



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

July 2, 2012

Mr. Steve Laflin  
President and Chief Executive Officer  
International Isotopes Fluorine Products INC. (IIFP)  
Fluorine Extraction Process & Depleted  
Uranium De-conversion Process Plant (FEP/DUP)  
4137 Commerce Circle  
Idaho Falls, ID 83401

**SUBJECT: MEETING SUMMARY - CATEGORY 1 MEETING, INTERNATIONAL  
ISOTOPES FLUORINE PRODUCTS – DOCKET NUMBER 40-9086**

Dear Mr. Laflin:

This letter refers to the public meeting conducted as requested by your staff at the Region II Office in Atlanta, Georgia on June 28, 2012, from 10:00 a.m. to 12:00 p.m. The purpose of this meeting was for International Isotopes Fluorine Products (IIFP) to discuss the background and project status activities for the FEP/DUP facility. The NRC staff provided an overview of the construction inspection program. Additionally, the meeting afforded members of the public the opportunity to ask the NRC staff questions regarding your facility.

The names of participating attendees at the meeting, and a copy of the presentations are enclosed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agency wide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact Cynthia Taylor at 404-997-4480 or by electronic mail at [Cynthia.Taylor@nrc.gov](mailto:Cynthia.Taylor@nrc.gov).

Sincerely,

**/RA by William Gloersen Acting For/**

Deborah A. Seymour, Chief  
Construction Projects Branch 1  
Division of Construction Projects

Docket No. 40-9086

Enclosures:

1. List of Participating Attendees
2. International Isotopes Fluorine Products (IIFP) Presentation to NRC Region II
3. Overview of the Construction Inspection Program for Fuel Facilities

cc w/encls:

Mr. John Miller  
Corporate Environmental Safety and Health Officer  
International Isotopes Fluorine Products INC. (IIFP)  
Fluorine Extraction Process & Depleted  
Uranium De-conversion Process Plant (FEP/DUP)  
4137 Commerce Circle  
Idaho Falls, ID 83401

Michael Ortiz  
Bureau Chief  
Radiation Control Bureau  
New Mexico Environment Dept.  
Marquez Building-Suite 1  
525 Camino de Los Marquez  
Santa Fe, NM 87505

Michael Ortiz  
Bureau Chief  
Radiation Control Bureau  
New Mexico Environment Dept.  
P.O. Box 5469  
Santa Fe, NM 87502-5469

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PUBLICLY AVAILABLE     
  NON-PUBLICLY AVAILABLE     
  SENSITIVE     
  NON-SENSITIVE  
 ADAMS:  Yes     
 ACCESSION NUMBER: ML12185A068     
  SUNSI REVIEW COMPLETE

OFFICE	RII:DCP	RII:DCP	RII:DCP	RII:DCP	RII:DCP	RII:DCP	RII:DCI
SIGNATURE	CDT						
NAME	C. Taylor						
DATE	06/29/2012	06/ /2012	06/ /2012				
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY      DOCUMENT NAME:

Letter to Steve Laflin from Deborah A. Seymour, dated July 2, 2012.

**SUBJECT: MEETING ANNOUNCEMENT - CATEGORY 1 MEETING, INTERNATIONAL ISOTOPES FLUORINE PRODUCTS – DOCKET NUMBER 40-9086**

Distribution w/ encls:

Meeting Announcement Coordinator, OADM/DFIPS (PMNS)

Region II Regional Coordinator, OEDO

Headquarters Operations Officer

J. Kinneman, NMSS

T. Hsia, NMSS

T. Hiltz, NMSS

P. Silva, NMSS

M. Bartlett, NMSS

D. Arroyo, NMSS

Region II Division Directors and Deputies

R. Hannah, Public Affairs Officer, RII

D. Seymour, RII

W. Gloersen, RII

C. Taylor, RII

D. Edwards, RII

Region II Administrator's Administrative Assistant

PUBLIC

## LIST OF PARTICIPATING ATTENDEES

### **U. S. Nuclear Regulatory Commission, Region II**

F. Brown, Deputy Regional Administrator for Construction  
J. Moorman, Director, Division of Construction Projects (DCP)  
C. Ogle, Director, Division of Construction Inspection (DCI)  
A. Gody, Director, Division of Fuel Facility Inspection (DFFI)  
J. Yerokun, Deputy Division Director DCI  
M. Lesser, Branch Chief, Construction Inspection Branch (CIB) 1  
D. Seymour, Branch Chief, Construction Projects Branch 1 (CPB1), DCP  
C. Taylor, Senior Project Inspector, DCP  
D. Edwards, Construction Project Inspector, DCP  
T. Fanelli, Construction Inspector, CIB1

### **Office of Nuclear Material Safety and Safeguards (NMSS)**

P. Silva, Branch Chief, Fuel Cycle Safety and Safeguards (FCSS)  
M. Bartlett, Senior Project Manager, FCSS  
M. Garcia, Project Manager, FCSS

### **International Isotopes Fluorine Products (IIFP)**

S. Laflin, President and Chief Executive Officer  
J. Miller, Corporate Environmental Safety and Health

### **Advanced Process Technology Systems (APS)**

J. Thomas, President and Owner  
T. Thompson, Director of Engineering

### **New Mexico Environmental Division Environmental Health Bureau**

S. Zappe, Program Manager  
R. Horowitz, Incident Response Coordinator

### **Nuclear Energy Institute (NEI)**

A. Mauer

### **Members of the Public**

C. Maddox  
C. Patrick Quillian  
H. Quillian



# **International Isotopes Inc.**

Making Clean Power Cleaner

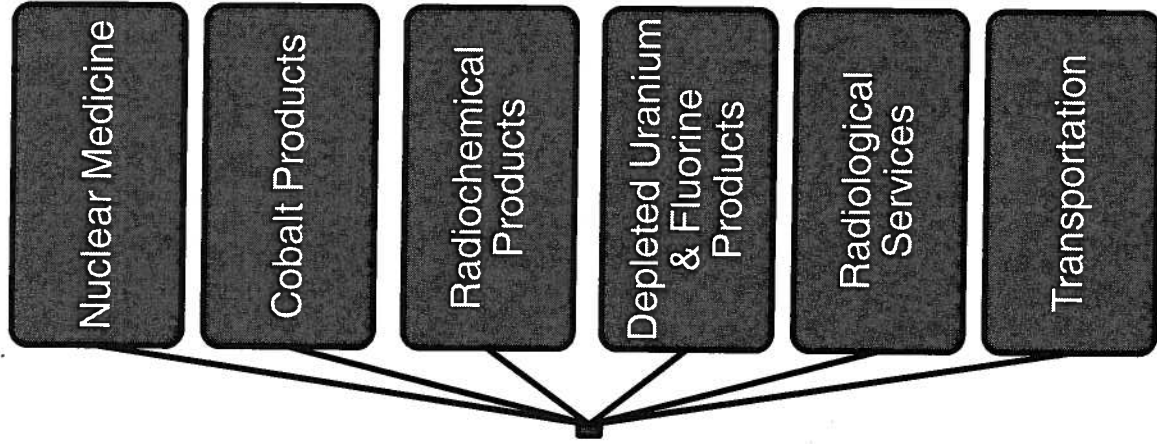
NRC Region II Project Update

June 2012

## I<sup>3</sup> Forward-Looking Statements

Certain statements in this presentation are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Information contained in such forward-looking statements is based on current expectations and is subject to change. These statements involve a number of risks, uncertainties and other factors that could cause actual results, performance or achievements of International Isotopes, Inc. to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. Those risks and uncertainties include, but are not limited to, changing market conditions, inability to raise financing, unanticipated costs and delays, time frames for licensing, design and construction, feasibility of FEP on a large scale, expansion of the U.S. enrichment industry, opportunities with respect to fluoride products, pricing and cost estimates, and other risks detailed from time-to-time in the Company's ongoing filings and we encourage investors to review the risks presented in our filings with the SEC. Other factors, which could materially affect such forward-looking statements, can be found in International Isotopes Inc.'s filings with the Securities and Exchange Commission at [www.sec.gov](http://www.sec.gov), including our annual report on Form 10-K for the year ending December 31, 2011. Investors, potential investors and other readers are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements made herein are only made as of the date of this investor presentation and International Isotopes, Inc. undertakes no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.





