NRC FORM 7 (8-2007) 10 CFR 110 — U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR NRC EXPORT/IMPORT LICENSE, AMENDMENT, OR RENEWAL

(See Instructions on Page 5)

PART A. FOR NRC USE ONLY	☑ PUBLIC OR ☐ NON-PUBLIC	DATE RECEIVED 11-5-09
LICENSE NUMBER PCB 114.00	DOCKET NUMBER N-A	ADAMS ACCESSION NUMBER

PART B. TO BE COMPLETED FOR ALL 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.)

1. NAME AND ADDRESS OF APPLICANT/LICENSEE	1a. NAME OF APPLICANT'S CONTACT	1b. APPLICANT'S REFERENCE NUMBER
Baker Hughes Oilfield Operations, Inc. **Attn: James Elrod RSO** **2001 Rankin Road** **Houston, Texas 77073**	**James Elrod**	Appl. Dtd. 10-27-09
	1c. PHONE NUMBER: **713-625-5930**	1d. FAX NUMBER: **713-625-5858**
	1e. E-MAIL ADDRESS: jim.elrod@bakerhughes.com	

2. TYPE OF NRC LICENSE REQUESTED (Check One)

☐ EXPORT (Parts B, C, E) ☐ NOTIFICATION OF EXPORT OF INCIDENTAL RADIOACTIVE MATERIAL (PART C, E) ☐ IMPORT (Parts B, D, E) ☑ COMBINED EXPORT/IMPORT (Parts B, C, D, E) ☐ AMENDMENT/RENEWAL Existing License Number: _____

3. CONTRACT NUMBER(S)	4. FIRST SHIPMENT DATE	5. LAST SHIPMENT DATE	6. PROPOSED EXPIRATION DATE
N/A	**See Attachment A**	**See Attachment A**	**See Attachment A**

PART C. TO BE COMPLETED FOR EXPORT ONLY OR COMBINED 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.)

7. NAME(S) / ADDRESS(ES) OF SUPPLIERS AND/OR OTHER PARTIES TO THE EXPORT	8. NAME(S) / ADDRESS(3S) OF INTERMEDIATE FOREIGN CONSIGNEE(S)	9. NAME(S) / ADDRESS(ES) OF ULTIMATE FOREIGN CONSIGNEE(S)
None	**South Oil Company** **Fields Commission** **Burjesseya** **Zubair Field** **Basra, Iraq**	**Blue Horizon Company for Oil Services Ltd** **Al Jazae'er Main Street** **Building No. 31/1, Flat No. 2** **Basra, Iraq**
7a. LIST FUNCTIONS PERFORMED/SERVICE PROVIDED: **N/A**	8a. INTERMEDIATE USE(S): **See Attachment A**	9a. ULTIMATE END USE(S): **See Attachment A**

10. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES, NUCLEAR FACILITIES, EQUIPMENT, OR COMPONENTS	10a. MAX TOTAL VOLUME / ELEMENT WGT (KG), OR TOTAL ACTIVITY (TBq)	10b. MAX ENRIGHMENT OR WGT%	10c. MAX ISOTOPE WGT (KG)
See Attachment B	**See Attachment B**	**See Attachment B**	**See Attachment B**

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

N/A

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U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR NRC EXPORT/IMPORT LICENSE, AMENDMENT, OR RENEWAL (Continued)

LICENSE NUMBER	DOCKET NUMBER	ADAMS ACCESSION NUMBER	
PCB 11/4.00	N-A		☑ PUBLIC OR ☐ NON-PUBLIC

PART D. TO BE COMPLETED FOR IMPORT ONLY, OR COMBINED 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(3S) OF INTERMEDIATE CONSIGNEE(S)	14. NAME(S) / ADDRESS(ES) OF ULTIMATE CONSIGNEE(S)
None	**N/A**	**See Block 1**

12a. NRC EXPORT LICENSE NUMBER(S) *(if applicable)*	13a. LICENSE NUMBER(S) / EXPIRATION DATE(S)	14a. LICENSE NUMBER(S) / EXPIRATION DATE(S)
N/A	**N/A**	**Texas License L04452 Expiration 11/30/2009 (will be renewed)**
	13b. INTERMEDIATE USE(S)	14b. INTERMEDIATE USE(S)
	N/A	**Evaluation and re-distribution for Oil and Gas Well Logging Operations**

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)
See Attachment B	**See Attachment B**	**See Attachment B**	**See Attachment B**

