

# Foreign Obligation Reporting

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# Topics

## 1 What is Foreign Obligation Reporting?

- Agreements that drive foreign obligations accounting regulations
- Conditions that require tracking obligations

## 2 How to Report Foreign Obligations.

- Obligations on DOE/NRC Form 741 and DOE/NRC Form 742
- Obligation material types and country codes
- Process for reporting obligations
- Process for adjusting obligations
- Process for exchanging obligations

## 3 Case Studies

- Domestic DOE/NRC Form 741
- Exchange DOE/NRC Form 741s
- Adjustment 741



# What is Foreign Obligation Reporting?

**Topic**

**1**

# Foreign Obligation Defined

## Foreign Obligation





















- Applies to nuclear material located within the U.S. that is subject to a NCA
- NCA requirements are listed in Section 123 of the Atomic Energy Act of 1954, as amended
- NCAs streamlines the licensing process for the export of nuclear material, equipment and technology to other countries
- Nuclear material subject to a NCA is to only be used for peaceful uses

# Foreign Obligations Accounting Regulations

- The U.S. government negotiates and agrees to the specific terms, conditions, format, and content of reporting.
  - DOE require its sites to track, report transactions and inventory of obligated nuclear material to NMMSS.
  - NRC requires its licensees to track, report transactions and inventory of obligated nuclear materials to NMMSS.
- Two digit codes are used to identify which NCA(s) that the nuclear material is obligated.
- Obligated nuclear material is reported to NMMSS through the use of DOE/NRC Form-741 and 742.

# Bilateral Agreements

List of Agreements for Peaceful Nuclear Cooperation that are in force with the U.S. as of January 1, 2021:

	Argentina		Indonesia		Russian Federation		China		Republic of Korea		Taiwan
	Australia		Kazakhstan		South Africa		Egypt		Norway		Ukraine
	Brazil		Japan		Switzerland		India		European Atomic Energy Community (EURATOM)		Vietnam
	Canada		Morocco		Turkey		United Arab Emirates		International Atomic Energy Agency (IAEA)		United Kingdom

# Reciprocal Agreements

- Most NCAs are reciprocal in nature.
- The U.S. Government provides routine reports to most NCA partners documenting the U.S. holdings of nuclear material subject to their NCA.
- Following are several NCA partners to whom the U.S. provides greater number of routine reports.
  - Australia
  - Canada
  - EURATOM
  - Japan
  - China
  - Switzerland
- NMMSS – Foreign Obligation Reporting



# Communications

## Typical process regarding **Prior** Notifications

- The foreign facility applies to its' government for a license to export nuclear material to the U.S.
- If the foreign government replies that the proposed export is to be subject to their NCA with the U.S. they provide "Prior Notification" communication to the U.S. in which they
  - Seek assurance that the material, upon receipt, will be subject to the terms and agreement of the associated 123 Agreement
  - Provide information as to the name of the proposed U.S. recipients of the material, quantity of material
  - Seeks confirmation that the nuclear material will be provided adequate physical protection



