

EXPORT LICENSE

NRC FORM 250

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NRC DOCKET NO.: 11006391

LICENSE EXPIRES: April 30, 2023



United States of America
Nuclear Regulatory Commission
Washington, D.C. 20555

Pursuant to the Atomic Energy Act of 1954, as amended, and the regulations issued by the Nuclear Regulatory Commission (NRC) pursuant thereto, and in reliance on statements and representations heretofore made by the applicant/licensee, this license is hereby issued authorizing the licensee to export of the byproduct materials listed below, subject to the terms and conditions herein. This license is only valid if the licensee or 'Other Party (ies) to Export' maintain the requisite NRC or Agreement State domestic license(s).

LICENSEE

QSA Global, Inc.
40 North Avenue
Burlington, MA 01803

Attn: Mary Flanigan

ULTIMATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES)

China Oilfield Services Limited
Middle East Free Zone Establishment
Buzurgan Terminal, Missan Oilfield
Amarah City, Missan Province
Iraq

(oil and well logging)

INTERMEDIATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES)

See following page(s)

OTHER U.S. PARTY(IES) TO EXPORT

None

APPLICANT'S REFERENCE: IQ-2020

ULTIMATE DESTINATION: Iraq

DESCRIPTIONS OF 10CFR PART 110, APPENDIX P, BYPRODUCT AND MATERIALS TO BE EXPORTED, INCLUDING CONDITIONS AND NOTES (NOTE: SEE PAGE 3 FOR DEFINITIONS OF CATEGORY 1 AND CATEGORY 2)

Exports not to exceed 15 shipments to Iraq. Each shipment will contain Am-241/Be not to exceed 0.185 terabecquerels (TBq), and Cs-137 not to exceed 0.074 TBq, contained in sealed sources. This license authorizes a total quantity of 2.775 TBq of Am-241/Be and 1.11 TBq of Cs-137, for use in oil and gas well logging operations. The aggregation of sealed sources in any shipment, shall remain within Category 3 limits.

The sealed sources must remain in the custody of the authorized ultimate consignee at all times and when not in use must be stored in a secure facility controlled by one of the authorized ultimate consignees listed.

The licensee is responsible for compliance with all applicable export and domestic regulatory requirements, including all terms and conditions of its domestic material possession licenses.

The license expiration date is based upon established limits.

Condition:

Licensee will ensure, through contractual or other means, that the ultimate consignee is authorized by the Iraqi Radioactive Sources Regulatory Authority for the possession and use of the sealed sources.

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954, as amended.

This license is subject to the right of recapture or control by Section 108 of the Atomic Energy Act of 1954, as amended, and to all the other provisions of said Acts, now or hereafter in effect and to all valid rules and regulations of the Nuclear Regulatory Commission.

THIS LICENSE IS INVALID UNLESS SIGNED BELOW BY AUTHORIZED NRC REPRESENTATIVE

NAME AND TITLE: David Skeen
Digitally signed by David Skeen
Date: 2021.04.20 15:55:43 -0400
**David L. Skeen, Deputy Director
Office of International Programs**

DATE OF ISSUANCE: April 20, 2021

EXPORT LICENSE

INTERMEDIATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES) Continued:

- | | |
|--|--|
| 1. Middle East Ports Company for General Trade
Near Basra Hotel
Burayha, Basra City
Iraq
(customs clearance agent) | 2. Tianjin BoAn Science Industry & Commerce Co. Ltd
1-1203 No. 588 Hongqi Road
Nankai District
CN 300385 Tianjin
China
(coordinates sales with the ultimate foreign
consignee) |
|--|--|

MANDATORY ADVANCED NOTIFICATIONS PER 10 CFR PART 110.50(c)

The following Advanced Notifications must be made to both the NRC and, in case of exports, the government of the importing country in advance of each shipment:

Mandatory Advanced Notifications to the NRC are to be emailed to hoo.hoc@nrc.gov (preferred method) or faxed to the NRC at 301-816-5151. In the subject line of the email or on the fax cover page include: "10 CFR 110.50(c) Notification." For technical assistance, use the same e-mail address or call 301-287-9056.

