



Accountability
Performance
Accuracy

The Nuclear Materials Management Safeguards System

NMMSS

2016

Annual Users Training Meeting

May 9-12, 2016 | New Orleans, LA

IAEA Reporting

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NMMSS



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Background

**Data submitted to NMMSS by NRC licensees and
DOE/NNSA contractors supports the U.S.
Government in fulfilling its reporting
commitments to the International Atomic Energy
Agency (IAEA)**



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Background

Nuclear reporting requirements to the IAEA





- IAEA Information Circular INFCIRC/140, *Treaty on the Non-Proliferation of Nuclear Weapons, 4/22/70*
- IAEA INFCIRC/207, *Notification to the Agency of Exports and Imports of Nuclear Material, 7/26/74*
- IAEA INFCIRC/288, *Agreement between the United States of America and the Agency for Safeguards in the United States, 11/18/77*
 - Addendum 1 to INFCIRC/288, *Protocol Additional to the Agreement between the USA and the IAEA for Safeguards in the United States, 3/9/09*



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Requirements

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- *Subsidiary Arrangements to the Agreement between the Government of the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America (Code 10)*
- U.S. Government's voluntary reporting in accordance with IAEA GOV/2588, *Universal reporting of exports, imports, and inventories of nuclear material for peaceful purposes*, 1992
- 10 CFR Part 75, *Safeguards on Nuclear Material – Implementation of US/IAEA Agreement* - codifies the content and the timing requirements for nuclear industry to report information agreed to by the USG under INFCIRC/207 and INFCIRC/288
- DOE O 142.2A, *Voluntary Offer Safeguards Agreement and Additional Protocol with the International Atomic Energy Agency*



A blue banner with a black background on the left side. The text "NMMSS" is in white, bold, sans-serif font. Below it, "2016" is also in white, bold, sans-serif font. To the right of the year, "Annual Users Training Meeting" is written in white, sans-serif font. Further right, "May 9-12, 2016 | New Orleans, LA" is written in a smaller white, sans-serif font. In the top right corner, there are three logos: a circular logo with a green border, the NASA logo, and the USMB logo. The background of the banner shows a blurred image of a facility.

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Do these requirements affect my facility?



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Reporting Guidelines

- INFCIRC/207: All import and export activity not reporting under INFCIRC/288
 - All facilities
 - Reported on a monthly basis
- INFCIRC/288: All transaction activity and inventory/material balance for each facility selected by the IAEA
 - Selected Facilities:
 - URENCO USA (enrichment facility)
 - AREVA (fuel fabricator)
 - Global Nuclear Fuel (fuel fabricator)
 - Westinghouse (fuel fabricator)
 - DOE K-Area Material Storage (KAMS) at Savannah River Site - no ratified facility attachment



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Reporting Guidelines

- INFCIRC/288 (continued)
 - Reported on a monthly basis
 - Inventory Change Reports:
 - » Any domestic or applicable internal activity that affects the material balance of the facility
 - » Imports and exports that would have been included under the INFCIRC/207 reporting requirements
 - » Concise Notes, when appropriate, to explain the inventory changes on the basis of the operating records; and to describing the anticipated operational program for the facility, including particularly, but not exclusively, the schedule for taking physical inventory
 - » Once a Facility Attachment has been ratified, additional data requirements are imposed
 - Comp Codes, Key Measurement Points, Measurement Basis, Inventory Change Codes



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Reporting Guidelines

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NNSA



- **INFCIRC/288** (continued)

- Reported on an annual basis

- Material status reports for each physical inventory
 - Includes a material balance report (MBR-288-1) and a physical inventory report (PIL-288-1) which lists all batches separately and specifies material identification and batch data for each batch
 - When appropriate, the material status report must be accompanied by a Concise Note
 - Unless otherwise specified, material status reports shall be dispatched as soon as possible and in any event within 30 days after the start of the physical inventory



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Mechanisms for Data Collection

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Four forms for facility submission of data to NMMSS

