

D-24

Personal Computer Data Input for Nuclear Regulatory Commission Licensees

Effective Date
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A booklet of guidance for data submissions to
NMMSS using electronic formats

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NMMSS Personal Computer Data Input for NRC Licensees

D-24

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1000 Independence Avenue, SW
Washington, DC 20585-1290

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1. INTRODUCTION

1.1. Reporting Guidelines

Refer to the current version of the **NRC Instructions for Completing Nuclear Materials Transaction Reports; NUREG/BR-0006** and **Instructions for Completing Material Balance Report and Physical Inventory Listing NUREG/BR-0007** for specific Nuclear Regulatory Commission (NRC) requirements in reporting data to the NMMSS. These documents specify that data submissions may be made in acceptable electronic forms to the Nuclear Materials Management Safeguards System (NMMSS) and provide the information necessary for completing the source documents (forms) referenced in this directory.

NRC licensees required to report government owned material to NMMSS should refer to the **D-23, Personal Computer Data Input for Department of Energy Contractors** for guidance in the electronic reporting of this material.

1.2. Purpose

This directory provides formatting requirements for the reporting of nuclear material information in electronic file formats to the NMMSS in accordance with the NRC guidelines. A reporting licensee has the option to prepare reported data in an electronic file using the formats presented here using a variety of text editors, XML editors or programmatically in Material Control and Accountability Systems. This data is then saved as a text file and sent to NMMSS via diskette, CD, Zip disk, SIMEX, Direct Link, or electronic mail.

1.3. Acceptable Electronic Formats

The format accepted by NMMSS for electronic data transfer is eXtensible Markup Language (XML). New technologies are constantly being developed to improve data management. As these methods are tested and analyzed by NMMSS staff, revisions will be made to data input procedures and guidelines. Visit the NMMSS website, www.nmmss.com, for the latest information and guidelines.

A third alternative for submitting electronic data to NMMSS is the use of the Safeguards Management Software (SAMS) for transcribing reported data into a machine readable format. This software is currently available at no charge from NMMSS.

1.3.1. Extensible Markup Language (XML) File Format

The XML format may also be referred to as tagged data as it is based upon the use of tags (words bracketed by '<' and '>') and attributes (of the form name="value"). The NMMSS XML data submission format uses specific tags to establish the limits of units of data. An advantage of using XML is that data is represented by

tags which identify the values being reported; however, these tags must be entered exactly as specified or they will not be recognizable to the import programs.

The rules for XML files are strict. The following conditions will cause a failure in an XML data import:

- ❑ **A tag entered incorrectly (For example; using the wrong tag name, inserting spaces, or using improper capitalization).**
- ❑ **A missing tag.**
- ❑ **A missing end tag indicator (designated by the /) for every opening tag.**
- ❑ **A data attribute without surrounding quotes.**

Field sizes of reported data may be adjusted to fit the value, instead of requiring additional spaces to meet the allocated size as seen in the 80 Column file formats. The reported data is entered into double quotes to the right of the attribute tag. Then, the file is saved as a text file using a file extension of **.xml** and submitted to NMMSS.

The use of the following characters inside the double quotes surrounding the value may be forced to be accepted by substituting the following code shown in the table below in place of the character. For example; to report a text comment such as `Insert batch id 'Batch6a' in block 24D.` the tag value would need to be expressed as `"Insert batch id 'Batch6a' in block 24D."`

Character	Code
'	'
"	"
&	&
<	<
>	>

Each type of reported data; Inventory, Transaction, and Material Balance, has specific tags as shown in more detail under each section of this document. Data codes, which are necessary to identify the data in the 80 Column file format, are inferred by the XML tag structure and therefore are not required. Refer to the individual data sections for additional details. Additional resources are available about XML online from the following websites:

- ❑ www.w3schools.com
- ❑ www.ucc.ie/xml/

1.4. Understanding the Format Presentation

Within each format table presented in this directory the form identifier is listed along with the block identification number or number character combination found on the form. XML tables will display the tag identifier (XML attribute) to be used for this block.

The **Type** column defines the form and length of the accepted data. For example, 'Char(1)' indicates that the data will consist of a single character (letter or number) and 'Char(20)' indicates that the data will consist of a combination of 20 characters, letters, and numbers. 'Date' indicates that the data is a calendar date and will be accepted in a specified format. 'Num(11,2)' indicates the data is restricted to numbers and has an overall length of 11 numbers of which two are to the right of the decimal. In the XML format, a numeric value must contain a decimal. For example, if the type is specified as Num(12,3) and the number value to be submitted is the whole number 15; enter 15 as 15.00 (translates to 15.000).

The **Essential** column indicates the minimum data submission requirements for successful file import when a '✓' is present in the column. This column does not indicate the necessity of data required by the NRC to be reported; only the requirement for a successful file import into NMMSS.

The **Note** column lists any remarks that will indicate special instructions, such as the format to be used or a value that remains constant. Note that all dates are to be entered in the format MM/DD/YYYY in XML formatted file. This means that dates will be reported with their two-digit month indication followed by the two digit day indication and then the four digit year. Note that negative numbers are generally permitted and indicated by the placement of a minus sign (-) to the left of the number.

1.5. File Creation

A file extension should be assigned which indicates the type of file format used. For example, **an XML file should always end in .xml.**

1.6. Data Submission Methods

Contact the NMMSS staff, (301)-903-6251, for additional directions regarding the use of SIMEX, Direct Link, or electronic mail. Electronic data may be mailed through the U.S. Postal Service on electronic media to the following address.

**Xavier Ascanio
Director, Office of Nuclear Materials Integration
NMMSS Program, NA-73, Germantown Building
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1290**

(For classified documents) **Refer to SIMS for a Classified Address**

When mailing electronic media to NMMSS label the media with the following information:

- Licensee's RIS (Reporting Identification Symbol of the data source)

- Name and telephone number of the person to contact if there are problems or questions
- Name of the data file
- Any special instructions, comments or explanations

Note: A printed listing of the electronic data may be included with the electronic media and may expedite data processing in the event a damaged disk is received. It is not necessary to include the DOE/NRC forms when submitting data electronically to the NMMSS.

2. TRANSACTION DATA

2.1. Requirements for DOE/NRC Form 741 and Concise Notes

2.1.1. XML File Formatting

An example of transaction submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC forms. This is an example of raw XML produced by SAMS.

```
<TRANSACTIONS VERSION="2">
  <SHIPMENT SHIPPERRIS="ABC" RECEIVERRIS="ABC" TRANSFERNUMBER="00000001"
CORRECTION="1" PROCESSCODE="C" ACTIONCODE="M" NUMBEROFLINES="1"
NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS="ABC"
TRANSFERAUTHORITY="TR" UKFLAG="" ACTIONDATE="4/25/2011" LICENSENUMBER=""
PORTOFENTRY="12" TOTALGROSSWEIGHT="0" TOTALVOLUME="0" SEALEDSOURCE=""
TOTRANSFERAUTHORITY="" RIS="ABC">
  <CONCISENOTE LINENUMBER="1" ENTRYREFERENCE="ENTRY"
TEXTOFCONCISENOTE="MESSAGE OF CONCISE NOTE" />
  <OBLIGATION>
    <MATERIAL LINENUMBER="1" COUNTRYCODE="CA">
      <ELEMENT ELEMENTWEIGHT="99.0000000" UNIT="">
        <ISOTOPE MATERIALTYPE="20" ISOTOPEWEIGHT="9.0000000" UNIT="" />
      </ELEMENT>
    </MATERIAL>
  </OBLIGATION>
  <MATERIAL PROJECT="A400403709" COEILINENUMBER="309" IAEACOMPCODE=""
TYPEINVENTORYCHANGE="34" OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT="100.0000000"
NETWEIGHT="10.0000000" TOPROJECT="A401001000" TOCOEILINENUMBER=""
BACKREFLINENUMBER="112" LINENUMBER="1" BATCH="BATCH" NUMBEROFITEMS="2">
    <ELEMENT ELEMENTWEIGHT="99.0000000" ELEMENTLOE="10" UNIT="">
      <ISOTOPE MATERIALTYPE="20" WEIGHTPERCENT="10.0000000" ISOTOPEWEIGHT="9.0000000"
ISOTOPELOE="10" UNIT="" />
    </ELEMENT>
  </MATERIAL>
</SHIPMENT>
</TRANSACTIONS>
```