# Communications *(Continued)*

## Typical process regarding **Prior** Notifications

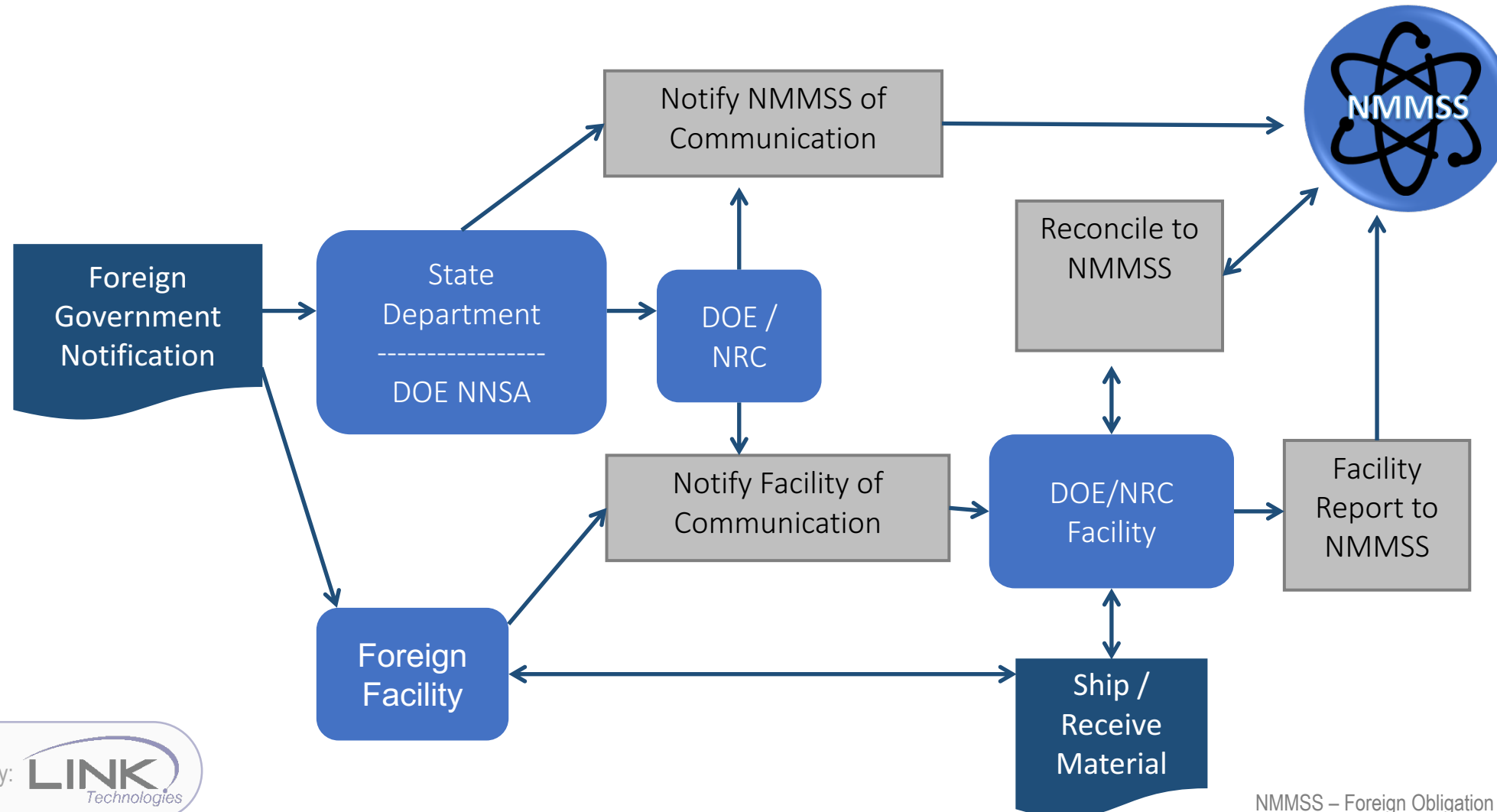
- U.S. government informs the intended U.S. recipient of the proposed import and seeks confirmation that the recipient is expecting the shipment, authorized to receive the material, and will identify and track the material as obligated when received.
- The U.S. government replies to NCA partner and acknowledges receipt of the 'prior notification' and confirms that the proposed recipient is authorized to receive and possess the nuclear material, adequate physical protection will be applied and that the nuclear material will be subject to the terms of NCA between the U.S. and NCA partner.

# Communications *(Continued)*

## Typical process regarding **Confirmation** Notifications

- NCA partners notifies the U.S. government that the nuclear material, identified in the 'prior notification' has been shipped and notes the shipment date and details of material shipped.
- When U.S. facility documents receipt (with submission of a Form 741 to NMMSS) the U.S. government notifies NCA partner of receipt.
- If the NCA partners' material is to be shipped from a third country, a similar exchange of communications is performed.

# Obligations Accounting Notification Process





# How to Report Foreign Obligations.

**Topic**

**2**

# Tracking Obligations within the U.S. Fuel Cycle

The following **foreign** obligation activities may require associated obligations:

- Imports of material
  - Natural uranium to conversion and enrichment plants
  - Enriched uranium to fuel fabrication facilities
  - Return of spent fuel from foreign research reactors
- Exports of material
  - Enriched uranium
  - Natural uranium
  - Fabricated fuel assemblies
- Retransfers
- International Obligation Exchanges

# Tracking Obligations within the U.S. Fuel Cycle *(Continued)*

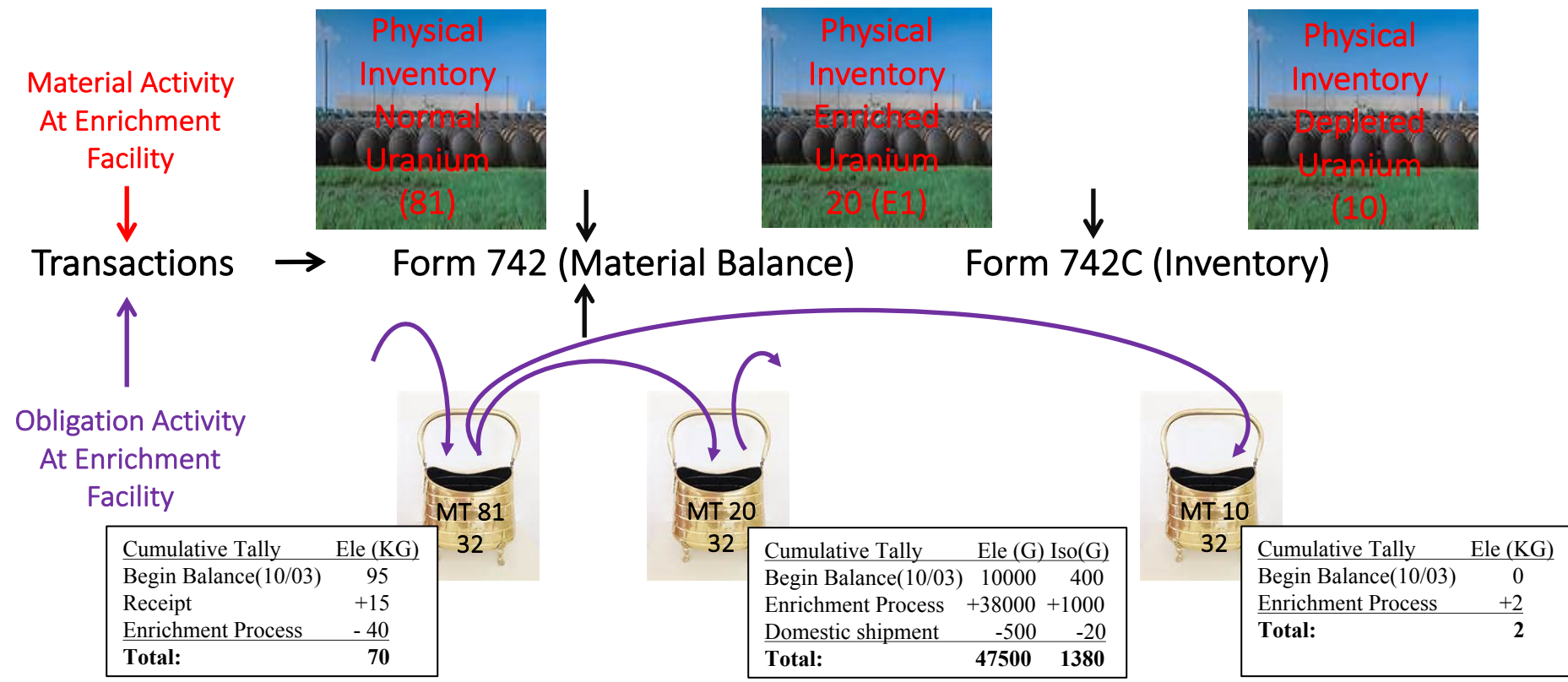
DOE/NRC Form 741s are used to document changes that occur within facilities that impact the nuclear material inventory at the facility such as:

- Domestic Shipments and Receipts
- Nuclear loss
  - Plutonium decay
  - U<sup>235</sup> fission
- Production
  - Pu production
- Category changes
  - NU → DU and EU in enrichment
  - NU → LEU via blending
- Others
  - Shipper/receiver differences
  - Process losses

# Tracking Obligations within the U.S. Fuel Cycle *(Continued)*

- DOE/NRC Form 741 is also used to document the nonphysical movement of obligations from one RIS to another RIS.
- Such a transfer is called an “Obligation Exchange” and involves the following general conditions:
  - Exchanges are permitted for the same type of materials, e.g., Natural U – Natural U.
  - Exchanges involve the same quantity of obligated material (for example, 10 Kg of Natural U for 10 Kg of Natural U).
  - Exchanges of non-irradiated material for non-irradiated material.
  - One RIS transfers its obligated material to another RIS who accepts the obligated material.
  - Both RISs agree to the transfer and submit a DOE/NRC Form 741 to document the transfer & receipt on the same day.

# U.S. Fuel Cycle Obligations Tracking Example (Enrichment Facility)





# Foreign Obligated Nuclear Material Types

Type	Domestic Code	Import/Export Code	Reportable Unit
Depleted Uranium	10	D	Kilogram Uranium
Enriched Uranium	20	EG	Gram Uranium Gram U-235
Plutonium	50	P	Gram Plutonium
Uranium-233	70	EK	Gram Uranium Gram U-233
Natural Uranium	81	N	Kilogram Uranium
Thorium	88	T	Kilogram Thorium

# NMMSS Foreign Obligations System

- Been in use since October 2003
- United States facilities were notified of their beginning foreign obligated balances
- Foreign Obligated quantities identified in DOE/NRC Form 741 and DOE/NRC Form 742.
- DOE guidance contained in NMMSS Users Guide and NRC guidance contained in NUREG/BR-0006 and NUREG/BR-0007.

# Foreign Obligations System *(Continued)*

- Obligation specific action codes
  - Recall action codes X, Y, and R
- Effective for transactions with an action date of 10/1/03 and later
- NRC facilities possess the majority of the foreign obligations located within the U.S.
- Periodic reporting: all foreign obligated nuclear material activity reported to foreign governments originate from 741 data

# Obligation Codes

- The United States established a set of obligation codes for United States nuclear facilities identifying nuclear material subject to the NCAs.
- Codes are used by facilities when reporting both obligated nuclear material inventory and inventory changes to NMMSS.
- Unique two-digit identifiers indicate whether a quantity of nuclear material is obligated to one NCA (single obligated material) or the nuclear material is simultaneously obligated to two or more NCAs (for example, layered, obligated material).
- Obligation codes are used to track and report the quantity and location of obligated nuclear material as it moves through United States facilities.

# Obligation Codes for DOE/NRC Form 741

Code	Country Obligation
31	Australia
32	Canada
33	EURATOM
34	Japan
35	People's Republic of China
36	Russia
37	Switzerland
38	Argentina
39	Brazil
40	Chile
45	United Kingdom
46	United Kingdom/Australia
47	United Kingdom/Canada
48	United Kingdom/EURATOM
49	United Kingdom/Australia/EURATOM

Code	Country Obligation
50	United Kingdom/Canada/EURATOM
51	United Kingdom/Australia/Japan
52	United Kingdom/Canada/Japan
53	United Kingdom/EURATOM/Japan
54	United Kingdom/Japan
56	LES Centrifuge Enrichment/Australia/United Kingdom
57	LES Centrifuge Enrichment/Canada/United Kingdom
58	LES Centrifuge Enrichment/United Kingdom
62	LES Centrifuge Enrichment/Australia/EURATOM
63	Switzerland/Canada
64	Australia/Canada/Japan
65	Japan/Russia
66	EURATOM/Russia
67	Australia/Japan/Russia
68	Canada/Japan/Russia


