

Transaction Reports

Presented by:

- Alexandra Zeigler
- Mitch Hembree
- John Cettin
- Brandon Zack

Topics

1 What is a Nuclear Material Transaction Report?

Alexandra Zeigler

- Purpose
- Regulatory Framework
- DOE/NRC Form 741

2 How to complete and submit a Transaction Report.

Mitch Hembree | John Cettin

- Required MC&A Data
- Submittal Methods
- Quality Control and Validation process applied by NMMSS.

3 Case Studies

Alexandra Zeigler | Brandon Zack

- Domestic
- One-party
- Import/export
- Adjustment



What is a Nuclear Material Transaction Report?

Topic

1

Nuclear Material Transaction Report



NNSA
National Nuclear Security Administration

Facilities



Licensees

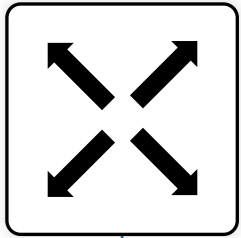
Maintain documentation of authorities, responsibilities, and processes for carrying out material control and accountability (MC&A) functions, including transferring of nuclear materials.

Transaction reports are also referred to as an Inventory Change Report (ICR).

Transaction reports are utilized to help track information regarding shipments and receipts of nuclear material between facilities, onsite gains and losses, and movement of nuclear material subject to NCAs.

Facility Submitted Data

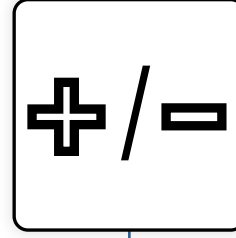
Transaction



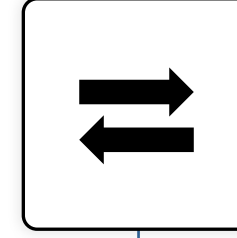
Largest and Most Active Component



Detailed Information regarding **Shipments** and **Receipts** of Nuclear Material between Facilities



Onsite **Gains** and **Losses** due to Production, Burnup, Decay, etc.



Movement of Nuclear Material between NNSA/DOE Projects within a Facility



Movement of Nuclear Material subject to **NCAs**



Transaction Reporting Requirements



NNSA
National Nuclear Security Administration

Contractors



Must report to NMMSS if:

- Their sites ship or receive a reportable unit of nuclear material
- Their site performs an activity resulting in a gain or loss of nuclear material
- The nuclear material inventory at their sites are otherwise increased or decreased

Most material types must be reported to the nearest whole reporting unit

MTC 83, 86, and 87 are reported to the nearest fractional reporting unit



Transaction Reporting Requirements



Licensees



Must report to NMMSS if:

- Their sites ship or receive a reportable unit of nuclear material
- Their site performs an activity resulting in a gain or loss of nuclear material
- The nuclear material inventory at their sites are otherwise increased or decreased

Material types must be reported to the nearest whole reporting unit

Complexities When Reporting Transactions

Complexities in Reporting Transactions often arise as a function of:

Volume of Shipments and Receipts

Diversity of Material and its Isotopic Composition

Processing of the Material/Blending

Quantities

Customers and **Suppliers**

Regulatory and **Treaty-specific Requirements**

DOE/NRC FORM 741 (5-2021)

DOE/NRC Form 741:
Nuclear Material Transaction Report

Sections

Header

1

Obligated Material

2

Detail

3

Signature and Date Block

4

[illegible]

DOE/NRC Form 741: Nuclear Material Transaction Report

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
Expires: 04/30/2024
Comments: Submit per response to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for NISA accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the PRA, Library, and Information Collection Branch (7-5 A-104), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to: info@nrc.gov. For more information, contact the NRC's Office of Information and Regulatory Affairs (OIRA) at: oira@nrc.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

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)																							
a. SHIPPER		b. RECEIVER		a. SHIPPER		b. RECEIVER		a. SHIPPER		b. RECEIVER		PAGE	OF	PAGES	COPY	OF	COPIES	SERIES																	
8.a. NAME AND ADDRESS OF SHIPPER		b. LICENSE NO.		9.a. NAME AND ADDRESS OF RECEIVER		b. LICENSE NO.		10. NO. OF DATA LINES		11. NATURE OF TRANSACTION		12.a. SHIPPED FOR ACCOUNT OF		b. RIS		13.a. SHIPPED TO ACCOUNT OF		b. RIS		NO. DISTRIBUTION OF COPIES															
c. ATTENTION:		d. TELEPHONE:		c. ATTENTION:		d. TELEPHONE:		12.a. SHIPPED FOR ACCOUNT OF		13.a. SHIPPED TO ACCOUNT OF		14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER		15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.		16. MATERIAL TYPE AND DESCRIPTION		17. LINE NUMBER		18. COUNTRY OF OBLIGATION		19. MATERIAL TYPE		20. OBLIGATED ELEMENT WEIGHT		21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only		22. ACTION DATE		MONTH (MM)		DAY (DD)		YEAR (YYY)	
23a. MISCELLANEOUS		b. CONCISE NOTE ATTACHED		c. UK REPORTABLE?		YES		NO		24. TOTAL GROSS WEIGHT		25. TOTAL VOLUME (Waste Transfers Only)		a. SHIPMENT		b. SHIPPER'S CORRECTION		c. RECEIPT		d. RECEIVER'S MEASUREMENT		e. RECEIVER'S CORRECTION													


Transaction Header Information

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 MATERIALS 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 JURISDICTION.

DOE/NRC FORM 741 (5-2021)

DOE/NRC Form 741:
Nuclear Material Transaction Report

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
Expires: 04/30/2024
Estimated burden per response to comply with this mandatory collection request: 1 hour and 15 minutes. This information is required for NRC accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the PRA, Library and Information Collection Branch (1-8 41034), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to: Information.Resource@nrc.gov and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (202) 930-0335, Attn: Desk Officer for the Nuclear Regulatory Commission, 725 15th Street NW, Washington, DC 20503, e-mail: oia-omb@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

EXPIRES: 04/30/2024

1. SHIPPER'S NSI

2. RECEIVER'S NSI

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.

8. A. NAME AND ADDRESS OF RECEIVER

8. B. LICENSE NO.

10. NO. OF DATA LINES

10. A. SHIPPED FOR ACCOUNT OF

10. B. NSI

11. NATURE OF TRANSACTION

11. A. SHIPPED TO ACCOUNT OF

11. B. NSI

NO.

DISTRIBUTION OF COPIES

NO. OF ITEMS

PROJECT NUMBER

MATERIAL TYPE

COMP/FACILITY CODE

OWNER CODE

KEY MEAS. POINT

MEAS. IDENT. k.

GROSS WEIGHT

NET WEIGHT

ELEMENT WEIGHT

ELEMENT LIMIT OF ERROR

WEIGHT % ISOTOPE

ISOTOPE WEIGHT

ISOTOPE LIMIT OF ERROR

e.

f.

g.

h.

i.

j.

1 BASIS

2 OMP

3 METHOD

l.

m.

n.

o.

p.

q.

r.

27. RECEIVER'S DATA

ISOTOPE LIMIT OF ERROR

Transaction Detail Information

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 MATERIALS RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO AN DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN JURISDICTION.

DOE/NRC FORM 741 (5-2021)

DOE/NRC Form 741:
Nuclear Material Transaction Report


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

NUCLEAR MATERIAL TRANSACTION REPORT

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, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollections.Resource@nrc.gov and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0003), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: oir_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

EXPIRES: 04/30/2024

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)

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

11. NATURE OF TRANSACTION

12.a. SHIPPED FOR ACCOUNT OF

12.b. RIS

13.a. SHIPPED TO ACCOUNT OF

13.b. RIS

14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

16. MATERIAL TYPE AND DESCRIPTION

17. LINE NUMBER

18. COUNTRY OF OBLIGATION

19. MATERIAL TYPE

20. OBLIGATED ELEMENT WEIGHT

21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only

22. ACTION DATE

23.a. MISCELLANEOUS

24. TOTAL GROSS WEIGHT

25. TOTAL VOLUME (Meters Transfers Only)

b. CONCISE NOTE ATTACHED

c. UK REPORTABLE?

YES

NO

22. ACTION DATE

MONTH (MM)

DAY (DD)

YEAR (YYYY)

a. SHIPMENT

b. SHIPPER'S CORRECTION

c. RECEIPT

d. RECEIVER'S MEASUREMENT

e. RECEIVER'S CORRECTION

24. TOTAL GROSS WEIGHT


25. TOTAL VOLUME (Meters Transfers Only)

Transaction Foreign Obligation Information

FINAL PENALTIES: NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE TRUE AND ACCURATE. IT IS A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR OMISSION WITHIN JURISDICTION.

DOE/NRC Form 741:
Nuclear Material Transaction Report

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 NRC
accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the PRA, Privacy, and
Information Collection Branch (7-8) 3150-015, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to
Information.Request@nrc.gov and the OMB system at: OMB Office of Information and Regulatory Affairs, (202) 293-0020. Also, Desk Officer for the
Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20005, e-mail: nrc_information@omb.eop.gov. The NRC may not conduct or
sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a
currently valid OMB control number.

EXPIRES: 04/30/2024

1. SHIPPER'S NRC

2. RECEIVER'S NRC

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.

8. A. NAME AND ADDRESS OF RECEIVER

8. B. LICENSE NO.

9. NO. OF SERIALS

9. A. SHIPPER'S SERIALS

9. B. RECEIVER'S SERIALS

10. NATURE OF TRANSACTION

11. NO. OF COPIES

12. COPIES

13. COPIES

14. COPIES

15. COPIES

16. COPIES

17. COPIES

18. COPIES

19. COPIES

20. COPIES

21. COPIES

22. COPIES

23. COPIES

24. COPIES

25. COPIES

26. COPIES

27. COPIES

28. COPIES

29. COPIES

30. COPIES

31. COPIES

32. COPIES

33. COPIES

34. COPIES

35. COPIES

36. COPIES

37. COPIES

38. COPIES

39. COPIES

40. COPIES

41. COPIES

42. COPIES

43. COPIES

44. COPIES

45. COPIES

46. COPIES

47. COPIES

48. COPIES

49. COPIES

50. COPIES

51. COPIES

52. COPIES

53. COPIES

54. COPIES

55. COPIES

56. COPIES

57. COPIES

58. COPIES

59. COPIES

60. COPIES

61. COPIES

62. COPIES

63. COPIES

64. COPIES

65. COPIES

66. COPIES

67. COPIES

68. COPIES

69. COPIES

70. COPIES

71. COPIES

72. COPIES

73. COPIES

74. COPIES

75. COPIES

76. COPIES

77. COPIES

78. COPIES

79. COPIES

80. COPIES

81. COPIES

82. COPIES

83. COPIES

84. COPIES

85. COPIES

86. COPIES

87. COPIES

88. COPIES

89. COPIES

90. COPIES

91. COPIES

92. COPIES

93. COPIES

94. COPIES

95. COPIES

96. COPIES

97. COPIES

98. COPIES

99. COPIES

100. COPIES

NO. OF ITEMS

PROJECT NUMBER

MATERIAL TYPE

COMP/FACILITY CODE

OWNER CODE

KEY MEAS. POINT

MEAS. IDENT. k.

GROSS WEIGHT

NET WEIGHT

ELEMENT WEIGHT

ELEMENT LIMIT OF ERROR

WEIGHT % ISOTOPE

ISOTOPE WEIGHT

ISOTOPE LIMIT OF ERROR

e.

f.

g.

h.

i.

j.

1 BASIS

2 OMP

3 METHOD

l.

m.

n.

o.

p.

q.

r.

OFFICIAL AND DATE SIGNED

27s. RECEIVER'S DATA

SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

STATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC
S RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR
ENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN JURISDICTION.

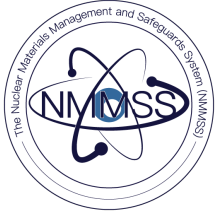
Transaction Signature and Date Block



How to complete and submit a Transaction Report.

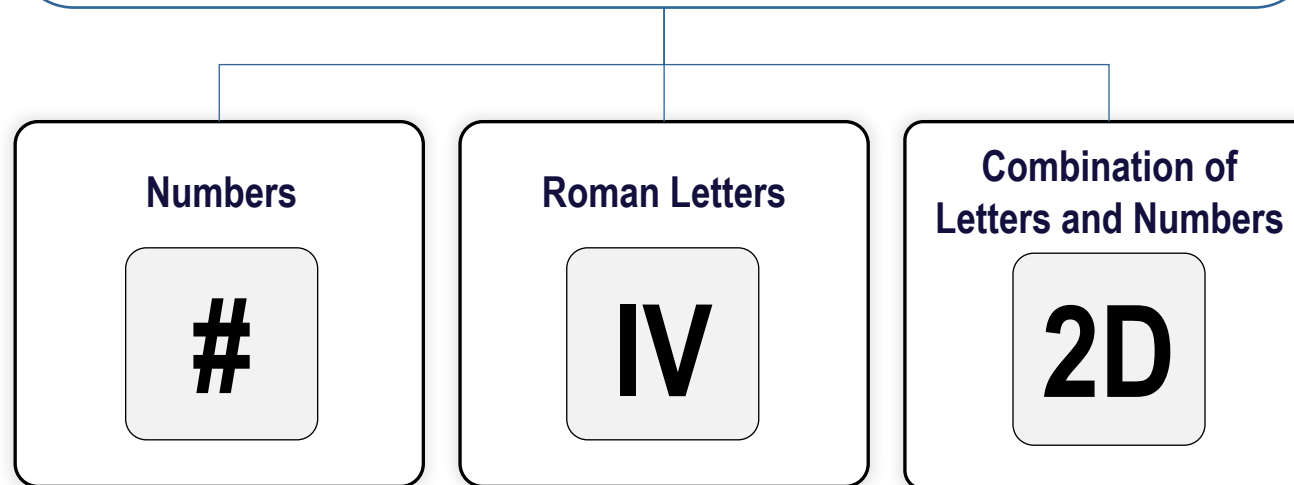
Topic

2



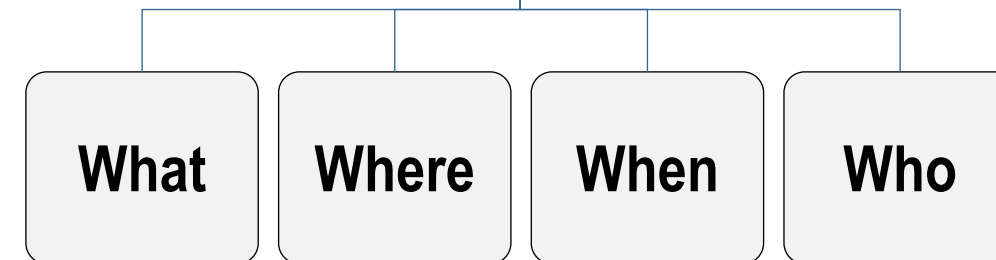
Reporting

The “**alphabet**” that you will use to report to NMMSS consists of:



The alphabet is referred to as “**Codes**”

There are **specific** and **unique codes** that you **must** use to report



Reporting Identification Symbol (RIS)

Each NRC licensee/DOE facility is assigned a unique reporting identification symbol (RIS).

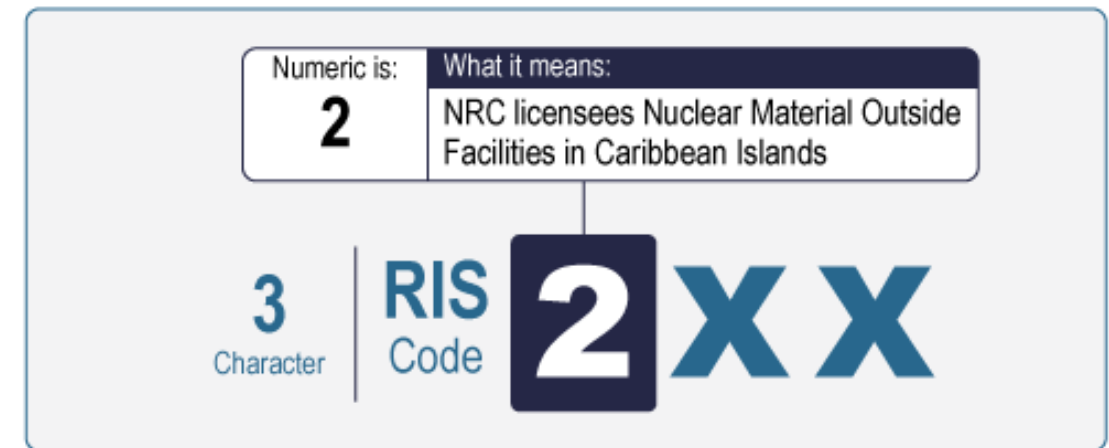
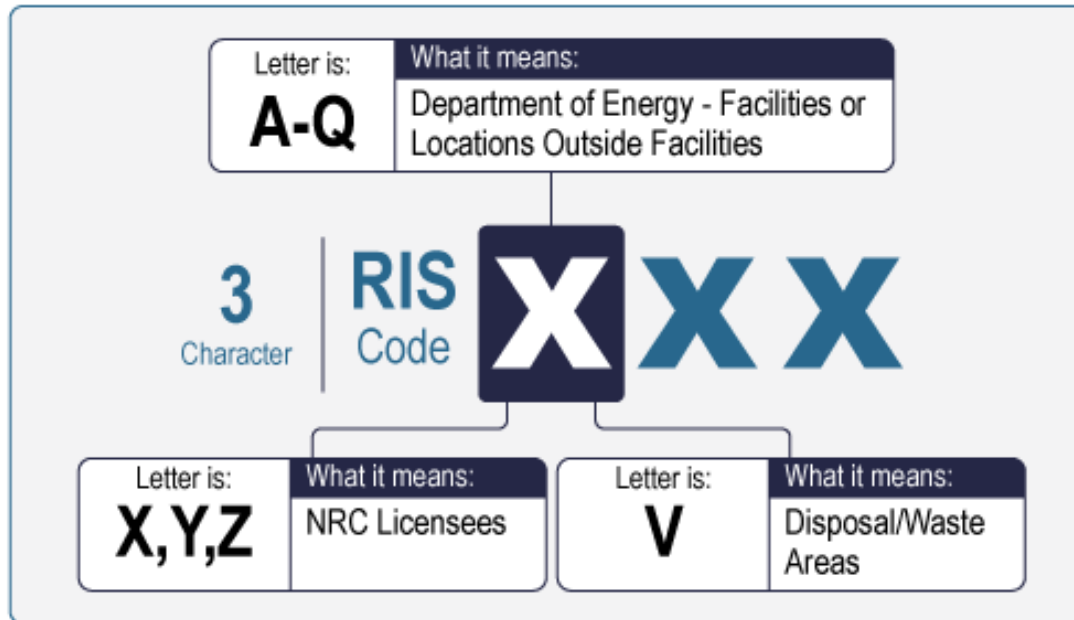
The RIS code remains the same for the life of your license, unless you ask for a new RIS code.

You must use your RIS code when reporting.

