact Tom Cronin, Product Manager via phone at 1-800-569-9400 or email at sales@cianflone.com.

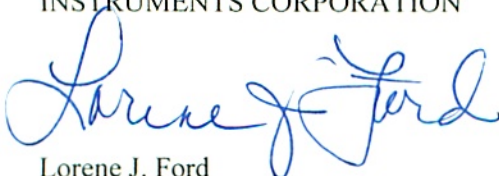
We thank you for your careful consideration.

Sincerely,

CIANFLONE SCIENTIFIC  
INSTRUMENTS CORPORATION

MAR 04 2013

Jc



Lorene J. Ford  
Secretary

Manufacturer of the Original Portaspec®



**CIANFLONE  
SCIENTIFIC INSTRUMENTS CORPORATION**

135 Industry Drive Pittsburgh, PA 15275-1015 Phone: 412-787-3600 1-800-569-9400 FAX: 412-787-5022

February 21, 2013

XCOM1264

Ms. Jennifer Tobin  
Office of International Programs  
U.S. NUCLEAR REGULATORY COMMISSION  
11555 Rockville Pike  
M/S 04E21  
Rockville, MD 20852

RE: Application Fee (\$9,600.00) for:  
Request for Part 110 Approval for export of WDXRF Analytical Spectrograph to a  
China Corporation listed on the BIS Entity List Supplement No. 4 to Part 744 of the EAR  
Application Submitted November 12, 2012

Dear Jenny,

As per our telecom, enclosed is our check (#24936) in the amount of \$9,600.00 for the  
Application Fee that is required for processing the above application.

Please feel free to contact us with any additional questions.

Thank you again for all your help.

Sincerely,

CIANFLONE SCIENTIFIC  
INSTRUMENTS CORPORATION

Lorene J. Ford  
Secretary

MAR 04 2013

JC



# PORTASPEC<sup>®</sup> X Series X-Ray Spectrograph

## Model 2501X-2

This 2501 X Series Portaspec<sup>®</sup> is a portable, wavelength dispersive, x-ray fluorescence analyzer that performs nondestructive elemental analysis on a variety of sample types. The 2501 X Series version of the familiar Model 2501 Portaspec is now computer controlled. The standard operating interface utilizes a Windows<sup>®</sup> based touch-screen notebook computer. The control software is simple and



Portaspec Model 2501X-2

intuitive in function and offers a continuous record of analysis. It has a calibration mode that allows for a linear or quadratic fit for an almost unlimited number of standards. It also includes a specialized analysis mode designed to measure pretreatments on metal substrates.

The Portaspec is suitable to analyze from very small specimens to a maximum specimen of 2-9/16" (65mm) in diameter by 1" (25mm) thick. The Portaspec has an x-ray tube that focuses a beam diameter of 0.75" (19mm) on to the specimen under

*For more information contact:*

analysis. This results in superior statistical data compared to instruments using a micro spot x-ray tube. This is notably important when analyzing pretreatments on galvanized steel substrates.

The new controller circuit board interprets and executes commands from the computer to turn x-rays on and off, set x-ray tube current and read counts on the digital scaler. An mA stabilizer board provides constant current to the x-ray tube. New to the 2501 X Series Portaspec, is a lightweight, high frequency, constant potential high voltage power supply, providing a high level of instrument stability at 10, 20 or 30 kV output.

The Model 2501X-2 Portaspec comes configured with a goniometer capable of analyzing K $\alpha$  elemental lines whose range include from element 22 Ti to 47 Ag and L $\alpha$  lines from 56 Ba to 92 U.

The optional Two-Position Sample Holder enables you to shift from one sample position to another without turning x-rays off. The samples are not loaded over the x-ray port, keeping sample contamination out of the x-ray path. The sample holder can readily accept samples up to 2-9/16" (65mm) in diameter to 1 inch thick.

