

**From:** Bartlett, Matthew  
**Sent:** Monday, June 28, 2010 1:26 PM  
**To:** John J. Miller  
**Cc:** Bartlett, Matthew  
**Subject:** RE: MC&A Plan - International Isotopes DUF6 de-conversion facility.

John,

The MC&A folks provided the following information.

Good Morning Mr. Miller:

In response to your June 28, 2010 e-mail NRC staff has prepared the following reply to help clarify "foreign obligations" and depleted uranium.

You presented two scenarios in your e-mail. Your first scenario involves a U.S. enrichment plant enriching natural uranium that is not foreign obligated. Your conclusion for this case is that there is no foreign obligated depleted uranium produced. NRC staff wishes to note that your conclusion is valid for enrichment activities that have occurred in the past. However, due to the U.S. nuclear industry importing major pieces of enrichment plants many of the new U.S. enrichment plants may be subject to an Agreement for Peaceful Nuclear Cooperation and as a result, most or all of the depleted uranium that is produced at the new enrichment plants will be foreign obligated, even if the natural uranium feed to the plants is not foreign obligated.

In your second scenario you asked several questions about the use of foreign obligated natural uranium and the resulting depleted uranium. NRC staff wish to confirm that use of foreign obligated natural uranium feed in an enrichment plant results in the corresponding depleted uranium being foreign obligated.

The NRC staff wish to also inform you that foreign obligated depleted uranium may be used, transferred and disposed. The U.S. Government relies on industry to track and report to the Nuclear Materials Management and Safeguards System (NMMSS) the quantity [and] location of foreign obligated depleted uranium. Once a quantity of depleted uranium is identified as foreign obligated the uranium is tracked. If the depleted uranium is shipped to a disposal site and buried, then the depleted uranium is reported to NMMSS as shipped and buried. The NMMSS database would then be able to identify the quantity of foreign obligated depleted uranium buried at the site. As long as the depleted uranium is buried at a disposal site, it would be documented in NMMSS as foreign obligated. If the foreign obligated depleted uranium was to be extracted from the burial site, it would continue to be tracked as foreign obligated. There is no automatic removal of the foreign obligation from the depleted uranium. Rather, once depleted uranium is identified as foreign obligated, the quantity of depleted uranium remains foreign obligated and NMMSS maintains knowledge of the quantity and location of the foreign obligated depleted uranium.

Please contact me if you need further clarification on the topic of foreign obligations and depleted uranium.

Sincerely,

Matt Bartlett  
Project Manager  
U.S. Nuclear Regulatory Commission  
NMSS/FCSS/AFCB  
(301)-492-3119

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**From:** John J. Miller [mailto:jjmiller@intisoid.com]  
**Sent:** Friday, June 25, 2010 1:42 PM  
**To:** Horn, Brian  
**Cc:** Bartlett, Matthew; thomasjh@comcast.net; Pham, Tom  
**Subject:** MC&A Plan - International Isotopes DUF6 de-conversion facility.

Brian,

You may have seen the following Draft RAIs prepared by Tom Pham in response to the license application we submitted for our depleted uranium hexafluoride (DUF6) de-conversion facility.

**MCA.1** Title 10 of the Code of Federal Regulations (10 CFR) 40.64 details the requirements for reporting to the Nuclear Materials Management and Safeguards System for Part 40 licensees. Please describe how these requirements will be met and where adherence to these requirements will be documented.

**MCA.2** Also, describe how material subject to the requirements of 10 CFR 40.64 will be tracked and accounted for in order to provide the reports required under these regulations.

We did not include the information requested in the Draft RAIs with the license application because we do not believe the source material that the proposed de-conversion facility would receive from a fuel enrichment facility, process, then subsequently transfer to a disposal facility meets the criteria necessitating reporting as described in §40.64.

The Draft RAIs were discussed in a conference call and the justification provided was that the DUF6 would likely have foreign obligations. I would like to get more information regarding how and when source material is designated as having foreign obligations and how and when a foreign obligation is removed. Consider the scenarios below:

Scenario Number 1:

A domestic fuel enrichment facility enriches natural uranium hexafluoride with no foreign obligations.

The fuel enrichment facility would produce enriched uranium hexafluoride, which would clearly be subjected to the material control and accountability requirements of Title 10 Part 74. Because there is no foreign obligation associated with the natural UF<sub>6</sub> that was enriched there would not be any foreign obligation with the depleted UF<sub>6</sub> tails that result. If this is indeed correct the DUF6 could be transferred to a source material licensee for de-conversion and subsequent disposal without recording or reporting the material transaction on a DOE/NRC Form 741.

Scenario Number 2:

A domestic fuel enrichment facility enriches natural uranium hexafluoride with foreign obligations.

As in Scenario Number 1, the fuel enrichment facility would produce enriched uranium hexafluoride, which would clearly be subjected to the material control and accountability requirements of Title 10 Part 74. Because there was foreign obligation associated with the natural UF6 that was enriched there would be an adjustment to this inventory of 1 kg or more and this adjustment would be reported on the Form 741 as required by §40.64.

So my questions for scenario number 2 are:

Does the foreign obligation for the natural UF6 transfer to the depleted UF6 if the depleted UF6 is intended to be processed for disposal in the US?

When is a foreign obligation removed? If source material has foreign obligations and the material is then disposed how does one remove the foreign obligation?

When could the foreign obligation be removed?

Thanks,

John J. Miller, CHP  
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International Isotopes, Inc.

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### **E-mail Properties**

Mail Envelope Properties (87B1F1BDFE5A554CA9DC5EAA75EB6D0D23040291C2)

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Sent Date: 6/28/2010 1:31:33 PM  
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From: Bartlett, Matthew

Created By: Matthew.Bartlett@nrc.gov

Recipients:

jjmiller@intisoid.com (John J. Miller)

Tracking Status: None

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Tracking Status: None

Post Office:  
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MESSAGE	10835	6/28/2010

Options

Expiration Date:

Priority: olImportanceNormal

ReplyRequested: False

Return Notification: False

Sensitivity: olNormal

Recipients received: