

ACCURACY

PERFORMANCE



ACCOUNTABILITY

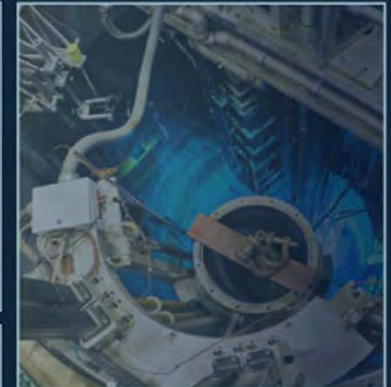


THE NUCLEAR MATERIALS MANAGEMENT AND SAFEGUARDS SYSTEM (NMMSS)

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USERS ANNUAL TRAINING MEETING

 MAY 20-23, 2013 - ST. LOUIS, MISSOURI 



United States Imports and Exports

Presented by:
Mitch Hembree & Len Myers
NMMSS



Imports & Exports

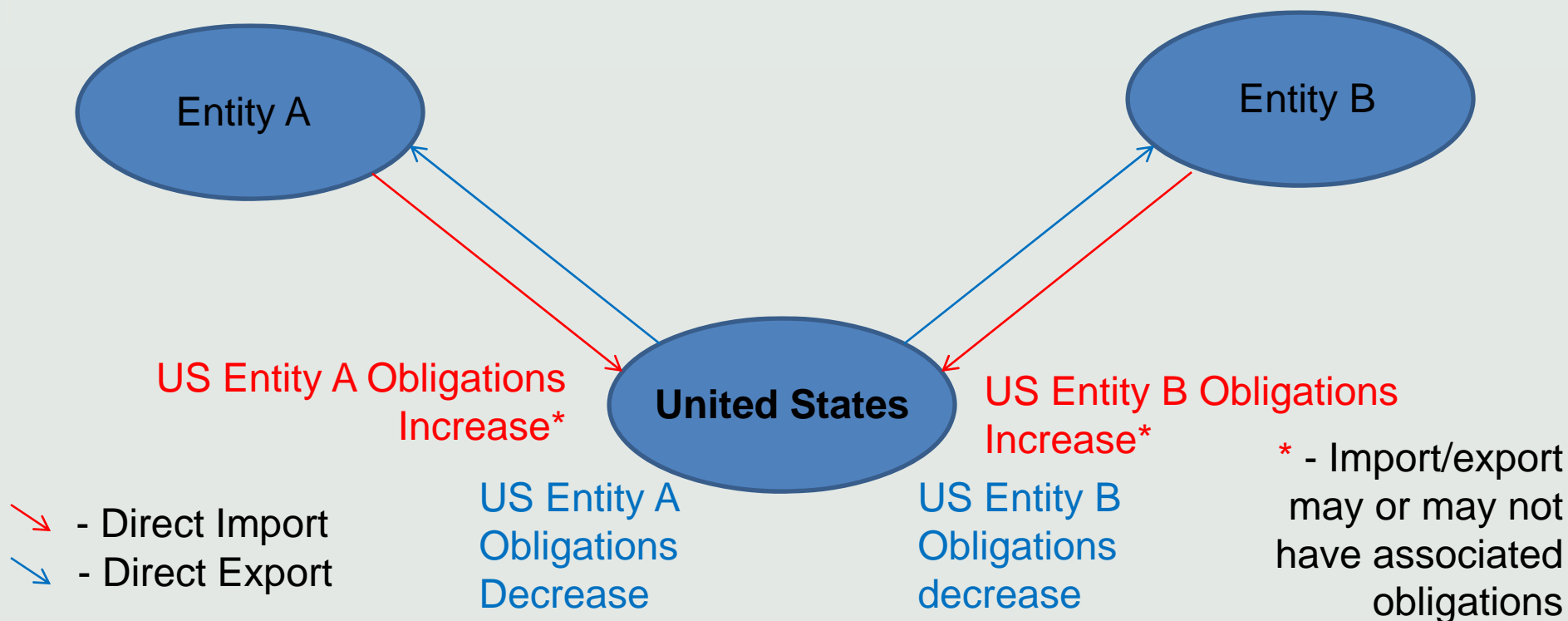
Goals

- What materials are imported/exported
- What are the uses of imported/exported material
- Statistics for imported/exported materials
- What is required from a facility to import/export
- NMMSS requirements for import/export
- NMMSS reporting problems commonly experienced



