

Quick Reference

What is NMMSS?

The Nuclear Materials Management and Safeguards System (NMMSS) is the U.S. State System of Accounting for and Control of Nuclear Material (SSAC). NMMSS tracks transactions, movements, and inventories of nuclear materials throughout the U.S. as well as imports and exports.

Key Functions of NMMSS:

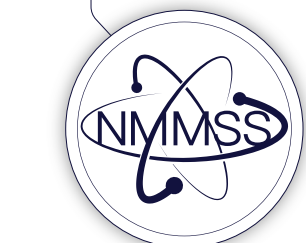
- Receive and process nuclear material data from government and commercial entities.
- Reconcile nuclear material inventories at government and commercial facilities.
- Prepare U.S. reports to the International Atomic Energy Agency (IAEA).
- Track peaceful use nuclear materials subject to Nuclear Cooperation Agreements (NCAs).
- Track imports and exports of nuclear materials.
- Perform special analysis and complete information requests by various domestic and international stakeholders.

What are the Organizations that Manage NMMSS?

The NMMSS program is **operated** by the National Nuclear Security Administration (NNSA). Day-to-day program implementation, oversight, and operation is **managed** by the NNSA Office of Nuclear Materials Integration Division (NA-ESH-12) and the U.S. Nuclear Regulatory Commission (NRC).



Nuclear Materials Integration Division (NA-ESH-12)



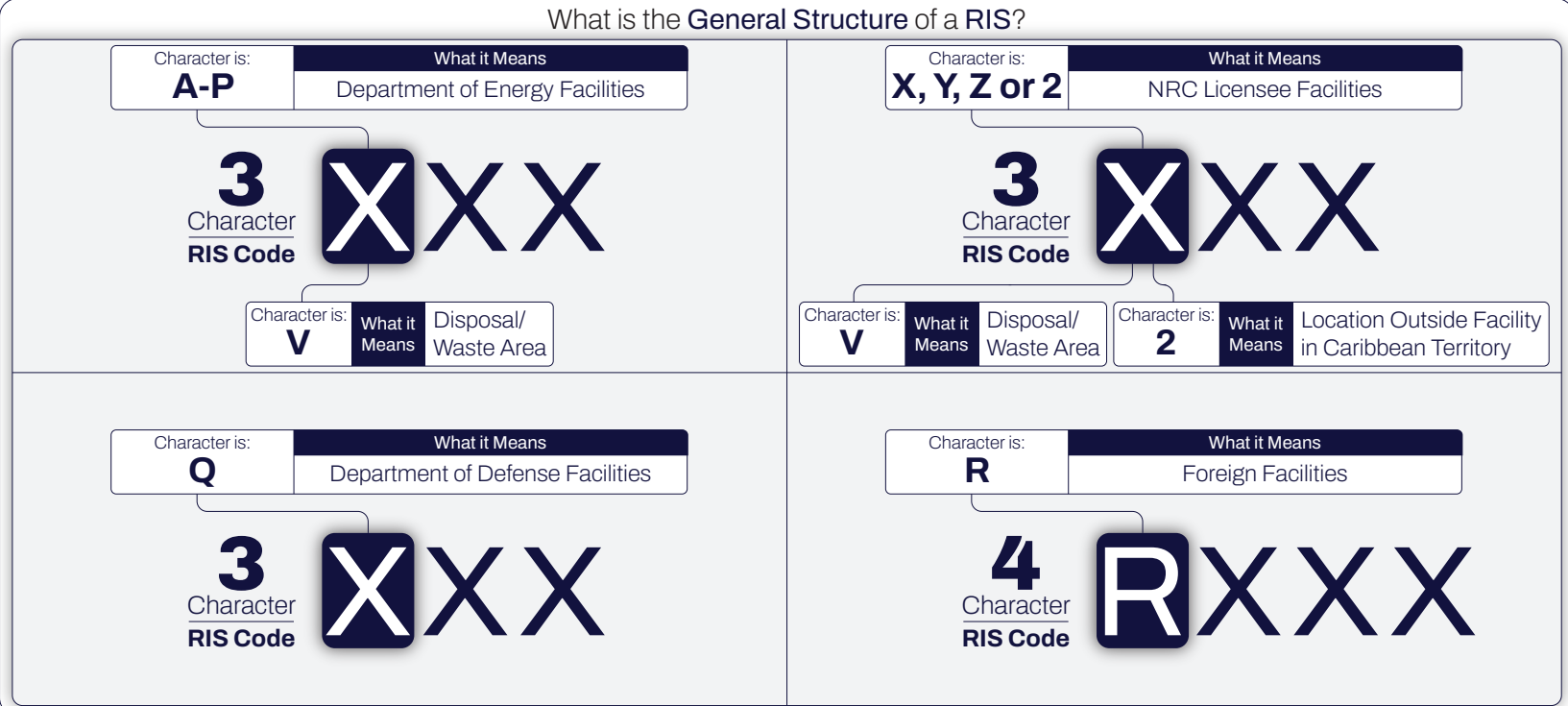
How are transactions structured and referenced in the NMMSS Community?

