



# Foreign Obligations

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DOE SR



# Obligation Requirements

- Foreign Obligations Tracking Working Meeting 10/02/03
  - Attendees include DOE-SR, NA-241, SP-70 and NAC
  - Sites must get NA-241/SP-70 approval to “process” obligated materials
  - Item-level tracking not required (fungibility), but is the only practical way to manage materials
  - Some Agreements of Cooperation specify potential obligations does not mean obligation
    - Argentina, Brazil, Chile...
    - SRS treats as potentially obligated
  - Japanese fuels require equivalent EU and Pu materials under IAEA safeguards (SRS maintains Pu; Y-12 maintains EU)

# SRS Legacy Issues

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- Some obligated materials were processed in the 1980s prior to the requirement for SRS to track obligations
  - Canada, Euratom and South Africa fuels
- SRS received permission to substitute Domestic Research Reactor (DRR) fuels of similar form/attractiveness and enrichment/mass of obligated isotope
- Pu obligations for Hanford processed fuels, previously maintained at RFETS, were transferred to SRS

# Obligation Notices

- Received from SP-70
  - Show shipping information and estimated HEU/LEU and U-235 gram values
  - Receipt values are used as obligated totals; any discrepancy is reported to SP-70 and NA-241
  - Sample Notice shown states 5,829 grams of U to be shipped; 5,817 grams was received

NOTICE TO SEND TO INDUSTRY

**Confirmation of Shipment of Nuclear Material From the European Community (Euratom) to the United States Pursuant to the U.S.-Euratom Agreement for Cooperation**

The United States Government advises DOE – Savannah River that the following shipment of nuclear material is subject to the U.S.-Euratom Agreement for Cooperation and must be tracked by the receiving facility in accordance with U.S. rules and regulations.

1. U.S. Reference: EUR 86/2005
2. Contractual Reference Number – AG/2960 amt 1 (exp/2005)
3. Shipper's/supplier's name and address: Institute of Nuclear Technology,  
153 10 Aghia Paraskevi, Greece  
(WGR1)
4. Receiver's name and address: U.S. DOE, Savannah River, Aiken, S.C.
5. End user: To be decided by U.S. DOE
6. Stated end use: final disposition
7. Date of Shipment/s: December 2005
8. Batch Number: not available
9. Material Category: HEU and Pu
10. Mass (mass of isotope if applicable): HEU = 5,829 g U (4,876 g U-235) + 8 g Pu
11. Physical Form: Irradiated fuel elements
12. Chemical Form: U Al alloy
13. Third Party Obligations: None

Please confirm your receipt of this notice, acknowledging your facility's responsibility to account for the information provided above, by faxing or emailing a signed copy of this form to the appropriate persons listed below:

For NRC Facilities:	Pat Tana 301-415-8105 (phone) 301-415-5390 pmt@nrc.gov	For DOE Facilities:	Bill Benton 301-903-1150 (phone) 301-903-1998 bill.benton@hq.doe.gov
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Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