# Obligation Codes for DOE/NRC Form 741 *(Continued)*

Code	Country Obligation
69	EURATOM/Japan/Russia
70	Japan/LES Centrifuge Enrichment
71	Australia/Japan/LES Centrifuge Enrichment
72	Canada/Japan/LES Centrifuge Enrichment
73	EURATOM/Japan/LES Centrifuge Enrichment
74	Australia/EURATOM/Japan/LES Centrifuge Enrichment
75	Canada/EURATOM/Japan/LES Centrifuge Enrichment
76	China/Japan/LES Centrifuge Enrichment
77	Australia/Canada/EURATOM/Japan/LES Centrifuge Enrichment
81	Australia/Japan
82	Canada/Japan
83	EURATOM/Japan
84	Australia/EURATOM/Japan
85	Canada/EURATOM/Japan

Code	Country Obligation
86	China/Japan
87	Australia/Canada
88	Australia/Canada/EURATOM
89	Australia/Canada/EURATOM/Japan
90	LES Centrifuge Enrichment
91	Australia/EURATOM
92	Canada/EURATOM
93	LES Centrifuge Enrichment/Australia
94	LES Centrifuge Enrichment/Canada
95	LES Centrifuge Enrichment/EURATOM
96	Australia/Russia
97	Canada/Russia
98	Australia/Canada/LES Centrifuge Enrichment
99	Canada/EURATOM/LES Centrifuge Enrichment

# Transactional Reporting (DOE/NRC Form 741)

**DOE/NRC FORM 741**  
(10-2017) 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 Information Services Branch (7-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to [InfoCollects.Resource@nrc.gov](mailto:InfoCollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NIOS-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: 10/31/2020**

**NUCLEAR MATERIAL TRANSACTION REPORT**

1. SHIPPER'S FIRM		2. RECEIVER'S FIRM		3. TRANSACTION NO.		4. CORRECTION NO.		5. PROCESSING CODE		6. ACTION CODE		7. DOCUMENTATION (Only if document is classified SECRET)			
8. NAME AND ADDRESS OF SHIPPER		9. LICENSE NO.		10. NAME AND ADDRESS OF RECEIVER		11. LICENSE NO.		12. NO. OF DATA LINES		13. SHIPPER'S ACCOUNT OR NO.		14. NATURE OF TRANSACTION		15. SHIPPER'S ACCOUNT OR NO.	
16. ATTENTION:		17. ATTENTION:		18. ATTENTION:		19. ATTENTION:		20. ATTENTION:		21. ATTENTION:		22. ACTION DATE		23. ACTION DATE	
24. TELEPHONE:		25. TELEPHONE:		26. TELEPHONE:		27. TELEPHONE:		28. TELEPHONE:		29. TELEPHONE:		30. TELEPHONE:		31. TELEPHONE:	
32. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER		33. REPORT OR IMPORT TRANSPORTS LICENSE NO.		34. MATERIAL TYPE AND DESCRIPTION		35. REPORT OR IMPORT TRANSPORTS LICENSE NO.		36. MATERIAL TYPE AND DESCRIPTION		37. REPORT OR IMPORT TRANSPORTS LICENSE NO.		38. MATERIAL TYPE AND DESCRIPTION		39. REPORT OR IMPORT TRANSPORTS LICENSE NO.	
40. MISCELLANEOUS		41. CONCISE NOTE ATTACHED		42. UK REPORTABLE?		43. YES		44. NO		45. YES		46. NO		47. YES	
48. LINE NUMBER		49. COUNTRY OF OBLIGATION		50. MATERIAL TYPE		51. OBLIGATED ELEMENT WEIGHT		52. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only		53. ACTION DATE		54. MONTH (MM)		55. DAY (DD)	
56. SHIPMENT		57. SHIPPER'S CORRECTION		58. RECEIPT		59. RECEIVER'S MEASUREMENT		60. RECEIVER'S CORRECTION		61. ACTION DATE		62. MONTH (MM)		63. DAY (DD)	
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# Transactional Reporting (DOE/NRC Form 741) *(Continued)*

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	31	81	1238	
2	92	20	2026	97