DOE/NRC Form 741

Nuclear Material Transaction Report

DOE/NRC Form 742

Material Balance Report

DOE/NRC Form 742C

Physical Inventory Listing

DOE/NRC Form 740M

Concise Note



Material Types (MT) Reported to the IAEA



Depleted Uranium

MT 10 = D

Enriched Uranium

MT 20 = EG

Plutonium

MT 50 = P

Uranium-233

MT 70 = EK

Normal Uranium

MT 81 = N

Thorium

MT 88 = T



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Typical challenges associated with meeting the IAEA reporting requirements and how your facility can assist in improving reporting performance



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Recent IAEA Feedback on U.S. Reporting Performance



- CODE 10 is the basis for all of our reporting
- Issues identified by the IAEA include:
 - For receipts, the measurement basis should comply with Code 10
 - Timely reporting of activity, both original and any corrections
 - If unsure of reporting requirements, contact NMMSS staff
 - Do not report imports or exports as an A-M Transaction





Reporting Errors

Contributors

- Differences between initial facility report and subsequent corrections submitted by the facility
- Data reported incorrectly:
 - Batch names
 - Weights
 - Material type
 - Inconsistent coding of material type (e.g., depleted uranium and enriched uranium)
- Cancelled or redirected shipments
- U.S. regulations allow for reporting average enrichment

How Your Facility Can Help

- Consistent and accurate reporting by the facility
- Share shipper and receiver Batch ID number, if known
- Timely reporting of imports and exports
- Timely notification of cancelled shipments or receipt of partial shipments



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Timeliness Measure

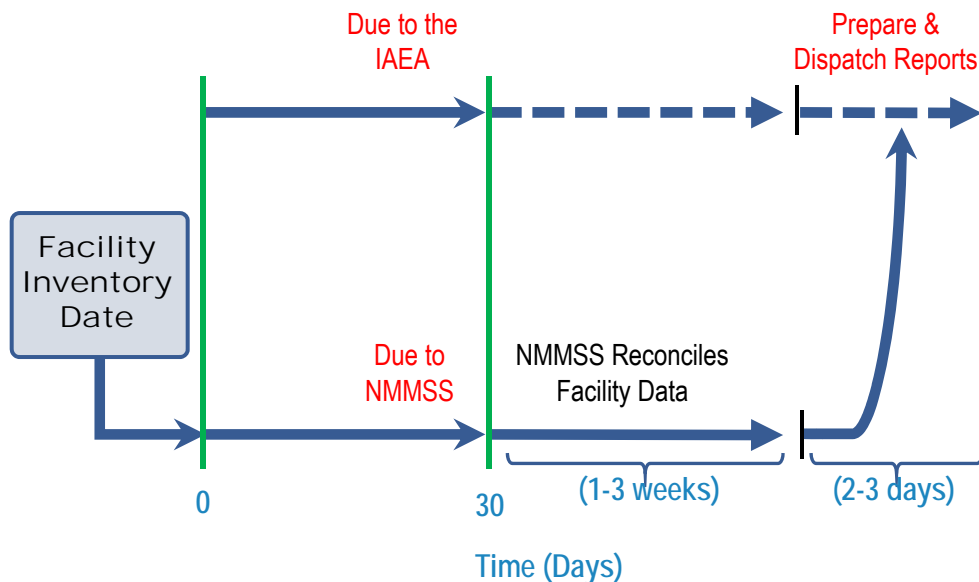
(Annual Reporting)

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Process Timeframe



Observations

- Overlapping reporting requirements between 10 CFR Part 75 and the IAEA
- USG policy to submit reconciled data to the IAEA
 - Policy objective is to ensure accuracy of U.S. data
- Accurate and timely reporting by the facility will reduce the time it takes NMMSS to reconcile the facility data thereby minimizing the “lateness” factor



Summary

- Reports submitted to the IAEA are of vital significance to the global non-proliferation strategy and the national security of the U.S.
- IAEA feedback and errors cited are reflective of the U.S. Government performance
- Accuracy, timeliness, and consistency in reported data by facility are crucial to fulfilling U.S. Government commitments to the IAEA