Imports & Exports

Import and Export



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Imports & Exports

U.S. Imports



Imports & Exports

Materials Typically Imported

- Normal Uranium
- Depleted Uranium
- Low-Enriched Uranium
- Highly Enriched Uranium
- Plutonium
- Thorium
- Others

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Imports & Exports

Primary Uses for Imported Material

- Natural uranium to conversion and enrichment plants
- Enriched uranium to fuel fabrication plants
- Return of spent fuel from foreign research reactors



Imports & Exports

Total Imports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	8,800	300	MT
Plutonium	8	-	Kg
Normal Uranium	28,900	-	MT
Depleted Uranium	1	-	MT
Neptunium-237	83	-	g
Thorium	6	-	MT



Imports & Exports

Primary Shippers 2010-2012

- Canada
- Australia
- Euratom
- Russian Federation
- Kazakhstan
- Namibia



Imports & Exports

Canadian Imports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	2,600	60	Kg
Normal Uranium	11,100	-	MT



Imports & Exports

Australian Imports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	2	1	Kg
Normal Uranium	9,800	-	MT
Thorium	18	-	Kg



Imports & Exports

Euratom* Imports

*Euratom consists of the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, **France, Germany,** Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, **the Netherlands,** Poland, Portugal, Romania, Slovak Republic, Slovenia, **Spain, Sweden,** and the **United Kingdom.**



Imports & Exports

Euratom Imports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	3,500	140	MT
Plutonium	6	-	Kg
Normal Uranium	7	-	MT
Depleted Uranium	1	-	MT
Thorium	1	-	MT



Imports & Exports

Major Euratom Importers 2010-2012

- France
- Germany
- Netherlands
- United Kingdom



Imports & Exports

Russian Federation Imports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	2,900	130	MT

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Imports & Exports

U.S. Exports

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Imports & Exports

Material Involved in U.S. Exports

- Normal Uranium
- Depleted Uranium
- Enriched Uranium

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Imports & Exports

Uses for Exported Material

- Natural uranium to conversion and enrichment plants
- Enriched uranium to fuel fabrication plants/reactors



Imports & Exports

Total Exports 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	2,400	98	MT
Plutonium	200	-	g
Normal Uranium	19,000	-	MT
Depleted Uranium	8	-	MT
Thorium	2	-	MT
Lithium-6	67	66	Kg



Imports & Exports

Entities Receiving U.S. Exports 2010-2012

- Euratom
- Russian Federation
- Canada
- Japan
- Taiwan



Imports & Exports

Exports to Euratom 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	290	12	MT
Plutonium	200	-	g
Normal Uranium	9,200	-	MT
Depleted Uranium	8	-	MT



Imports & Exports

Exports to Russian Federation 2010-2012

Material	Element Weight	Isotope Weight	Unit
Normal Uranium	7,500	0	MT



Imports & Exports

Exports to Canada 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	400	80	Kg
Normal Uranium	1,800	0	MT



Imports & Exports

Exports to Japan 2010-2012

Material	Element Weight	Isotope Weight	Unit
Enriched Uranium	1,248	53	MT
Normal Uranium	1	0	MT
Thorium	1	0	MT

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Imports & Exports

Requirements to Import/Export



Imports & Exports

Import/Export Requirements

- Valid license to import/export
- Satisfy appropriate Agreements for Cooperation guidelines
- Send/receive appropriate notifications for associated Agreement for Cooperation
- Report import/export to the NMMSS



Imports & Exports

License to Import /Export

- A valid license is in place to Import or Export material
- NMMSS monitors imports/exports with license
 - Is the license active
 - Are the consignee(s) authorized by the license
 - Is the quantity of material less than or equal to the license quantity limits
 - If material is foreign obligated, does the license authorize import/export
- NRC provides copies of all licenses to NMMSS



