



International Isotopes Inc.

December 30, 2009

ATTN: Document Control Desk
Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission,
11555 Rockville Pike
Rockville, MD 20852-2738

Subject: International Isotopes, Inc. License Application – Fluorine Extraction
Process Depleted Uranium Hexafluoride De-conversion Plant.
(TAC Number L32707, Docket Number 40-9086)

Dear Mr. Weber,

In a letter (ML091260796) dated April 13, 2009 International Isotopes Inc.'s informed the U.S. Nuclear Regulatory Commission of its intent to license and operate a depleted uranium hexafluoride de-conversion and fluorine extraction facility. Consistent with the Commission's direction in SRM-SECY-07-0146 and numerous pre-license application meetings between INIS and NRC staff, the enclosed license application as well as an Integrated Safety Analysis (ISA) has been prepared in accordance with the guidance provided in NUREG 1520, *Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility*.

The license application is being transmitted electronically via Optical Storage Media (OSM) prepared in accordance with U.S. NRC *Guidance for Electronic Submissions to the NRC*, Revision 5. Two sets of hard copies will be provided to Mr. Matthew Bartlett, US NRC Project Manager, per his request.

The License Application contains a limited amount of proprietary information that we request be withheld from the public in accordance with 10 CFR §2.390. An affidavit accompanying a withholding request is included. A public version of the document with proprietary information redacted has been included. Also note that most other documents supporting the license application include security related information. In most cases this information is limited to a few pages of the document and in these instances public versions with the security related information redacted have been provided. The Fluorine

Extraction Process & Depleted Uranium De-conversion Plant (FEP/DUP) Security and Emergency Plans are considered Security Related Information in their entirety, therefore public versions of these plans are not provided.

On October 22, 2009 INIS finalized a Memorandum of Agreement with the State of New Mexico Environment Department which limits the maximum quantities of depleted uranium that will be on site. These quantities are reflected in our depleted uranium possession limit request. These quantities and the Memorandum of Agreement are referenced in the license application.

The following documents are enclosed:

- NRC Form 313
- Affidavit Accompanying a Withholding Request
- INIS and NMED Memorandum of Agreement.

The remaining portions of the license application are provided on the enclosed discs as detailed in the tables below:

Disc #1 NOT FOR PUBLIC DISCLOSURE - Contains Proprietary and Security Related Information			
	Description	File Name	File Size
1	FEP/DUP Plant License Application	001 FEP DUP PLANT LA.pdf	10283 KB
3	FEP/DUP Plant License Application App. A	002 FEP DUP PLANT LA APP A.pdf	384 KB
3	FEP/DUP Plant Integrated Safety Analysis Summary	003 FEP DUP PLANT ISA SUM.pdf	2850 KB
4	FEP/DUP Plant Environ Report Chapters 1-2	004 FEP DUP PLANT ENV RPT C1-2.pdf	7384KB
5	FEP/DUP Plant Environ Report Chapter 3 Part 1of2	005 FEP DUP PLANT ENV RPT C3 1of2.pdf	36435 KB
6	FEP/DUP Plant Environ Report Chapter 3 Part 2of2	006 FEP DUP PLANT ENV RPT C3 2of2.pdf	23041 KB
7	FEP/DUP Plant Environ Report Chapters 4-10	007 FEP DUP PLANT ENV RPT C4-10.pdf	25514 KB
8	FEP/DUP Plant Environ Report Appendix A-C	008 FEP DUP PLANT ENV RPT APP A-C.pdf	7332 KB
9	FEP/DUP Plant Emergency Plan	009 FEP DUP PLANT EMERGENCY PLAN.pdf	2206 KB
10	FEP/DUP Plant Security Plan	010 FEP DUP PLANT SECURITY PLAN.pdf	2058 KB
11	FEP/DUP Plant Drawing Package	011 FEP DUP DWG PACKAGE.pdf	2114 KB