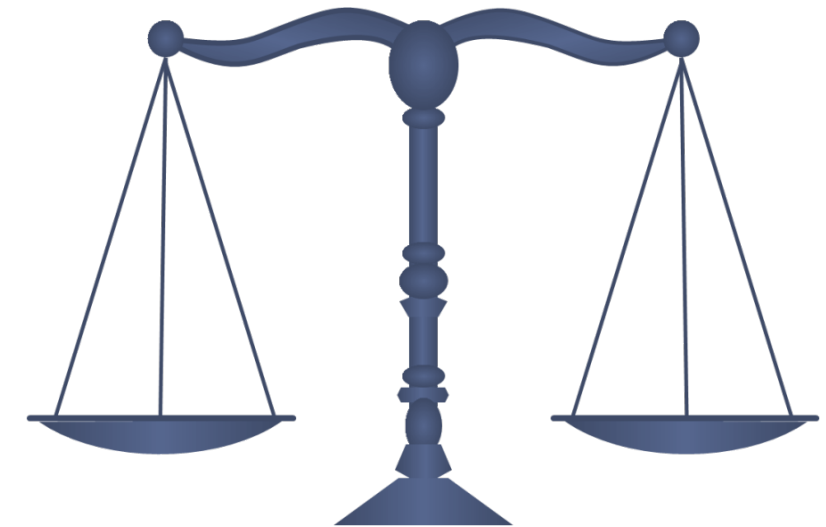
## Detail Lines

BACK REFERENCE NUMBER a.	LINE NO. b.	TYPE OF INV. CHANGE c.	IDENTIFICATION (ITEM/BATCH NAME) d.	NO. OF ITEMS e.	PROJECT NUMBER f.	MATE- RIAL TYPE g.	COMP/ FACILITY CODE h.	OWNER CODE i.	KEY MEAS. POINT j.	MEAS. IDENT. k.			GROSS WEIGHT l.	NET WEIGHT m.	ELEMENT WEIGHT n.	ELEMENT LIMIT OF ERROR o.	WEIGHT % ISOTOPE p.	ISOTOPE WEIGHT q.	ISOTOPE LIMIT OF ERROR r.
										1 BASIS	2 OMP	3 METHOD							
	1			1		81	776	J							1238				
	2			1		20	776	J							2026	4.79	97		




# Material Balance Report

- DOE facility material balances (including obligations) are generated by NMMSS based on transactions
- NRC facilities report material balances (Form 742) to NMMSS.
- Section B contains reported obligation balances.



# Material Balance Reporting (DOE/NRC Form 742 Section B)

<b>DOE/NRC FORM 742</b> (10-2017) MANDATORY DATA COLLECTION AUTHORIZED BY 10 CFR 30.40, 50.70, 72, 74, 75, 150, Public Laws 92-603, 92-463, 95-61	 <b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB: NO. 3150-0004</b> Estimated burden per response to comply with this mandatory collection request: 2 hours for small licensees and 5 hours for large licensees. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to <a href="mailto:InfoCollects.Resource@nrc.gov">InfoCollects.Resource@nrc.gov</a> and to the Desk Officer, Office of Information and Regulatory Affairs, NEOS-10203 (3150-0004), 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, this information collection.
<h2 style="margin: 0;">MATERIAL BALANCE REPORT</h2>		
1. NAME AND ADDRESS	2. LICENSE NUMBER(S)	3. REPORTING IDENTIFICATION SYMBOL (RIS)
	4. REPORT PERIOD (MM/DD/YYYY) FROM _____ TO _____	5. MATERIAL TYPE (Submit separate report for each type)
<b>SECTION A MATERIAL ACCOUNTABILITY</b>		
PC SEQ	A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT
8. BEGINNING INVENTORY -- U.S. GOVT-OWNED		
9. BEGINNING INVENTORY -- NOT U.S. GOVT-OWNED		
<div style="border: 1px solid black; display: inline-block; padding: 2px;"> <b>RECEIPTS</b> </div>		
11. PROCUREMENT FROM DOE RIS		
FROM:		
13. PROCUREMENT -- FOR THE ACCOUNT OF DOE		
14. DOD RETURNS -- USE A		
15. DOD RETURNS -- USE B		
16. DOD RETURNS -- OTHER USES		
21. PRODUCTION		
22. FROM OTHER MATERIALS	a. ICT	
	b. ICT	
	c. ICT	
30. RECEIPTS REPORTED TO DOE/NRC ON DOE/NRC 741 (not listed elsewhere)		
FROM:	RIS	

[illegible]

... is true, complete, and correct.

DATE

MINIMAL PENALTIES. NRC  
MATERIAL RESPECTS. 18 U.S.C.  
REPRESENTATION TO ANY DEPARTMENT

SECTION B			FOREIGN OBLIGATIONS		
1. COUNTRY OF OBLIGATION		2. ELEMENT WEIGHT		3. ISOTOPE WEIGHT	
4. TOTAL WEIGHT					

# Material Balance Obligation Categories

Code	Country Obligation (Country Code)
85	Australia (31)
86	Canada (32)
87	EURATOM (33)
88	Japan (34)
89	People's Republic of China (35)
91	Australia/EURATOM (91)
92	Canada/EURATOM (92)
94	Australia/Japan (81)
95	Canada/Japan (82)
96	EURATOM/Japan (83)
97	Australia/EURATOM/Japan (84)

Code	Country Obligation (Country Code)
98	Canada/EURATOM/Japan (85)
99	China/Japan (86)
A1	Argentina (38)
A2	Brazil (39)
A3	Chile (40)
A4	LES Centrifuge Enrichment (90)
A5	LES Centrifuge Enrichment/Australia (93)
A6	LES Centrifuge Enrichment/Canada (94)
A7	LES Centrifuge Enrichment/EURATOM (95)
A8	Switzerland (37)
A9	Australia/Canada/EURATOM/Japan/LES Centrifuge Enrichment (77)