A Transaction, also referred to as a Series or Event, is structured as:

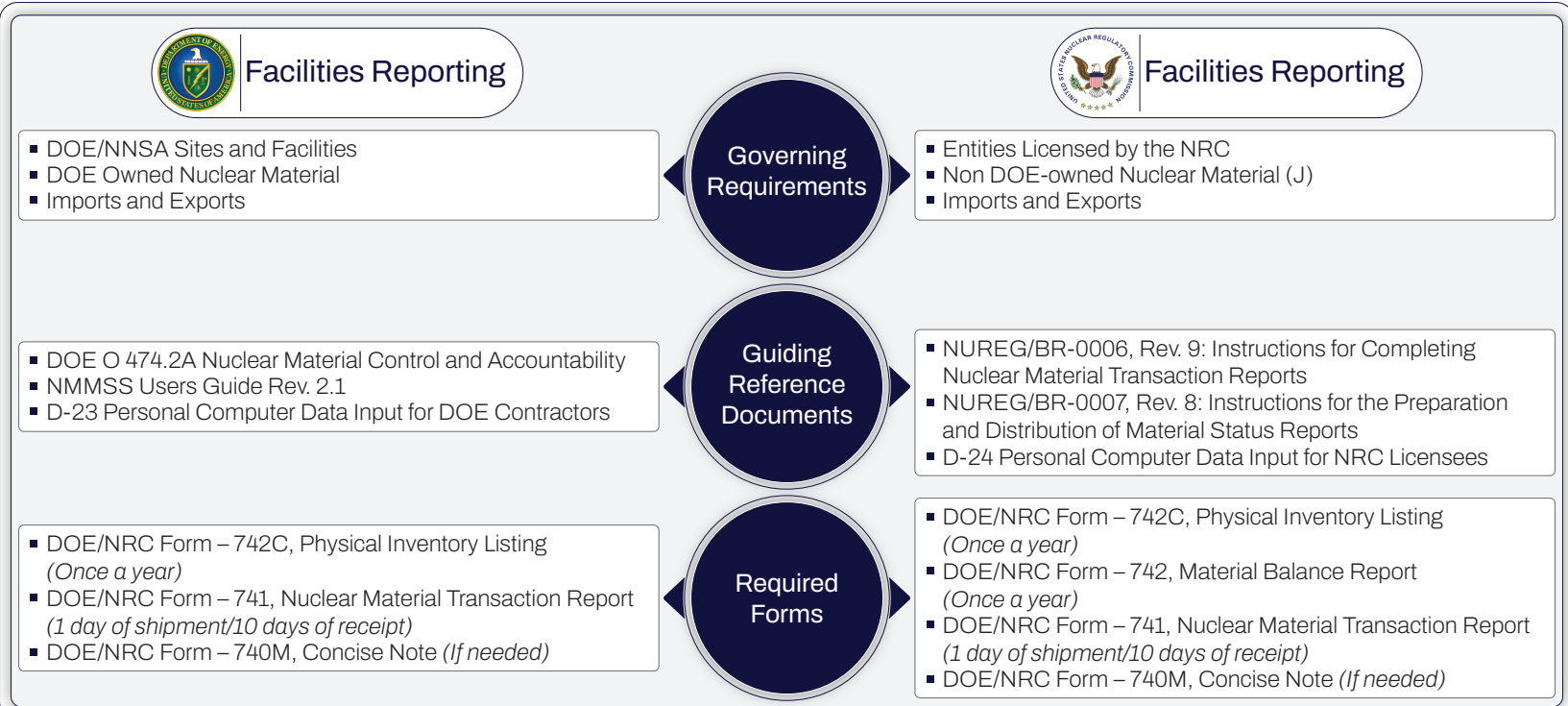


What is a RIS?