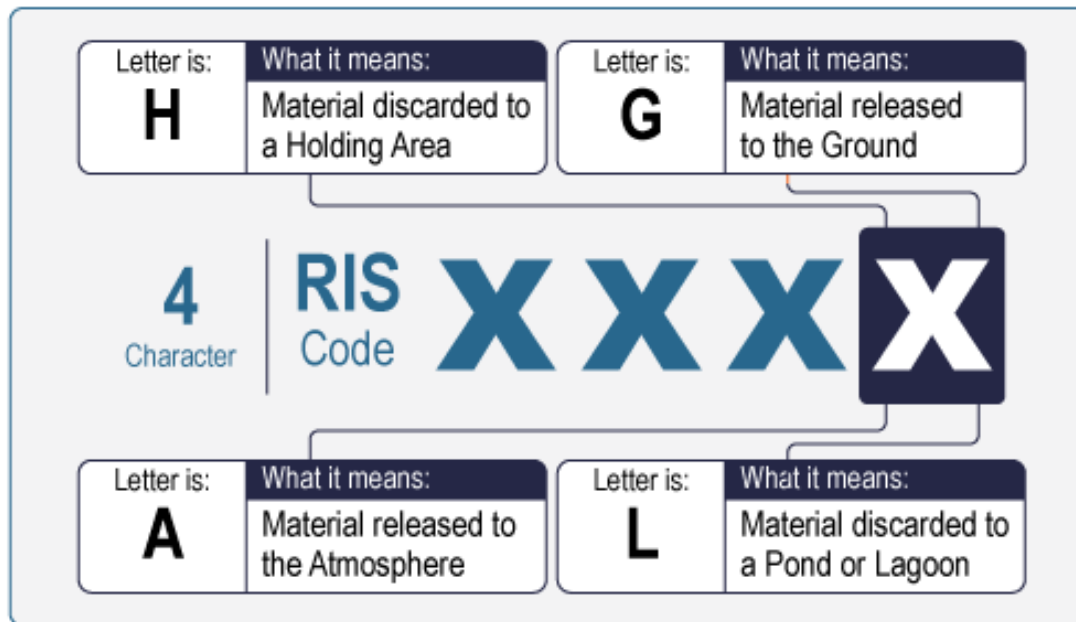
NMMSS tracks each NRC licensee/DOE facility by its assigned RIS code.

Note: Contact NMMSS if you need the RIS code for the other facility (shipping to or receiving material from) within/outside of the United States.

Reporting Identification Symbol (RIS) *(Continued)*



Reporting Identification Symbol (RIS) *(Continued)*



Material Type Codes

Material types must be reported to the whole reporting unit; MTC 83, 86, and 87 are exceptions.



Material Type (MT) Codes

DOE/NNSA Materials Tracked by NMMSS

Nuclear Material	Material Type	Reportable 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	20	Whole Gram



Material Type (MT) Codes *(Continued)*

DOE/NNSA Materials Tracked by NMMSS

Nuclear Material	Material Type	Reportable 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 Gram
Thorium	88	Whole Kilogram
Uranium in Cascades	89	Whole Gram



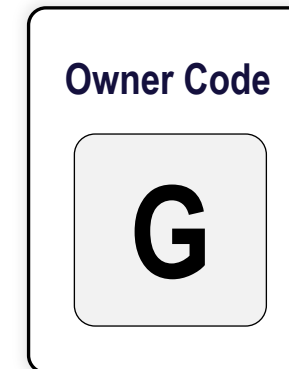
Material Type (MT) Codes *(Continued)*

NRC Materials Tracked by NMMSS

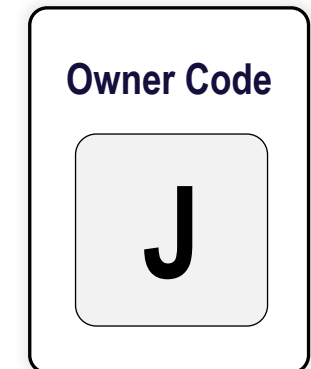
Nuclear Material	Material Type	Reportable Units
Depleted Uranium	10	Kilogram
U-235 in Enriched Uranium*	20	Whole Gram
Normal Uranium	81	Kilogram
Uranium in Cascade	89	Whole Gram
U-233	70	Whole Gram
Thorium	88	Kilogram
Plutonium	50	Whole Gram
PU-238	83	Tenth of Gram

Owner Codes

- Used to identify ownership of nuclear material for transaction, physical inventory, and material balance reporting
- Describes the ownership of material received or shipped
- Describes the ownership of the material at the time of the physical inventory
- Contact the NMMSS staff for instructions regarding the proper owner code to be used in a particular circumstance



DOE-owned material



Non-DOE-owned material

Project Number

Project numbers provide information about DOE-owned nuclear materials located at DOE/NNSA facilities and NRC licensees throughout the United States and foreign countries.

**Financial
Reporting**

**Materials
Management**

Safeguards

Project numbers are identified using ten-character, alphanumeric designation, nine of which originate from the Budget and Reporting (B&R) code.

Project Number *(Continued)*

The structure is designed to facilitate material management through the identification of the following:

Sponsorship

Materials
Management

Safeguards

Field Element

J

AF

DOE Program

Subprogram

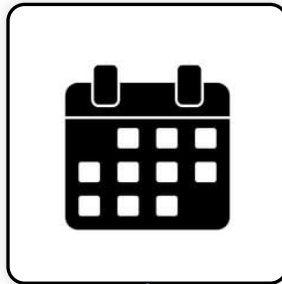
0510

Project

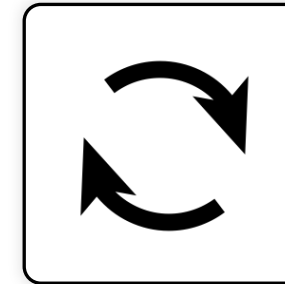
Subproject & Task

010

Project Number Changes



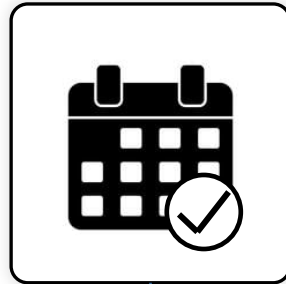
Project funding and direction can change at anytime; therefore, project numbers can change throughout the year.



Changes outside the annual review period require an A-P (one-party project transfer) 741 submission

Annual Project Number Review

What is the Annual Project Number Review?



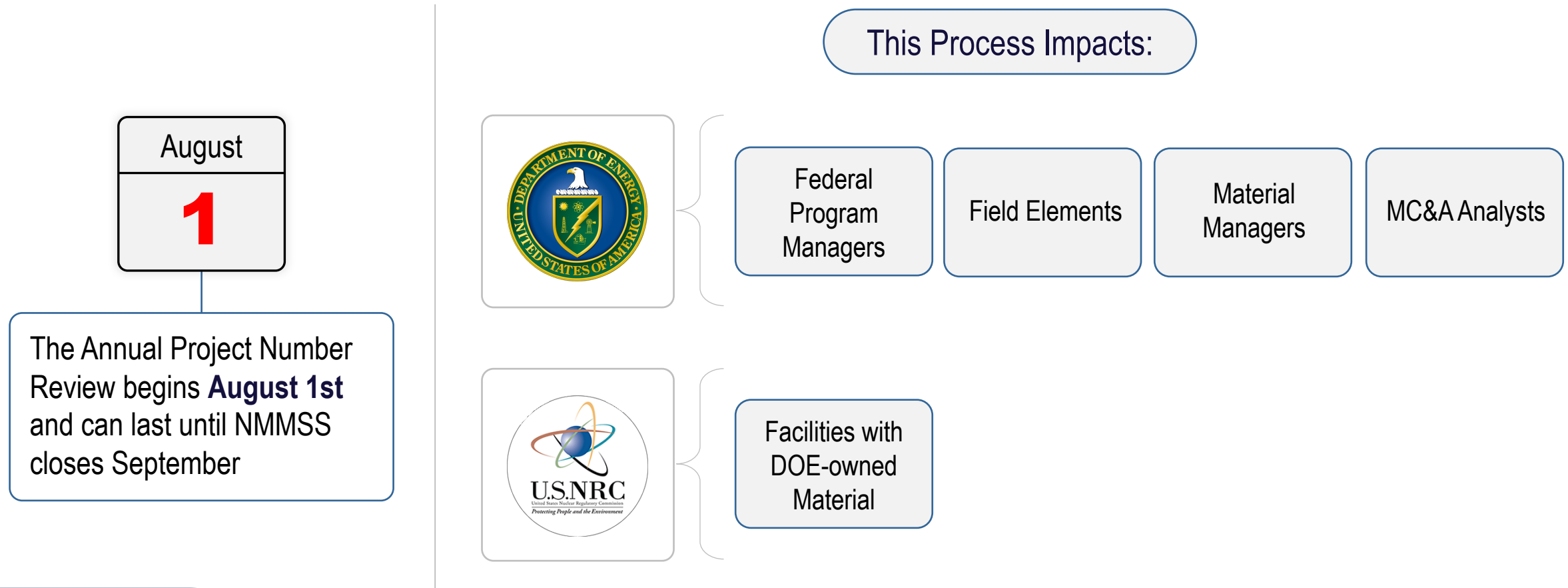
A service NMMSS provides **once a year** in anticipation of the new fiscal year

DOE field elements review active project numbers in NMMSS and ensure that project numbers