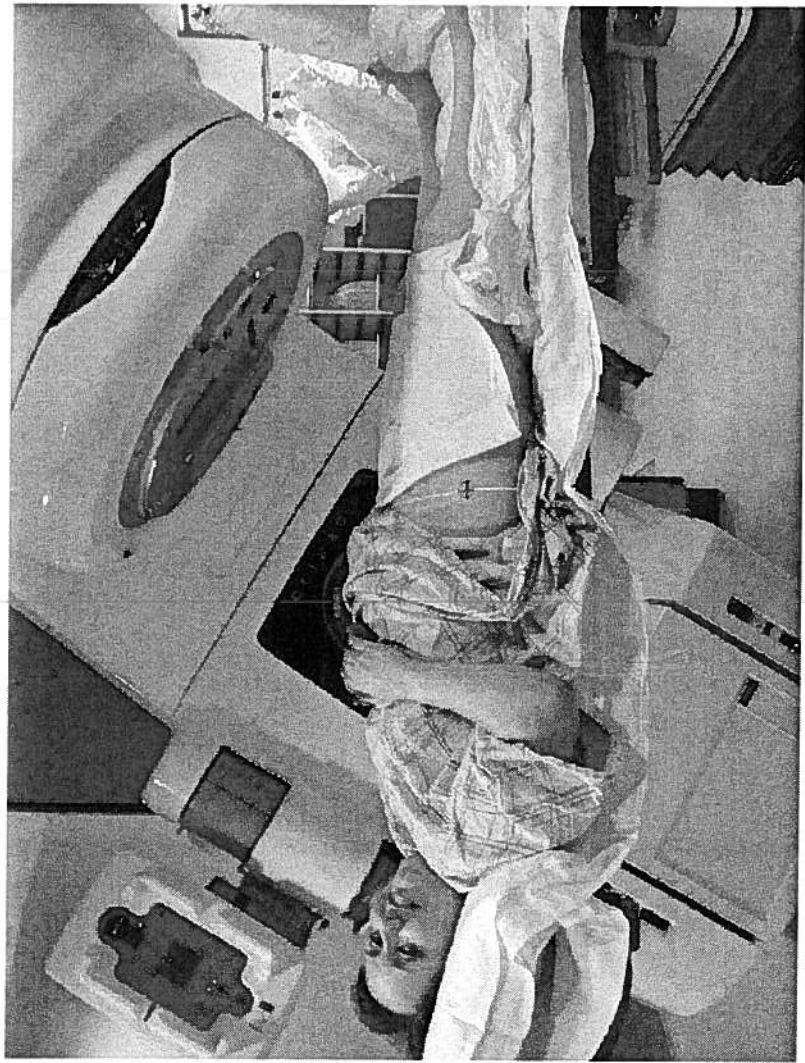
- Manufactures products for nuclear pharmacy
- Supplies bulk cobalt and sealed sources for medical and industrial applications
- Supplies Iodine-131 as a drug product directly to radiopharmacies

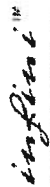
### Largest New Commercial Opportunity

- Supports the processing of gemstones and other Health Physics contract services
- Provides safe transport of nuclear materials

- Cobalt Products and Services

# I<sup>3</sup> External Radiation Therapy



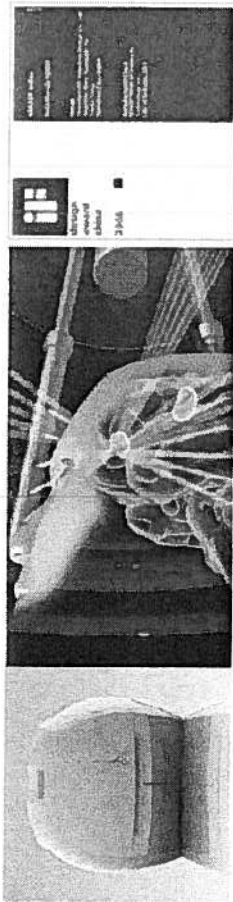


## A Technology Breakthrough in Intracranial Stereotactic Radiosurgery

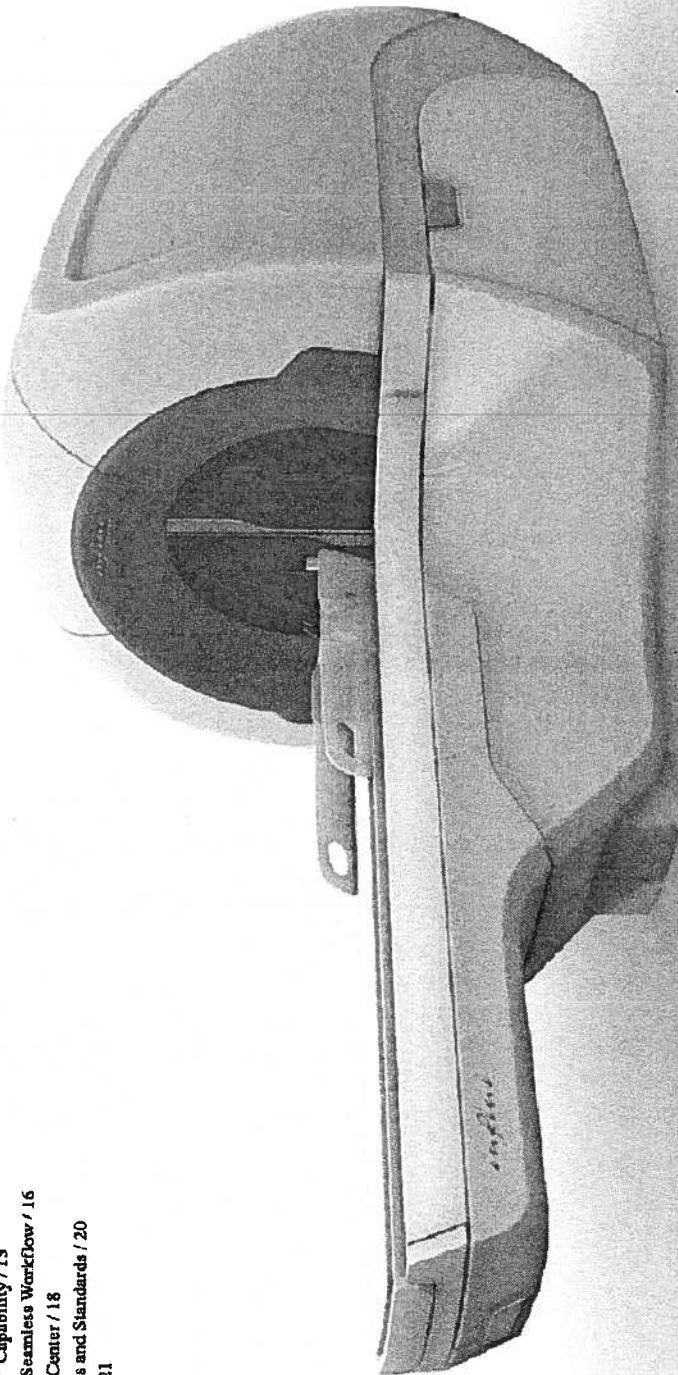
- ◆ Infiniti™ System Capability / 2
- ◆ Infiniti™ Structure / 3
- ◆ Technical Specifications / 4
- ◆ Rotary Focusing / 6
- ◆ Independent Beam Switch Control / 7
- ◆ Shielding Design Enhancements / 8
- ◆ Choice of 4 Different Collimators / 9
- ◆ Treatment Bed 3-D Movement / 10
- ◆ Fully Automated Control System / 11
- ◆ Expanded Treatment Volume / 12
- ◆ Unmatched Sculpting of Dose Distribution / 13
- ◆ Comprehensive Treatment Planning System InfinitiPlan™ / 14
- ◆ InfinitiPlan™ Capability / 15
- ◆ Rapid and Seamless Workflow / 16
- ◆ Treatment Center / 18
- ◆ Regulations and Standards / 20
- ◆ Services / 21

Rotating Gamma System Infiniti™

An industrial design masterpiece.