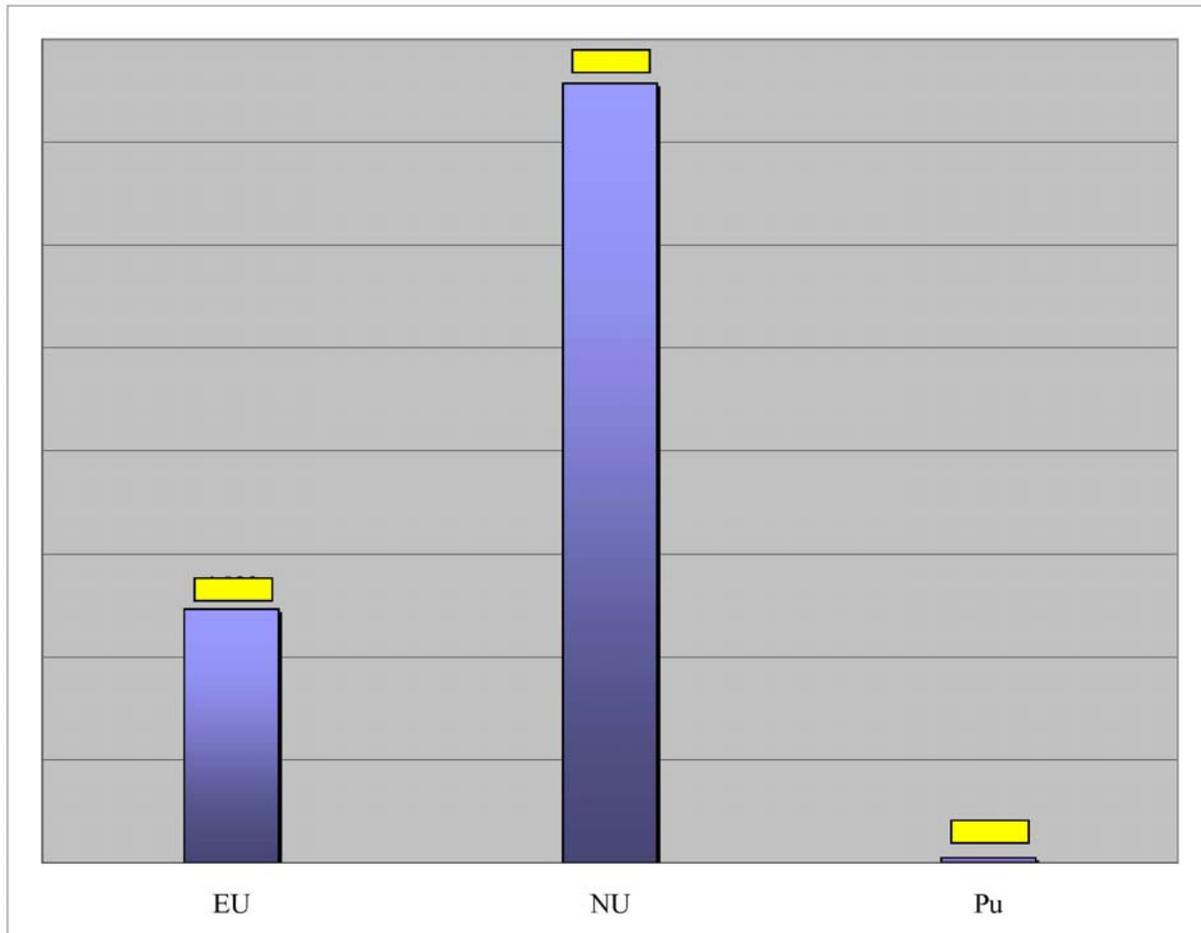
Comments:

# MC&A Tracking

- MC&A maintains “bucket-level” (site-level) information for formally obligated materials
  - Australia, Canada, Euratom, Euratom/Japan and Japan
  - LANMAS entries for RIS, Country Code and Material Type
  - Receipt and shipment functions update the balance
  - Monthly adjustments are transmitted to NAC
  - Total quantities are reconciled semi-annually with NAC and reported to DOE-SR