Contain an active B&R code

Reflect current programmatic needs

Annual Project Number Review *(Continued)*



Fiscal Year Project Number Conversion *(Continued)*

August

1

NMMSS Report T-147

Project Number Conversion
Worksheet to Operations
Offices/Organizations



**Operation
Offices/Organizations**
update Worksheet
based on Budget and
Reporting Codes for
new Fiscal Year (FY)

September

30

**Operations
Offices/Organizations**
return Completed T-147
Worksheets to NMMSS



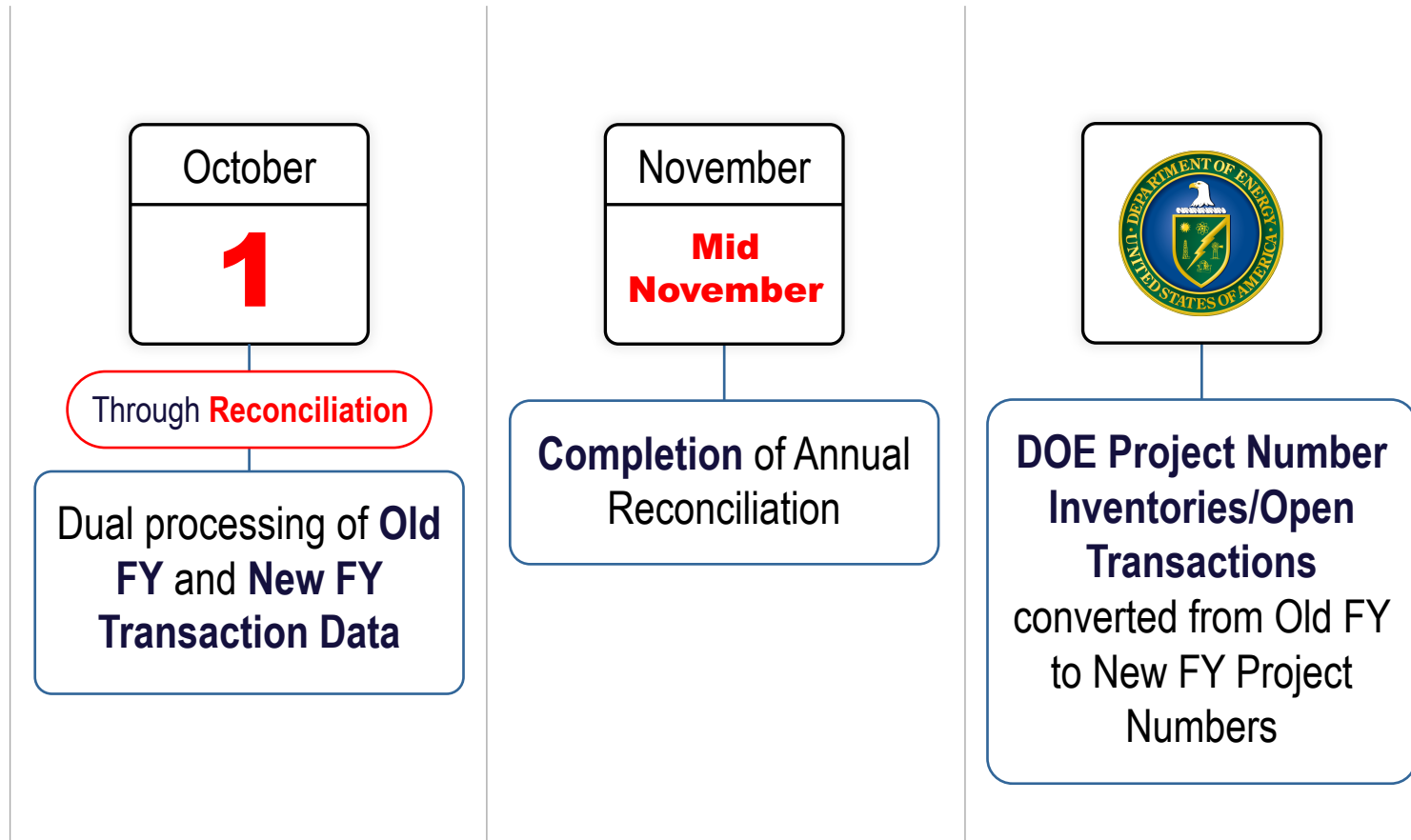
**DOE Project Number
Authority** reference
files updated at
NMMSS

October

1

**T-141 Project Number
Listing** produced and
distributed

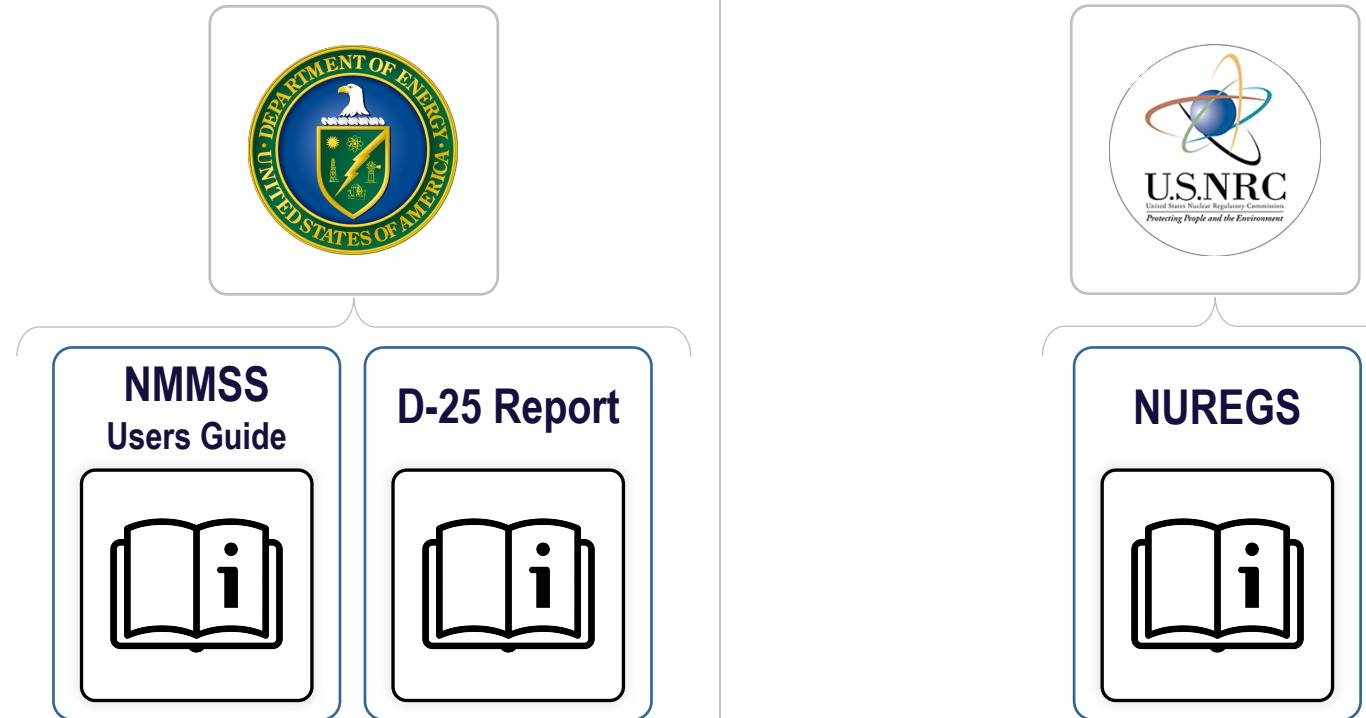
Fiscal Year Project Number Conversion *(Continued)*



Composition Codes

The code that Identifies the **Physical and/or Chemical form of the Nuclear Material** at the time the Transaction occurs

List of composition codes can be found:



Note: DOE has a much larger list than the NRC.

Process Codes

The code that Identifies the specific type of **Processing Action** required of NMMSS

Code A	ADD	Initial Entry of Data
Code C	REPLACE	Replacement of an Existing Entry
Code D	DELETE	Removal of an Existing Entry

Note: Processing Codes C and D cannot be used after the close of a Processing Period

The code that Identifies the **Type of Transaction** being reported on **DOE/NRC Form 741**


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

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, Library, and Information Collections Branch (1-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to InfoCollections.Resource@nrc.gov and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0003), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; e-mail: pira_submission@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

EXPIRES: 04/30/2024

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)

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

11. NATURE OF TRANSACTION

12.a. SHIPPED FOR ACCOUNT OF

12.b. RIS

13.a. SHIPPED TO ACCOUNT OF

13.b. RIS

14. TRANSFER AUTHORITY - CONTRACT, NM DRAFT, OR ORDER NUMBER

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

16. MATERIAL TYPE AND DESCRIPTION

17. LINE NUMBER

18. COUNTRY OF OBLIGATION

19. MATERIAL TYPE

20. OBLIGATED ELEMENT WEIGHT

21. OBLIGATED ISOTOPE WEIGHT For Enriched Uranium Only

22. ACTION DATE

23a. MISCELLANEOUS

23b. CONCISE NOTE ATTACHED

23c. UK REPORTABLE?

24. TOTAL GROSS WEIGHT

25. TOTAL VOLUME (Master Transfers Only)

26. SHIPPER'S DATA

27. RECEIVER'S DATA

26s. SHIPPER'S DATA

SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

27s. 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 MATERIALS 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 JURISDICTION.

Action Codes *(Continued)*

Code	Description	Shipper	Receiver
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

Action Codes *(Continued)*

Code	Description	Shipper	Receiver
J	Identifies receiver's interim project data (DOE Specific)		X
M	Identifies other types of onsite receipts and removals reported on DOE/NRC Form 741	REM	REC
N	Indicates that the receiver will delay measurement beyond 10 days but within 60 days for source and LEU, and within 45 days for HEU		X
P	Identifies in-place project transfers or uranium enriching contract reclassifications (DOE Specific)	X	

Action Codes *(Continued)*

Code	Description	Shipper	Receiver
S	Identifies receiver's data in accepting shipper's weights under a safeguards closure arrangement		X
U	Indicates that the receiver will delay measurement of material beyond 30 days (DOE Specific)		X
X	Obligation Exchange	X	
Y	Obligation Exchange		X
R	Obligation Removal (former Soviet Union)	Rem	Rem

Nature of Transaction (TI) Codes

This code is to be completed for DOE-owned material transferred under lease or loan agreements, pursuant to an enriching services agreement, or material sold or donated by or to DOE/NNSA.

This code is not to be completed for transfers of DOE-owned contract nuclear materials within or between DOE/NNSA programs, transfers of material owned by other U.S. government agencies, transfers of privately-owned material, or transfers to DOE/NNSA under 42 U.S.C. 2121(b) or (c), amended.

Nature of Transaction (TI) Codes *(Continued)*

TI Codes	Associated Activity
A	Initiates loan/lease
B	Transfer of leased/loan material with no change in loan/lease responsibility
C	Transfers loan/lease
D	Return of leased/loaned material to DOE/NNSA for credit
E	Sale for DOE/NNSA
F	Pursuant to an enriching service agreement
G	Sale to DOE/NNSA
R	Transfer from Government-to-private inventory other than by sale or enriching service agreement
S	Transfer from private to Government inventory other than by sale or enriching service agreement

TI Codes

For/To Accounts

To Account

Used to Signify the RIS that has Financial, Programmatic Responsibility **after** a Transaction has taken Place

Generally applicable when DOE-owned Material is Involved

TI Codes

(Continued)

For/To Accounts

To
Account
Edit
Checks

Required for uranium enrichment product delivered by DOE (F)

Required to identify the facility that is purchasing material from DOE (E)

Required to identify the facility to which DOE is donating material (R)

Required to identify the DOE facility that is programmatically responsible for transfers to/from licensee or foreign RIS

TI Codes

(Continued)

For/To Accounts

For Account

Used to signify the RIS that has financial, programmatic responsibility **prior** to a transaction

Applied (generally) when DOE-owned material is involved

TI Codes

(Continued)

For/To Accounts

For
Account
Edit
Checks

Required to identify the facility that is selling material to DOE (G)

Required to identify the facility that is donating material to DOE (S)

Required for uranium enrichment product delivered to DOE (F)

Supplementary Instructions

Appendix C

Provides additional tables to further assist personnel in determining the information needed for nuclear material reporting.