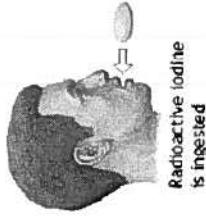
Winner of the 2008  
German iF Design award.  
(Medical category)



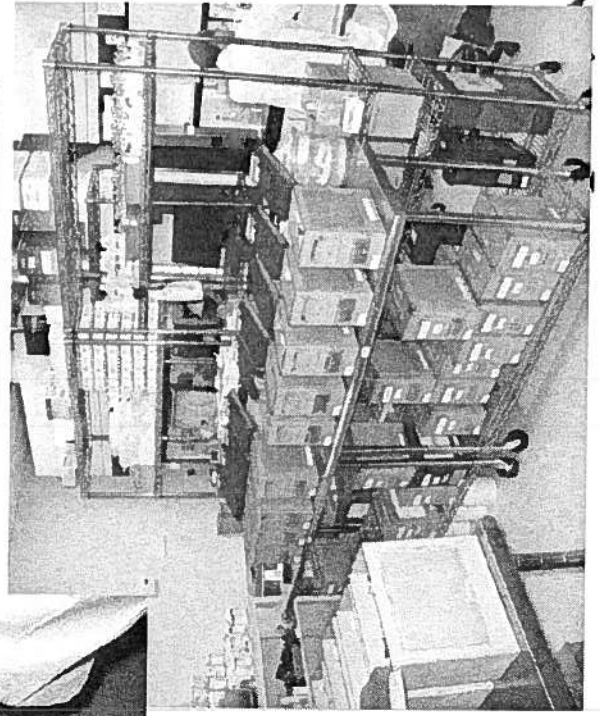
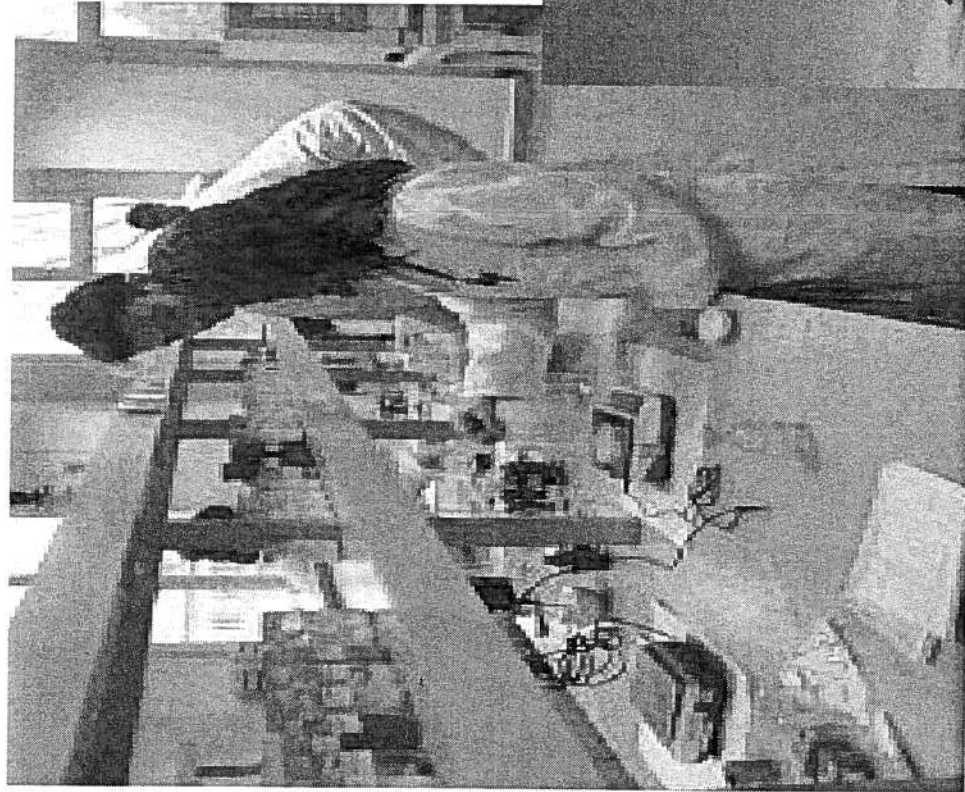
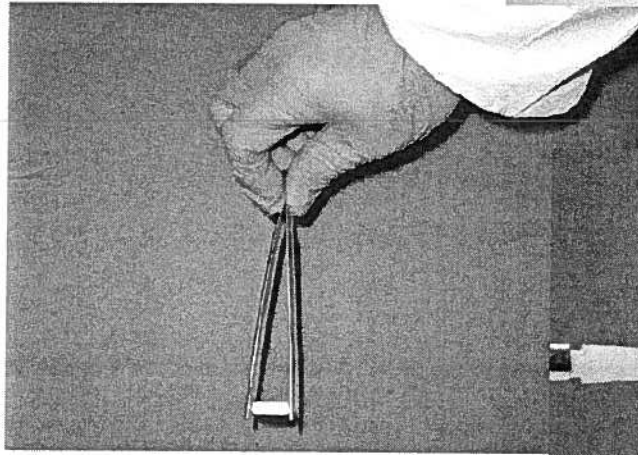
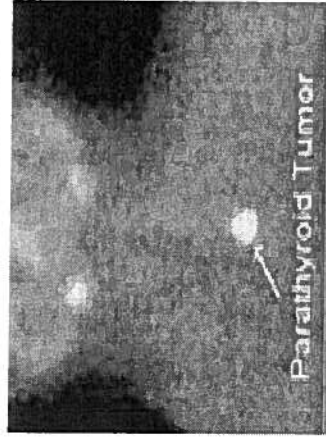
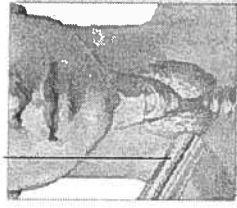
- Radiochemical Products