Imports & Exports

NRC Export License Types

NRC FORM 280 (10-07)		NRC LICENSE NO.: XW012/02 Page 1 of 2 NRC DOCKET NO.: 11005699 LICENSE EXPIRES: September 30, 2017
UNITED STATES OF AMERICA Nuclear Regulatory Commission Washington, D.C. 20555		
Pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974 and the regulations of the Nuclear Regulatory Commission issued pursuant thereto, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued to the licensee authorizing the export of the materials and/or production or utilization facilities listed below, subject to the terms and conditions herein.		
LICENSEE Perma-Fix Northwest, Inc. 2025 Battelle Boulevard Richland, WA 99354 Attn: Curt Cannon	ULTIMATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES) See Page 2 (For disposition in accordance with Canadian requirements)	
INTERMEDIATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES) NONE	OTHER U.S. PARTY(IES) TO EXPORT Perma-Fix Environmental Services, Inc. 2800 Solway Road Knoxville, TN 37931 Attn: Paul Hickman	
APPLICANT'S REFERENCE NO.: Appl. Dtd. 07/27/12	ULTIMATE DESTINATION: Canada	
QUANTITY	DESCRIPTION OF MATERIALS OR FACILITIES Class A radioactive waste consisting of material contaminated with various radionuclides in varying combinations imported from Canada under NRC Import Licenses IW022, IW022/01, and IW022/02. This includes waste which may need to be returned to the Canadian generators (Cameco Fuel Manufacturing and its two subsidiaries in Canada) for disposition. Such waste could include material that could not be recycled for beneficial reuse, or does not conform to specification, and/or has been processed for volume reduction and is directly attributable to processing the material imported under IW022, IW022/01, and IW022/02. The quantity of radioactive waste authorized for export shall be consistent with and not exceed that imported under IW022, IW022/01, and IW022/02.	
XW012, Amendment No. 02 continued on Page 2		
THIS LICENSE IS INVALID UNLESS SIGNED BELOW BY AUTHORIZED NRC REPRESENTATIVE SIGNATURE: <i>Margaret M. Doane</i> NAME AND TITLE: Margaret M. Doane, Director Office of International Programs DATE OF ISSUANCE: October 5, 2012		
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, and the Energy Reorganization Act of 1974. 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 of the other provisions of said Acts, now or hereafter in effect and to all valid rules and regulations of the Nuclear Regulatory Commission.		

XSOU Source Material
XB Byproduct Material
XSNM Special Nuclear Material
XW Waste

Facilities may ship the quantity of specified material up to the authorized quantity.

XW012/02
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ULTIMATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES): (Cont'd)

1. Atomic Energy of Canada, Limited
Chalk River Laboratories
Plant Road
Chalk River, Ontario
K0J 1J0
2. Cameco Corporation
Cameco Fuel Manufacturing
200 Dorset Street East
Port Hope, Ontario
Canada L1A 3V4
3. Cameco Corporation
Port Hope Conversion Facility
1 Eldorado Place
Port Hope, Ontario
Canada L1A 3A1
4. Cameco Corporation
Blind River Refinery
328 Eldorado Road
P.O. Box 1539
Blind River, Ontario
Canada P0R 1B0

(For disposition in accordance with Canadian requirements)

This license is amended to: 1) change the name of Zircotec Precision Industries, Inc., to Cameco Corporation; 2) add two "Ultimate Foreign Consignee(s)" which are both subsidiaries of Cameco Corporation in Canada; 3) add one name to "Other U.S. Party(ies) to Export;" and 4) extend expiration date from August 30, 2012 to September 30, 2017.

All other terms and conditions of this export license remain unchanged.



Imports & Exports

Agreements For Cooperation

- Foreign obligations = Assurances that material or equipment is transferred pursuant to an Agreement for Peaceful Nuclear Cooperation
- Agreements for Cooperation are necessary, per Section 123 of the Atomic Energy Act of 1954, as amended
- Simplify the U.S. trade of nuclear material and equipment with foreign countries
- Safeguard and peaceful use guarantees

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Imports & Exports

NMMSS Reporting of Import/Export (741)

- Specify export license number for imports/exports
- Arrangements are handled by an agent who is required to obtain a NRC license to import/export
- The U.S. facility will report both the shipper and receiver 741 documents for imports and exports



Imports & Exports

NMMSS Reporting Issues with Imports/Exports

- License for import/export has expired
- License for import/export is invalid for country of origin or receipt
- Improper association of import/export with license conditions (material type, facility)
- Export quantity exceeds license quantity
- Foreign obligations improperly reported



Imports & Exports

CASE Studies

- Import of material from Euratom to the United States
- Import of material from Australia to the United States
- Export of material from the United States to Euratom
- Export of material from the United States to Canada

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Imports & Exports

Questions?