DISC #2 FOR PUBLIC DISCLOSURE			
	Description	File Name	File Size
1	FEP/DUP Plant License Application	001 FEP DUP PLANT LA-PUBLIC.pdf	9357 KB
2	FEP/DUP Plant License Application App. A	002 FEP DUP PLANT LA APP A-PUBLIC.pdf	384 KB
3	FEP/DUP Plant Integrated Safety Analysis Summary	003 FEP DUP PLANT ISA SUM-PUBLIC.pdf	2576 KB
4	FEP/DUP Plant Environ Report Chapters 1-2	004 FEP DUP PLANT ENV RPT C1-2-PUBLIC.pdf	7056 KB
5	FEP/DUP Plant Environ Report Chapter 3 Part 1of2	005 FEP DUP PLANT ENV RPT C3 1of2-PUBLIC.pdf	36435 KB
6	FEP/DUP Plant Environ Report Chapter 3 Part 2of2	006 FEP DUP PLANT ENV RPT C3 2of2-PUBLIC.pdf	21962 KB
7	FEP/DUP Plant Environ Report Chapters 4-10	007 FEP DUP PLANT ENV RPT C4-10-PUBLIC.pdf	24901 KB
8	FEP/DUP Plant Environ Report Appendix A	008 FEP DUP PLANT ENV RPT APP A-PUBLIC.pdf	7332 KB
9	FEP/DUP Plant Drawing	009 FEP DUP DWG PACKAGE.pdf	1244 KB

Questions concerning this submittal may be directed to:

Primary Contact

Name: John J. Miller
Phone Number: 208 524-5300
Email Address: jjmiller@intisoid.com
Mailing Address: International Isotopes Inc.,
4137 Commerce Circle
Idaho Falls ID 83401

Secondary Contact

Name: Jody L. Henley
Phone Number: 208 524-5300
Email Address: jhenley@intisoid.com
Mailing Address: International Isotopes Inc.,
4137 Commerce Circle
Idaho Falls ID 83401

Sincerely,

A handwritten signature in black ink, appearing to be 'John J. Miller', with a long, sweeping horizontal line extending to the right.

John J. Miller, CHP
Enclosures as stated

NRC FORM 313
(3-2009)
10 CFR 30, 32, 33,
34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 3/31/2012

APPLICATION FOR MATERIALS LICENSE

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy 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, (3150-0120), 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.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

IF YOU ARE LOCATED IN:

OFFICE OF FEDERAL & STATE MATERIALS AND ENVIRONMENTAL MANAGEMENT PROGRAMS
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
612 E. LAMAR BOULEVARD, SUITE 400
ARLINGTON, TX 76011-4125

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- A. NEW LICENSE
- B. AMENDMENT TO LICENSE NUMBER
- C. RENEWAL OF LICENSE NUMBER

2. NAME AND MAILING ADDRESS OF APPLICANT (Include ZIP code)

International Isotopes, Inc.
4137 Commerce Circle
Idaho Falls, ID 83401

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

South Highway 483
Hobbs, NM. 88240

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

John J. Miller
TELEPHONE NUMBER

(208) 524-5300

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY **\$170.31 12.** AMOUNT ENCLOSED \$ **0.00**

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE

SIGNATURE

DATE

Steve Laffin, President/CEO

12/30/2009

FOR NRC USE ONLY

TYPE OF FEE FEE LOG FEE CATEGORY AMOUNT RECEIVED CHECK NUMBER COMMENTS

APPROVED BY

DATE

12/30/09



International Isotopes Inc.

Affidavit Accompanying a Withholding Request

International Isotopes, Inc. (INIS), requests that the following information submitted as part of INIS's application to license a depleted uranium hexafluoride de-conversion fluorine extraction facility be withheld from public disclosure in accordance with Title 10 Code of Federal Regulations §2.390 (a)(4)

Document	Applicable Portions	Basis
Fluorine Extraction Process & Depleted Uranium De-conversion Plant Integrated Safety Analysis Summary, Revision A	Tables 3-1, 3-2, 3-3, and 3-5	Proprietary Information – Tables contain process operating and design parameters
Fluorine Extraction Process & Depleted Uranium De-conversion Plant Environmental Report, Revision A	Table 2-2	Proprietary Information – Table contains process operating and design parameters

The information contained within the aforementioned documents contains detailed process operating parameters. This information is considered privileged and confidential commercial information in accordance with 10 CFR §9.17(a)(4). A public version of Fluorine Extraction Process & Depleted Uranium De-conversion Plant (FEP/DUP) Integrated Safety Analysis Summary, Revision A has been included with the license application with Tables 3-1, 3-2, 3-3 and 3-4 redacted.

Also note that most other documents supporting the license application include security related information. In most cases this information is limited to a few pages of the document. In these instances public versions with the security related information redacted has been provided. However, the Fluorine Extraction Process & Depleted Uranium De-conversion Plant (FEP/DUP) Security and Emergency Plans are considered Security Related Information in their entirety. Public versions of these plans are not provided.

Laurie McKenzie-Carter, Chief Financial Officer,
International Isotopes, Inc.