## Nuclear Medicine – Imaging and Therapy



Gamma probe measuring thyroid gland radioactivity



- Depleted Uranium Project  
Opportunity

## I<sup>3</sup> An Essential Business

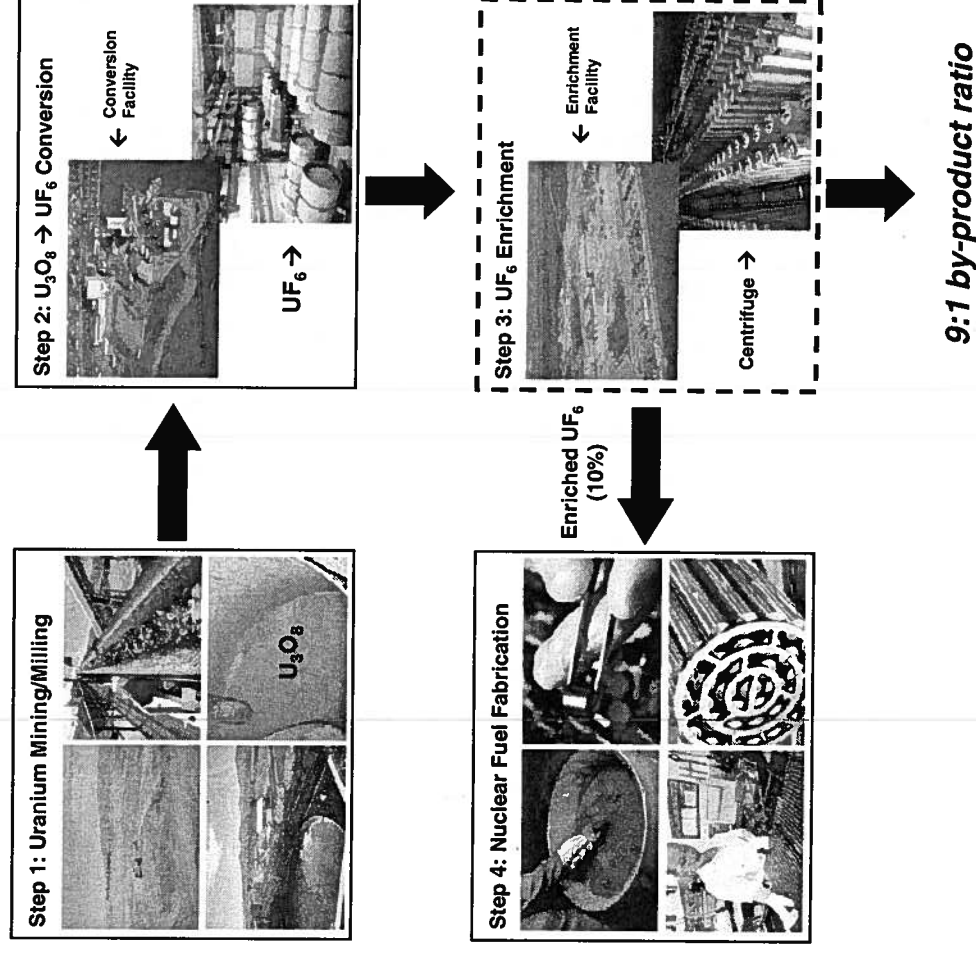
- All uranium must be enriched in the process to create reactor fuel
- Enrichment of uranium results in production of by-product depleted uranium ("tails")
- U.S. based enrichment capacity is growing and will create significant volumes of tails
- Tails are chemically reactive and must be de-converted for disposal
- De-conversion process separates valuable elements from tails and creates a chemically benign waste for disposal
- INIS is the only known company building commercial de-conversion capacity in the U.S.





# I<sup>3</sup> Nuclear Fuel Cycle

- Uranium goes through several steps in the process to create reactor-grade fuel
- Enrichment is one of the most important steps in the process
  - Increases the concentration of U-235 from ~0.7% to ~4.5%
  - Required to sustain nuclear fission chain reaction
- Enrichment generates the greatest volume of by-product from the nuclear fuel cycle
  - For every 1 unit of enriched UF<sub>6</sub> created, 9 units of tails are produced



- Typical 1000 Mw Reactor
  - Supplies power for 600,000 homes
  - Requires about ~37,000 lbs of enriched uranium per year
  - Results in the production of about ~485,000 lbs of depleted UF<sub>6</sub> Tails
- Current U.S. Reactor Base
  - ~100,000 MW (Production Capacity)
  - ~48.5 million Lbs of depleted UF<sub>6</sub> per year

# I<sup>3</sup> Uranium Enrichment in the U.S.

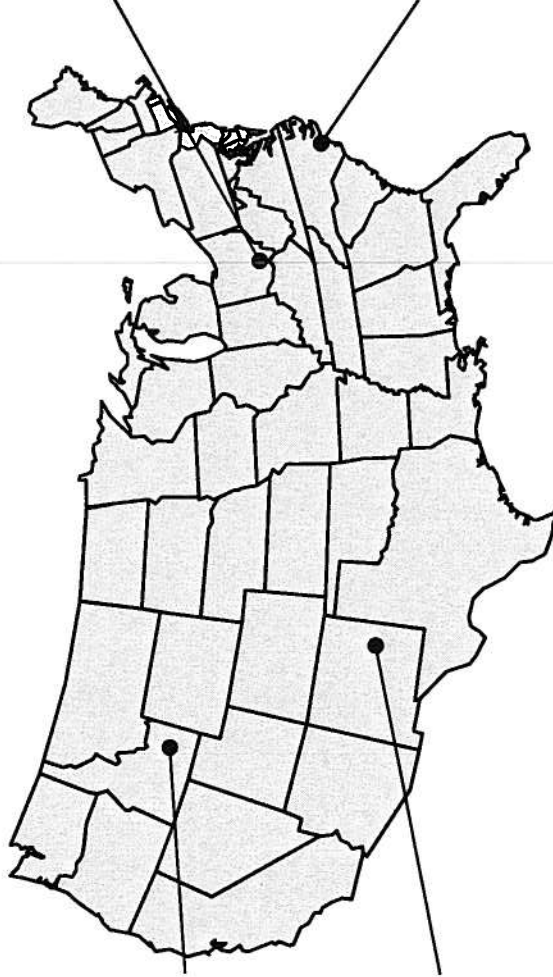
- Expiration of the “Megatons to Megawatts” program 2013 - U.S. based enrichment capacity is growing
- Currently 4 major companies are building, or planning to build, new enrichment capacity in the U.S.

## AREVA

Facility:	Eagle Rock Enrichment
Location:	Idaho Falls, ID
Opening Date:	2016
Full Production Date:	2019
Capacity:	6.6 million SWU/yr

## URENCO

Facility:	Louisiana Energy Services
Location:	Eunice, NM
Opening Date:	June 2010
Full Production Date:	2015
Capacity:	5.7 million SWU/yr



## USEC A Global Energy Company

Facility:	American Centrifuge
Location:	Piketon, OH
Opening Date:	TBD
Full Production Date:	TBD
Capacity:	3.5 million SWU/yr

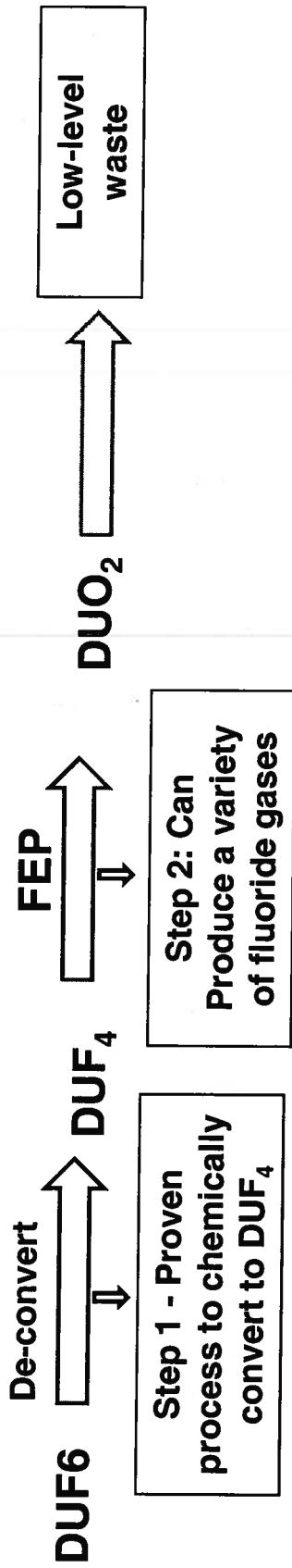


Facility:	Global Laser Enrichment
Location:	Wilmington, NC
Opening Date:	TBD
Full Production Date:	TBD
Capacity:	3.5 – 6.0 million SWU/yr

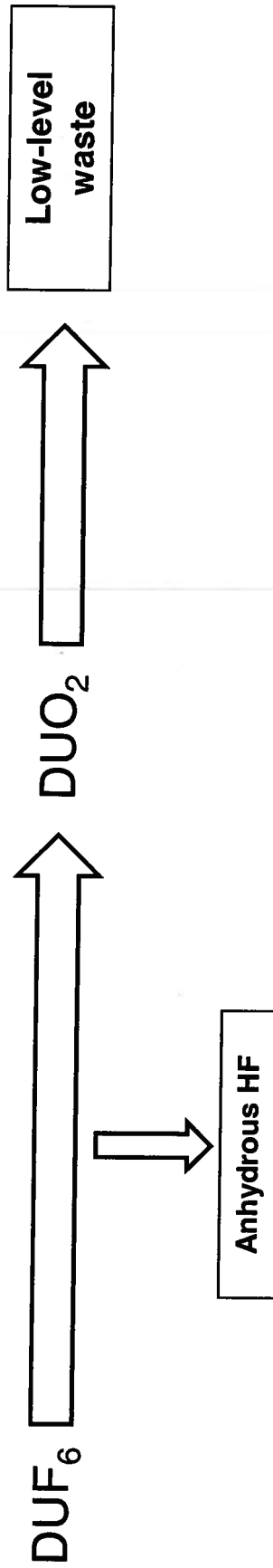


# I<sup>3</sup> Our Strategy

- Phase 1 – 11 million LBS DUF6 Capacity.



