

Accuracy

Performance

Accountability



The Nuclear Materials Management and Safeguards System (NMMSS)

NMMSS

2014

Annual Users Training Meeting

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Denver, Colorado

Overview of DOE and NRC Reporting to NMMSS Similarities, Differences, and Challenges

*John Ballard, DOE Reconciliation
Mary McConnell, NRC Reconciliation*

LINK Technologies



Reporting to NMMSS

- Regulatory Compliance
- DOE Reporting Requirements
- NRC Reporting Requirements
- Resources

Regulatory Compliance

- DOE regulatory questions?
 - Contact Pete Dessaulles
DOE NMMSS Program Manager
301-903-4525 pete.dessaules@nnsa.doe.gov
- NRC regulatory questions?
 - Contact Brian Horn
NRC NMMSS Program Manager
301-287-9129 brian.horn@nrc.gov



What Constitutes Successful Reporting - DOE

- Site-reported physical inventory matches NMMSS generated balances by Reporting Identification Symbol (RIS), material type, owner code, and project number
- Site confirms NMMSS generated foreign obligation totals by obligation code and material type

Reporting Criteria *DOE*

- DOE O 474.2 Admin Chg. 1, “*Nuclear Material Control and Accountability*”
 - NMMSS Users Guide Rev. 2.0, dated April 2013
- D-23 Personal Computer Data Input for DOE Contractors, Effective Date January 1, 2012, “*A booklet of guidance for data submissions to NMMSS using electronic formats*”



Requirements for Reporting *DOE*

DOE/NNSA contractors must report to NMMSS if:

- Site possesses a reportable unit of accountable nuclear materials
- All sites with a reportable quantity on September 30 must reconcile prior to NMMSS closing the month of September

DOE/NNSA Reconciliation annually on September 30

Requirements for Reporting *DOE*

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

Requirements for Reporting *DOE*

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

Requirements for Reporting *DOE*

- DOE/NNSA sites are responsible for providing valid project numbers to other sites that retain your material
 - *It is the DOE/NNSA site's responsibility to keep facilities updated on any changes or deactivation of project numbers*

Requirements for Reporting *DOE*

- Distribution of transactions for Transfers To/From the Department Of Defense (Q RISs)
 - Provide one copy of the transaction (form 741) to DOE/NNSA field or site office
 - Provide one copy of the 741 to either the Albuquerque Complex or the Naval Reactors Laboratory Field Office, as appropriate
 - Provide one copy of the 741 to NMMSS
 - One copy retained by site

What Constitutes Successful Reporting - NRC

- Licensee-reported physical inventory and material balance forms (742 and 742c) match NMMSS generated balances
- Foreign obligation totals in section B of the material balance report (742) match NMMSS generated balances by obligation code and material type

Reporting Criteria *NRC*

- NUREG/BR-0006, Rev. 7, Effective date, January 1, 2009, “*Instructions for Completing Nuclear Material Transaction Reports*”
- NUREG/BR-0007, Rev. 6, Effective date, January 1, 2009, “*Instructions for the Preparation and Distribution of Material Status Reports*”
- D-24 Personal Computer Data Input for NRC Licensees, Effective Date January 1, 2012, “*A booklet of guidance for data submissions to NMMSS using electronic formats*”



Requirements for Reporting *NRC*

Licensees Must report to NMMSS if:

- Facility possesses one gram or more of special nuclear material (SNM) (plutonium, uranium-233, or uranium-235 contained in enriched uranium)
- One kilogram or more of foreign obligated source material (natural uranium, depleted uranium, or thorium)

Requirements for Reporting *NRC*

Licensees who possess less than 350 grams of SNM are required to report their physical inventory to NMMSS between January 1 and March 31 of each year

- Reporting for a calendar year

Requirements for Reporting *NRC*

Licensees possessing 350 grams or more of SNM must report a physical inventory to NMMSS a minimum of once a year

Requirements for Reporting NRC

All Licensees must submit an MSR (Material Summary Report) (Form 742, 742C) to NMMSS under the following conditions:

- *A RIS has a reportable quantity as of their inventory date*
- AND/OR**
- *A RIS has shipped or received a reportable quantity during the material balance reporting period*



Requirements for Reporting NRC

Inventories for the following materials must be reported to NMMSS if quantity is within reportable range (1 unit or greater)