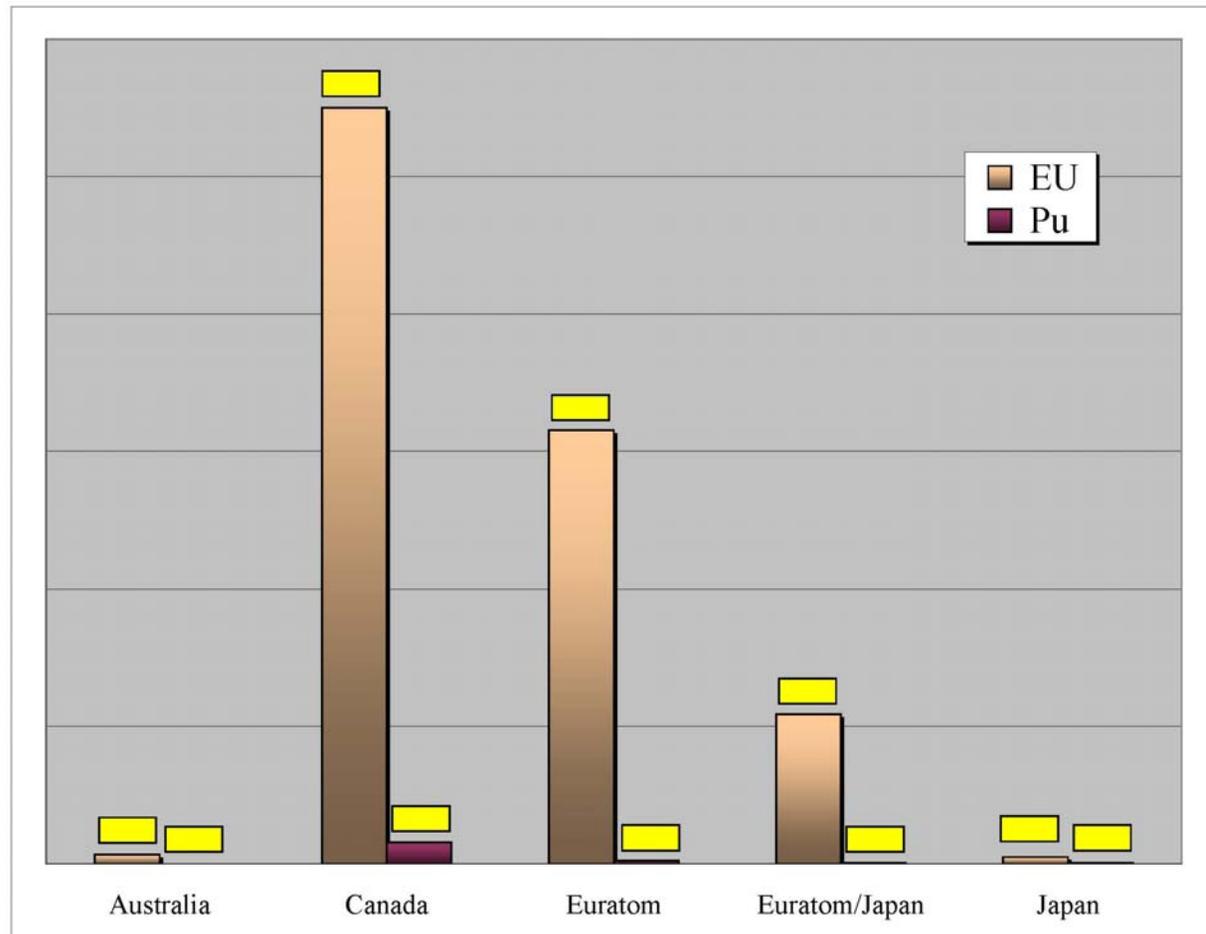
# Obligations by Material Type

Canadian NU is for TVA Blend Down Program



# Obligations by Origin

Canadian NU is not shown for scale purposes



# NU for Blend Down Program



Canadian NU comes with a formal obligation



An appropriate percentage of shipped LEU is assigned the obligation

# NU to LEU Transactions

- NU obligations are “adjusted” and reported on a routine frequency
  - Uranium shipment calculation
    - $\text{NU} / \text{total blend U} \times \text{U shipped}$
  - U-235 shipment calculation
    - $\text{U-235 from NU} / \text{total blend U-235} \times \text{total U-235 shipped}$
  - LANMAS “edit checks” force obligation transfers (NU to LEU) before obligated shipments can be transacted