- Phase 2 - 24 million LBS DUF6 Capacity



## I<sup>3</sup> Creating a Strong Industrial Business

- We are paid to take our raw material input AND we are paid for products we extract/produce
  - Raw material tails can be used for production of several fluorinated gases using FEP
  - De-conversion also creates hydrofluoric acid
- Fluoride products play a key role in the manufacture of thousands of products used in a variety of industries
- We use a simple, patented process to produce low cost, high purity fluoride products
- Lower energy requirements than by conventional manufacturing methods
- We optimize revenues by selecting/producing products with best value

# I<sup>3</sup> Project Planned Capacities

	Phase 1	Phase 2	Phase 3
Construction Start:	2013	2017	2020
Commercial Operations:	2014	2019	2022
<b>De-Conversion Capacity:</b>	11	24	39
	(mm lbs/yr)		
<b>Fluoride Gas capacity:</b>	2,900	2,900	2,900
	(000lbs/yr)		
<b>Anhydrous HF Cap:</b>	900	5,500	10,600
	(000lbs/yr)		



# I<sup>3</sup> Customers and Contract Agreements in Place

- **De-conversion services agreement in place with URENCO USA**
  - Signed in April 2010 for first 5 years of operation – evergreen conversion
  - Fixed cost per pound for de-conversion (subject to annual inflation protections)
  - Contract has guaranteed minimum volumes
  - Final waste disposal costs are passed through to URENCO (LES)
- **Hydrofluoric acid sales contract in place**
  - Signed in Feb. 2012, 10 years with renewal features
  - With an established company in the HF industry
  - U.S. source for HP grade HF product
- **Fluoride gas from FEP sales agreement in place**
  - Signed in December 2011, 8 years of production with first rights
  - With an established company for the specific fluoride gas
  - Contract is imminent
- **Several additional new fluoride gas opportunities are under consideration**
- **We have had discussions with other U.S. enrichment companies**





# Our Accomplishments

# I<sup>3</sup>

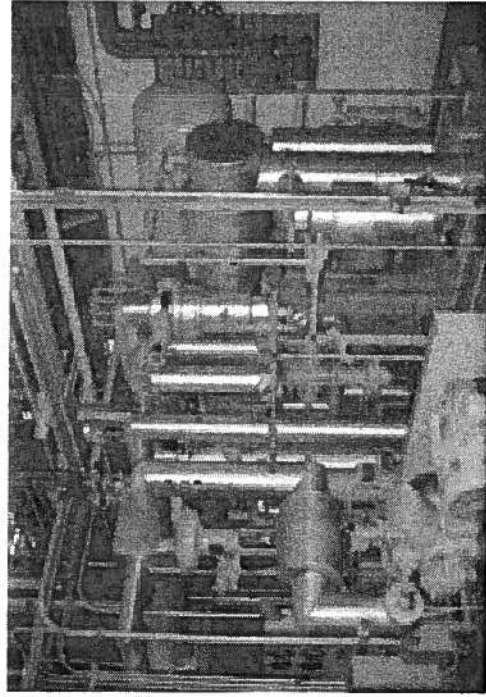
Acquisition of depleted uranium de-conversion equipment (UF6-UF4)	May 2008
Selection of Hobbs, New Mexico as location for de-conversion facility	March 2009
New Mexico Environment Department agreement completed	October 2009
Submission of NRC license application	December 2009
De-Conversion Services contract signed with URENCO (LES)	April 2010
Rocky Mountain Waste Compact Declaratory Order on DUF <sub>6</sub>	September 2010
Design and Build contractor selected (Parsons)	July 2011
Land transfer completed	August 2011
Formal design work initiated	October 2011
De-Conversion Plant Equipment Staged	December 2011
New Mexico Air Permit approved	April 2012
<b>NRC Final Safety Evaluation Report for License Approved and Published</b>	May 25, 2012



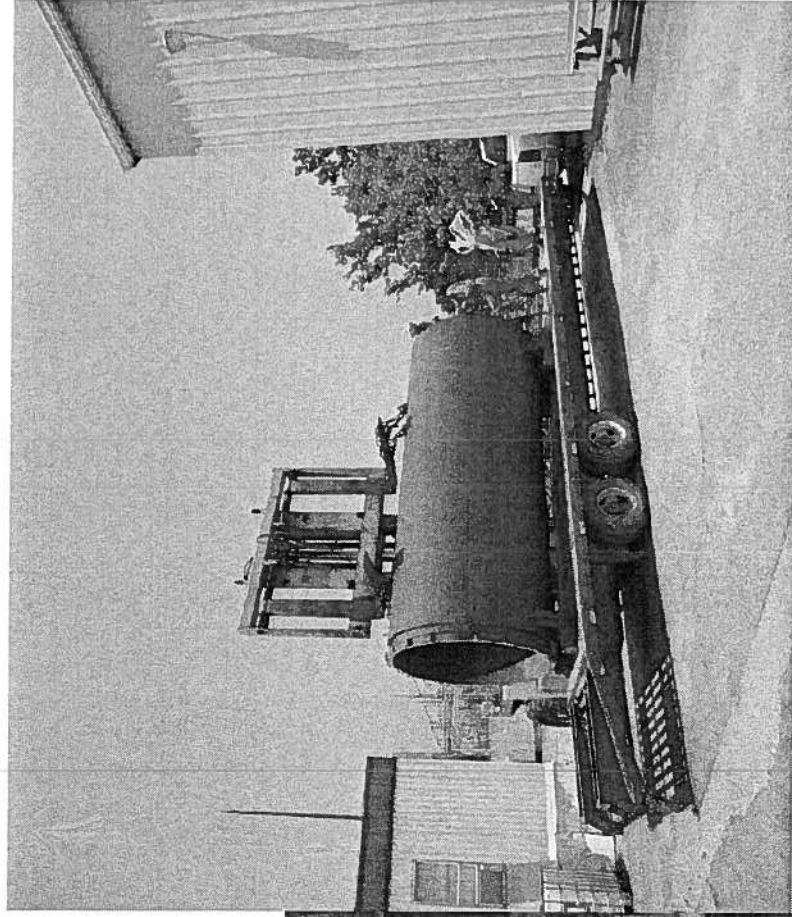
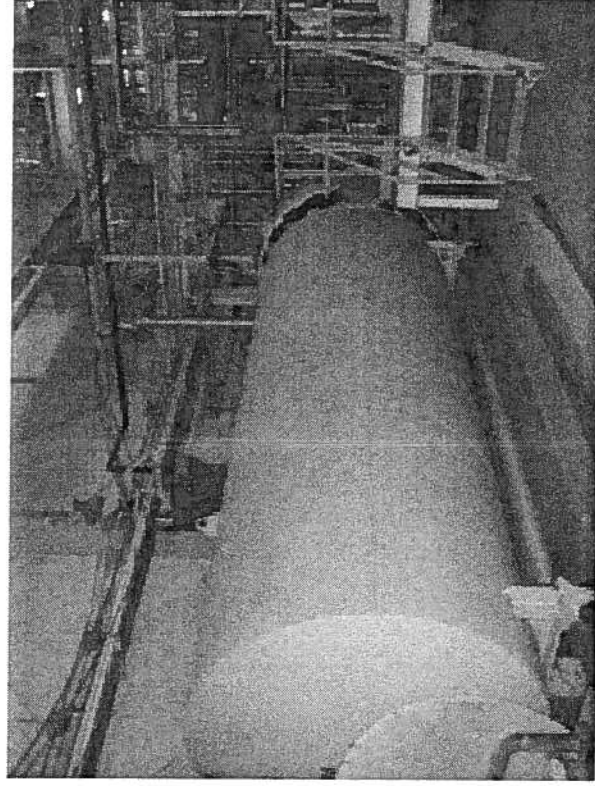