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

N/A

PART E. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, OR RENEWALS

17. ADDITIONAL INFORMATION PROVIDED ON PAGES 3, 4, AND?OR ON SEPARATE SHEETS?	See Attachment A	☑ YES ☐ NO	17a. COPIES OF RECIPIENTS' AUTHORIZATIONS PROVIDED?	☐ YES ☑ 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	18b. SIGNATURE - AUTHORIZED OFFICIAL	18c. DATE
Stephen K Ellison - President Drilling & Evaluation	S K. Ellison	27 Oct 2009

Final 11/02/2009

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ATTACHMENT A

Read 11-5-09 PB

PCB/14.00

Additional Supporting Information to NRC Form 7

(Boxes 4, 5, & 6) Explanation of quantities and dates – Approximately one or two sets of the quantities requested are required at the initial mobilization which is planned for the first quarter of 2010 or as soon as possible thereafter. A set would consist of 1 of each item listed. The remaining quantities are for potential growth and will be exported only as and when required. The proposed expiration of 5 years allows operational time in country for business review and renewal of license.

(Boxes 8a & 9a) Information on end use/user – The sealed sources are intended to be used in oil and gas well logging operations and the maintenance of oil well logging instruments.

The end user would be Baker Hughes Oilfield Operations, Inc. operating under an **[ ]** registered entity named **[ ]**, which is a wholly owned subsidiary of Baker Hughes Inc. The intermediate consignee is South Oil Company and their physical location will be used for temporary storage, and possible deployment to jobsites. The sources will remain under the control of Baker Hughes employees or their intermediate consignee and will not be sold to other parties or exported to another country.

Box 17 Additional Information

Baker Hughes Oilfield Operations Inc (BHOO) intends to begin operations in Iraq providing "oil field services" to international oil companies. Oil well logging involves conveying specially designed "logging" instruments into the wells to measure properties of the rocks and fluids such as resistivity and porosity.

BHOO offers a full range of well logging services including density and neutron porosity devices which are fundamental measurements used in almost every oil or gas well globally. These devices utilize special form sealed sources containing Cs137 and Am241. The sources used during down-hole operations also meet Oil Well Logging (OWL) specifications and are at minimum a double encapsulation that will protect against the high pressures and corrosive fluids encountered in oil wells. Encapsulated radioactive sources can be acquired in many countries as they are widely used in other industries such as medical and food processing, however double encapsulated OWL sources are unique to the well logging industry. Vendors in the US supply all the OWL encapsulated sealed sources used by well logging service companies. For this reason BHOO wishes to export to Iraq a defined quantity of sealed sources produced to our specifications by our suppliers **[ ]** and **[ ]**.

The only criteria in "10CFR 110.42 Export Licensing Criteria" that applies to the sealed sources in this application is paragraph (c) which requires that "the proposed export is not inimical to the common defense and security". We believe

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and hope that the Commission will agree that the Category 3 quantity of byproduct material contained in the individual sealed sources that we wish to export, would not constitute a threat to the defense and security of the US. The information supplied supports this position.

Most of the start up operations will be conducted in the areas of the [ ] sector in fields like [ ].

In the event of down-hole abandonment, BHOO requests that the export limits this license imposes be applicable only to operational sources in-country. BHOO shall be able to replace those abandoned sources without any amendments or changes to the license, upon appropriate notifications to the NRC.

Security and Safety Plan

BHOO radiological procedures provide a high standard of security and safety for our employees and the general public. These procedures will be implemented in Iraq just as they are in all other countries where we operate.

Baker Hughes Inc. – Corporate Security:

Corporate Security has assessed the situation in Iraq over the past year and has determined that it is safe for BHI to operate in southern Iraq provided that robust security measures are implemented. The assessment included several visits to Iraq and discussions with British and American military officials, private security companies, logistics companies, national oil company officials, etc. A dedicated security manager for Iraq has been appointed and detailed plans are being formulated to assure the security of BHI personnel and assets. These plans include the design of the main operating base to be constructed near Basra and the hiring of a licensed security provider to protect the base and personnel while they are in Iraq.

Base Security:

The [ ] operating base is to be located in the [ ] oilfield to the southwest of the city of [ ] where land has been allocated for several international oilfield service companies. [ ]. Radioactive sources will be stored in securely locked underground bunkers within a dedicated building. Access to the bunker keys will be strictly limited and all movements in and out will be logged. [ ]

Transportation:

[ ] The logging sources are transported in DOT Type A shipping shields locked with padlocks for which the keys are carefully controlled. [ ]

All movements are [ ]

Well-site Security:

When operating on a drilling rig or work-over rig, security will normally be provided by the rig contractor and will be [ ]

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Some operations will be performed on wells where a rig is not present. In this case security [ ] take place during daylight hours.