RIS Code	Applicable to	RIS Code	Applicable to
ANY	Any RIS except DoD RISs	CONV	Contractor V RISs
CON	Any contractor RISs	SEP	For isotopic separation facility RISs
LIC	Licensee RISs	DoD	For Department of Defense (DoD) RISs
FOR	Foreign RISs		

NMMSS Users Guide 2.1

NMMSS Users Guide 2.1

Table C-1. Instructions for Preparation of Transaction Data Items

Transaction Type	S/R (1)	TI Code	S RIS	R RIS	For Account	To Account	Owner Code Required
1. DOE-owned material; transfer between contractors		Blank	CON	CON	Blank	Blank	G
2. Transfer of non-DOE/NNSA owned		Blank	ANY	ANY	Blank	Blank	J
3. DOE-owned project material transfers to/from licensees (non-lease or loan)		Blank	(2)	(2)	(3)	(3)	G
4. Initiates loan/lease of DOE-owned material	S	A	ANY	ANY	(6)	LIC, FOR	G
	R	A	ANY	ANY	(6)	LIC, FOR	G
5. Transfer of leased/loaned material; change in ownership		R	ANY	ANY	(7 9)	(8 9)	G, J
12. Donated material to others by DOE/NNSA		R					(Same requirement as transaction Type 8)
13. Donated material to DOE/NNSA by others		S					(Same requirement as transaction Type 11)
14. In-place transactions							In-place transaction should change ownership. Use data requirements of applicable transaction type as a guide. Shipper and receiver must be same RIS.
15. In-place project transfer							Shipper and receiver must be same RIS. Use DOE Form DOE/NRC F 741.
16. Exports; shipments to foreign countries (R RISs)							Transactions are prepared in the same manner as transfers to/from licensees except reporting entity must report both sides.
17. Imports; receipts from foreign countries (R RISs)							Transactions are prepared in the same manner as transfers to/from licensees except reporting entity must report both sides.
18. Inventory changes—removal		Blank	ANY	ANY	(12)	Blank	G, J
19. Inventory changes—receipt		Blank	ANY	ANY	Blank	(14)	G, J
20. Transfers involving waste facilities (V RISs)		Blank	(13)	(13)	Blank	Blank	G, J
21. Shipper or receiver adjustment							Must have an entry in correction field (Block 4). Used to correct prior entries, therefore, prepare the adjusting entry using the same guidelines as the original entry for data records numbers 2 and 5, back out the original line entry in error and add the correct entry. Any of the permissible owner codes for the applicable transaction type should be accepted independently without the presence of a required owner code.

Supplementary Instructions

- SEP for isotopic separation facility RISs
- DoD for Department of Defense (DoD) RISs

Within the tables, specific numbers are shown in parentheses to highlight some of the following notes.

- For those transaction types where there is a difference between shipper's (S) and receiver's (R) reporting requirements, an S and an R should exist in this column to reflect the differences. Only those data items that have different requirements should be separated into the S row and R row. All other common data items should exist on the row between the S and R.
- When to licensee, shipper RIS may be ANY, receiver RIS must be LIC. When from licensee, receiver RIS may be ANY, shipper RIS must be LIC.
- For and to accounts both contain contractor RIS when owner is G, there is no change in ownership, and shipper and/or receiver have licensee or foreign RIS. RISs identify the DOE/NNSA contractors having programmatic responsibility for the material before and after shipment.
- DoD or mutual
- Must contain destination for
- Required only
- Should be licensee or foreign RIS.

C-1

NMMSS Users Guide 2.1

- Should be licensee or foreign RIS.
- For/to accounts cannot be equal.
- For/to accounts should be equal.
- Required only when receiver has a licensee or foreign RIS; then it should be contractor RIS.
- Appropriate contractor RIS in the account if shipper's owner code is G and shipper has a licensee or foreign RIS; the field is blank otherwise.
- Shipper or receiver RIS must be in the V series.
- Appropriate contractor RIS in the account if receiver's owner code is G and receiver has a licensee or foreign RIS; the field is blank otherwise.
- QZA, QZB, and QZD are restricted to material types 20, 40, 50, 70, and 83.
- If the DOD's RIS is QZE the Type of Inventory Change code should be either 14 or 44; if the RIS is QZC the Type of Inventory Change code should be either 15 or 45; if the RIS is QZA, QZB, or QZD the Type of Inventory Change code should be either 16 or 46.

Table C-1. Instructions for Preparation of Transaction Data Items

Transaction Type	S/R (1)	TI Code	S RIS	R RIS	For Account	To Account	Owner Code Required
1. DOE-owned material; transfer between contractors		Blank	CON	CON	Blank	Blank	G
2. Transfer of non-DOE/NNSA owned		Blank	ANY	ANY	Blank	Blank	J
3. DOE-owned project material transfers to/from licensees (non-lease or loan)		Blank	(2)	(2)	(3)	(3)	G
4. Initiates loan/lease of DOE-owned material	S	A	ANY	ANY	(6)	LIC, FOR	G
	R	A	ANY	ANY	(6)	LIC, FOR	G
5. Transfer of leased/loaned material; change in financial responsibility		B	ANY	ANY	(7,9)	(8,9)	G, J
6. Transfer of leased/loaned material; no change in financial responsibility	S	C	ANY	ANY	(7,10)	(7,10)	G, J
	R	C	ANY	ANY	(8,10)	(8,10)	G, J
7. Leased/loaned material returned to DOE/NNSA for credit	S	D	ANY	ANY	LIC, FOR	(11)	G, J
	R	D	ANY	ANY	LIC, FOR	(11)	G, J
8. Sale for account of DOE/NNSA	S	E	ANY	ANY	(12)	LIC, FOR	G, J
15. In-place project transfer							
16. Exports; shipments to foreign countries (R RISs)							
17. Imports; receipts from foreign countries (R RISs)							
18. Inventory changes—removal		Blank	ANY	ANY	(12)	Blank	G, J
19. Inventory changes—receipt		Blank	ANY	ANY	Blank	(14)	G, J
20. Transfers involving waste facilities (V RISs)		Blank	(13)	(13)	Blank	Blank	G, J
21. Shipper or receiver adjustment							

C-3

April 2017

Additional Transaction Field Elements

Gross Weight

Enter the total gross weight of the shipment in kilograms.

Total Volume

Enter the total volume for transfers to disposal/waste areas.

Identification (Item/Batch Name)

An entry is required on import or export transactions.

Number of Items

The number of similar items (e.g., cylinders, packs, drums, bottles, tank vessels) to which the line of data pertains.

Additional Transaction Field Elements *(Continued)*

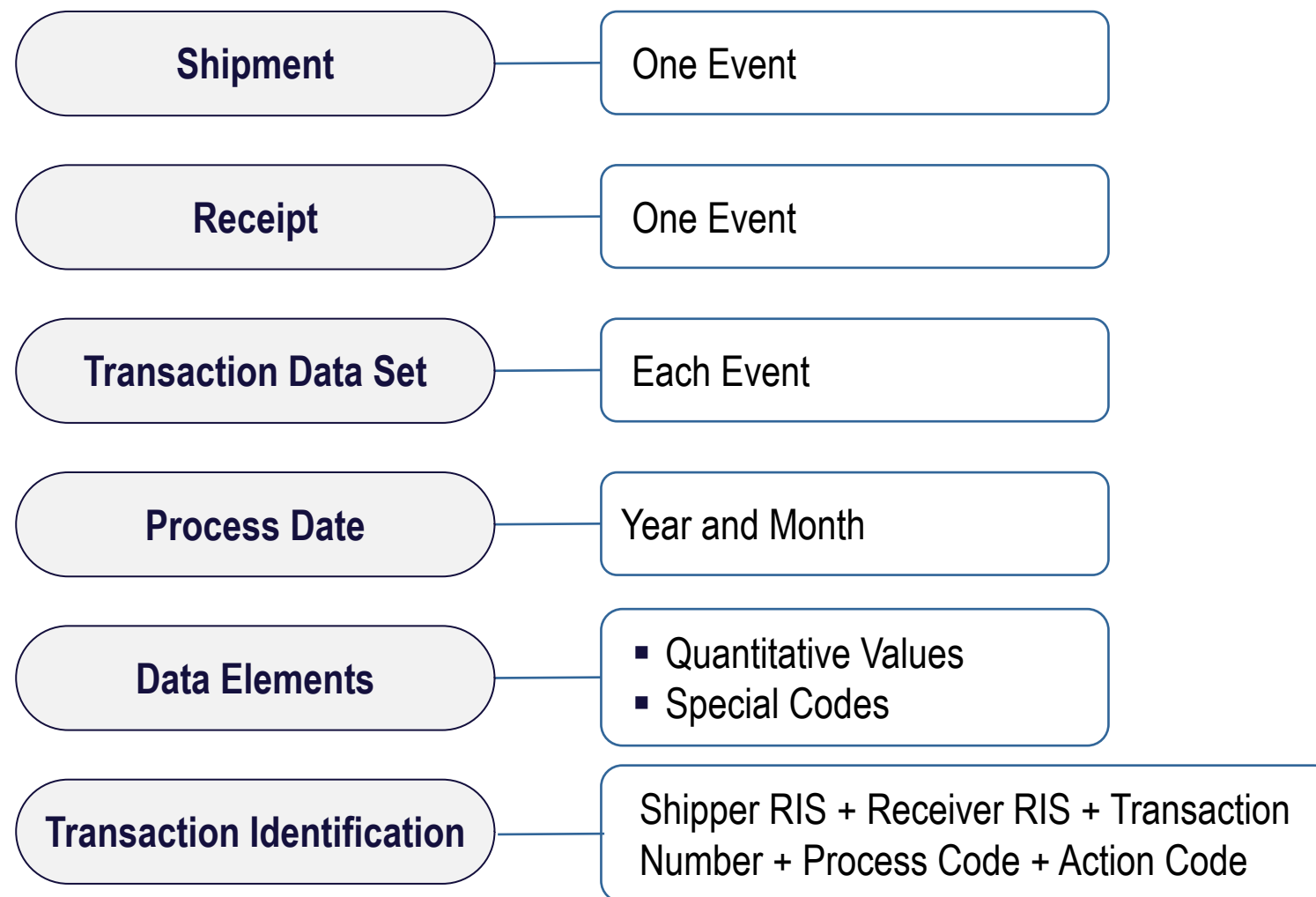
Element/ Isotope Limits of Error

For transactions involving SNM or tritium, measurement uncertainties are entered as weight quantities in accordance with the established reporting unit for the MT.