Special Nuclear Material	Material Type	Units
Enriched Uranium*	20	Whole Gram
Plutonium	50	Whole Gram
Uranium-233	70	Whole Gram
Plutonium-238	83	Tenth of Gram
Uranium in Cascades	89	Whole Gram

*** NRC Reporting of Enriched Uranium**

- E-1** Greater than 0.711% but less than 5.00%
- E-2** 5.00% or more, but less than 20.00%
- E-3** 20.00% or more, but less than 80.00%
- E-4** 80.00% or more



Requirements for Reporting NRC

All government-owned material is reportable per the DOE Requirements

Source Material	Material Type	Units
Depleted Uranium	10	Whole Kilogram
Normal Uranium	81	Whole Kilogram
Thorium	88	Whole Kilogram

Requirements for Reporting NRC

All Government owned material is reportable per the DOE Requirements

Other Nuclear Material	Material Type	Units
Americium-241	44	Whole Gram
Americium-243	45	Whole Gram
Curium	46	Whole Gram
Californium-252	48	Whole Microgram
Lithium-6	60	Whole Kilogram
Neptunium-237	82	Whole Gram
Deuterium	86	Tenth of Kilogram
Tritium	87	Hundredth of Kilogram

Requirements for Reporting NRC

- Licensees that possess government-owned source material must as part of their Material Status Report (MSR) submission
 - Confirm the continuing need for government-owned nuclear materials in their possession
 - Identify any excess government-owned materials
 - Licensees who wish to return excess government-owned nuclear material, please contact Pete Dessaulles or Jim Crabtree

RESOURCES

- Request NMMSS Reports
 - Monthly/Bimonthly/Quarterly/Semiannual/Annual
 - *Timely Identification of discrepancies*
 - Preliminary
 - *Request anytime throughout the year*
 - *Prior to reconciliation*



RESOURCES

List of Reports

NMMSS Reports:

- TJ-1X – Daily Activity by facility
- A-200 – Shows any differences for DOE and government owned material at NRC sites
- A-210 – Material balance by Project number (DOE)
- M-742 – Material Balance Report
- M-742A – Material balance report by action date
- TJ-45 Transactions
- TJ-23 Transactions (Closed months)
- IA-OBL-05 – Foreign obligation balance

Suggestions

- Use electronic files (XML)
 - *Improve accuracy and timely reporting*
 - Options are:
 - **SAMS Software**
 - **Fillable Forms**
 - **Generated examples of XML**

FAX, mail, email copies potentially illegible

- *Fewer calls from NMMS to verify data*
- *Input may not be what was intended*

Suggestions

Use NMMSS resources:

- *SAMS, Converter*
- *NMMSS Website*
- *D-23 and D-24 Reports*
- *Keep contact information up to date*
- *NMMSS Analysts*

NMMSS Contact List

Questions/Assistance

Name	Topic	Phone	Email Address
Karen Antizzo	DOE Submission & Reports/DOE Reconciliation	(301) 903-0872	Karen.Antizzo@nnsa.doe.gov
John Ballard	DOE Reconciliation	(301) 903-0092	John.Ballard@nnsa.doe.gov
Elaine Beacom	DOE Submission & Reports	(301) 903-1328	Elaine.Beamom@nnsa.doe.gov
Carl Berger	IAEA/Obligations	(301) 903-3656	Carl.Berger@nnsa.doe.gov
Mitch Hembree	Obligations	(301) 903-6299	Mitch.Hembree@nnsa.doe.gov
Gary Hirsch	IAEA	(301) 903-6870	Gary.Hirsch@nnsa.doe.gov
Mary McConnell	NRC Reconciliation	(301) 903-6240	Mary.McConnell@nnsa.doe.gov
Len Myers	Special Requests	(301) 903-2180	Len.Myers@nnsa.doe.gov
Patricia Smith	NRC Reconciliation	(301) 903-6860	PatriciaR.Smith@nnsa.doe.gov

Reasons to Call NMMSS

- How to complete transactions, inventory, and material balance
- Next transaction number in series
- Open or closed month
- Request reports
- Find a Reporting Identification Symbol (RIS) for a site
- RIS contact information
- Other questions

Summary

- Regulatory compliance
- DOE Reporting Requirements
- NRC Reporting Requirements
- Resources

❖ *Any comments, questions or ideas?*