12/30/2009

Date

**MEMORANDUM OF AGREEMENT
BETWEEN THE INTERNATIONAL ISOTOPEES, INC.
AND THE NEW MEXICO ENVIRONMENT DEPARTMENT**

WHEREAS, the New Mexico Environment Department (“NMED”) and International Isotopes, Inc. (“INIS”) desire to enter into this Memorandum of Agreement to establish storage limits for INIS’s Fluorine Extraction Process and Uranium De-Conversion Integrated Plant (“INIS Plant”) outside of Hobbs, New Mexico.

WHEREAS, NMED and INIS have determined that it is in the public interest for INIS to be bound by enforceable conditions limiting the storage and disposal of total depleted uranium, depleted uranium hexafluoride (“DUF₆”), and depleted uranium oxide (“DUO”) at the INIS Plant;

WHEREAS, NMED and INIS have determined that it is in the public interest to insure that INIS limit the amount of DUF₆ and DUO stored onsite and to limit the length of time that DUF₆ 48Y cylinders and full DUO disposal containers are stored onsite at the INIS Plant;

WHEREAS, NMED and INIS have determined that it is in the public interest to require INIS to establish a reporting requirement to NMED if certain storage levels are reached;

WHEREAS, INIS agrees as soon as practicable and appropriate in its United States Nuclear Regulatory Commission (“NRC”) licensing proceeding to incorporate this Memorandum of Agreement into INIS’ Plant license consistent with the terms and conditions herein.

THEREFORE, IT IS HEREBY STIPULATED AND AGREED by NMED and INIS that:

1. NMED and INIS admit that the NRC has jurisdiction over INIS’ NRC license parties and the subject matter of this Memorandum of Agreement.
2. NMED and INIS agree to the following condition:

Onsite storage of uranium, in any form, at the INIS Plant shall be limited to a maximum inventory of 2,200,000 kilograms of uranium ("KgU"), or approximately 300 48Y cylinders. Of this amount no more than 1,000,000 KgU shall be in the form of DUO. The receipt or possession of any uranium in any form by INIS beyond this limit shall constitute noncompliance with this Memorandum of Agreement and the license. Isotopes shall suspend receipt of any additional uranium onsite until this noncompliance is remedied. In no event shall INIS store any DUO that has not been produced at the INIS Plant in New Mexico or its pilot testing facility in Idaho.

NMED and INIS agree that this condition shall be included in INIS Plant license when issued by the NRC.

3. NMED and INIS agree to the following condition:

Onsite storage of any one 48Y cylinder of DUF_6 , or full disposal container of DUO, received or generated at the INIS Plant shall be limited to a maximum of two (2) years. The storage of any one 48Y DUF_6 cylinder or full DUO disposal container beyond this limit by INIS shall constitute noncompliance with this Memorandum of Agreement and with the license. Isotopes shall suspend receipt of any additional DUF_6 or production of DUO for onsite storage until this noncompliance is remedied. In no event shall INIS store any DUO that has not been produced at the INIS Plant in New Mexico or its pilot testing facility in Idaho.

NMED and INIS agree that this condition shall be included in the INIS Plant license when issued by the NRC. NMED and INIS agree that this condition shall in no way prevent shorter storage limits under another permit that has proper jurisdiction.

4. NMED and INIS agree to the following condition:

Upon reaching 2,000,000 kgU of total uranium or 900,000 KgU in the form of DUO in onsite possession at the INIS Plant, INIS shall provide notification to NMED within 5 business days describing the circumstances leading to the inventory build-up and plans to reduce onsite inventories.

5. NMED and INIS agree that in no event shall uranium from the INIS facility operations, in any chemical form, be disposed of within the State of New Mexico.

6. NMED and INIS agree that INIS shall provide a draft copy of the periodic adjustment of the decommissioning cost estimate required by 10 C.F.R. § 40.36(d) (hereinafter referred to as the "Triennial Report") to the Secretary of the New Mexico Environment Department at least 60 days prior to the submission of Triennial Report in final form to the NRC. NMED and INIS further agree that they will work together in good faith to resolve any comments regarding the Triennial Report, however, unresolved comments will not delay timely submittal to the NRC.

7. NMED and INIS agree that INIS shall provide a yearly report to the Secretary of the New Mexico Environment Department, on or before January 15th of each year that the INIS Plant is processing depleted uranium that identifies a) the amount (in KgU) of total uranium on site; b) the amount (in KgU) of DUO on site; c) the number of 48Y cylinders of DUF6 received during the past year for de-conversion; d) the current number of 48Y cylinders of DUF6 stored onsite with the date of the longest stored container; and e) the current number of full DUO disposal containers stored on site with the date of the longest stored container.

8. NMED and INIS agree that INIS shall provide NMED the same access to documents and materials relating to the INIS radiation protection program that is required to be provided to the NRC.