A Reporting Identification Symbol (RIS) is a unique code that NMMSS has assigned to each licensee/facility for nuclear material reporting.



DOE Facilities NRC Facilities Reporting to NMMSS



What is a Process Code (PC)?

A Process Code (PC) is used to identify the specific type of processing action required of NMMSS for the record being submitted.



What is an Owner Code?

A Owner Code is used to identify ownership of nuclear material for transactions and inventory reporting.



What are Action Codes (AC)?

Actions Codes are used on DOE NRC Form 741 (Transactions) that describe either the shipper or receiver movement or intent of material reported on the form under the transaction.

Action Code	Definition of Action Code	Shipper	Receiver
A	Shipper's original data	X	
B	Receiver accepts shipper's data (without own measurement)		X
C	Identifies shipper adjustment or acceptance of a receiver adjustment	X	
D	Identifies receiver adjustment or acceptance of a shipper adjustment		X
E	Receiver reporting own measurement		X
J	Receiver's interim data reporting projected receipt (Exp. In-Transit)		X
M	Identifies types of on-site receipts and removals of material		For In-place transactions, shipper and receiver are the same RIS.
N	Indicates receiver will complete measurement within 11 and 30 days of receipt		X
P	Identifies in-place project transfers		For In-place transactions, shipper and receiver are the same RIS.
S	Receiver's accepting weights under a as safeguards closure		X
U	Known delay in receiver reporting material; measurements delayed beyond 30 days		X
R	Obligations removal (WR use only)	X	
X	Shipper's obligations exchange	X	
Y	Receiver's obligations exchange		X

Dates to Remember in NMMSS and the Differences

Action Date - MMDDYYYY	Capture Date - MMDDYYYY	Process Date - YYYYMM
This is the date that the activity (shipment, NOL/MD/AL. etc.) actually took place	This is the date that the 741 was captured by the system, i.e., received into the database	The date of the process month open during which the transaction was filed

Nuclear Material Types and Categories Tracked in NMMSS

Nuclear Material Tracked in NMMSS	Domestic MT Code	IAEA MT Code	Reportable Quantity to NMMSS	Category of the Nuclear Material	DOE Tracked	NRC Tracked	IAEA Tracked
Depleted Uranium*	10	D	Whole Kilogram	Source Materials	X	X	X
Enriched Uranium	20	EG	Whole Gram	Special Nuclear Materials	X	X	X
Plutonium-242	40		Whole Gram	Special Nuclear Materials	X		
Americium-241	44		Whole Gram	Other Accountable Nuclear Materials	X		
Americium-243	45		Whole Gram	Other Accountable Nuclear Materials	X		
Curium	46		Whole Gram	Other Accountable Nuclear Materials	X		
Plutonium	50	P	Whole Gram	Special Nuclear Materials	X	X	X
Enriched Lithium	60		Whole Kilogram	Other Accountable Nuclear Materials	X		
Uranium-233	70	EK	Whole Gram	Special Nuclear Materials	X	X	X
Natural Uranium	81	N	Whole Kilogram	Source Materials	X	X	X
Neptunium-237	82		Whole Gram	Other Accountable Nuclear Materials	X		
Plutonium-238	83		Gram to Tenth	Special Nuclear Materials	X	X	X
Deuterium**	86		Hundredth of Kilogram	Other Accountable Nuclear Materials	X		
Tritium***	87		Hundredth of Gram	Other Accountable Nuclear Materials	X		
Thorium	88	T	Whole Kilogram	Source Materials	X	X	X
Uranium in Cascades	89		Whole Gram	Special Nuclear Materials	X	X	

*The reportable quantity for DOE-owned depleted uranium is 1 kg if it is: 1) foreign obligated; 2) imported or exported; 3) owned by the weapons program. Otherwise the reportable quantity is 50 kg. ** deuterium, the reporting quantity is 100 kg unless it is weapon components; then the reportable quantity is 1/10 kg. *** Tritium, the reportable quantity is 1 gram, reported in hundredths.