Mandatory Advanced Notifications to the government of the importing country must be emailed or faxed to the appropriate foreign government authorities. To locate the point-of-contact for international Advanced Notifications see: <http://www-ns.iaea.org/downloads/rw/imp-export/import-export-contact-points.pdf>. In the subject line of the email or on the fax cover page include: "NOTIFICATION TO THE IMPORTING STATE PRIOR TO SHIPMENT OF CATEGORY 1 OR 2 RADIOACTIVE SOURCES." For technical assistance or for countries not listed, contact the Office of International Programs' export/import staff at 301-287-9056.

Table 1: Appendix P to Part 110 Category 1 and Category 2 Radioactive Material Threshold Limits

Radioactive Material	Category 1		Category 2	
	Terabequerels (TBq)	Curies (Ci) ¹	Terabequerels (TBq)	Curies (Ci) ¹
Americium-241 (Am-241)	60	1,600	0.6	16
Americium-241/Beryllium (Am-241/Be)	60	1,600	0.6	16
Californium-252 (Cf-252)	20	540	0.2	5.4
Curium-244 (Cm-244)	50	1,400	0.5	14
Cobalt-60 (Co-60)	30	810	0.3	8.1
Cesium-137 (Cs-137)	100	2,700	1.0	27
Gadolinium-153 (Gd-153)	1,000	27,000	10.0	270
Iridium-192 (Ir-192)	80	2,200	0.8	22
Plutonium-238 ² (Pu-238)	60	1,600	0.6	16
Plutonium-239/Beryllium ² (Pu-239/Be)	60	1,600	0.6	16
Promethium-147 (Pm-147)	40,000	1,100,000	400	11,000
Radium-226 ³ (Ra-226)	40	1,100	0.4	11
Selenium-75 (Se-75)	200	5,400	2.0	54
Strontium-90 (Y-90)	1,000	27,000	10.0	270
Thulium-170 (Tm-170)	20,000	540,000	200	5,400
Ytterbium-169 (Yb-169)	300	8,100	3.0	81

Calculation of Shipments Containing Multiple Sources or Radionuclides:

The "sum of fractions" methodology for evaluating combinations of radionuclides being transported is to be used when import or export shipments contain multiple sources or multiple radionuclides. The threshold limit values used in a sum of the fractions calculation must be the metric values (i.e., TBq).

I. If multiple sources and/or multiple radionuclides are present in an import or export shipment, the sum of the fractions of the activity of each radionuclide must be determined to verify the shipment is less than the Category 1 or 2 limits of Table 1, as appropriate. If the calculated sum of the fractions ratio, using the following equation, is greater than or equal to 1.0, then the import or export shipment exceeds the threshold limits of Table 1 and the applicable security provisions of this part apply.

II. Use the equation below to calculate the sum of the fractions ratio by inserting the actual activity of the applicable radionuclides or of the individual sources (of the same radionuclides) in the numerator of the equation and the corresponding threshold activity limit from the Table 1 in the denominator of the equation. Ensure the numerator and denominator values are in the same units and all calculations must be performed using the TBq (i.e., metric) values of Table 1.

R1 = activity for radionuclides or source number 1 AR1 = activity limit for radionuclides or source number 1
R2 = activity for radionuclides or source number 2 AR2 = activity limit for radionuclides or source number 2
RN = activity for radionuclides or source number n ARN = activity limit for radionuclides or source number n

$$\sum_{i=1}^n \left[\frac{R_1}{AR_1} + \frac{R_2}{AR_2} + \frac{R_n}{AR_n} \right] \geq 1$$

¹ The values to be used to determine whether a license is required are given in TBq. Curie (Ci) values are provided for practical usefulness only and are rounded after conversion.

² The limits for exports of Pu-238 and Pu-239/Be can be found in § 110.21.

³ Discrete sources of Radium-226.