

Quick Reference

What is NMMSS?

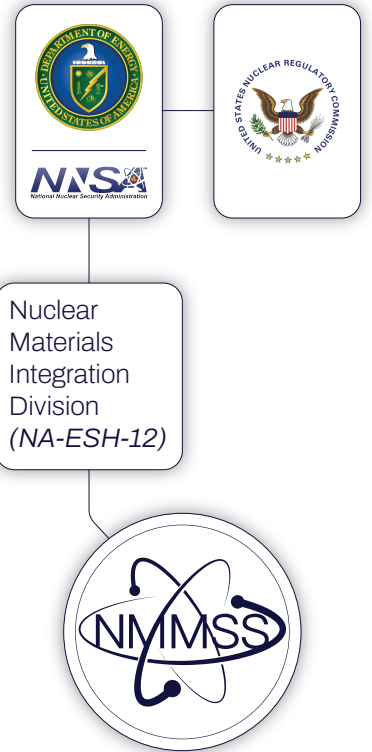
The Nuclear Materials Management and Safeguards System (NMMSS) is the U.S. State System of Accounting for and Control of Nuclear Material (SSAC). NMMSS tracks transactions, movements, and inventories of nuclear materials throughout the U.S. as well as imports and exports.

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 analyses 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).



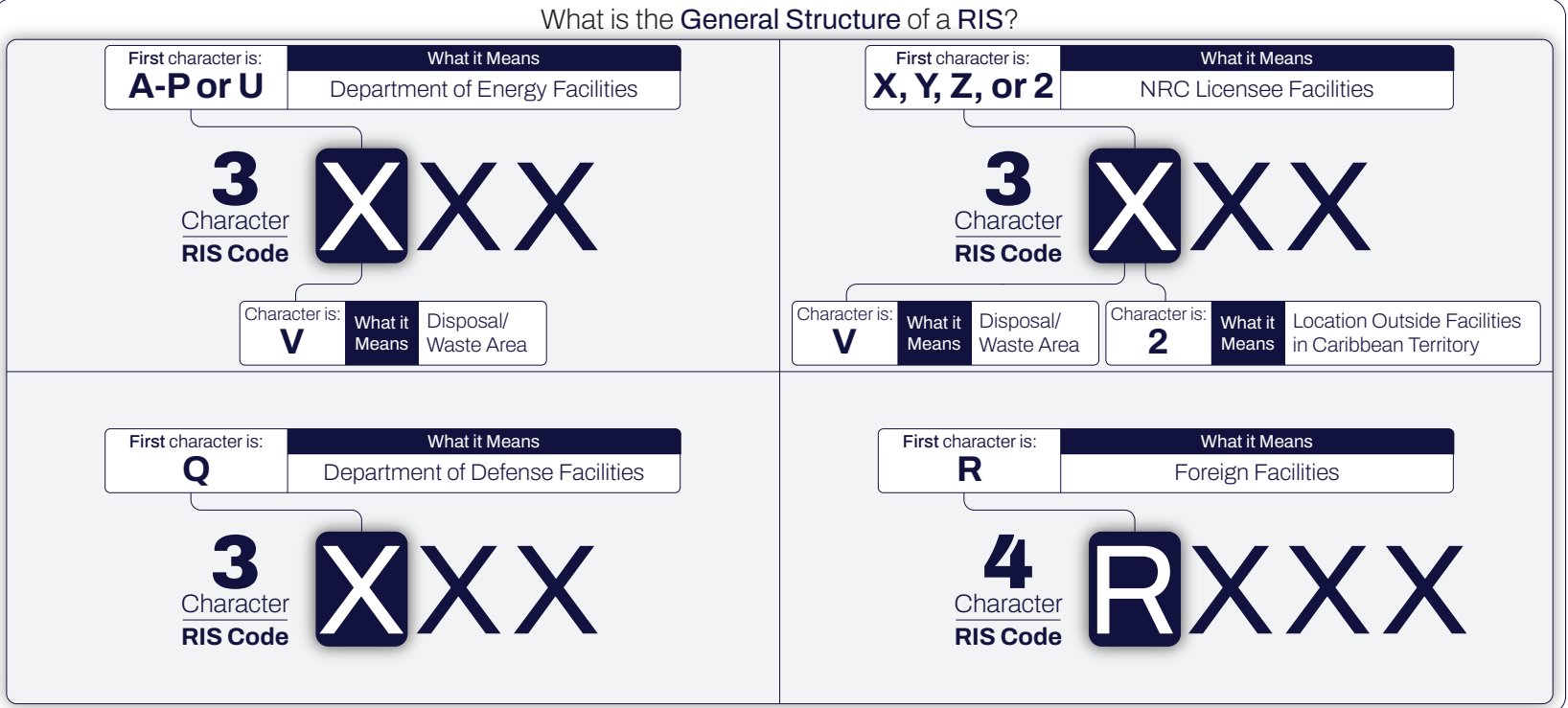
How are transactions structured and referenced in the NMMSS Community?