# Material Balance Obligation Categories *(Continued)*

Code	Country Obligation (Country Code)
B1	LES Centrifuge Enrichment/Japan (70)
B2	Australia/Japan/LES Centrifuge Enrichment (71)
B3	Canada/Japan/LES Centrifuge Enrichment (72)
B4	EURATOM/Japan/LES Centrifuge Enrichment (73)
B5	Australia/EURATOM/Japan/LES Centrifuge Enrichment (74)
B6	Canada/EURATOM/Japan/LES Centrifuge Enrichment (75)
B7	China/Japan/LES Centrifuge Enrichment (76)
B8	Switzerland/Canada (37)
B9	LES Centrifuge Enrichment/Australia/EURATOM (62)
C1	Russia (36)
C2	Australia/Russia (96)
C3	Canada/Russia (97)

Code	Country Obligation (Country Code)
C4	Japan/Russia (65)
C5	EURATOM/Russia (66)
C6	Australia/Japan/Russia (67)
C7	Canada/Japan/Russia (68)
C8	EURATOM/Japan/Russia (69)
D5	United Kingdom (45)
D6	United Kingdom/Australia (46)
D7	United Kingdom/Canada (47)
D8	United Kingdom/EURATOM (48)
D9	United Kingdom/Australia/EURATOM (49)
E1	United Kingdom/Canada/EURATOM (50)
E2	United Kingdom/Australia/Japan (51)

# Material Balance Obligation Categories *(Continued)*

Code	Country Obligation (Country Code)
E3	United Kingdom/Canada/Japan (52)
E4	United Kingdom/EURATOM/Japan (53)
E5	United Kingdom/Japan (54)
E6	Australia/Canada/LES Centrifuge Enrichment (98)
E7	Canada/EURATOM/LES Centrifuge Enrichment (99)
E9	LES Centrifuge Enrichment/Australia/UK (56)
F1	LES Centrifuge Enrichment/Canada/UK (57)
F2	LES Centrifuge Enrichment/UK (58)
I1	Australia/Japan (87)
I2	Australia/Canada/EURATOM (88)
I3	Australia/Canada/EURATOM/Japan (89)
I4	Australia/Canada/Japan (64)

# Material Balance Categories *(Continued)*

- It is important to note that there is a difference between the obligation country code used for transactions (741 forms) and the obligation country categories used for material balance (742 forms).
- The two codes often do **not** match up.
- Ensure you are using the correct code for each form.

# Adjusting Obligations on DOE/NRC Form 741

- Focus on the desired net effect of the adjustment.
- Prepare the adjustment transaction that produces the desired result.
- Must adjust the obligation section of the 741 (blocks 17-21) as well as the shipper's section (block 26, columns a-r, as appropriate).
- The adjustment is affected in the obligation section by entering the original data line with a negative sign and then entering the replacement line with the desired amount showing a positive value.
- The general rules for submitting an adjustment transaction apply.
  - The other data element fields (normally completed on an adjustment transaction) must be completed for the obligation adjustment transaction.

# Adjusting Obligations on DOE/NRC Form 741 *(Continued)*

Transaction ID Correction 1

17. LINE NUMBER	18. COUNTRY OF OBLIGATION	19. MATERIAL TYPE	20. OBLIGATED ELEMENT WEIGHT	21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only
1	32	81	-1000	
2	32	81	100	

BACK REFERENCE NUMBER a.	LINE NO. b.	TYPE OF INV. CHANGE c.	IDENTIFICATION (ITEM/BATCH NAME) d.	NO. OF ITEMS e.	PROJECT NUMBER f.	MATE- RIAL TYPE g.	COMP/ FACILITY CODE h.	OWNER CODE i.	KEY MEAS. POINT j.	MEAS. IDENT. k.			GROSS WEIGHT l.	NET WEIGHT m.	ELEMENT WEIGHT n.	ELEMENT LIMIT OF ERROR o.	WEIGHT % ISOTOPE p.	ISOTOPE WEIGHT q.	ISOTOPE LIMIT OF ERROR r.
										1 BASIS	2 OMP	3 METHOD							
001	1			-1		81									-5000				
000	2			1		81									5000				





# Case Study

**Topic**

**3**



# Case Study 1

## Domestic Transaction with Obligations

## Case Study

# 1

On October 27, 2017, Facility XBC initiated shipment # 7 of non-DOE-owned material to Facility YON. Two separate containers were used for this shipment.

- The first container had Canadian obligated enriched uranium in misc. compounds (776) with an element wt. of 53,698g, an isotope wt. of 2,416g, and an enrichment of 4.5%.
- The second container had one item of Australian obligated enriched uranium in misc. compounds (776) with an element wt. of 17,321g, an isotope wt. of 675g, and an enrichment of 3.9%.
- The shipment had a total gross wt. of 25,660 KG.

**Domestic  
Transaction  
with  
Obligations**

Prepare the **shipper's** transaction report, DOE/NRC Form 741, for XBC.

## Case Study

1

## Solution:

Domestic  
Transaction  
with  
Obligations

Shipper: XBC  
Receiver: YON

Transaction No: 7  
Correction No:

Process Code: A  
Action Code: A

Public Laws 83-703, 93-438, 95-91

U. S. DEPARTMENT OF ENERGY  
NUCLEAR REGULATORY COMMISSION

NO. 3150-0003 EXPIRES: 10/31/2020

to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA changes in inventory of nuclear materials. Send comments regarding burden estimate to the Information Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollect.Resource@nrc.gov](mailto:Infocollect.Resource@nrc.gov), Office of Information and Regulatory Affairs, NEOS-10202, (3150-0003), Office of Management and Budget, may not conduct or sponsor, and a person is not required to respond to, the information collection.