An important part of the XML format is the nesting of the records that make up a 741. In XML there are identifiers called Nodes which correspond to rows in the XML data. The Nodes have identifiers called Attributes which correspond to the data fields. For example, the SHIPMENT Node corresponds to the 741 Header record and the SHIPPERRIS Attribute is the Shipper RIS field of the Header record. Another important element of XML Nodes is that they can contain other nodes as known as nested nodes. The

Shipment Node(parent) can have MATERIAL, CONCISENOTE and OBLIGATION nodes (children). The following shows the nesting of the nodes for a 741.

```
SHIPMENT (header information, Shipper RIS, Receiver RIS etc..)
  CONCISENOTE
    0 to many lines that make up the concise note
  OBLIGATION
    0 to many lines required to report the obligations
    ELEMENT
      Contains element information for OBLIGATION
      ISOTOPE
        Contains isotope information for ELEMENT
  MATERIAL
    0 to many lines required to report the detail lines
    ELEMENT
      Contains element information for MATERIAL
      ISOTOPE
        Contains isotope information for ELEMENT
```

The next sample is the same XML file as above, but has been indented using tabs to make it for readable to the human eye. It will process the same as the raw data. It also emphasizes the nesting of the data rows in the XML.

```
<TRANSACTIONS VERSION="2">
  <SHIPMENT
    SHIPPERRIS="ABC" RECEIVERRIS="ABC" TRANSFERNUMBER="00000001"
    CORRECTION="1" PROCESSCODE="C" ACTIONCODE="M" NUMBEROFLINES="1"
    NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS="ABC"
    TRANSFERAUTHORITY="TR" UKFLAG="" ACTIONDATE="4/25/2011"
    LICENSENUMBER="" PORTOFENTRY="12" TOTALGROSSWEIGHT="0"
    TOTALVOLUME="0" SEALEDSOURCE="" TOTRANSFERAUTHORITY=""
    RIS="ABC">
    <CONCISENOTE
      LINENUMBER="1" ENTRYREFERENCE="ENTRY"
      TEXTOFCONCISENOTE="MESSAGE OF CONCISE NOTE" />
    <CONCISENOTE
      LINENUMBER="2" ENTRYREFERENCE="ENTRY L2"
      TEXTOFCONCISENOTE="LINE 2" />
    <OBLIGATION>
      <MATERIAL
        LINENUMBER="1" COUNTRYCODE="CA">
        <ELEMENT
          ELEMENTWEIGHT="99.0000000" UNIT="">
          <ISOTOPE
            MATERIALTYPE="20"
            ISOTOPEWEIGHT="9.0000000" UNIT="" />
          </ELEMENT>
        </MATERIAL>
```

```
</OBLIGATION>
<OBLIGATION>
  <MATERIAL
    LINENUMBER="2" COUNTRYCODE="AU">
    <ELEMENT
      ELEMENTWEIGHT="9.0000000" UNIT="">
      <ISOTOPE
        MATERIALTYPE="20"
        ISOTOPEWEIGHT="1.0000000" UNIT="" />
      </ELEMENT>
    </MATERIAL>
  </OBLIGATION>
  <MATERIAL
    LINENUMBER="1" PROJECT="ABCD3709" COEILINENUMBER="309"
    IAEACOMPCODE="" TYPEINVENTORYCHANGE="34" OWNER="G"
    KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT=""
    MEASUREMETHOD="" GROSSWEIGHT="100.0" NETWEIGHT="10.0"
    TOPROJECT="" TOCOEILINENUMBER="" BACKREFLINENUMBER="112"
    BATCH="BATCH" NUMBEROFITEMS="2">
    <ELEMENT
      ELEMENTWEIGHT="99.00" ELEMENTLOE="10" UNIT="">
      <ISOTOPE
        MATERIALTYPE="20" WEIGHTPERCENT="10.00"
        ISOTOPEWEIGHT="9.000" ISOTOPELOE="10" UNIT="" />
      </ELEMENT>
    </MATERIAL>
    <MATERIAL
      LINENUMBER="0" PROJECT="" COEILINENUMBER="309" IAEACOMPCODE=""
      TYPEINVENTORYCHANGE="34" OWNER="J" KEYMEASUREPOINT=""
      MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD=""
      GROSSWEIGHT="0.0000000" NETWEIGHT="0.0000000" TOPROJECT=""
      TOCOEILINENUMBER="" BACKREFLINENUMBER="" BATCH=""
      NUMBEROFITEMS="3">
      <ELEMENT
        ELEMENTWEIGHT="0.0000000" ELEMENTLOE="0" UNIT="">
        <ISOTOPE
          MATERIALTYPE="" WEIGHTPERCENT="0.000000"
          ISOTOPEWEIGHT="0.0000000" ISOTOPELOE="0" UNIT="" />
        </ELEMENT>
      </MATERIAL>
    </SHIPMENT>
  </TRANSACTIONS>
```

This last listing shows the nodes and attributes in their properly nested configuration with information detailing the data requirements.

<TRANSACTIONS Is the main node for 741 transactions
 VERSION='2' This indicates the current version of XML format.
 >

<SHIPMENT Is a node and a child of TRANSACTIONS
 It contains the information from the Header record, data code type 1

SHIPERRIS="ABC"

Attribute in Shipment node
4 Alphanumeric Characters
Validated by RIS Authority Reference Table

RECEIVERRIS="ABC"

Attribute in Shipment node
4 Alphanumeric Characters
Validated by RIS Authority Reference Table

TRANSFERNUMBER="0000001"

Attribute in Shipment node
8 Alphanumeric Characters
If the datatype is integer then the number will be left padded with zeros during the import process

CORRECTION="1"

Attribute in Shipment node
1 Alphanumeric Character

PROCESSCODE="C"

Attribute in Shipment node
1 Alpha Character
Accepted values A,C or D

ACTIONCODE="M"

Attribute in Shipment node
1 Alpha Character
Validated byActionCode section of StaticData Authority Reference Table

NUMBEROFLINES="1"

Attribute in Shipment node
Integer, non-negative

NATUREOFTRANSACTION=""

Attribute in Shipment node
1 Alpha Character
Validated by TICode section of StaticData Authority Reference Table if required
Also called TI Code

SHIPPEDFORRIS=""

Attribute in Shipment node
4 Alphanumeric Characters
Validated by RIS Authority Reference Table if required
Also called ForAccount

SHIPPEDTORIS="ABC"

Attribute in Shipment node
4 Alphanumeric Characters
Validated by RIS Authority Reference Table if required
Also called ToAccount

TRANSFERAUTHORITY=""

Attribute in Shipment node
17 Alphanumeric Characters

No validation performed.

UKFLAG=""

Attribute in Shipment node

1 Alpha Character

Validated by SpecialIAEACode section of StaticData Authority

Reference Table, acceptable values are blank, N or R

Also called SpecialIAEACode

ACTIONDATE="4/25/2011"

Attribute in Shipment node

Date in mm/dd/yyyy format

Also called Activity Date

LICENSENUMBER=""

Attribute in Shipment node

10 Alphanumeric Characters

Validated by INMTS Authority Reference Table if required

PORTOFENTRY=""

Attribute in Shipment node

4 Alphanumeric Characters

Discontinued 10/2003

TOTALGROSSWEIGHT="0"

Attribute in Shipment node

Integer, non-negative

Also know as GrossWeight

TOTALVOLUME="0"

Attribute in Shipment node

Integer, non-negative

SEALEDSOURCE=""

Attribute in Shipment node

10 Alphanumeric Characters

No validation occurs at this time.

TOTRANSFERAUTHORITY=""

Attribute in Shipment node

17 Alphanumeric Characters

No longer validated, was used for Contract Transfers.

RIS="ABC"

Internal field used by NMMSS

>

<**CONCISENOTE** a node and a child of Shipment

There may be as many lines as required to send the concise note information

LINENUMBER="1"

Attribute in ConciseNote node

Integer, non-negative

ENTRYREFERENCE="ENTRY"
Attribute in ConciseNote node
20 Alphanumeric Characters

TEXTOFCONCISENOTE="MESSAGE OF CONCISE NOTE"
Attribute in ConciseNote node
60 Alphanumeric Characters

/>

<**OBLIGATION** a node and a child of Shipment

>

<**MATERIAL** a node and a child of Obligation
There may be as many lines as required to report the obligation
information

LINENUMBER="1"
Attribute in Material node
Integer, non-negative

COUNTRYCODE="CA"
Attribute in Material node
2 Alpha Character
Validated by CountryCode section of StaticData Authority Reference
Table

>

<**ELEMENT** a node and a child of Material

ELEMENTWEIGHT="99.0000000"

Attribute in Element node
Numeric (19,7)
19 digits of precision and upto 7 decimal places
decimal point is not implied

UNIT=""
Internal use for NMMSS

>

<**ISOTOPE** a node and a child of Element

MATERIALTYPE="20"

Attribute in Isotope node
2 Alphanumeric Characters
Validated by MaterialType Authority Reference
Table

ISOTOPEWEIGHT="9.0000000"

Attribute in Isotope node
Numeric (19,7)
19 digits of precision and upto 7 decimal places
Decimal point is not implied

UNIT=""
Internal use for NMMSS

```
    />  
  </ELEMENT>  
</MATERIAL>  
</OBLIGATION>
```

<MATERIAL is a node and a child of Shipment
It contains the information from the Detail records, data code
types 2 and 5

LINENUMBER="1"

Attribute in Material node
Integer, non-negative

TYPEINVENTORYCHANGE="34"

Attribute in Material node
2 Alphanumeric Characters
Validated by list of Codes when required

BATCH="BATCH"

Attribute in Material node
16 Alphanumeric Characters

NUMBEROFITEMS="2"

Attribute in Material node
Integer

OWNER="G"

Attribute in Material node
1 Alpha Character
Validated by OwnerCode section of StaticData Authority Reference Table
Also called Owner Code

PROJECT="ABCDE03709"

Attribute in Material node
10 Alphanumeric Characters
Validated by ProjectNumber Authority Reference Table if required
Also called Project Number

COEILINENUMBER="309"

Attribute in Material node
4 Alphanumeric Characters
Validated by CompCode Authority Reference Table
Also called Comp Code
*IAEA reporting facilities should put their IAEA Comp Code or IAEA
Facility code in this field, NMMSS will translate during the import
process*

GROSSWEIGHT="100.000000"

Attribute in Material node
Numeric (19,7)
19 digits of precision and upto 7 decimal places
Decimal point is not implied

NETWEIGHT="10.000000"

Attribute in Material node
Numeric (19,7)
19 digits of precision and upto 7 decimal places
Decimal point is not implied

IAEACOMPCODE=""

Attribute in Material node
Internal NMMSS use only

KEYMEASUREPOINT=""

Attribute in Material node
2 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

MEASUREBASIS=""

Attribute in Material node
1 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

OTHERMEASUREPOINT=""

Attribute in Material node
2 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

MEASUREMETHOD=""

Attribute in Material node
1 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

TOPROJECT="ABCDEF1000"

Attribute in Material node
10 Alphanumeric Characters
Validated by ProjectNumber Authority Reference Table if required
Only reportable with P ActionCode Project Transfer
Also called ToProject Number

TOCOEILINENUMBER=""

Attribute in Material node
4 Alphanumeric Characters
Validated by CompCode Authority Reference Table
Only reportable with P ActionCode Project Transfer
Also called To Comp Code

BACKREFLINENUMBER="112"

Attribute in Material node
3 Alphanumeric Characters
1st Character is the BackReferenceChangeDigit
2nd and 3rd Characters are BackReferenceLinenumber

>
<**ELEMENT** is a node and a child of Material
There must always be one and only one Element per node
for each Material node

ELEMENTWEIGHT="99.000000"

Attribute in Element node

Numeric (19,7)

19 digits of precision and upto 7 decimal places

Decimal point is not implied

ELEMENTLOE="10"

Attribute in Element node

Integer

UNIT=""

Internal use for NMMSS

>

<**ISOTOPE**

MATERIALTYPE="20"

Attribute in Isotope node

2 Alphanumeric Characters

Validated by MaterialType Authority Reference
Table

WEIGHTPERCENT="10.000000"

Attribute in Isotope node

Numeric (16,6)

16 digits of precision and upto 6 decimal places

Decimal point is not implied

ISOTOPEWEIGHT="9.000000"

Attribute in Isotope node

Numeric (19,7)

19 digits of precision and upto 7 decimal places

Decimal point is not implied

ISOTOPELOE="10"

Attribute in Isotope node

Integer

UNIT=""

Internal use for NMMSS

/>

</**ELEMENT**>

</**MATERIAL**>

</**SHIPMENT**>

</**TRANSACTIONS**>

Root Tag <TRANSACTIONS>

Header Information <SHIPMENT>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Shipper RIS	1	SHIPPERRIS	Char(4)	✓	
Receiver RIS	2	RECEIVERRIS	Char(4)	✓	
Transaction/Transfer Number	3	TRANSFERNUMBER	Char(8)	✓	Right justified Zero fill blanks
Correction Number	4	CORRECTION	Char(1)		
Process Code	5	PROCESSCODE	Char(1)	✓	See Appendix A.
Action Code	6	ACTIONCODE	Char(1)	✓	
Number of Data Lines	10	NUMBEROFLINES	Num(5)	✓	
TI Code/Nature of Transaction	11	NATUREOFTRANSACTION	Char(1)		
RIS For Account	12b	SHIPPEDFORRIS	Char(4)		
RIS To Account	13b	SHIPPEDTORIS	Char(4)		
Transfer Authority	14	TRANSFERAUTHORITY	Char(17)		
IAEA UK Reportable ¹	23c	UKFLAG	Char(1)		
Action Date	22	ACTIONDATE	Date		MM/DD/YYYY
License Number	15	LICENSENUMBER	Char(10)		
Total Gross Weight	24	TOTALGROSSWEIGHT	Num(10)		Whole numbers
Total Volume ²	25	TOTALVOLUME	Num(10)		Whole numbers
Sealed Source		SEALEDSOURCE	Char(10)		List tag only
Receiving Transfer Authority		TOTRANSFERAUTHORITY	Char(17)		List tag only

Concise Note Information <CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Material Description Information <MATERIALDESCRIPTION>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Description		DESCRIPTION	Char(1000)		

Miscellaneous Information <MISCELLANEOUS>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Text		TEXT	Char(1000)		

¹ The IAEA UK reportable indication is only required for transactions involving United Kingdom facilities. Reporting 'R' indicates that the UK data is reportable to the IAEA. Reporting 'N' indicates that the UK data is not reportable to the IAEA. Leave this field blank for data that does not involve the United Kingdom facilities.

² Report total volume in cubic feet for material transferred to or from a nuclear waste management facility.

Obligation Information <OBLIGATION>

Note: if obligated data is not reported, there is no need to include an Obligation section.

Obligation Information <MATERIAL>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Line Number	17	LINENUMBER	Num(5)	✓	
Country ³	18	COUNTRYCODE	Char(2)		

Obligation Information <ELEMENT>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Obligated Element Weight ⁴	20	ELEMENTWEIGHT	Num(15,3)	✓	Value must include a decimal point.
Unit of Measure		UNIT	Char(4)		List tag only

Obligation Information <ISOTOPE>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Material Type	19	MATERIALTYPE	Char(2)		
Obligated Isotope Weight ^{5,6}	21	ISOTOPEWEIGHT	Num(15,3)	✓	Value must include a decimal point.
Unit of Measure		UNIT	Char(4)		List tag only

Detail Information <MATERIAL>

Note: If both the element weight and isotope weight are zero, there is no need to include a Material section.

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Project Number ⁷	26/27 f	PROJECT	Char(10)		
Composition Facility Code	26/27 h	COEILINENUMBER	Char(4)		
Type of Inventory Change	26/27 c	TYPEINVENTORYCHANGE	Char(2)		
Owner Code	26/27 i	OWNER	Char(1)		
Key Measurement Point	26/27 j	KEYMEASUREPOINT	Char(2)		
Measurement Basis	26/27 k1	MEASUREBASIS	Char(1)		
Other Measurement Point	26/27 k2	OTHERMEASUREPOINT	Char(2)		
Measurement Method	26/27 k3	MEASUREMETHOD	Char(1)		
Gross Weight	26/27 l	GROSSWEIGHT	Num(10)		
Net Weight	26/27 m	NETWEIGHT	Num(10)		
Receiving Project Number		TOPROJECT	Char(10)		List tag only
Receiving Composition Facility Code		TOCOEILINENUMBER	Char(4)		List tag only

³ Call the NMMSS or go to NMMSS.com for the latest list of obligation country.

⁴ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

⁵ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

⁶ Obligated Isotope Weight is required for Enriched Uranium only.

⁷ Project numbers are reported only for government owned material.

Back Reference Number ⁸	26/27 a	BACKREFLINENUMBER	Char(3)		Zero fill blanks
Line Number	26/27 b	LINENUMBER	Num(5)	✓	
Batch Name/Identification	26/27 d	BATCH	Char(16)		ALL Caps
Number of Items	26/27 e	NUMBEROFITEMS	Num(2)		

Detail Information <ELEMENT>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Element Weight ⁵	26/27 n	ELEMENTWEIGHT	Num(12,3)	✓ ⁹	Value must include a decimal point.
Element Limit of Error	26/27 o	ELEMENTLOE	Num(5)		Whole numbers
Unit of Measure		UNIT	Char(4)		List tag only

⁸ Back Reference Number; the first character is the correction identifier. The second and third characters are the line number referenced. When reported, insert zeros for blank values.

⁹ Element or Isotope weight may be essential to successful file import depending on the specified material type.

Detail Information <ISOTOPE>

<u>Field Description</u>	<u>741</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential Note</u>
Material Type	26/27 g	MATERIALTYPE	Char(2)	
Weight Percent Isotope/Parts Per Million	26/27 p	WEIGHTPERCENT	Num(6,4) ¹⁰	Value must include a decimal point.
Isotope Weight ¹¹	26/27 q	ISOTOPEWEIGHT	Num(12,3)	✓ ¹² Value must include a decimal point.
Isotope Limit of Error	26/27 r	ISOTOPELOE	Num(5)	Whole numbers
Unit of Measure		UNIT	Char(4)	List tag only

¹⁰ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS.

¹¹ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

¹² Element or Isotope weight may be essential to successful file import depending on the specified material type.

3. INVENTORY DATA

3.1. Requirements for DOE/NRC Form 742C

3.1.1. XML File Formatting

An example of an inventory submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC form. This is an example of raw XML produced by SAMS.

```
<PHYSICALINVENTORY VERSION="2">
  <INVENTORY RIS="ABC" DATE="1/1/2011">
    <MATERIAL PROCESSCODE="" SEQUENCENUMBER="1" PROJECT="" COEILINENUMBER=""
OWNER="" KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT=""
MEASUREMETHOD="" SCRAPPROGRAM="" ENTRYSTATUS="" NUMBEROFITEMS="0" BATCH=""
LOCATION="" SITEMBA="">
      <CONCISENOTE PROCESSCODE="" LINENUMBER="1" ENTRYREFERENCE="ENTRY REF"
TEXTOFCONCISENOTE="TEXT" />
      <ELEMENT ELEMENTWEIGHT="0.0000000" UNIT="">
        <ISOTOPE MATERIALTYPE="R" WEIGHTPERCENT="0.000000" ISOTOPEWEIGHT="0.0000000"
UNIT="" />
      </ELEMENT>
    </MATERIAL>
  </INVENTORY>
</PHYSICALINVENTORY>
```

An important part of the XML format is the nesting of the records that make up a 742C. In XML there are identifiers called Nodes which correspond to rows in the XML data. The Nodes have identifiers called Attributes which correspond to the data fields. For example, the Inventory Node corresponds to the 742C Header record and the RIS Attribute is the RIS field of the Header record. Another important element of XML Nodes is that they can contain other nodes as known as nested nodes. The Inventory Node (parent) can have MATERIAL and CONCISENOTE nodes (children). The following shows the nesting of the nodes for a 742C.

```
INVENTORY (RIS and date.)
  MATERIAL
    0 to many lines required to report the inventory data
    ELEMENT
      Contains element information for MATERIAL
      ISOTOPE
        Contains isotope information for ELEMENT
  CONCISENOTE
    0 to many lines that make up the concise note
```

The next sample is the same XML file as above, but has been indented using tabs to make it for readable to the human eye. It will process the same as the raw data. It also emphasizes the nesting of the data rows in the XML.

```
<PHYSICALINVENTORY VERSION="2">
  <INVENTORY
    RIS="ABC" DATE="1/1/2011">
    <MATERIAL
      PROCESSCODE="" SEQUENCENUMBER="1" PROJECT="" COEILINENUMBER=""
OWNER=""
      KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT=""
MEASUREMETHOD=""
      SCRAPPROGRAM="" ENTRYSTATUS="" NUMBEROFITEMS="0" BATCH=""
LOCATION="" SITEMBA="">
      <CONCISENOTE
        PROCESSCODE="" LINENUMBER="1" ENTRYREFERENCE="ENTRY REF"
TEXTOFCONCISENOTE="TEXT" />
      <ELEMENT
        ELEMENTWEIGHT="0.0000000" UNIT="">
        <ISOTOPE
          MATERIALTYPE="20" WEIGHTPERCENT="0.000000"
ISOTOPEWEIGHT="0.0000000" UNIT="" />
        </ELEMENT>
      </MATERIAL>
    </INVENTORY>
  </PHYSICALINVENTORY>
```