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

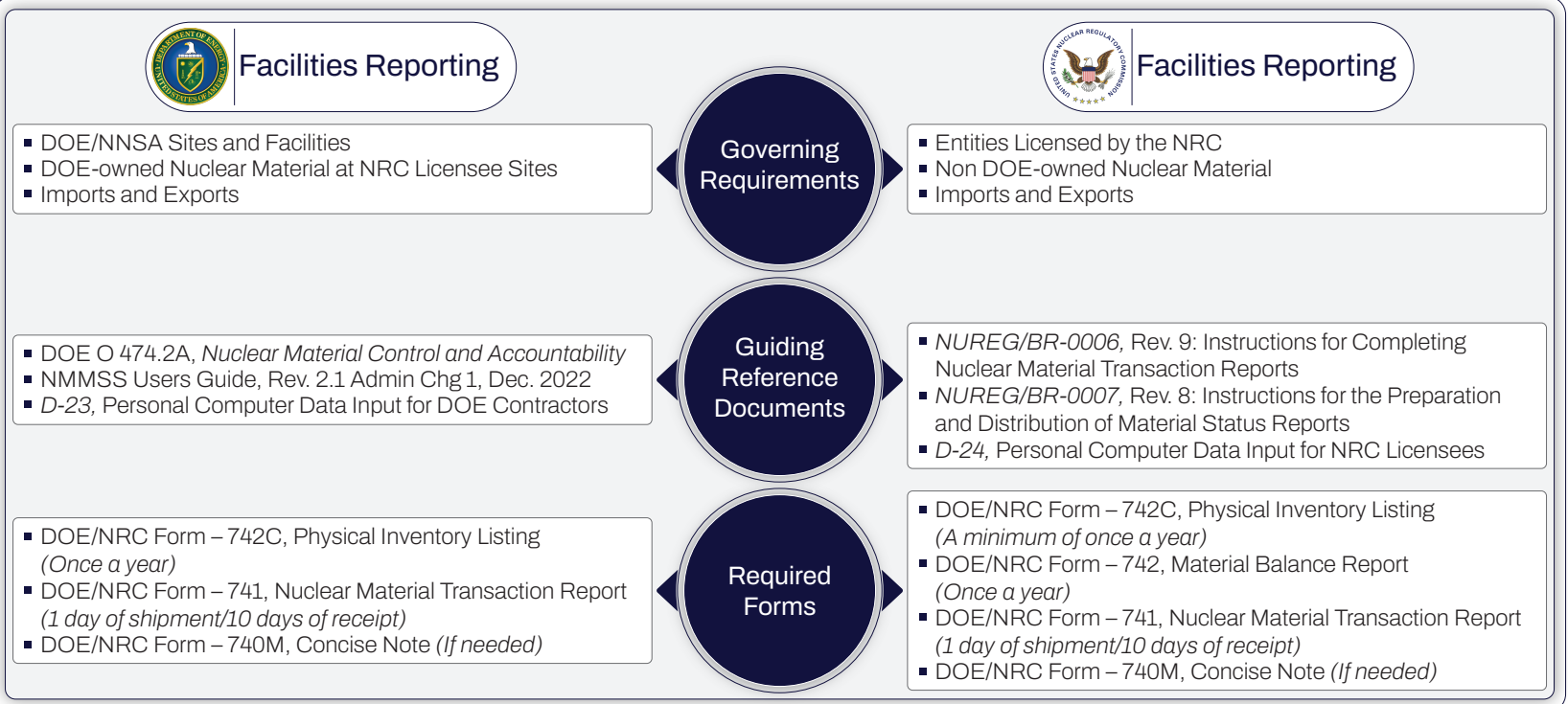


What is a RIS?

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

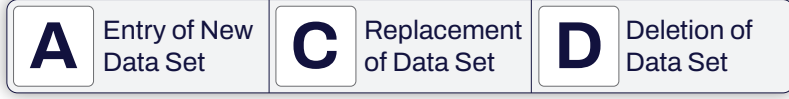


DOE Facilities and NRC Facilities Reporting to NMMSS



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)?