Contact Information

Contact people in regards to receiving confidential information from the NRC, Homeland Security, or any other related government agency shall be the following:

Jim Elrod
Radiation Safety Officer
Houston Technology Center
Office: 713-625-5930
Cell: 713-205-3031
Fax: 713-625-5858

Brian Caldwell
Manager HSE Global Radiation Team
Office: 713-966-3057
Cell: 832-451-0754
Fax: 713-625-6439

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ATTACHMENT B

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(Boxes 10, 10a, 10b, 10c and 15, 15a, 15b, 15c) List/description of sources

In addition to the aforementioned double-encapsulated sources that are placed in the logging instruments when they are in the well, we also use a variety of smaller sources for testing and calibration both in the laboratory and at the well- site.

BHOO requests to export the quantity of sources as listed in the following table for our wire-line, LWD and surface operations. This quantity will not be exported at one time. The quantities exported will be in smaller increments dependent upon the need for start up operations and then future shipments for support of expanding operations.

It is projected that approximately one or two sets of the quantities requested are required at the initial mobilization which is planned for the first quarter of 2010 or as soon as possible thereafter. A set would consist of 1 of each item listed.

This Chart indicates sources requested for Wire Line Operations

Type	Isotope	Individual Source Strength	Qty	Total Curie	Use	Type of material	Physical Form
Density Logging	Cs137	2.5 Ci	[ ]	[ ]	Wire line Density logging	Byproduct material	Special form (OWL)
Neutron Logging	Am241Be	15 to 15.5 Ci	[ ]	[ ]	Wire line Neutron logging	Byproduct material	Special form (OWL)
Well-site Verifier	Cs137	540 µCi	[ ]	[ ]	Wire line Density verifier	Byproduct material	Special form
Well-site Verifier	Am241Be	400 mCi	[ ]	[ ]	Wire line Neutron verifier	Byproduct material	Special form
Lab Source	Am241Be	75 to 100 mCi	[ ]	[ ]	Wire line Lab Calibration	Byproduct material	Special form
Well-site Verifier	Ra226	2.5 µCi	[ ]	[ ]	Wire line Gamma Ray calibrator	Natural material	Sealed source
Lab Source	Am241Be	1 mCi	[ ]	[ ]	Wire line Lab Calibration	Byproduct material	Special form
Lab Source	Cs137	10 µCi	[ ]	[ ]	Wire line Lab Calibration	Byproduct material	Special form
Lab Source	Cs137	100 µCi	[ ]	[ ]	Wire line Lab Calibration	Byproduct material	Special form
Production Logging	Am 241	150 mCi	[ ]	[ ]	Production Logging	Byproduct material	Special form
Production Logging	Cs 137	100 mCi	[ ]	[ ]	Production Logging	Byproduct material	Special form
Crystal Detectors	Cs 137	500 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Crystal Detectors	Cs 137	325 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Crystal Detectors	Cs 137	295 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid

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Pulsed Neutron	Tritium	1 Ci	[ ]	[ ]	Neutron Logging	Radioactive Material	Solid Matrix
Collar Markers	Co 60	5 µCi	[ ]	[ ]	Marking Drill Collar Location	Byproduct material	Solid

This Chart indicates sources requested for Logging While Drilling Operations and Surface Monitoring

Type	Isotope	Individual Source Strength	Qty	Total Curie	Use	Type of material	Physical Form
Density Logging	Cs137	2.5 Ci	[ ]	[ ]	LWD Density logging	Byproduct material	Special form (OWL)
Neutron Logging	Am241Be	5 Ci	[ ]	[ ]	LWD Density logging	Byproduct material	Special form (OWL)
Neutron Verifier	Am241Be	2 x 30 mCi	[ ]	[ ]	Jobsite Verification	Byproduct material	Special form
Neutron Lab Test	Am241Be	2 x 100 mCi	[ ]	[ ]	Lab Tests	Byproduct material	Special form
Density Lab Test	Am 241	2 x 1 mCi	[ ]	[ ]	Lab Tests	Byproduct material	Special form
Gamma Calibration	Cs 137	5 nCi	[ ]	[ ]	Lab Tests	Byproduct material	Solid
Alpha Calibration	Am 241	5 nCi	[ ]	[ ]	Lab Tests	Byproduct material	Solid
Gamma Detectors	Cs 137	400 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Gamma Detectors	Cs 137	50 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Gamma Detectors	Cs 137	198 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Gamma Detectors	Cs 137	42 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Gamma Detectors	Cs 137	71 nCi	[ ]	[ ]	Density tool Verification	Byproduct material	Solid
Densitometers	Cs 137	200 mCi	[ ]	[ ]	Surface Monitor	Byproduct material	Solid
Densitometers	Cs 137	150 mCi	[ ]	[ ]	Surface Monitor	Byproduct material	Solid

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