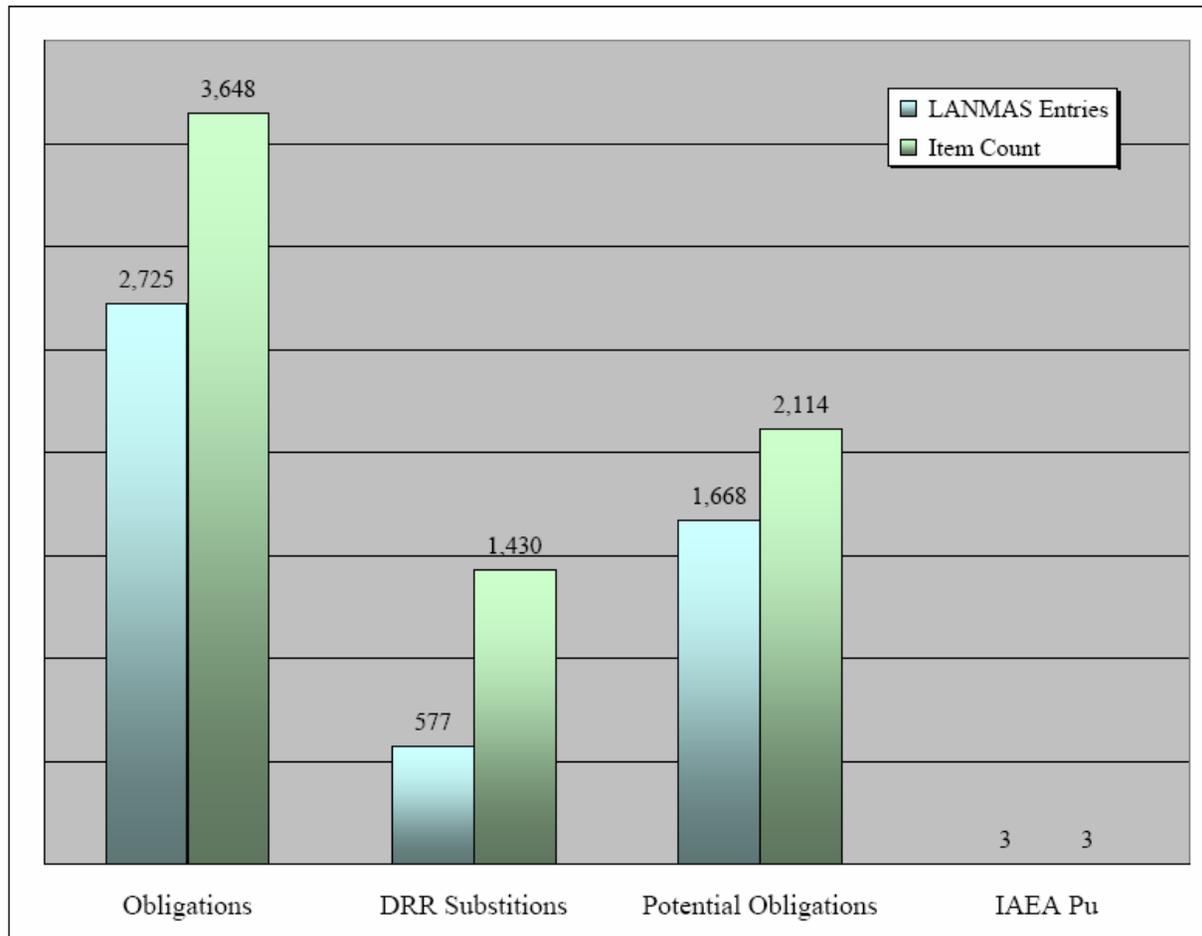


# Other Tracking

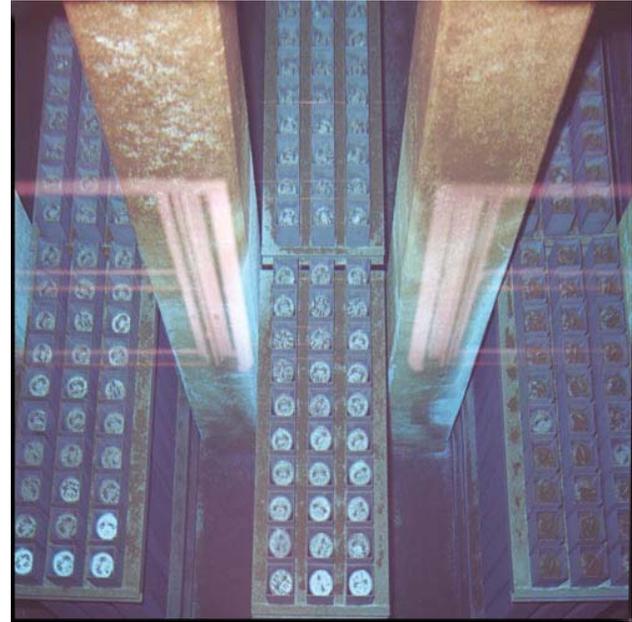
- Item-level information is maintained in the linked SRS database utilized for NMIA reporting
  - All FRR obligations are tracked (formal and potential)
    - Includes DRR substitutions and IAEA Pu containers
    - Canadian NU obligation is not included at item level (dynamic inventory)
- Database is “linked” to LANMAS for real-time analyses
  - Ad hoc reports prepared for DOE-SR
  - Unclassified summary report provided to various SRS organizations

# NMIA Information

Approximately 5,000 LANMAS entries are tracked



# FRR Receipt and Storage



Obligation information is maintained “electronically”; no actual tagging/labeling of materials is involved

# Potential Obligations

Approximately 1,000 Kgs EU with a small amount of Pu

\*Discussions ongoing regarding Argentina, Brazil, Chile

Argentina	30	Netherlands	4
Austria	4	Philippines	23
Brazil	67	Spain	16
Chile	8	South Africa*	11
Colombia	3	Switzerland	112
Denmark	3	Taiwan	27
France	61	Thailand	5
Greece	9	Uruguay	16
Indonesia	171	Venezuela	39
Japan	377		

\* Processed Fuels

# Work in Progress

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- Changes to LANMAS will allow item-level obligation tracking and reporting
  - Recent changes under evaluations by site MC&A
  - Pending changes will allow materials to be “flagged” and noted
    - Alerts MBA Custodian to any “special” requirements
    - Will be used for Foreign Obligations and other materials, for example, Pu buttons produced after 1995 with use restrictions