9. NMED and INIS agree that INIS shall support and shall not object to NMED accompanying NRC staff on any of its inspections of the INIS Plant radiation program and conducting inspections as permitted by any agreements between NMED and NRC that are executed in accordance with applicable NRC policy and guidance. In this regard, INIS shall allow NMED staff the same access to its facilities, documents, materials and personnel to which NRC is entitled. NMED shall execute any confidentiality agreement necessary to participate in

such inspections and shall comply with all appropriate INIS Plant rules (e.g., safety, security) and any applicable NRC requirements when participating in such inspections.

10. NMED and INIS agree that INIS shall provide to the New Mexico Department of Public Safety the Physical Security Plan for the INIS Plant subject to the execution by the appropriate officials, employees, or representatives of the New Mexico Department of Public Safety, of all required non-disclosure agreements.

11. This Memorandum of Agreement does not govern any other environmental permits INIS is required by law to obtain.

12. All parties hereto agree to exercise due diligence in the performance of their various responsibilities under this Memorandum of Agreement and to cooperate with each other in carrying out its intent.

13. Nothing in this Memorandum of Agreement shall interfere with, prevent or excuse INIS from fulfilling any legal or statutory requirement of the NRC, or its successors, whether contained in the license for the INIS Plant when issued or other requirement or regulation of the NRC, its successors, or representatives, whether oral or in writing.

14. This Memorandum of Agreement shall be effective, final and binding on the parties upon execution by both parties.

15. The parties agree that if the NRC does not approve the License requirements contained in this Agreement, the parties will negotiate in good faith to resolve any outstanding issues necessary to obtain its approval by the Board or the NRC.

16. NMED and INIS agree that once the NRC adopts the license conditions in this Memorandum of Agreement, those conditions are fully enforceable by the NRC. All parties agree not to contest the NRC's jurisdiction to approve and enforce NRC license conditions instituted as a result of this Memorandum of Agreement. If any provision of this Memorandum

of Agreement is found by the NRC, or any court of competent jurisdiction, to be outside the NRC's jurisdiction and thus unenforceable by the NRC, or should the NRC refuse or otherwise decline to enforce any provision of this Memorandum of Agreement, the parties agree that an action to enforce such provision may be filed in the United States District Court for the District of New Mexico (if subject matter jurisdiction exists) or the First Judicial District Court, Santa Fe County, of New Mexico and agree not to object to the jurisdiction of those courts to hear and determine such action. The parties further agree to waive any objection to the standing of any party to this Memorandum of Agreement to bring an action to enforce the license conditions in this Memorandum of Agreement before the NRC or, if outside the NRC's jurisdiction, the United States District Court or the First Judicial District Court. Finally, the parties agree to proceed before the NRC prior to bringing an action in court, and further to proceed in United States District Court (if subject matter jurisdiction exists) before proceeding in the First Judicial District Court.

17. In the event of a breach of any provision of Paragraphs 2, 3, or 5 herein, NMED shall be entitled to liquidated damages from INIS in the amount of \$5,000 per day per breach. This amount is not a penalty but is a reasonable estimate of the damages that would result from any breach. Notwithstanding the foregoing, NMED and INIS agree that INIS shall be entitled to attempt to cure the breach of any provision of Paragraphs 2, 3, or 5 herein within 60 days of receiving written notice from NMED of such breach.

18. In the event this Memorandum of Agreement becomes effective in accordance with the terms herein, the parties agree if any term, section, provision or portion of this Memorandum of Agreement is subsequently held invalid or unconstitutional by any court of competent jurisdiction, the remaining terms, sections, provisions and portions of this Memorandum of Agreement shall remain in full force and effect.

19. In the event this Memorandum of Agreement becomes binding upon the parties in accordance with the terms herein, the Memorandum of Agreement shall be binding upon the parties' successors, assigns, representatives, employees, agents, partners, subsidiaries, and affiliates.

20. NMED and INIS expressly waive the right to challenge, contest the validity of, or seek judicial review of any order entered as a result of this Memorandum of Agreement so long as such order is fully consistent with each provision of this Memorandum of Agreement.

21. When approved by the NRC Board, the order entered as a result of this Memorandum of Agreement has the same force and effect as an order made after full hearing.

IN WITNESS WHEREOF INIS and NMED have caused this Memorandum of Agreement to be executed by their duly authorized representatives on this 22nd day of October, 2009.

**NEW MEXICO ENVIRONMENT
DEPARTMENT**

RON CURRY
Secretary



INTERNATIONAL ISOTOPES, INC.

STEVE LAFLIN
President and Chief Executive Officer

