



Accountability
Performance
Accuracy

The Nuclear Materials Management Safeguards System

NMMSS

2016

Annual Users Training Meeting

May 9-12, 2016 | New Orleans, LA

Forms and Instructions

John Ballard
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Introduction

- Forms and instructions
 - Forms used for reporting to NMMSS
 - Basic instructions for filling out the forms
 - NRC instructions
 - » NUREG/BR 0006 and 0007
 - DOE instructions
 - » DOE O 474.2 and NMMSS User Guide



- Forms for reporting to NMMSS
 - DOE/NRC Form 741 - Nuclear Material Transaction Report
 - DOE/NRC Form 742 - Material Balance Report
 - DOE/NRC Form 742C - Physical Inventory Listing
 - DOE/NRC Form 740M - Concise Note

- Today's focus is on the transaction form 741
 - Used by DOE and NRC

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DOE/NRC Form 741 Record Types

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1. Header
2. Descriptive (Detail)
3. Import/Export
4. Gross Weight/Volume
5. Quantitative (Detail)
6. Concise Notes
7. Obligated Material

DOE/NRC FORM 741
(10-2014) Previous editions are obsolete
MANDATORY DATA COLLECTION
AUTHORIZED BY 10 CFR 30, 40, 50, 70,
72, 74, 75, 150
Public Laws 83-703, 93-438, 95-91

**U. S. DEPARTMENT OF ENERGY
AND
U. S. NUCLEAR REGULATORY COMMISSION**

APPROVED BY OMB: NO. 3150-0003
Estimated burden per response to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (1-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to InfoCollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NECB-10202, (3150-0003), 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.

EXPIRES: 10/31/2017

NUCLEAR MATERIAL TRANSACTION REPORT

1. SHIPPER'S RIB		2. RECEIVER'S RIB		3. TRANSACTION NO.		4. CORRECTION NO.		5. PROCESSING CODE		6. ACTION CODE		7. DOCUMENTATION (Only if document is classified SECRET)								
8.a. NAME AND ADDRESS OF SHIPPER	8.b. LICENSE NO.	9.a. NAME AND ADDRESS OF RECEIVER	9.b. LICENSE NO.	10. NO OF DATA LINES	10.a. SHIPPED FOR ACCOUNT OF	10.b. RIB	11. NATURE OF TRANSACTION	11.a. SHIPPED TO ACCOUNT OF	11.b. RIB	PAGE	OF	PAGES	COPY	OF	COPIES	SERIES				
14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER										15. EXPORT OR IMPORT TRANSFER - LICENSE NO.										
18. MATERIAL TYPE AND DESCRIPTION										17. LINE NUMBER	18. COUNTRY OF ORIGIN	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only	22. ACTION DATE			MONTH	DAY	YEAR (YYYY)
23a. MISCELLANEOUS										b. CONCISE NOTE ATTACHED		c. UK REPORTABLE?		YES		NO		23. SHIPPER'S CORRECTION		23. RECEIVER'S CORRECTION
24. TOTAL GROSS WEIGHT										25. TOTAL VOLUME (Waste Transfers Only)										
26. SHIPPER'S DATA										27. RECEIVER'S DATA										
BACK REFERENCE NUMBER	LINE NO.	TYPE OF RW CHANGE	IDENTIFICATION (FOMATCH NAME)	NO. OF ITEMS	PROJECT NUMBER	MATERIAL TYPE	COMP. FACILITY CODE	OWNER	KEY MEAS. POINT	NEAR. IDENT.	GROSS WEIGHT	NET WEIGHT	ELEMENT WEIGHT	ELEMENT LIMIT OF ERROR	WEIGHT % ISOTOPE	ISOTOPE WEIGHT	ISOTOPE LIMIT OF ERROR			
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.			

28a. SHIPPER'S DATA SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27a. RECEIVER'S DATA SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 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.

DOE/NRC FORM 741 (10-2014)

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- Form 741 is used to show all activity that cause gains and losses to your site inventory
 - Shipping and receiving
 - Decay
 - Rounding
 - Normal operating loss
 - Production
 - Fission and Transmutation
 - Corrections



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■ Nuclear Material Transaction Report

— What do I do with this form?