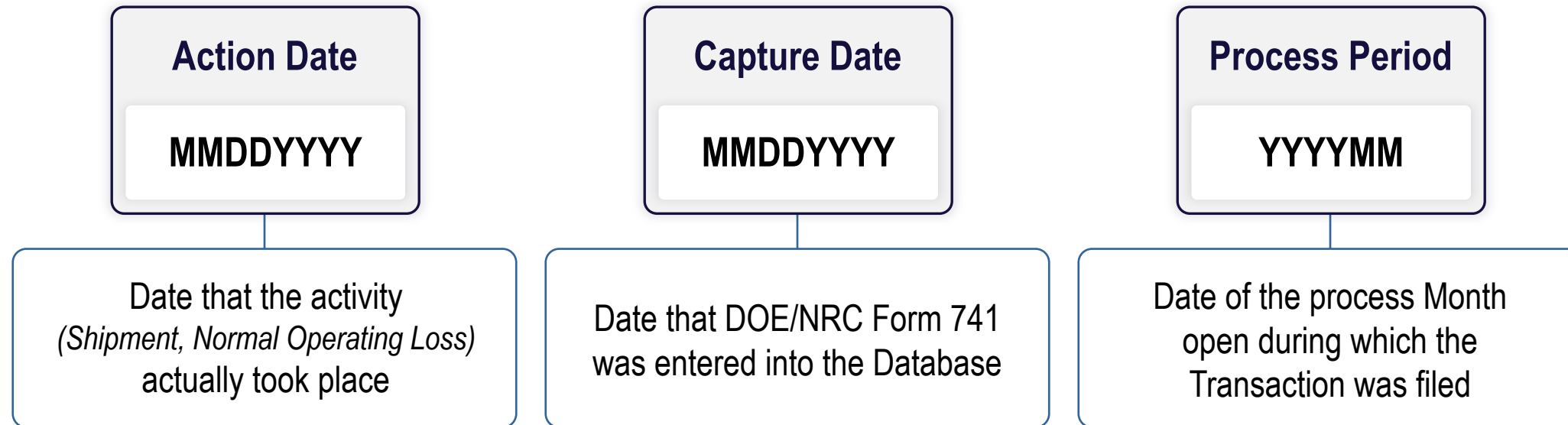
Country of Obligation

If required due to nuclear material being subject to a nuclear cooperation agreement (NCA), enter the two-character obligation code for the country or entity designation relating to the NCA(s).

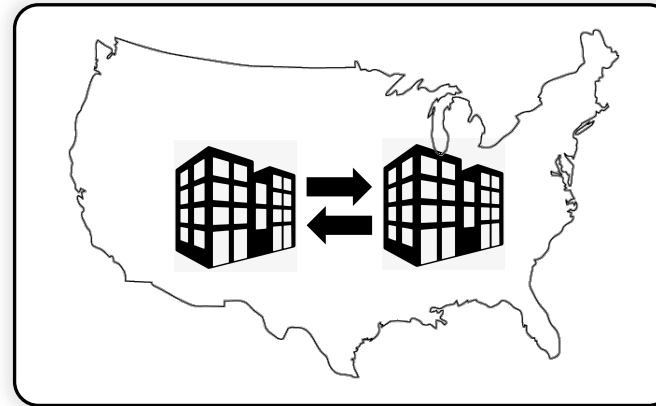
Transaction Terminology



Date Terminology



Domestic Transaction



Transfer of Nuclear Material from one U.S. facility to another **U.S. facility.**

In-Transit Accounting *Defined*

In-transit accounting is specific to DOE transaction reporting, **not NRC**.

All shipments made by the end of the month and reported to NMMSS by the closing date for that month are considered received and on the accounting books of the receiving facility and removed from the books of the shipping facility.

Receipt of government-owned material must be acknowledged during the same month as the shipment.

In-Transit Accounting Requirements Shipper Responsibility

The shipper, during the last **five (5) calendar days of the month**, shall provide the receiver with essential details about the shipment:

**Transfer Series
Transaction Number**

Material Type

**Element and
Isotope Weights**

**Project numbers
(Owner Code "G")**

**Obligation Tracking
Data Blocks 17 - 21**

Number of Items

Composition Codes

Owner Codes

Date of Shipment

In-Transit Accounting Requirements

Receiver's Responsibility

Assure that government-owned material is slotted into a receiving project by submitting an **action code "J" transaction**.

The action date for the **"J" data set** must be in the same month as the shipment.

Submit a **"N"** or **"U"** transaction as appropriate, if there will be a delay (measurement) in submitting the final data (B or E).

In-Transit Accounting

Example 1

Description

The shipper's data is on file and the receiver's interim project data is on file. In addition to the receiver's final data submitted during the month following the shipment, the receiver's data is used in issuing reports and determining inventory balances for the receiver.

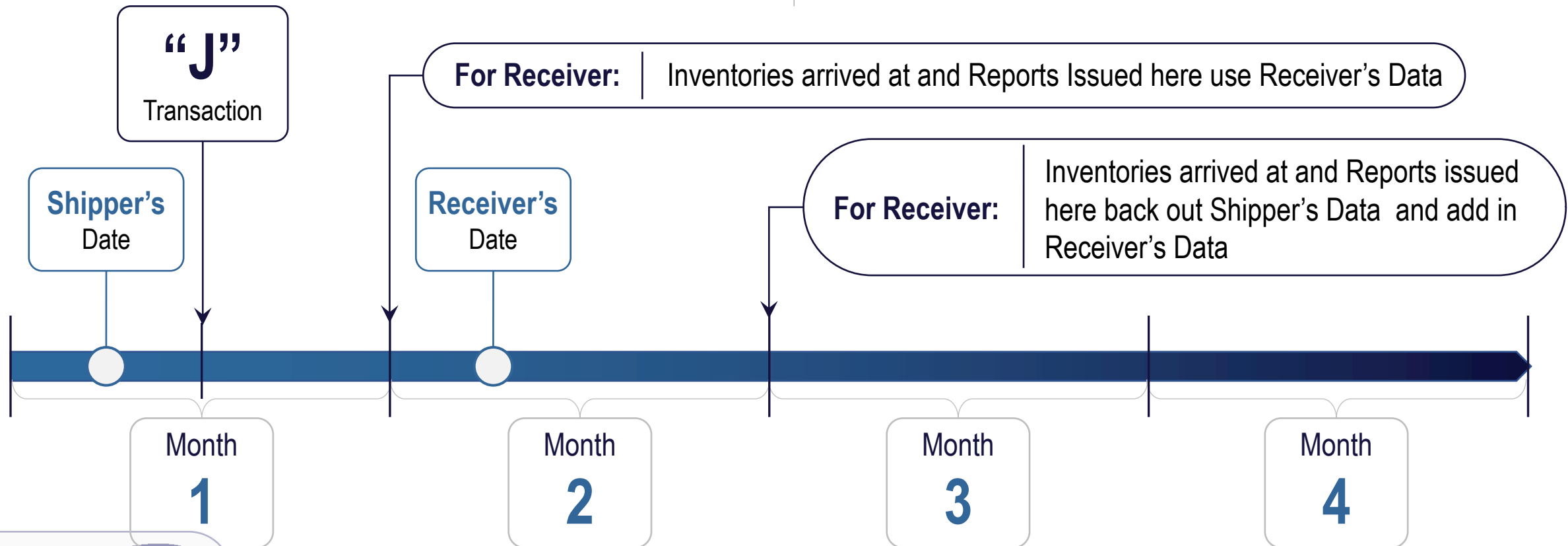


In-Transit Accounting

Example 2

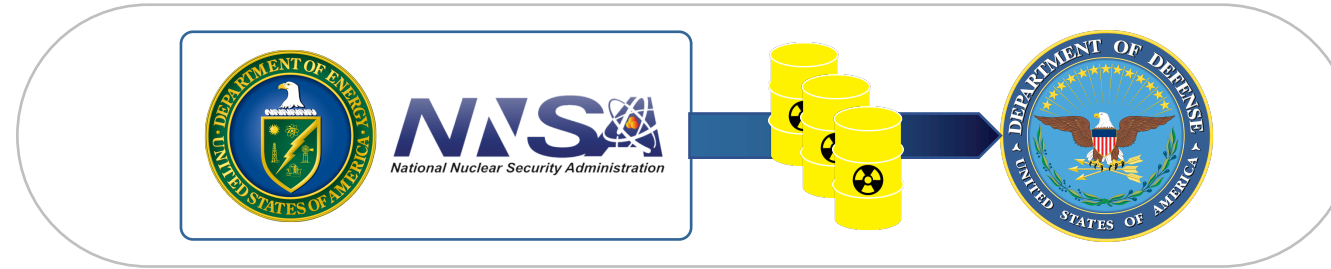
Description

The shipper's data is on file with only the receiver's interim data "J" on file at the end of the month (1). NMMSS uses the "J" data determining inventory balances for the receiver. During month two (2) the receiver's final data is on file, the "J" data is backed out and the receiver's final data is used determining inventory balances for the receiver.