This Portaspec model is useful for analyzing powders, liquids, solids and thin films, as well as coating weight and coating thickness analysis. **This model can be custom configured for special applications, including on-line.**

2011/4/18



CIANFLONE SCIENTIFIC INSTRUMENTS CORPORATION  
135 INDUSTRY DRIVE PITTSBURGH PA 15275  
Phone: 412-787-3600 Email: [sales@cianflone.com](mailto:sales@cianflone.com)  
800-569-9400 Web Site: [www.cianflone.com](http://www.cianflone.com)  
Fax: 412-787-5022

XCOM 1264

MAR 04 2013

JC



## PORTASPEC® X-2 TECHNICAL DATA

---

Bragg Angle Range	13 to 98 Degrees Two Theta	
Analyzing Crystal	Lithium Fluoride 200	
Element Range $K\alpha$	22-48 (Ti to Ag)	
Element Range $L\alpha$	56-92 (Ba to U)	
Collimators	20 Mil Divergent (Source) 10 Mil Receiving (Detector)	
X-Ray Source	X-Ray Tube, Tungsten Target, Beryllium Window	
X-Ray Tube Voltage	30 kV Constant Potential	
X-Ray Tube Voltage Regulation	$\pm 1\%$ for $\pm 10\%$ Line Voltage Variation	
X-Ray Tube Current	0 to 5 mA Adjustable	
Detector Tube	Sealed Proportional	
Detector Supply Voltage	2500 VDC Max. (Adjustable)	
Internal Digital Scaler and Timer	Counting Range: 1 to 999,999 Timer Range: 1 to 990 Seconds	
Controls	Power Switch	
Fuses	Line	4 Amp AGC
	Filament	2 Amp SB
	High Voltage	3 Amp SB
	5 Volt Supply	1 Amp AGC
Lamps	X-Ray On	
Voltage Requirements	115 Volts AC, 50 or 60 Hertz 230 Volts AC, 50 or 60 Hertz Single Phase, 300 Watts Line Regulation Required $\pm 5\%$	
Dimensions and Weight:		
Probe Head	13" L x 4-1/2" W x 8" H	17 lbs.
Power Supply	18.50" L x 15.75" W x 12" H	70 lbs.
Optional MCR Power Conditioner	7" L x 8" W x 13" H	40 lbs.

---

XCOM1264

MAR 04 2013

JC

# 中核包头核燃料元件股份有限公司

China Baotou Nuclear Fuel Co., Ltd (CBNF)

## **Brief introduction for CBNF and instrument application**

### **1. Basic Information of company**

Company name: China Baotou Nuclear Fuel Co., Ltd (CBNF)

Address: 202 Chaoyanglu, Wusutu, Qingshan District, Baotou, Inner  
Mongolia, China

Zip Code: 014035

Contact Person: Yang Lu

Tel: 86-472-3139025

Fax: 86-472-3105587

Established in Dec.2008, China Baotou Nuclear Fuel Co., Ltd (CBNF) is  
founded by China North Nuclear Fuel CO., Ltd (CNNFC), State Nuclear  
Power Technology Corp., Ltd (SNPTC) and China Jianzhong Nuclear  
Fuel Corporation., Ltd (CJNF) as three parties of share holders.

CBNF has the registered capital up to six hundred million RMB. Each  
share holder makes its capital contribution in cash as the following  
proportion in sharing capital: CNNFC for 50%, SNPTC for 35% and  
CJNF for 15%.

Address: 202 Chaoyanglu, Wusutu, Qingshan District, Baotou, Inner Mongolia,  
Tel: 86-472-3139025 Fax: 86-472-3105587 Zip Code: 014035

MAR 04 2013

XCOM 1264  
JC

# 中核包头核燃料元件股份有限公司

China Baotou Nuclear Fuel Co., Ltd (CBNF)

The business of CBNF involves AP1000 nuclear fuel manufacturing, sale and technical service, etc.

## 2. Instrument Application

During the manufacturing of our nuclear fuel rod, we use TIG (Tungsten Inert Gas Arc Welding) welder to weld the end plug (made of Zr-4 alloy) onto Zirconium alloy tubing which is a very common process to seal the fuel rod in nuclear fuel plant. However, using Tungsten electrode in welding increases the possibility of Tungsten contamination to welds. This X-Ray Spectrograph can be used to determine Tungsten content in sealed welds.

XCOM 1264

MAR 04 2013

JC

Address: 202 Chaoyanglu, Wusutu, Qingshan District, Baotou, Inner Mongolia,  
Tel: 86-472-3139025 Fax: 86-472-3105587 Zip Code: 014035