# I<sup>3</sup> DUF<sub>6</sub> to DUF<sub>4</sub> De-Conversion Plant Equipment

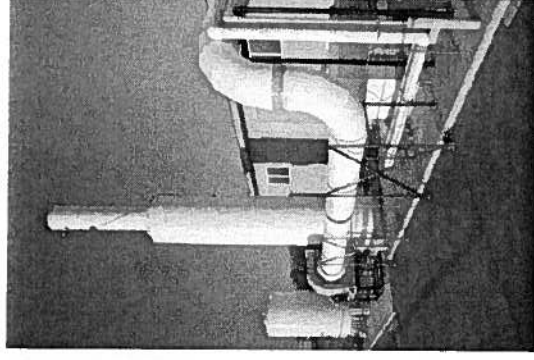
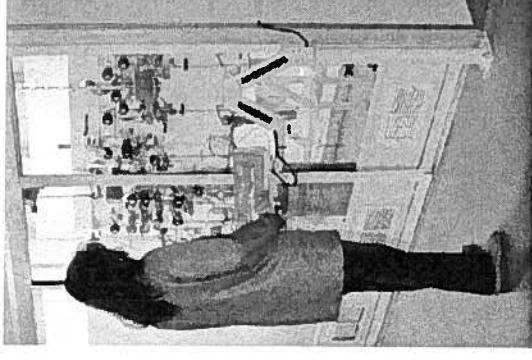
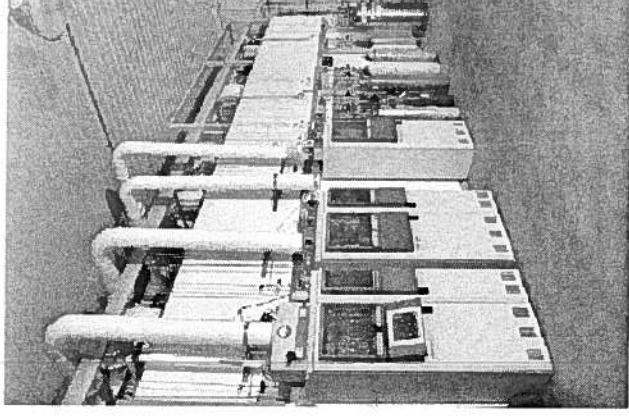
Acquired assets of the only complete de-conversion plant in the U.S. in 2008



- De-Construction completed in December 2011
- Equipment relocation to New Mexico in 2013



- Plant has successfully demonstrated production of several fluoride gases
- Granted an additional patent on the process technology (8<sup>th</sup> patent related to FEP)
- Large energy savings compared to conventional processes - (6 X Less Energy Per Pound)
- Additional scale-up work is underway



# I<sup>3</sup> Licensing – Status (40 Year License)

Application .....	December 31, 2009	} Completed
Acceptance Review .....	February 24, 2010	
ACRS Subcommittee .....	June 4, 2010	
RAI Responses.....	May, 2011	
Draft EIS .....	January 2012	
Safety Evaluation Report .....	May 2012	
<hr/>		
Final EIS .....	August 2012	} Expected
License .....	September 2012	



Expected Receipt of NRC License	September 2012
Commence Construction (Non-Safety Structures and Site Prep.)	4th Qtr. 2012
Start Main Facility Construction (Subject to obtaining adequate financing)	2nd Qtr. 2013
Begin Commercial Operations	1st Qtr. 2014

# I<sup>3</sup> Experienced Management, Design, and Operations Team

- Team has significant experience in nuclear fuel, uranium and fluorine product industries

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**Steve Lafiin**

*Chief Executive Officer & President, Director*

- 30+ years experience in the nuclear industry
- INIS CEO since 2001
- U.S. Nuclear Navy and BSc Physics from Idaho State University

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**John Miller**

*Radiation Safety and Licensing, INIS*

- Over 20 Years Nuclear physics, safety and licensing experience
- More than 20 NRC license amendments and actions
- SHARP Award for INIS
- BS Health Physics, MS Environmental Engineering, Certified Health Physics

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**Jim Thomas**

*Owner/President of Advanced Process Technology Systems ("APTS")*

- Leads team of engineers and technical staff acting as the primary contractor in the conceptual design development and engineering, cost estimating, integrated safety analysis, environmental permitting, financial analysis support and NRC licensing for INIS' de-conversion/FEP facility
- 35+ years experience in nuclear fuel cycle
- Extensive experience in uranium conversion and enrichment, fluorine products and chemical manufacturing
- Managed the development of SILEX enrichment technology, currently in use by GE

---

**Tom Thompson**

*APTS Engineering Director*

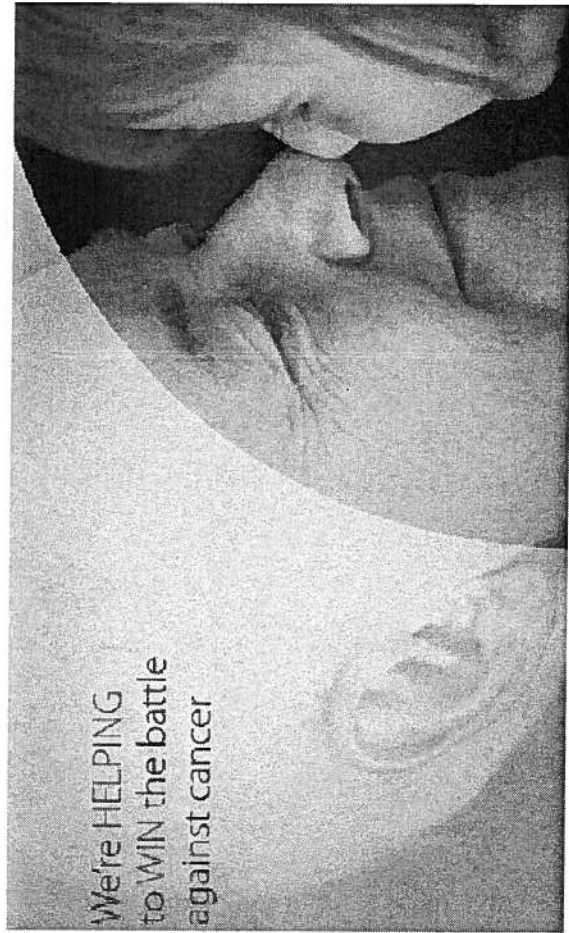
- 30 years of project, design and construction experience, including UF<sub>6</sub> conversion
- Has previously worked in uranium and fluorine chemical industry for Allied Chemical (now Honeywell) as project engineer design, estimating, purchasing and field engineering for capital projects and plant modifications.