Action Codes are used on DOE/NRC Form 741 (Transaction Report) to describe shipper or receiver movements or adjustments of nuclear material.

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 (in transit at the end of a month)		X
M	Identifies 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 data accepting shipper's weights under a safeguards closure		X
U	Known delay in receiver reporting material; measurements delayed beyond 30 days		X
R	Obligations removal	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 Material	X	X	X
Enriched Uranium	20	EG	Whole Gram	Special Nuclear Material	X	X	X
Plutonium-242	40		Whole Gram	Special Nuclear Material	X		
Americium-241	44		Whole Gram	Other Accountable Nuclear Material	X		
Americium-243	45		Whole Gram	Other Accountable Nuclear Material	X		
Curium	46		Whole Gram	Other Accountable Nuclear Material	X		
Plutonium	50	P	Whole Gram	Special Nuclear Material	X	X	X
Enriched Lithium	60		Whole Kilogram	Other Accountable Nuclear Material	X		
Uranium-233	70	EK	Whole Gram	Special Nuclear Material	X	X	X
Natural Uranium	81	N	Whole Kilogram	Source Material	X	X	X
Neptunium-237	82		Whole Gram	Other Accountable Nuclear Material	X		
Plutonium-238	83		Gram to Tenth	Special Nuclear Material	X	X	X
Deuterium**	86		Kilogram to Tenth	Other Accountable Nuclear Material	X		
Tritium***	87		Gram to Hundredth	Other Accountable Nuclear Material	X		
Thorium	88	T	Whole Kilogram	Source Material	X	X	X
Uranium in Cascades	89		Whole Gram	Special Nuclear Material	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. ** For deuterium, the reporting quantity is 100 kg unless it is weapon components; then the reportable quantity is 1/10 kg.

*** For 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	66	C5	Euratom/Russia
32	86	Canada	67	C6	Australia/Japan/Russia
33	87	Euratom*	68	C7	Canada/Japan/Russia
34	88	Japan	69	C8	Euratom/Japan/Russia
35	89	People's Republic of China	70	B1	Urenco USA/Japan
36	C1	Russia	71	B2	Australia/Japan/Urenco USA
37	A8	Switzerland	72	B3	Canada/Japan/Urenco USA
38	A1	Argentina	73	B4	Euratom/Japan/Urenco USA
39	A2	Brazil	74	B5	Australia/Euratom/Japan/Urenco USA
40	A3	Chile	75	B6	Canada/Euratom/Japan/Urenco USA
41	D1	India	76	B7	China/Japan/Urenco USA
42	D2	Republic of Korea	77	A9	Australia/Canada/Euratom/Japan/Urenco USA
43	D3	Taiwan	81	94	Australia/Japan
44	D4	Vietnam, Socialist Republic of	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
55	E8	United Kingdom/Australia/Euratom/Japan	93	A5	Urenco USA/Australia
56	E9	Urenco USA/Australia/United Kingdom	94	A6	Urenco USA/Canada
57	F1	Urenco USA/Canada/United Kingdom	95	A7	Urenco USA/Euratom
58	F2	Urenco USA/United Kingdom	96	C2	Australia/Russia
62	B9	Urenco USA/Australia/Euratom	97	C3	Canada/Russia
63	B8	Switzerland/Canada	98	E6	Australia/Canada/Urenco USA
64	I4	Australia/Canada/Japan	99	E7	Canada/Euratom/Urenco USA
65	C4	Japan/Russia	WR	93	Former Soviet Union Weapons






*As of December 30, 2020, EURATOM comprises 27 member states: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

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 Facilities
LOE	Limit of Error
MBA	Material Balance Area
MC&A	Materials Control & Accounting
MT	Material Type
MF	Material Unaccounted For
NOL	Normal Operational Loss
OANM	Other Accountable Nuclear Material
SAMS	Safeguards Management Software
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	 Use Code	Inventory Change Type (ICT)	 Use Code
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 to QZE	
16	Receipt from QZA, QZB, or QZD		45	Shipment to QZC	
21	Production	NP	46	Shipment to QZA, QZB, or QZD	
22	From Other Material	*	47	Expended in DOE Tests	
34	Receipt - Miscellaneous		48	Routine Tests	
37	Procurement from Others		54	Shipment - Miscellaneous	54
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 Others by DOE	
	Accidental Gain	GA	65	Rounding Bias	65
			71	Degradation to Other Materials	*
			72	Decay	TN
			73	Fission and Transmutation	LN
			74	Normal Operational Losses/ Measured Discards	LD
			75	Accidental Loss	LA
			76	Approved Write-Off	
			77	Inventory Difference	MF

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.