Foreign Obligation Codes

Transaction (741)	Material Balance (742)	Obligation Entity	Transaction (741)	Material Balance (742)	Obligation Entity
31	85	Australia	64	I4	Australia/Canada/Japan
32	86	Canada	70	B1	Urenco USA/Japan
33	87	EURATOM	71	B2	Australia/Japan/Urenco USA
34	88	Japan	72	B3	Canada/Japan/Urenco USA
35	89	People's Republic of China	73	B4	EURATOM/Japan/Urenco USA
37	A8	Switzerland	74	B5	Australia/EURATOM/Japan/Urenco USA
38	A1	Argentina	75	B6	Canada/EURATOM/Japan/Urenco USA
39	A2	Brazil	76	B7	China/Japan/Urenco USA
40	A3	Chile	77	A9	Australia Canada/EURATOM/Japan/Urenco USA
41	D1	India	81	94	Australia/Japan/Urenco USA
42	D2	Republic of Korea	82	95	Canada/Japan
45	D5	United Kingdom	83	96	EURATOM/Japan
46	D6	United Kingdom/Australia	84	97	Australia/EURATOM/Japan
47	D7	United Kingdom/Canada	85	98	Canada/EURATOM/Japan
48	D8	United Kingdom/EURATOM	86	99	China/Japan
49	D9	United Kingdom/Australia/EURATOM	87	I1	Australia/Canada
50	E1	United Kingdom/Canada/EURATOM	88	I2	Australia/Canada/EURATOM
51	E2	United Kingdom/Australia/Japan	89	I3	Australia/Canada/EURATOM/Japan
52	E3	United Kingdom/Canada/Japan	90	A4	Urenco USA
53	E4	United Kingdom/EURATOM/Japan	91	91	Australia/EURATOM
54	E5	United Kingdom/Japan	92	92	Canada/EURATOM
56	E9	Urenco USA/Australia/United Kingdom	93	A5	Urenco USA/Australia
57	F1	Urenco USA/Canada/United Kingdom	94	A6	Urenco USA/Canada
58	F2	Urenco USA/United Kingdom	95	A7	Urenco USA/EURATOM
62	B9	Urenco USA/Australia/EURATOM	98	E6	Australia/Canada/Urenco USA
63	B8	Switzerland/Canada	99	E7	Canada/EURATOM/Urenco USA

Helpful Abbreviations

Abbreviation	Definition
B&R	Budget and Reporting
COEI	Composition of Ending Inventory
Comp Code	Composition Code
EURATOM	The European Atomic Energy Community
HEU	Highly Enriched Uranium
LEU	Low-Enriched Uranium
LOF	Location Outside Facility
LOE	Limit of Error
MBA	Material Balance Area
MC&A	Materials Control & Accountability
MT	Material Type
MF	Material Unaccounted For
NOL	Normal Operational Loss
SAMS	Safeguards Management Software
OANM	Other Accountable Nuclear Material
SNM	Special Nuclear Material
SQP	Small Quantities Protocol
TFA	Transitional Facility Attachment
TI	Nature of Transaction (Transaction Indicator)

What are Use Codes?

A use code or Inventory Change Type (ICT), is used on a 741 form to define the type of a gain or loss of nuclear material occurring to a facility's inventory.

Receipts (Results in a Gain to a Facility's Inventory)		Removals (Results in a Decrease to a Facility's Inventory)	
Use Code	Inventory Change Type (ICT)	Use Code	Inventory Change Type (ICT)
11	Procurement from DOE	41	Expended in Space Program
13	Procurement for account of DOE	42	Sales to DOE
14	Receipt from QZE	43	Sales to others for the account of DOE
15	Receipt from QZC	44	Shipment from QZE
16	Receipt from QZA, QZB, or QZD	45	Shipment from QZC
21	Production	NP	Shipment from QZA, QZB, or QZD
22	From Other Material	*	Expended in DOE tests
34	Receipts - Miscellaneous	48	Routine Tests
37	Procurement from others	54	Shipments - Miscellaneous
38	Donated material to others from DOE	58	Donated Material to DOE by others
39	Donated material to DOE from others	59	Donated Material to other by DOE
	Accidental Gain	GA	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

Additional NRC Use Codes related to Material Category Changes.

*EN, ED, NE, DE, DN, & EE: Category Change – the quantity of uranium which has changed category as a result of blending, enrichment, depletion, or burnup.