This last listing shows the nodes and attributes in their properly nested configuration with information detailing the data requirements.

```
<PHYSICALINVENTORY VERSION="2">
  <INVENTORY
    RIS="ABC"
      Attribute in Inventory node
      4 Alphanumeric Characters
      Validated by RIS Authority Reference Table
    DATE="1/1/2011"
      Attribute in Inventory node
      Date in mm/dd/yyyy format
      Also called Inventory Report Date
  >
  <MATERIAL
    PROCESSCODE="C"
      Attribute in Material node
      1 Alpha Character
      Accepted values A,C or D
```

SEQUENCENUMBER="1"

Attribute in Material node
Integer, non-negative

BATCH="BATCH"

Attribute in Material node
16 Alphanumeric Characters

NUMBEROFITEMS="2"

Attribute in Material node
Integer

OWNER="G"

Attribute in Material node
1 Alpha Character
Validated by OwnerCode section of StaticData Authority

Reference Table

Also called Owner Code

PROJECT="ABCDE03709"

Attribute in Material node
10 Alphanumeric Characters
Validated by ProjectNumber Authority Reference Table if required
Also called Project Number

COEILINENUMBER="309"

Attribute in Material node
4 Alphanumeric Characters
Validated by CompCode Authority Reference Table
Also called Comp Code

*IAEA reporting facilities should put their IAEACompCode or
IAEAFacilityCode in this field
NMMSS will translate during the import process*

KEYMEASUREPOINT=""
Attribute in Material node
2 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

MEASUREBASIS=""
Attribute in Material node
1 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

OTHERMEASUREPOINT=""
Attribute in Material node
2 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

MEASUREMETHOD=""
Attribute in Material node
1 Alphanumeric Characters
Validated by IAEAFacilityAttachment Authority Reference Table

LOCATION=""
Attribute in Material node
20 Alphanumeric Characters
No validation occurs at this time

SITEMBA=""
Attribute in Material node
20 Alphanumeric Characters
No validation occurs at this time

>

<CONCISENOTE
PROCESSCODE="C"
Attribute in ConciseNote node
1 Alpha Character
Accepted values A,C or D
LINENUMBER="1"
Attribute in ConciseNote node
Integer, non-negative
ENTRYREFERENCE="ENTRY"
Attribute in ConciseNote node
20 Alphanumeric Characters
TEXTOFCONCISENOTE="MESSAGE OF CONCISE NOTE"
Attribute in ConciseNote node
60 Alphanumeric Characters

/>

<ELEMENT
ELEMENTWEIGHT="99.0000000"
Attribute in Element node
Numeric (19,7)
19 digits of precision and upto 7 decimal places
Decimal point is not implied
UNIT=""
Internal use for NMMSS

>

<ISOTOPE

MATERIALTYPE="20"

Attribute in Isotope node

2 Alphanumeric Characters

Validated by MaterialType Authority Reference Table

WEIGHTPERCENT="10.000000"

Attribute in Isotope node

Numeric (16,6)

16 digits of precision and upto 6 decimal places

Decimal point is not implied

ISOTOPEWEIGHT="9.0000000"

Attribute in Isotope node

Numeric (19,7)

19 digits of precision and upto 7 decimal places

Decimal point is not implied

UNIT=""

Internal use for NMMSS

/>

</ELEMENT>

</MATERIAL>

</INVENTORY>

</PHYSICALINVENTORY>

Root Tag <PHYSICALINVENTORY>

Header Information <INVENTORY>

<u>Field Description</u>	<u>742C</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
RIS	2	RIS	Char(4)	✓	
Inventory Report Date	3	DATE	Date	✓	MM/DD/YYYY

Concise Note Information Attached to Header <CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	✓	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information <MATERIAL>

Note: If both the element weight and isotope weight are zero, there is no need to include a Material section.

<u>Field Description</u>	<u>742C</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5q	PROCESSCODE	Char(1)	✓	See Appendix A.

Sequence Number ¹³	5i	SEQUENCENUMBER	Num(6)	✓	
Project Number ¹⁴	5e	PROJECT	Char(10)		
Composition-Facility Code ¹⁵	5b	COEILINENUMBER	Char(4)		
Owner Code	5h	OWNER	Char(1)		
Key Measurement Point	5l	KEYMEASUREPOINT	Char(2)		
Measurement Basis	5m	MEASUREBASIS	Char(1)		
Other Measurement Point	5m	OTHERMEASUREPOINT	Char(2)		
Measurement Method	5m	MEASUREMETHOD	Char(1)		
Scrap Program	5f	SCRAPPROGRAM	Char(1)		
Entry Status	5n	ENTRYSTATUS	Char(1)		
Number of Items	5k	NUMBEROFITEMS	Num(5)		
Batch Name/Identification	5j	BATCH	Char(16)		All Caps
Location of Item	5o	LOCATION	Char(30)		
Site MBA Code	5p	SITEMBA	Char(30)		

Concise Note Information Attached to Material (Item) <CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	✓	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information <ELEMENT>

<u>Field Description</u>	<u>742C</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	
Element Weight ¹⁶	5c	ELEMENTWEIGHT	Num(15,3)	✓ ¹⁷	Value must include a decimal point.
Unit of Measure		UNIT	Char(4)		List tag only

Detail Information <ISOTOPE>

<u>Field Description</u>	<u>742C</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	
Material Type	5a	MATERIALTYPE	Char(2)		
Weight Percent Isotope/Parts Per Million	5g	WEIGHTPERCENT	Num(6,4) ¹⁸		Value must include a decimal point.
Isotope Weight ²⁴	5d	ISOTOPEWEIGHT	Num(15,3)	✓ ²⁵	Value must include a decimal point.
Unit of Measure		UNIT	Char(4)		List tag only

¹³ Sequence number should begin at one for the entire inventory or each material type group (Generic MT 20 includes MT 21 – 39 and E1 – E4) and should be consecutively numbered including the total line (composition code 899).

¹⁴ Project numbers are reported only for government owned material.

¹⁵ For total lines, this field will always contain "899".

¹⁶ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

¹⁷ Element or Isotope weight may be essential to successful file import depending on the specified material type.

¹⁸ Weight Percent Isotope/Parts Per Million is reported as a percentage except when the material type is 70 (total uranium enriched in U-233), which is reported using 6 numeric digits and converted to decimal form by NMMSS.

4. MATERIAL BALANCE DATA

4.1. Requirements for DOE/NRC Form 742

4.1.1. XML File Formatting

An example of material balance submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC form. This is an example of raw XML produced by SAMS.

```
<MATERIALBALANCEREPORT VERSION="2">
  <MATERIALBALANCE RIS="YLM" STARTDATE="4/27/2010" ENDDATE="4/26/2011">
    <MATERIAL PROCESSCODE="" SEQUENCENUMBER="2" DATACODE=""
MATERIALBALANCECATEGORY="80">
      <CONCISENOTE PROCESSCODE="" LINENUMBER="1" ENTRYREFERENCE="ENTRY"
TEXTOFCONCISENOTE="TEXT" />
      <ELEMENT ELEMENTWEIGHT="0.000000" TYPEINVENTORYCHANGE="MF" OTHERRIS="ACD"
ENTRYSTATUS="" UNIT="">
        <ISOTOPE MATERIALTYPE="" ISOTOPEWEIGHT="0.000000" UNIT="" />
      </ELEMENT>
    </MATERIAL>
  </MATERIALBALANCE>
</MATERIALBALANCEREPORT>
```