### NUCLEAR MATERIAL TRANSACTION REPORT

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.

1. SHIPPER'S R/S		2. RECEIVER'S R/S		3. TRANSACTION NO.		4. CORRECTION NO.		5. PROCESSING CODE		6. ACTION CODE		7. DOCUMENTATION (Only if document is classified SECRET)			
XBC		YON		0000007				A		A		PAGE OF PAGES COPY OF COPIES SERIES			
9. NAME AND ADDRESS OF SHIPPER		10. NAME AND ADDRESS OF RECEIVER		11. NO. OF DATA LINES		2		12. NATURE OF TRANSACTION		13. SHIPPED TO ACCOUNT OF		14. DISTRIBUTION OF COPIES			
15. ATTENTION		16. ATTENTION													
17. TELEPHONE		18. TELEPHONE													
19. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER															
20. MATERIAL TYPE AND DESCRIPTION															
21. MISCELLANEOUS															
22. CONDENSED NOTE ATTACHED															
23. ACTION DATE															
24. SHIPPER'S CORRECTION															
25. RECEIPT															
26. RECEIVER'S MEASUREMENT															
27. RECEIVER'S CORRECTION															
28. TOTAL VOLUME															
29. NET WEIGHT															
30. ELEMENT WEIGHT															
31. ELEMENT LIMIT OF ERROR															
32. WEIGHT % ISOTOPE															
33. ISOTOPE VOLUME															
34. LIMIT OF ERROR															

26. SHIPPER'S DATA

REFERENCE NUMBER	NO.	OF INV. CHANGE	(ITEM/BATCH NAME)	ITEMS	NUMBER	RAL TYPE	FACILITY CODE	CODE	MEAS. POINT	1. BASIS	2. OMP	3. METHOD	4. ELEMENT WEIGHT	5. ELEMENT LIMIT OF ERROR	6. WEIGHT % ISOTOPE	7. ISOTOPE VOLUME	8. LIMIT OF ERROR
1	1			1		20	776	J					53698	4.5000	2416		
2	2			1		20	776	J					17321	3.9000	675		

26s. SHIPPER'S DATA SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

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

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## Case Study 2

## Transaction Adjustment of Obligations

## Case Study

## 2

On January 5, 2018, XBC determined that a correction to transaction XBC-YON-000007 A/A needs be reported to NMMSS. The October 2017 processing month is closed in the NMMSS database. You realize that the quantity of foreign obligations has been reported to NMMSS incorrectly.

Transaction  
Adjustment of  
Obligations

While the physical amount shipped remains the same, please complete a shipper correction DOE/NRC Form 741 to change the quantity of Canadian obligations from an element weight of 53,698g and an isotope weight of 2,416g to an element weight of 26,849g and an isotope weight of 1,208g.

All material is DOE-owned. Prepare the **shipper's** adjustment transaction report, DOE/NRC Form 741, for XBC.

# Case Study

2

## Solution:

## Transaction Adjustment of Obligations

Shipper: XBC  
Receiver: YON

Transaction No: 7  
Correction No: 1

Process Code: A  
Action Code: C

U. S. DEPARTMENT OF ENERGY  
NUCLEAR REGULATORY COMMISSION  
Public Laws 83-703, 93-438, 95-91

NO. 3150-0003 EXPIRES: 10/31/2020  
comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA purposes in inventory of nuclear materials. Send comments regarding burden estimate to the Information Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to infocollects.Resource@nrc.gov. Office of Information and Regulatory Affairs, NRC-10202, (2150-0003), 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.

### NUCLEAR MATERIAL TRANSACTION REPORT

1. SHIPPER'S RIS		2. RECEIVER'S RIS		3. TRANSACTION NO.		4. CORRECTION NO.		5. PROCESSING CODE		6. ACTION CODE		7. DOCUMENTATION (Only if document is classified SECRET)			
XBC		YON		0000007		1		A		C		PAGE OF PAGES COPY OF COPIES SERIES			
8. NAME AND ADDRESS OF SHIPPER		9. LICENSE NO.		10. NAME AND ADDRESS OF RECEIVER		11. LICENSE NO.		12. NO. OF DATA LINES		13. NATURE OF TRANSACTION		14. SHIPPED TO ACCOUNT OF		15. DISTRIBUTION OF COPIES	
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14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER															
16. MATERIAL TYPE AND DESCRIPTION															
17. MISCELLANEOUS															
18. ACTION DATE															
19. SHIPMENT															
20. SHIPPER'S CORRECTION															
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22. RECEIVER'S MEASUREMENT															
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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 (10-2017)

Oblg. Country : 32

MT: 20

Total Change: -26,849;-1,208

Do not obligate more than is declared in the 741 details!

Shipper Detail

MT: 20

Total Change: 0; 0



# Case Study 3

## Obligation Exchange Transactions



## Case Study

3

A U.S. facility ZX1 will be exchanging obligations with U.S. facility ZX2. The following obligations will be exchanged.