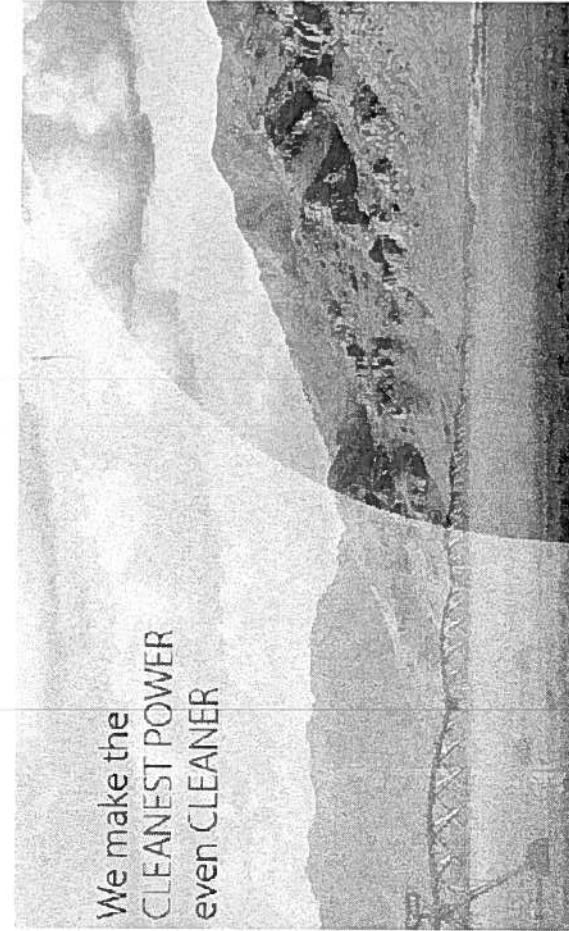


- Growth in U.S. commercial uranium enrichment capacity is underway
  - URENCO operating and expanding
  - Three other companies are evaluating, planning to build enrichment capacity in the U.S.
- The technology of the process is demonstrated
  - De-conversion facility for UF6 to UF4
  - Pilot plant demonstrations for FEP
- Agreements in place with customers
  - De-conversion services with URENCO (UUSA)
  - Other fluoride products contracts
- Last steps to start construction are at hand – “Shovel Ready”
  - Pending issuance of NRC license
  - Formal design team identified and design work underway

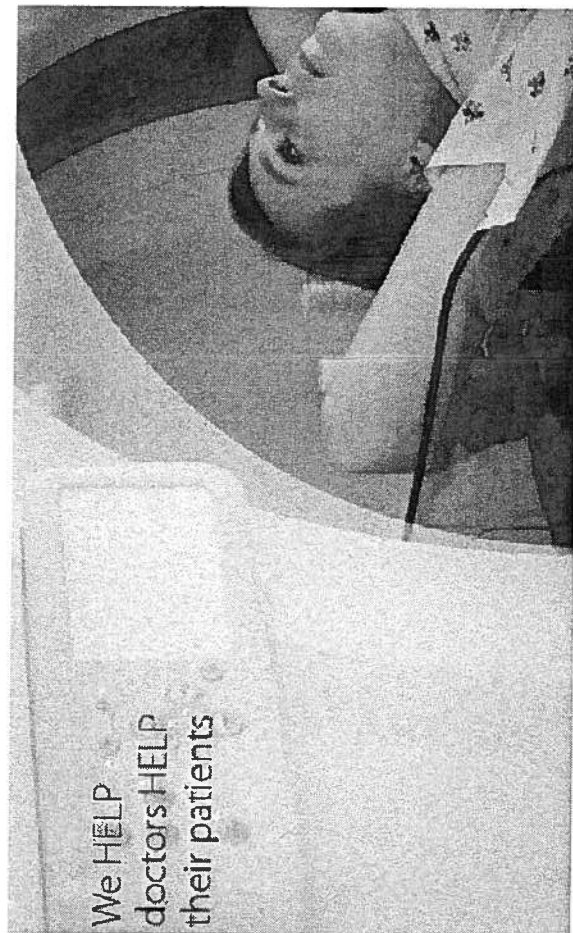
# I<sup>3</sup> International Isotopes Inc.



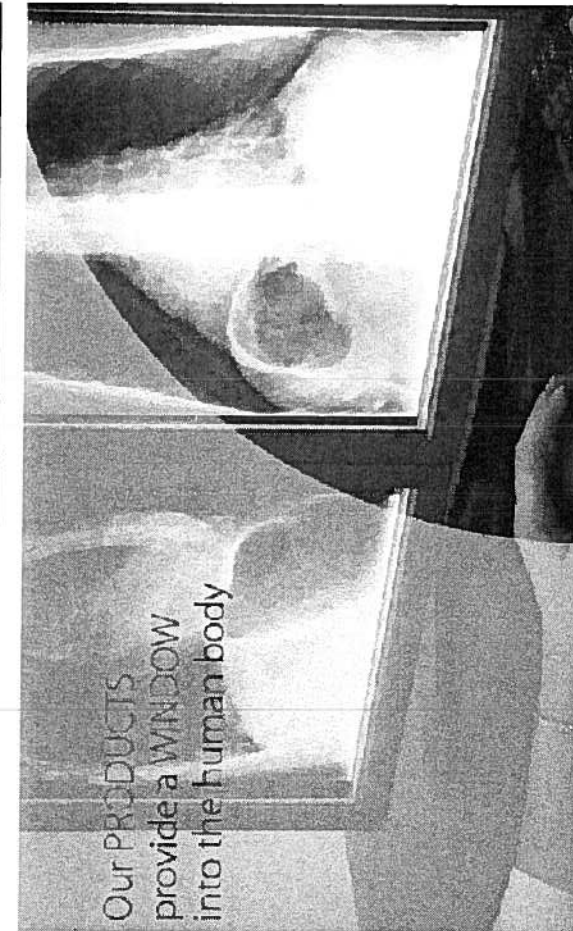
We're HELPING  
to WIN the battle  
against cancer



We make the  
CLEANEST POWER  
even CLEANER



We HELP  
doctors HELP  
their patients



Our PRODUCTS  
provide a WINDOW  
into the human body



# Agenda

## INTERNATIONAL ISOTOPES FLUORINE PRODUCTS, INC. (IIFP) FLUORINE EXTRACTION PROCESS & DEPLETED URANIUM DE-CONVERSION PROCESS (FEP/DUP) PLANT

### PUBLIC MEETING AGENDA

JUNE 28, 2012

10:00 a.m.	Opening Remarks and Introductions	NRC/IIFP
10:15 a.m.	Presentation: * Background and Status of IIFP Fluorine Extraction and Depleted Uranium De-conversion Plant	IIFP
11:15 a.m.	Presentation * Construction Inspection Program Overview	NRC
11:45 a.m.	Questions from Public	NRC
12:00 p.m.	Adjourn Meeting	





**This is a Category 1 meeting in which the public is invited to observe and will have one or more opportunities to communicate with the NRC after the business portion, but before the meeting is adjourned.**

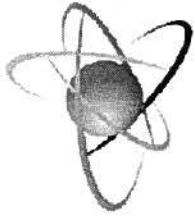


**To improve our communications, it would be beneficial to hear from meeting participants.**

**Please take a few minutes to fill out the NRC public meeting feedback form (NRC Form 659) and return or mail the form to the NRC**

**NRC Form 659, the meeting agenda, and other handouts are located on the table near the entrance to the meeting room**

**Please sign the attendance sheet**



**U.S.NRC**

United States Nuclear Regulatory Commission

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*Protecting People and the Environment*

# **Overview of the Construction Inspection Program for Fuel Facilities**

**Cynthia Taylor**

**Division of Construction Projects**



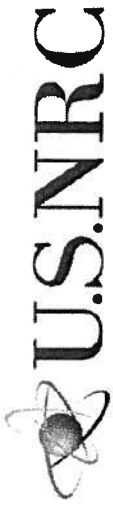
# **Construction Inspection Program Mission Statement**

*To provide assurance in the safety of future operations at new nuclear facilities by ensuring that licensees and applicants construct the facilities in accordance with approved design criteria, using appropriate practices and quality materials.*



# **NRC Fuel Facility Construction Inspection Program Basis**

- **Inspections based on:**
  - **License Requirements and Conditions**
  - **Safety Analyses**
  - **Safety Evaluation Report**
  - **Building Codes and Standards**
  - **Supplemental Program Plans Approved by NRC**



United States Nuclear Regulatory Commission

*Protecting People and the Environment*

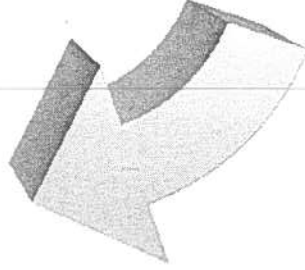
## How Does NRC Inspect?