Transfers



Contractors are to obtain prior written authorization from the program office responsible for the DoD activity, or from the Defense Program Administrator.

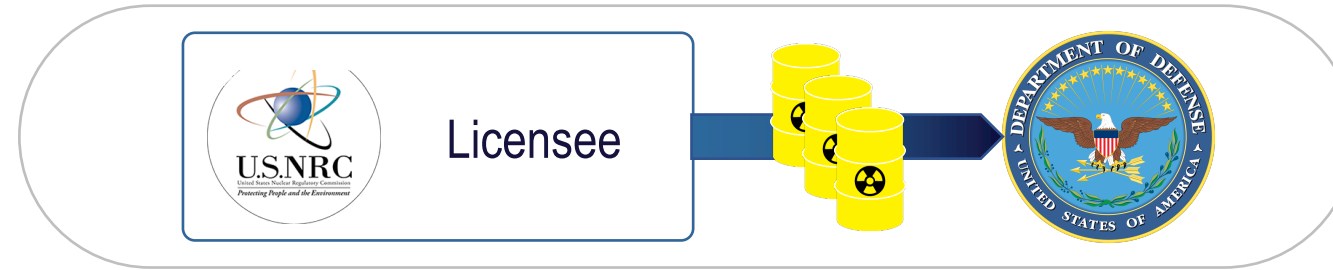
Authorization for transfers to the Naval Reactors Program will be obtained from the Deputy Assistance Secretary for Naval Reactors, NNSA.

All transfers require the completion of a DOE/NRC F 741 by the contractor.

DoD is not required to submit a DOE/NRC 741 (generated by NMMSS).



Transfers



DoD contacts DOE Headquarters to determine which DOE site will act as liaison for DoD and the licensee.

The responsible program office will designate the DOE site office or field element to handle the transfer.

The designated DOE site will advise the licensee to initiate a DOE/NRC 741 form in accordance with preparation and distribution instructions that apply to licensee.



Nuclear Material Categories

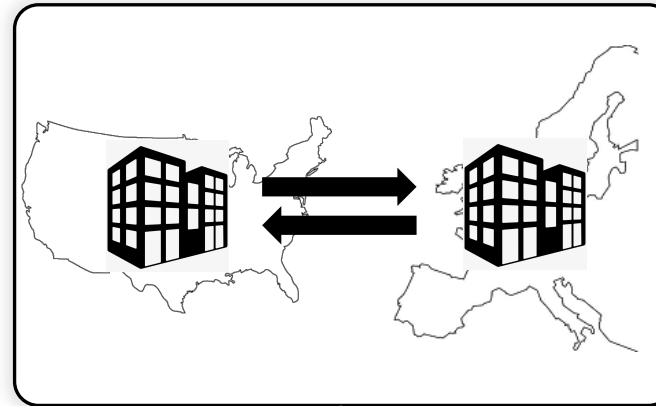
91B

Nuclear Material designated
for use by the DoD in the
interest of national defense.

91C

Nuclear Material designated
for sale, lease or loan to
other nations in the interest
of mutual defense.

Import/Export Transaction



Transfer of Nuclear Material to/from one U.S. facility to/from a **foreign facility**.

Reporting Exports Exports of Nuclear Material

DOE/NRC Form 741:
Nuclear Material Transaction Report

Export or Import
Transfers License No

Note: Must be a valid NRC export license number

Box 15

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

Do not export more nuclear material than authorized by the export license

Shipper's Data

Box 26

Exports of one or more reportable units of nuclear material should be documented as a transaction on DOE/NRC Form 741

Reporting Imports

Imports of Nuclear Material

DOE/NRC Form 741:
Nuclear Material Transaction Report

Export or Import
Transfers License No

Note: Make sure that you use a valid NRC import license number (e.g., "GEN-LIC").

Box 15

- Imports of one or more reportable units of nuclear material should be documented as a transaction on DOE/NRC Form 741
- Use the shipper's batch name to document receipt
- Must report DOE/NRC Form 741 for the shipper and the receiver

15. EXPORT OR IMPORT TRANSFERS: LICENSE NO.

Box 26

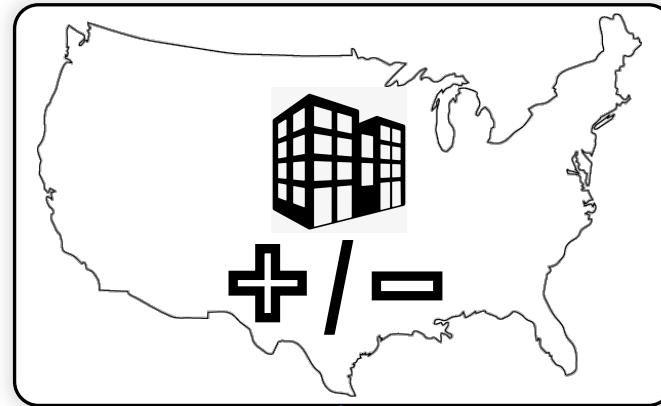
Shipper's Data

Box
27

Receiver's Data

[illegible]

One-Party Transaction



U.S. facility on-site nuclear material changes that result in a change to a site's inventory.

One-Party Transaction Defined

A one-party transaction is a (DOE/NRC Form 741) transaction used to report an on-site gain or loss of reportable nuclear materials to NMMSS.

It is not part of a shipment or receipt involving another facility.

One-Party Transaction Uses

To report **gains** and **losses** of your Material which affect your Inventory

To report **stand-alone** concise Note
(IAEA)

To **correct** previously reported data
(In Special Cases)

To **report obligation activity**
(In Special Cases)

To send **one-party transactions** to NMMSS before or at the time you report your annual Material Status Report (MSR)

One-Party Transaction Uses *(Continued)*

If it is necessary for you to correct previously reported data with a one-party transaction

In special cases using a one-party transaction is the best way to make certain changes.



A NMMSS analyst will assist you in these instances, if necessary.

One-Party Transaction Report Process

The same as shipment or receipt transactions, except for the following:

Your RIS Code is used for **both Shipper and Receiver**

Action Code is
“M”

Inventory Change Type
(ICT)
must be used

Corrections made to previously reported one-party transactions are done with an **“M” Action Code**

Gross weight
is **not reported**

Number of items is
not required in all
circumstances

Special edit checks
apply to some ICT
codes used on a
one-party transaction



On-Site Gains

Include all Receipts on your Inventory

Inventory Change Type (Use Code)	Type of Inventory Change
NP	Production
EN*	From other materials (ED, NE, ND, DE, DN, EE)
34	Receipts - Miscellaneous

* Use the correct change code when performing blending operations and must be paired on the same transaction



On-Site Gains

Include all Receipts on your Inventory

Inventory Change Type	Type of Inventory Change
11	Procurement from DOE/NNSA
13	Purchase Procurement – For Account of DOE/NNSA
21 22	Production From Other Materials
34 37	Receipts - Miscellaneous Procurement by Others
38 39	Donated Material – From DOE/NNSA to Others Donated Material – From Others to DOE/NNSA



On-Site Losses

Include all removals on your Inventory

Inventory Change Type (Use Code)	Type of Inventory Change
TN	Decay
EN*	To other materials (ED, NE, ND, DE, DN, EE)
54	Shipments - Miscellaneous
LN	Fission and Transmutation
LD	Normal operations losses and for/or measured discards
MF	Inventory difference
65	Rounding Bias

* Use the correct change code when performing blending operations and they must be paired on the same transaction



On-Site Losses

Include all removals on your Inventory

Inventory Change Type	Type of Inventory Change
41	Extended in Space Programs
42	Sales to DOE/NNSA
43	Sales to Others for the Account of DOE/NNSA
47	Expended by DOE/NNSA Tests
48	Routine Tests
54	Shipments - Miscellaneous
58	Donated Material – to DOE/NNSA by Others
59	Donated Material – to Others by DOE/NNSA

Inventory Change Type	Type of Inventory Change
65	Rounding Bias
71	Degradation to Other Materials
72	Decay
73	Fission and Transmutation
74	Normal Operational Losses/Measured Discards
75	Accidental Losses
76	Approved Write-offs
77	Inventory Differences

Blending Operations

For Blending Operations, use the following Codes:



22/71



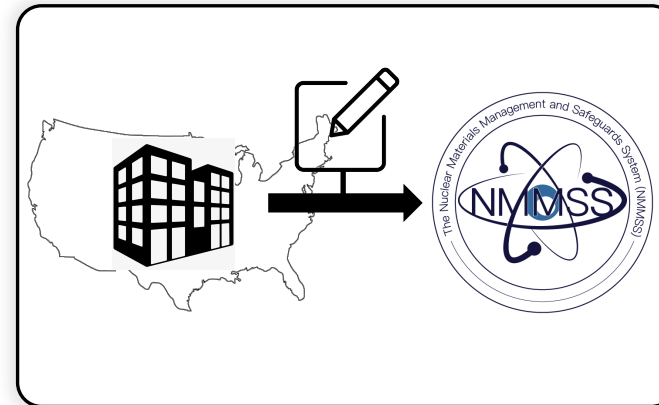
E-N, D-E, etc.

Things to Remember

For blending, line pairing is required.

One line denotes the original material and the other denotes the resulting material.

Transaction Adjustment



U.S. facility reporting the correction of transactions previously reported to NMMSS.

Process Code Change

You may change or delete data on previously submitted transactions that are in an **open month** by resubmitting using a specific process code.

Recall that process codes **C (replacement of data set)** and **D (deletion of data set)** can only be used in an **open month**.

Process Code Change *(Continued)*

If the action date for the transaction (741) requiring adjustment is within a NMMSS processing month that has been **closed**, a process code transaction (741) resubmission cannot be issued to NMMSS.