Obligation  
Exchange  
Transactions

- 500,000 grams of uranium (20,000 grams of U235) obligated to Australia
- 75,000 grams of uranium (3,000 grams of U235) obligated to Canada

Complete the shipper and receiver DOE/NRC Form 741s to reflect the obligation exchange.

# Case Study

## 3

## Solution (Shipper's Side of Exchange) :

### Obligation Exchange Transactions

Shipper:ZX1 Receiver:ZX2

Action Code: X

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

NO. 3150-0003 EXPIRES: 10/31/2020

72, 74, 75, 150  
Public Laws 83-703, 93-438, 95-91

### NUCLEAR MATERIAL TRANSACTION REPORT

1. SHIPPER'S RIS: ZX1  
2. RECEIVER'S RIS: ZX2  
3. TRANSACTION NO.: 0000001  
4. CORRECTION NO.:  
5. PROCESSING CODE: A  
6. SHIPPER: X  
7. RECEIVER:  
8. ACTION CODE:  
9. DOCUMENTATION (Only if documents to classified SECRET):

10. NO OF DATA LINKS: 0  
11. NAME OF TRANSACTION:  
12. SHIPPED FOR ACCOUNT OF:  
13. SHIPPED TO ACCOUNT OF:  
14. TRANSFER AUTHORITY - COM:  
15. EXPORT OR IMPORT:  
16. MATERIAL TYPE AND DESCRIPTION:  
17. LINE NUMBER: 1, 2  
18. COUNTRY OF OBLIGATION: 31, 32  
19. MATERIAL TYPE: 20, 20  
20. OBLIGATED ELEMENT WEIGHT: 500000, 75000  
21. OBLIGATED ISOTOPE WEIGHT: 20000, 3000  
22. ACTION DATE: 6, 1, 2018  
23. MISCELLANEOUS:  
24. TOTAL GROSS WEIGHT:  
25. TOTAL VOLUME (VOLUME):

26. SHIPPER'S DATA:  
27. RECEIVER'S DATA:

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 (10-2017)

Obligation Country :  
31 (Australia)  
32 (Canada)

MT: 20

Date: 6/01/2018

Reduction in ZX1's obligations  
for country 31 (Australia) by  
500,000 g element; 20,000 g  
isotope

Reduction in ZX1's obligations  
for country 32 (Canada) by  
75,000 g element; 3,000 g  
isotope

## Case Study

3

## Solution (Receiver's Side of Exchange) :

 Obligation  
Exchange  
Transactions

Shipper:ZX1 Receiver:ZX2

Action Code: Y

NO. 3150-0003

EXPIRES: 10/31/2020

Public Laws 83-703, 93-438, 95-91

## NUCLEAR MATERIAL TRANSACTION REPORT

comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for IAEA changes in inventory of nuclear materials. Send comments regarding burden estimate to the Information Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-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.

Note: The receiver must have sufficient inventory of non-obligated material (same material type) in order to assume the incoming obligations.

MT: 20

Date: 6/01/2018

Increase in ZX2's obligations for country 31 (Australia) by 500,000 g element; 20,000 g isotope

Increase in ZX2's obligations for country 32 (Canada) by 75,000 g element; 3,000 g isotope

1. SHIPPER'S RIS		2. RECEIVER'S RIS		3. TRANSACTION NO.		4. CORRECTION NO.		5. PROCESSING CODE		6. ACTION CODE		7. DOCUMENTATION (Only if document is classified SECRET)	
ZX1		ZX2		0000001				A		Y			
8. NAME AND ADDRESS OF SHIPPER		9. NAME AND ADDRESS OF RECEIVER		10. NO OF DATA LINES		11. NATURE OF TRANSACTION		12. SHIPPED FOR ACCOUNT OF		13. SHIPPED TO ACCOUNT OF		14. DISTRIBUTION OF COPIES	
				0								1 2 3 4 5 6 7 8 9	
15. EXPORT OR IMPORT TR		16. COUNTRY OF ORIGIN		17. MATERIAL TYPE		18. OBLIGATED ELEMENT WEIGHT		19. OBLIGATED ISOTOPE WEIGHT		20. ACTION DATE		21. SHIPMENT	
		31		20		500000		20000		6 1 2018			
		32		20		75000		3000					
22. TOTAL GROSS WEIGHT		23. TOTAL VOLUME (WAVE 7)		24. SHIPPER'S DATA		25. RECEIVER'S DATA		26. SHIPPER'S DATA		27. RECEIVER'S DATA		28. SHIPPER'S DATA	

WARNING: FALSE STATEMENTS IN THIS REPORT ARE PROHIBITED. TO OBTAIN 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.

DOENRC FORM 741 (10-2017)

# Summary

## 1 What is Foreign Obligation Reporting?

- Describe agreements that drive foreign obligations accounting regulations.
- Demonstrate conditions that require tracking obligations.

## 2 How to Report Foreign Obligations.

- Obligations are reported on DOE/NRC Form 741 and DOE/NRC Form 742.
- Review obligation material types and country codes.
- Demonstrate the process for reporting obligations.
- Demonstrate the process for adjusting obligations.
- Demonstrate the process for exchanging obligations.

## 3 Case Studies

- Demonstrate examples of preparing nuclear material transaction reporting foreign obligations.

# Questions