- Boxes 1- 27s – Do I have to fill in all blanks?
- What are these titles?
 - » RIS
 - » Transaction number
 - » Processing Code
 - » Action Code



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- Some of the boxes on the form are always used
 - Box 1 Shipper's RIS
 - Box 2 Receiver's RIS
 - Box 3 Transaction No.
 - Box 5 Processing Code
 - Box 6 Action Code
 - Box 22 Action Date



- Other fields are used sometimes
 - Box 4 Correction No. (Used only when correcting an existing document)
 - Box 11. Nature of Transaction
 - Box 26 Shipper's Data
 - Box 27 Receiver's Data

- In the following slides we will discuss what is to be input into the boxes of the 741

Reporting Identification Symbol

- What is a RIS?
 - Reporting Identification Symbol – Unique to each facility
 - NRC sites usually start with letters X, Y, or Z
 - » XYZ, YBX, ZZY
 - DOE sites start with A, C, D, F, G, H, J, K, L, N, P, S, T, and U
 - » ACD, FDD, LXA
 - Waste RIS's starting with "V" can be DOE or NRC
 - » VDM
 - Foreign RISs start with "R" and have 4 characters
 - » RDAY
 - Department of Defense RISs start with "Q"
 - » QZA

Reporting Identification Symbol

- What is a RIS? (continued)
 - Identifies a site in NMMSS
 - Site may have more than one RIS
 - Contact information – NMMSS directories: D2 (DOE/NNSA), D3 (NRC), and D15 (Foreign)
 - Facility name
 - Address
 - Personnel
 - NMMSS reports for a site are generated by RIS
 - Transactions
 - Inventory
 - Material Balance Report

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- Lets start filling in a 741
 - Some of the boxes require specific codes that can be found in the following:
 - NRC NUREG/BR-0006
 - NMMSS User Guide (DOE)
 - These will be discussed as we work through the 741



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- Example – Shipper XYZ ships element weight 100 grams enriched uranium and isotope weight 5 grams U235 (4.95% U235) of privately owned material to receiver ZZY (This is XYZ's sixth shipment to this receiver) We are filling in the shipper's document. Gross weight of shipping package is 50 kilograms.



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- Box 1 Shipper RIS - XYZ
- Box 2 Receiver RIS - ZZY
- Box 3 Transaction number – 6
 - Transaction number can only be used one time for a shipper and receiver RIS combination



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Process Codes

Code	Description
A	ADD
	Initial entry of data
C	REPLACE
	Replacement of an existing entry
D	DELETE
	Removal of an existing entry



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- Box 5 Processing Code – A
 - “A” means initial time this document is sent to NMMSS
 - Processing codes can be used by shipper and receiver



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Action Codes

Code	Description	Ship	Recv
A	Identifies shipper's original data	X	
B	Identifies receiver's data accepting weights without measurement		X
C	Identifies shipper's adjustment or acceptance/acknowledgment of a receiver's adjustment	X	
D	Identifies receiver's adjustment or acceptance/acknowledgement of a shipper's adjustment		X
E	Identified receiver's independent measurement		X



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- **Box 6 Action Code – A**
 - “A” means this is the shipper’s original data
 - Action codes are unique to shipper and receiver

- **Box 10 No of Data Lines**
 - Enter number of lines that will be listed in Box 26 Shipper’s Data



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- Box 22.a. Shipment action date
 - Do not send with future date
- Box 24 Total gross weight of package shipped
 - Weight of package in kilograms
- Any questions on what has been filled in top portion of the form?



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- Box 26 Shipper's Data
- Box 26.b. Line No.
 - Begin with line #1 and continue consecutively if there are multiple lines
- Box 26.e. No. of Items
 - Number of items in the shipment for each detail line



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Material Types, Codes, & Reporting Units



Nuclear Material	Material Type	Units
Depleted Uranium	10	Whole Kilogram
Enriched Uranium	20	Whole Gram
Plutonium-242	40	Whole Gram
Americium-241	44	Whole Gram
Americium-243	45	Whole Gram
Curium	46	Whole Gram
Californium	48	Whole Microgram
Plutonium	50	Whole Gram



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Material Types, Codes, & Reporting Units



Material Type	Material Type	Units
Enriched Lithium	60	Whole Kilogram
Uranium-233	70	Whole Gram
Normal Uranium	81	Whole Kilogram
Neptunium-237	82	Whole Gram
Plutonium-238	83	Gram to Tenth
Deuterium	86	Tenth of Kilogram
Tritium	87	Hundredth of Kilogram
Thorium	88	Whole Kilogram
Uranium in Cascades	89	Nuclear Material



- Box 26.g. Material Type
 - Enriched uranium is material type 20

- Box 26.h. Comp/Facility Code
 - Describes the physical and chemical form of the material
 - Find comp codes in NMMSS report D-25 or Appendix A of NUREG/BR-0006
 - Assembled Items Product comp code 309

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Owner Codes

Owner Code	Type of Ownership of Material
G	DOE owned material
J	Non-DOE owned material

Box 26.i.Owner code

Use private material code J



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- Box 26.n. Element Weight
 - Use 100 grams for element weight
- Box 26.p. Weight % Isotope
 - Use weight percent of U235 - 4.95%
- Box 26.q. Isotope Weight
 - Use isotope weight 5 grams U235
- Box 26s. Signature of Authorized Official and Date signed



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Questions?