Instead, an adjustment document must be submitted that includes the following:

Correction Number

Back Reference

Action Code (C, D, M, or P)

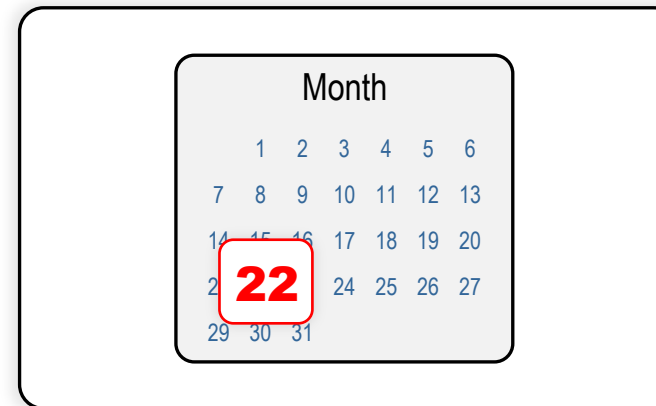
Reporting of back reference is **optional** for DOE facilities.

When is an Adjustment Required?

An adjustment is required when correcting a previously reported transaction that has been processed and the month in which it was processed is **closed**.

Once a transaction is closed, modification of the transaction is **no longer permitted**. Thus, a correction 741 must be submitted.

Open and Closed Process Months



NMMSS normally closes the database processing month around the **22nd** of each month for the previous months data received.

Transaction Adjustment Codes



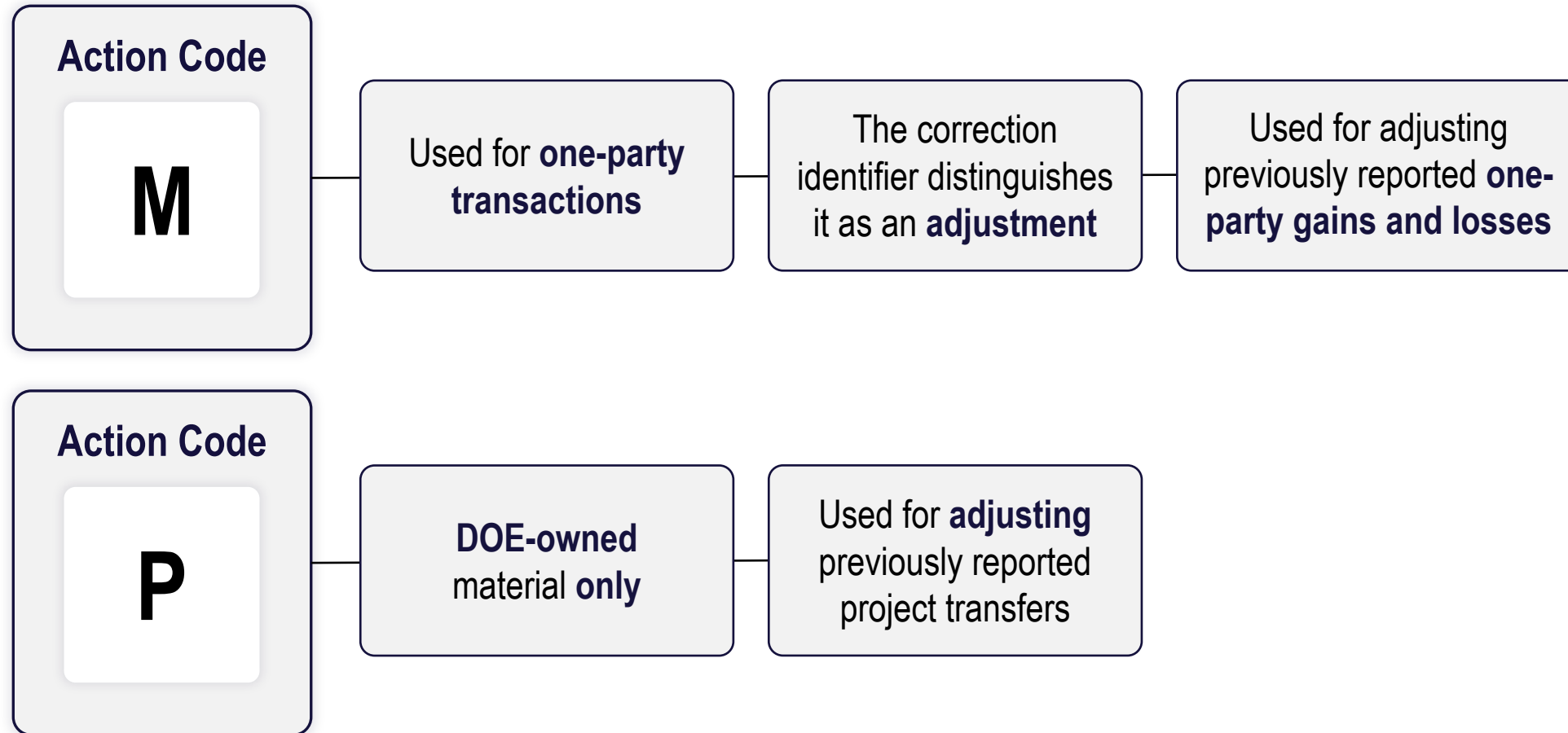
Note: This must be compatible with the receiver's side of the transaction.

Transaction Adjustment Codes *(Continued)*



Note: This must be the same as the shipper's correction.

Transaction Adjustment Codes *(Continued)*



Adjustment Negating Fields

There are a total of **5 numeric fields** to be negated on adjustment transaction reports, if they were originally reported:

1

Number of Items

2

Element Weight

3

Element Limit of Error

4

Isotope Weight

5

Isotope Limit of Error

[illegible]

1

2

3

4

5

Isotope Limit of Error

Developed by: **LINK**
Technologies

Adjustment Back Reference Components

Every detail line declared in an adjustment transaction (741) shall specify a back reference.

The back reference provides an association with other document lines (in either the current or source document) that are affected by the adjustment line.

Back reference components are only required for NRC licensees.

Adjustment Back Reference Components *(Continued)*

Correction Identifier

(Change Digit)

- May be alphabetic or numeric
- First character

Reference to the **“was”**
document being
corrected

OR

Reference to the **“should
be”** document now being
completed

Line Number

Second and Third Digit

Reference to the **“was”**
detail line being
corrected

OR

Reference to the **“should
be”** detail line document
now being completed

Adjustment Change Digit Types

Change digits can either be alphabetic or numeric

A **numeric correction** number requires a response from the other party.

An **alphabetic correction** number does not require a response from the other party.

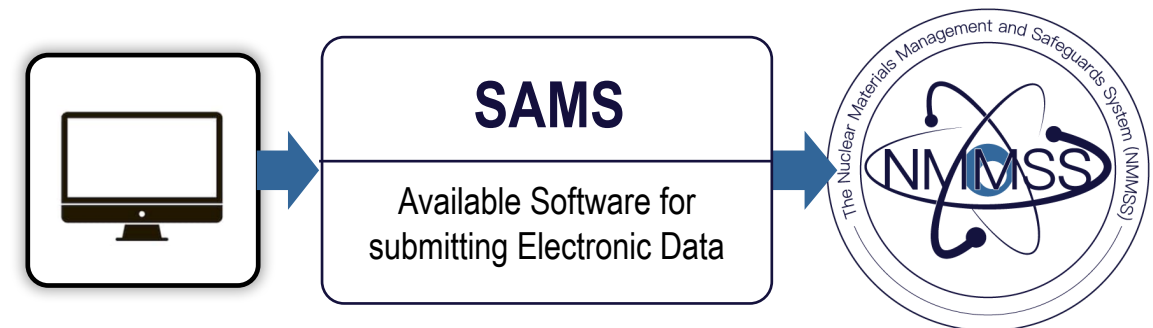
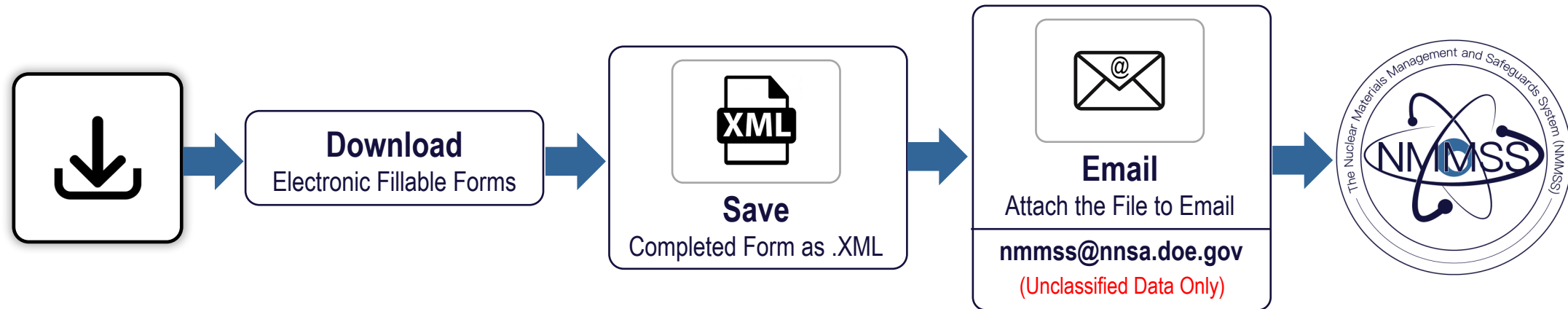
Adjustment Transaction Action Date

The action date on an adjustment can be the same as your original transaction, or it can be the current date.

In either case, be sure to report the difference on your next annual physical inventory and material balance reports.

Material balance reports are only required for NRC facilities.

Electronic Submission Formats



Transaction Report Due Dates

Reminder

1

Working Day

You must report **shipments**
within **one working day**.

10

Working Days

You must report **receipts** within
ten working days.

1

Working Day

You must **report error correction**
within **one working day**.

Validation of Transactions

Numbering Scheme Requirements

Each transaction must have its own unique number

Owner Code

G (DOE-owned) or J (non-DOE owned)

Blending Operations

Codes 22/71 for DOE or E-N, D-E, etc. for NRC

Duplicate Data Sets

Different Process Codes

Possible **Issues** with Reporting

RIS Codes

**Import/Export
License**

**Timing of
Reporting**

**Correcting
Transactions**

Questions

