

Foreign Obligations: Challenges at Y-12 National Security Complex

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Historic Events

- Conversion from Country Control Numbers to Foreign Obligations
 - 2003 Baselines Established
 - Substitutions under IAEA
- Implementation
 - Substitutions and Application
 - Subsequent Accounting Issues
- Activities
 - Foreign Obligation Meeting
 - Options Paper
 - Y-12 Site Office Request

Conversion

- 1994 - ~ 10 MTU placed under IAEA Safeguards
- 2003 Baseline foreign obligations established
 - Baseline values extracted from shipments/receipts from countries
- Foreign Obligation substitution
- ~ 760 kgs U and ~ 290 kgs ^{235}U Foreign Obligations

Implementation

- Notice To Send To Industry
 - Physical receipt values may differ from notification
 - Mass calculation reveal weight %
 $29,959/24702 = 82.45$
 $66,578/15,102 = 22.68$
 $7,980/4857 = 60.86$
 - More accountability challenges when assay variance is introduced

Significance of Numbers

- Notification places foreign obligations under IAEA
 - Low assays substituted for higher assays
 - Substitution reported based on foreign obligation code, U and ^{235}U (weight % not reported)
 - Actual physical receipt reveals more variance in assays
 - Application of foreign obligations to shipment introduces another assay value
 - Residue Balance

Substitution 5/11/2006

Argentine	29,959	24,702	82.45
Brazil	66,578	15,102	22.68
Chile	7,980	4857	60.86
Total	104,517	44,661	

Shipment 5/15/2006

Net Wt	Element Wt	Weight %	Isotope Wt
85,001	84,903	93.1569	79,093

Foreign Obligation Application

5/15/2006

Argentine	29,959	24,702	100%
Chile	7,980	4,857	100%
Brazil	16,463	3,597	- 1001
Brazil	26,780	5,236	- 1002
Brazil	3,253	2,903	- 1003
Total	84,435	41,295	

Physical Receipt – Brazil 11/1999

- 1001	16,463	3,597	21.849
-1002	26,780	5,236	19.552
-1003	3,253	2,903	89.241
-1004	20,082	3,365	16.756
Total	66,578	15,101	

Math Obligation

Obligation	104,517	44,661
Shipment	84,903	79,093
Application	46,496	11,736

Element and isotope weights for foreign obligation can not exceed total element and isotope weights of shipment.

Residue Balance

- Brazil 20,082 3,365 16.756

LEU under IAEA

Activities

- November 1, 2006 Foreign Obligation Meeting
- February 4, 2007 Options Paper for NA-21
- February 14, 2007 Y-12 Site Office Request

Foreign Obligations Meeting

- Representative from the following organizations attended:
 - U.S. Department of Energy, Office of Health, Safety and Security, HS1.22, Office of Information Management
 - HS-71, Office of Policy
 - U.S. Nuclear Regulatory Commission
 - NNSA NA-243, Office of International Regimes and Agreements
 - NMMSS International Team Leader
 - Y-12 site representatives

Foreign Obligations Meeting (cont.)

- Action Items followed:
 - Recommendation for written guidance provided to NA-243 for approval that lists “can and can not” guidance for facilities
 - NA-243 agreed to review options for ^{235}U equivalence
 - NA-243 will investigate options for foreign obligation quantities to placed under other IAEA Eligibility list facility

Options Paper

- Option 1 – U.S. stops accepting foreign safeguards obligations on material exported to the U.S.
- Option 2 – U.S. accepts and moves obligations to NRC facility
- Option 3 – U.S. accepts and moves obligations to SRS KAMS facility
- Option 4 – U.S. accepts obligations and add the SRS SNF Storage L-Basin to the IAEA Eligible List

Options Paper (Cont.)

- Option 5 – U.S. accepts and moves obligation to alternative Y-12 facility on the IAEA Eligible Facilities List
- Option 6 – U.S. accepts and transfers obligations to material leaving U.S.

Recommendation

- Options 1 and 4 with various other considerations were recommended.

IAEA Safeguards at Y-12

- 1994 marks allocation under IAEA
- Provision reserving the right of the U.S. to withdraw this material exclusively for non-explosive uses.
- NNSA notified IAEA of intent to remove material for use in Reliable Fuel Supply (RFS) program
 - Resolve near-term storage issues at Y-12
 - Provide feed material for RFS
 - Facilitate consolidation and modernization efforts

Outstanding Issues

- A waiver will be requested prior to removal of a facility from eligible facilities list due to the requirement for “empty value inspection”
- To meet conditions of nonproliferation programs, safeguards obligations from material returned to the U.S. under various program were placed under safeguards at Y-12
because
- Receiving facilities such as Savannah River Site and the Idaho National Laboratory were not on the IAEA eligible facilities list

Proposal

- Obligations must be transferred
- Transferring obligations to Y-12 under IAEA must cease
- An alternative for future obligations destined for Y-12 must be found