An important part of the XML format is the nesting of the records that make up a 742. In XML there are identifiers called Nodes which correspond to rows in the XML data. The Nodes have identifiers called Attributes which correspond to the data fields. For example, the Material Balance Node corresponds to the 742 Header record and the RIS Attribute is the RIS field of the Header record. Another important element of XML Nodes is that they can contain other nodes as known as nested nodes. The Material Balance Node (parent) can have MATERIAL nodes (children). The following shows the nesting of the nodes for a 742.

```
MATERIALBALANCE (RIS and dates.)
  MATERIAL
    0 to many lines required to report the Material Balance data
  ELEMENT
    Contains element information for MATERIAL
  ISOTOPE
    Contains isotope information for ELEMENT
  CONCISENOTE
    0 to many lines that make up the concise note
```

The next sample is the same XML file as above, but has been indented using tabs to make it for readable to the human eye. It will process the same as the raw data. It also emphasizes the nesting of the data rows in the XML.

```
<MATERIALBALANCEREPORT VERSION="2">
  <MATERIALBALANCE
    RIS="YLM" STARTDATE="4/27/2010" ENDDATE="4/26/2011">
    <MATERIAL
      PROCESSCODE="" SEQUENCENUMBER="2" DATACODE=""
      MATERIALBALANCECATEGORY="80">
      <ELEMENT
        ELEMENTWEIGHT="0.0000000" TYPEINVENTORYCHANGE="MF"
        OTHERRIS="ACD" ENTRYSTATUS="" UNIT="">
        <ISOTOPE
          MATERIALTYPE="" ISOTOPEWEIGHT="0.0000000" UNIT="" />
        </ELEMENT>
      <CONCISENOTE
        PROCESSCODE="" LINENUMBER="1" ENTRYREFERENCE="ENTRY"
        TEXTOFCONCISENOTE="TEXT" />
    </MATERIAL>
  </MATERIALBALANCE>
</MATERIALBALANCEREPORT>
```

This last listing shows the nodes and attributes in their properly nested configuration with information detailing the data requirements.

```
<MATERIALBALANCEREPORT VERSION="2">
  <MATERIALBALANCE
    RIS="ABC"
      Attribute in MaterialBalance node
      4 Alphanumeric Characters
      Validated by RIS Authority Reference Table
    STARTDATE="4/27/2010"
      Attribute in MaterialBalance node
      Date in mm/dd/yyyy format
    ENDDATE="4/26/2011"
      Attribute in MaterialBalance node
      Date in mm/dd/yyyy format
  >
  <MATERIAL
    PROCESSCODE=""
      Attribute in Material node
      1 Alpha Character
      Accepted values A,C or D
    SEQUENCENUMBER="2"
      Attribute in Material node
      Integer, non-negative
    DATACODE=""
      Attribute in Element node
      1 Alphanumeric Character
      Allowed values; 3 or 4
      Also known as TypeCode
    MATERIALBALANCECATEGORY="80"
      Attribute in Material node
      2 Alphanumeric Characters
      Validated by RIS Material Balance Category Authority Reference Table
```

>

<ELEMENT

ELEMENTWEIGHT="0.0000000"

Attribute in Element node

Numeric (19,7)

19 digits of precision and upto 7 decimal places

Decimal point is not implied

TYPEINVENTORYCHANGE="MF"

Attribute in Element node

2 Alpha Characters

Validated by Inventory Change Type section of StaticData

Authority Reference Table

OTHERRIS="ACD"

Attribute in Element node

4 Alphanumeric Characters

Validated by RIS Authority Reference Table

ENTRYSTATUS=""

Attribute in Element node

1 Alpha Character

Validated by Entry Status section of StaticData Authority

Reference Table

UNIT=""

Internal use for NMMSS

>

<ISOTOPE

MATERIALTYPE="20"

Attribute in Isotope node

2 Alphanumeric Characters

Validated by MaterialType Authority Reference Table

ISOTOPEWEIGHT="9.0000000"

Attribute in Isotope node

Numeric (19,7)

19 digits of precision and upto 7 decimal places

Decimal point is not implied

UNIT=""

Internal use for NMMSS

/>

</ELEMENT>

<CONCISENOTE

PROCESSCODE=""

Attribute in ConciseNote node

1 Alpha Character

Accepted values A,C or D

LINENUMBER="1"

Attribute in ConciseNote node

Integer, non-negative

ENTRYREFERENCE="ENTRY"

Attribute in ConciseNote node

20 Alphanumeric Characters

TEXTOFCONCISENOTE="MESSAGE OF CONCISE NOTE"

Attribute in ConciseNote node
 60 Alphanumeric Characters

```

    />
  </MATERIAL>
</MATERIALBALANCE>
</MATERIALBALANCEREPORT>
    
```

Root Tag <MATERIALBALANCEREPORT>

Header Information <MATERIALBALANCE>

<u>Field Description</u>	<u>742</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
RIS	3	RIS	Char(4)	✓	
Report Period From	4	STARTDATE	Date	✓	MM/DD/YYYY
Report Period To	4	ENDDATE	Date	✓	MM/DD/YYYY

Concise Note Information Attached to Header <CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	✓	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		
Entry Reference	7b	ENTRYREFERENCE	Char(20)		
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)		

Detail Information <Material>

Note: If both the element weight and isotope weight are zero, there is no need to include a Material section.

<u>Field Description</u>	<u>742</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	Sec. A & B PC	PROCESSCODE	Char(1)	✓	See Appendix A.
Sequence Number ¹⁹	Sec. A & B SEQ	SEQUENCENUMBER	Num(6)	✓	
Data Code	-	DATACODE	Num(1)	✓	Value is 3 (Receipts) or 4 (Removals)
Material Balance Category ²⁰	Sec A Row # Sec B column 1	MATERIALBALANCECATEGORY	Char(2)		Right justified Zero fill blanks

Concise Note Information Attached to Material (Item) <CONCISENOTE>

Note: if concise note information is not reported, there is no need to include a Concise Note section.

<u>Field Description</u>	<u>740M</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential</u>	<u>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	✓	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)		

¹⁹ Sequence number should begin at one for the entire material balance per material type and should be consecutively numbered.

²⁰ Call the NMMSS or go to NMMSS.com for the latest list of Material Balance Categories codes related to Obligations (Section B)

Entry Reference	7b	ENTRYREFERENCE	Char(20)
Concise Note Text	7c	TEXTOFCONCISENOTE	Char(60)

Detail Information <ELEMENT>

<u>Field Description</u>	<u>742</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential Note</u>
Element Weight ²¹	Sec A column A Sec B Column 2	ELEMENTWEIGHT	Num(15,3)	✓ ²² <i>Value must include a decimal point.</i>
Inventory Change Type (ICT) line 22 & 71		TYPEINVENTORYCHANGE	Char(2)	
Other RIS	line 11,30, 42,43 & 51	OTHERRIS	Char(4)	
Entry Status	-	ENTRYSTATUS	Char(1)	
Unit of Measure	-	UNIT	Char(4)	List tag only

Detail Information <ISOTOPE>

<u>Field Description</u>	<u>742</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Essential Note</u>
Material Type	5	MATERIALTYPE	Char(2)	
Isotope Weight ³⁷	Sec A column B Sec B Column 3	ISOTOPEWEIGHT	Num(15,3)	✓ ³⁸ <i>Value must include a decimal point.</i>
Unit of Measure	-	UNIT	Char(4)	List tag only

²¹ The RIS must attain authorization from NRC to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

²² Element or Isotope weight may be essential to successful file import depending on the specified material type.

APPENDIX A

PROCESS CODE

PROCESS CODE

DEFINITION: The process code identifies the type of system action to be taken for the data being reported as follows:

1. Process code A is used to signify the initial submittal of data. Use process code C to replacement a data set already submitted to the NMMSS;
2. Process code C is used to signify the replacement of previously reported data. Its use is restricted to the replacement of data in the same reporting month;
3. Process code D applies when the facility intends the deletion of previously reported data. Its use is also restricted to applying only to data in the same reporting month; and
4. Process code Z is used in conjunction with action code D by the receiver to accept a shipper's change without the receiver having to retype the detailed lines.