- Resident Inspectors
  - Provides daily onsite inspection oversight at the facility
- Construction Inspectors
  - Management Measures
  - Civil/Structural
  - Mechanical
  - Electrical
- Operations Inspectors
  - Chemical Safety
  - Criticality Safety
  - Fire Safety
  - Radiation Protection
  - Environmental Protection



**Resident  
Inspectors**

**Construction  
Inspectors**



**Operations  
Inspectors**



United States Nuclear Regulatory Commission

*Protecting People and the Environment*

# Construction Inspection Program

## Construction Inspections

## Commercial Operations



- Acceptance of licensee's operational readiness and management measure verification reviews

## Pre-Operation

- No later than 60 days in advance of the start of commercial operations the licensee's must submit an operational readiness (ORR) and management measures verification review report(s) to the NRC
- The NRC will perform follow-up inspections of ORR and management measures verification reviews as needed.

## Construction

- Safety-related foundation work (structural, equipment, and utilities)
- Inspections of structures, systems, and components
- Component supplier inspections (vendor)



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# Construction Inspection Schedule

- Inspections scheduled early in the process of individual construction activities to observe work in progress
- Develop confidence that the specific construction activities have been adequately accomplished at all stages of construction
- Inspection scope and frequencies may be expanded to assure problem areas have been corrected



# Inspection Activities

- Routine Inspections
  - Performed in accordance with NRC guidance
- Reactive Inspections
  - Performed in response to significant events
  - Inspection scope developed by NRC management
  - Usually involves inspection team
- Allegations Inspections
  - Allegations are claims by workers or public of hidden safety problems
  - Inspectors review claims and determine if claims are true and whether safety is affected
  - Results of inspection communicated to person making allegation claim
  - Allegations may be sent to licensee for resolution



# Documenting Inspection Results

- Typically issue quarterly inspection reports
- Inspection Reports Include:
  - Letter to licensee senior management
  - Notices of Violations (if any)
  - Executive Summary of inspection findings
  - Inspection details
- Publicly-available inspection reports can be accessed electronically in the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.



# Performance Assessment Process

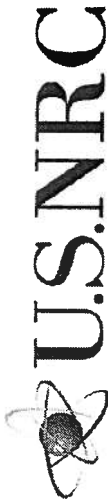
- Assessment Program Overview Include:
  - Internal quarterly reviews
  - Annual licensee performance reviews (meeting with licensee and public)
  - Adjustment of construction inspection program (as necessary)



## **Enforcement Actions**

- **The NRC Enforcement Policy provides guidance on assessing significance and severity level of violations**
  - Actual safety consequences
  - Potential safety consequences
  - Impact on NRC's ability to perform its regulatory function
  - Intentional violations

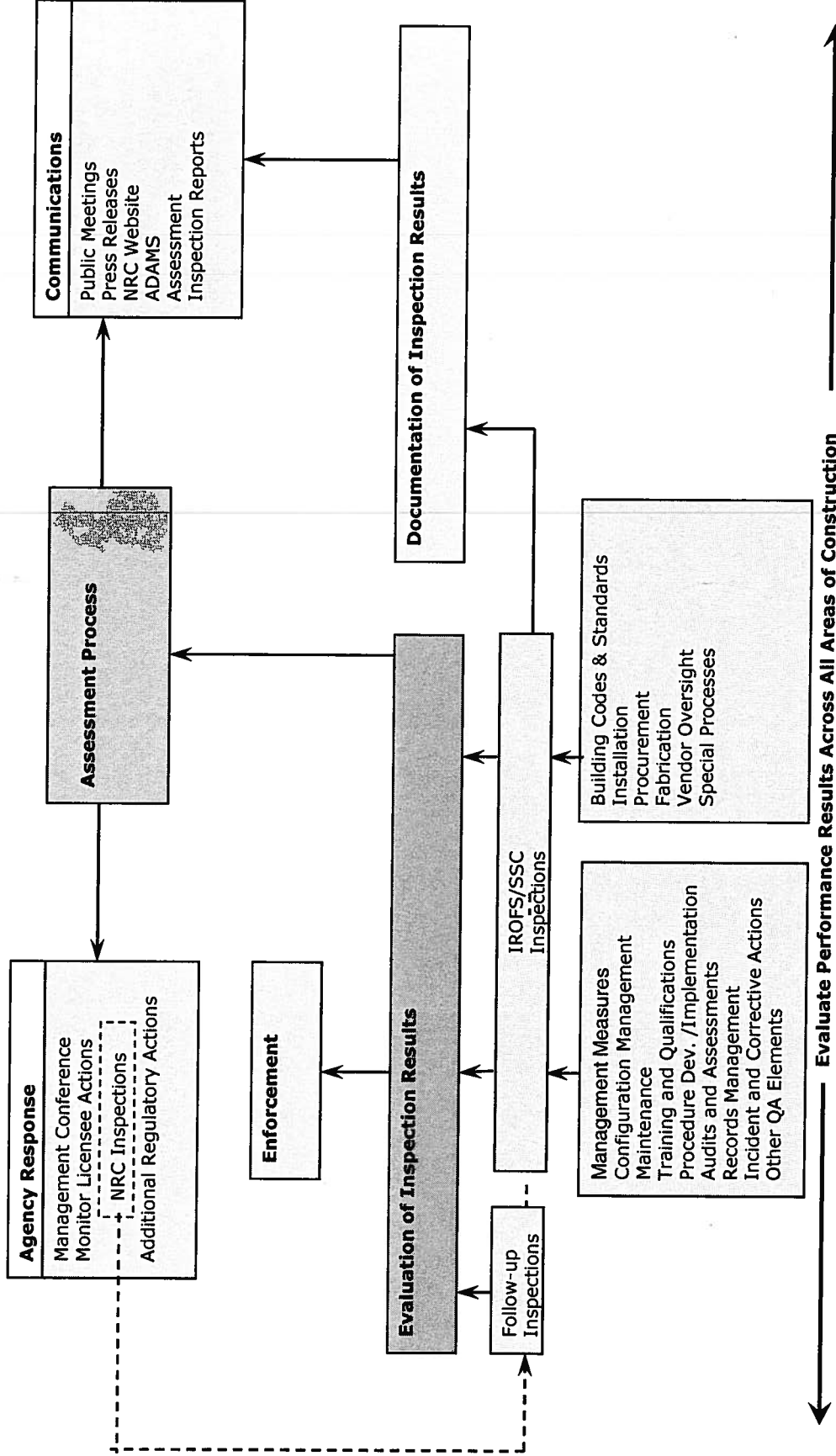
The NRC Enforcement Policy is available on the NRC public web site at <http://www.nrc.gov>



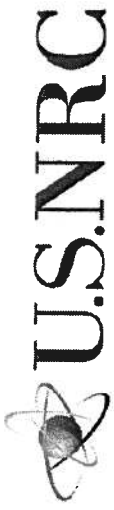
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# Construction Inspection Process



10 CFR 21 - Construction



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# Questions?