SPECIAL NOTE: If replacement or deletion of data is desired, it is suggested that the reporting facility ensures that the accounting month to be affected is still "open" (being processed by the NMMSS) by calling the appropriate NMMSS contact since these actions are restricted and based on specified accounting periods.

Example 1

XML format:

```
<TRANSACTIONS>
<SHIPMENT
  SHIPPERRIS="ABC" RECEIVERRIS="DEF" TRANSFERNUMBER="131"
  CORRECTION="" PROCESSCODE="A" ACTIONCODE="A" NUMBEROFLINES="3"
  NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002"
  LICENSENUMBER="" TOTALGROSSWEIGHT="20081" TOTALVOLUME=""
  SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
<MATERIAL
  PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE=""
  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
  BACKREFLINENUMBER="" LINENUMBER="1" BATCH="A BATCH ID"
  NUMBEROFITEMS="1">
<ELEMENT
  ELEMENTWEIGHT="426.00" ELEMENTLOE="" UNIT="" >
  <ISOTOPE
    MATERIALTYPE="10" WEIGHTPERCENT="0.6610"
    ISOTOPEWEIGHT="3.00" ISOTOPELOE="" UNIT="" >
  </ISOTOPE>
</ELEMENT>
</MATERIAL>
<MATERIAL
  PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE=""
  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
  BACKREFLINENUMBER="" LINENUMBER="2" BATCH="A BATCH ID"
  NUMBEROFITEMS="1">
<ELEMENT
  ELEMENTWEIGHT="2213.00" ELEMENTLOE="" UNIT="" >
  <ISOTOPE
    MATERIALTYPE="20" WEIGHTPERCENT="2.5305"
    ISOTOPEWEIGHT="56.00" ISOTOPELOE="" UNIT="" >
  </ISOTOPE>
</ELEMENT>
</MATERIAL>
<MATERIAL
  PROJECT="" COEILINENUMBER="309" TYPEINVENTORYCHANGE=""
  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
  BACKREFLINENUMBER="" LINENUMBER="3" BATCH="A BATCH ID"
  NUMBEROFITEMS="1">
<ELEMENT
  ELEMENTWEIGHT="901.00" ELEMENTLOE="" UNIT="" >
  <ISOTOPE
    MATERIALTYPE="50" WEIGHTPERCENT="99.3340"
    ISOTOPEWEIGHT="895.00" ISOTOPELOE="" UNIT="" >
  </ISOTOPE>
</ELEMENT>
</MATERIAL>
</SHIPMENT>
</TRANSACTIONS>
```


Example 2

XML format:

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  NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002"
  LICENSENUMBER="" TOTALGROSSWEIGHT="" TOTALVOLUME=""
  SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
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  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
  BACKREFLINENUMBER="001" LINENUMBER="1" BATCH=""
  NUMBEROFITEMS="-1">
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</MATERIAL>
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  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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  NUMBEROFITEMS="1">
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  ISOTOPEWEIGHT="-56.00" ISOTOPELOE="" UNIT="" >
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</MATERIAL>
<MATERIAL
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  OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
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OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""  
NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""  
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NUMBEROFITEMS="1">  
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</SHIPMENT>  
</TRANSACTIONS>
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Example 3c

DOE/NRC FORM 740M PREVIOUS EDITIONS ARE OBSOLETE AUTHORIZED BY DOE/NRC 40150, 70, 72, 74, 75, 80 PUBLIC LAW 93-502, 95-91		U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0008 Expires 05/31/2008 Be invited to submit your response to comply with the mandatory collection request. This information is required by the providers of the IERMS. Subsequent Agreement. Send comments regarding burden estimate to the Records Management Branch (70150), U.S. Nuclear Regulatory Commission, Washington DC 20545-0001, or to the Office of Management and Budget (Washington, DC 20503). It is a means used to impose an information collection burden on individuals. A currently valid OMB control number, the NRC may not conduct or sponsor and a person is not required to respond to the information collection.	
CONCISE NOTE		2. ATTACHMENT TO <input checked="" type="checkbox"/> A. DOE/NRC 741 <input type="checkbox"/> B. DOE/NRC 742 <input type="checkbox"/> C. DOE/NRC 743		3. RIS	
1. NAME Advanced Physic		5. TRANSACTION DATA A. SHIPPERS REB B. REVIEWERS REB C. TRANSMFER NUMBER D. CORR. NUMBER E. PC F. AC		4. REPORTING PERIOD FROM TO 6. REPORTING DATE	
STREET ADDRESS 123 Anywhere Road		STATE ZIP CODE ZA 11111		A A A	
CITY Commetown		7C. TEXT OF CONCISE NOTE		7. ENTRY REFERENCE	
7a. LINE NO.	7b. ENTRY REFERENCE				
01	Whole Report	Country of Oblig Code 32 Canada BL18			
02	Whole Report	MBA Code UABC BL1			
03	Whole Report	Batch ID -Any Batch Name- BL24d			
04	Whole Report	Material Type Code BL24g as follows:			
05	Whole Report	US material type 10 is IAEA code D			
06	Whole Report	US material type 20 is IAEA code EG			
To the best of my knowledge and belief, the information given above and in any attached schedule is true, complete, and correct.		8. SIGNATURE (See instructions [NUREG/BR-R-0006] for provisions regarding confidentiality.) John Doe		9. TITLE MC&A Representative	
				10. DATE 12/31/2002	
WARNINGS: 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 MATERIAL 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 ITS JURISDICTION.					

Example 3d

NUCLEAR MATERIAL TRANSACTION REPORT

DO ENRRC FORM 111
 ISSUING REGULATIONS ARE OBSOLETE
 AUTHORIZED BY 10 CFR 131.40, 50, 70, 72, 74, 75, 150 PUBLIC
 (OMB 3270-0043, 5010-0043)

U.S. DEPARTMENT OF ENERGY
 AND
 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY (OMB NO. 3270-0043)
 Estimated burden per response to comply with this mandatory collection request is minimal. This information is required for RER accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the Records Management Branch (74-59), U.S. Nuclear Regulatory Commission, Washington DC 20555-4141, or by internet email to records@nrc.gov, and to the local Office of Information Management Regulatory Affairs, NRC (OMB 3270-0043), Office of Management and Budget, Washington, DC 20503. Do not mail this information to the NRC. If a material used to impose an information collection does not appear a current valid OMB control number, the NRC may not conduct or sponsor and you may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number.

EXPIRES 12/31/2012

1. SHIPPER'S RS. ABC	2. RECEIVERS RS. ABC	3. REGISTRATION NO. 21229	4. CORRECTION NO.	5. RECEIVED CODE	6. SHIPPER A	7. RECEIVER M	8. NUMBER OF COPIES	9. DISTRIBUTION OF COPIES	
10. NAME AND ADDRESS OF SHIPPER Advanced Physics 123 Anywhere Road Commonwealth ZA 1111	11. NAME AND ADDRESS OF RECEIVER	12. SHIPPER'S ACCOUNT OF R. IS	13. NUMBER OF TRANSACTION	14. NATURE OF TRANSACTION	15. DATE OF TRANSACTION	16. DATE OF RECEIPT	17. MONTH	18. YEAR	
19. ATTENTION	20. TELEPHONE	21. REPORT OF SHORT TRANSFER LICENSE NO.	22. ACTION DATE	23. SHIPPER'S CORRECTION	24. RECEIPT	25. RECEIVERS CORRECTION	26. MONTH	27. YEAR	
28. MATERIAL TYPE AND DESCRIPTION	29. IS REPORTABLE? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	30. TOTAL GROSS WEIGHT	31. NET WEIGHT	32. GROSS WEIGHT	33. NET WEIGHT	34. GROSS WEIGHT	35. NET WEIGHT	36. GROSS WEIGHT	
37. BACK REFERENCE NO. OF REV. CHANGE	38. TYPE OF REV. CHANGE	39. TYPE OF RISK	40. RISK TYPE	41. PROJECT NUMBER	42. NO. OF ITEMS	43. REPERCUSSION (HTRM TOX-MAN)	44. DATE FACILITY	45. OWNER	
01	NP	50	309 J						
02	TN	50	309 J						
26. SHIPPER B DATA		27. RECEIVER B DATA		28. SHIPPER B DATA		29. RECEIVER B DATA		30. SHIPPER B DATA	
31. SHIPPER B DATA		32. RECEIVER B DATA		33. SHIPPER B DATA		34. RECEIVER B DATA		35. SHIPPER B DATA	
36. SHIPPER B DATA		37. RECEIVER B DATA		38. SHIPPER B DATA		39. RECEIVER B DATA		40. SHIPPER B DATA	
41. SHIPPER B DATA		42. RECEIVER B DATA		43. SHIPPER B DATA		44. RECEIVER B DATA		45. SHIPPER B DATA	
46. SHIPPER B DATA		47. RECEIVER B DATA		48. SHIPPER B DATA		49. RECEIVER B DATA		50. SHIPPER B DATA	
51. SHIPPER B DATA		52. RECEIVER B DATA		53. SHIPPER B DATA		54. RECEIVER B DATA		55. SHIPPER B DATA	
56. SHIPPER B DATA		57. RECEIVER B DATA		58. SHIPPER B DATA		59. RECEIVER B DATA		60. SHIPPER B DATA	
61. SHIPPER B DATA		62. RECEIVER B DATA		63. SHIPPER B DATA		64. RECEIVER B DATA		65. SHIPPER B DATA	
66. SHIPPER B DATA		67. RECEIVER B DATA		68. SHIPPER B DATA		69. RECEIVER B DATA		70. SHIPPER B DATA	
71. SHIPPER B DATA		72. RECEIVER B DATA		73. SHIPPER B DATA		74. RECEIVER B DATA		75. SHIPPER B DATA	
76. SHIPPER B DATA		77. RECEIVER B DATA		78. SHIPPER B DATA		79. RECEIVER B DATA		80. SHIPPER B DATA	
81. SHIPPER B DATA		82. RECEIVER B DATA		83. SHIPPER B DATA		84. RECEIVER B DATA		85. SHIPPER B DATA	
86. SHIPPER B DATA		87. RECEIVER B DATA		88. SHIPPER B DATA		89. RECEIVER B DATA		90. SHIPPER B DATA	
91. SHIPPER B DATA		92. RECEIVER B DATA		93. SHIPPER B DATA		94. RECEIVER B DATA		95. SHIPPER B DATA	
96. SHIPPER B DATA		97. RECEIVER B DATA		98. SHIPPER B DATA		99. RECEIVER B DATA		100. SHIPPER B DATA	

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 MATERIAL 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 ITS JURISDICTION.

Example 3a, 3b, 3c, 3d

XML format:

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  NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002" LICENSENUMBER=""
  TOTALGROSSWEIGHT="" TOTALVOLUME="" SEALEDSOURCE=""
  TOTRANSFERAUTHORITY="">
</SHIPMENT>
<SHIPMENT
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  CORRECTION="" PROCESSCODE="A" ACTIONCODE="A" NUMBEROFLINES="3"
  NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002"
  LICENSENUMBER="GEN-LIC" TOTALGROSSWEIGHT="58499" TOTALVOLUME=""
  SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
  <CONCISENOTE
    LINENUMBER="1" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="Country of Oblig Code 32 Canada BL18">
  </CONCISENOTE>
  <CONCISENOTE
    LINENUMBER="2" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="MBA Code UABC BL1">
  </CONCISENOTE>
  <CONCISENOTE
    LINENUMBER="3" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="Batch ID -Any Batch Name- BL24d">
  </CONCISENOTE>
  <CONCISENOTE
    LINENUMBER="4" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="Material Type Code BL24g as follows">
  </CONCISENOTE>
  <CONCISENOTE
    LINENUMBER="5" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="US material type 10 is IAEA code D">
  </CONCISENOTE>
  <CONCISENOTE
    LINENUMBER="6" ENTRYREFERENCE="WHOLE REPORT"
    TEXTOFCONCISENOTE="US material type 20 is IAEA code EG">
  </CONCISENOTE>
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</SHIPMENT>
</TRANSACTIONS>
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  </OBLIGATION>
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    KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT=""
    MEASUREMETHOD="" GROSSWEIGHT="" NETWEIGHT="" TOPROJECT=""
    TOCOEILINENUMBER="" BACKREFLINENUMBER="" LINENUMBER="1" BATCH=""
    NUMBEROFITEMS="1">
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    MEASUREMETHOD="" GROSSWEIGHT="" NETWEIGHT="" TOPROJECT=""
    TOCOEILINENUMBER="" BACKREFLINENUMBER="" LINENUMBER="2" BATCH=""
    NUMBEROFITEMS="1">
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        MATERIALTYPE="20" WEIGHTPERCENT="2.5305"
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  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002" LICENSENUMBER=""
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  TOTRANSFERAUTHORITY="">
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    NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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    OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
    NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
    BACKREFLINENUMBER="" LINENUMBER="2" BATCH="" NUMBEROFITEMS="">

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</MATERIAL>
</SHIPMENT>
</TRANSACTIONS>
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Example 4

XML format:

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    COEILINENUMBER="860" OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
    OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
    ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
  <ELEMENT
    ELEMENTWEIGHT="99.00" UNIT="">
  <ISOTOPE
    MATERIALTYPE="E1" WEIGHTPERCENT=""
    ISOTOPEWEIGHT="3.00" UNIT="">
  </ISOTOPE>
  </ELEMENT>
</MATERIAL>
<MATERIAL
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  COEILINENUMBER="863" OWNER="J" KEYMEASUREPOINT="" MEASUREBASIS=""
  OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
  ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
  <ELEMENT
    ELEMENTWEIGHT="61.00" UNIT="">
  <ISOTOPE
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    ISOTOPEWEIGHT="1.00" UNIT="">
  </ISOTOPE>
  </ELEMENT>
</MATERIAL>
<MATERIAL
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  OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
  ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
  <ELEMENT
    ELEMENTWEIGHT="45.00" UNIT="">
  <ISOTOPE
    MATERIALTYPE=" E1" WEIGHTPERCENT=""
    ISOTOPEWEIGHT="2.00" UNIT="">
  </ISOTOPE>
  </ELEMENT>
</MATERIAL>
<MATERIAL
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  OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
  ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
  <ELEMENT
    ELEMENTWEIGHT="65.00" UNIT="">
  <ISOTOPE
    MATERIALTYPE=" E1" WEIGHTPERCENT=""
    ISOTOPEWEIGHT="4.00" UNIT="">
  </ISOTOPE>
  </ELEMENT>
</MATERIAL>
</MATERIAL
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PROCESSCODE="A" SEQUENCENUMBER="5" PROJECT=""  
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OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""  
ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">  
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    MATERIALTYPE="20" WEIGHTPERCENT=""  
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  </ISOTOPE>  
</ELEMENT>  
</MATERIAL>  
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</PHYSICALINVENTORY>
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Example 5
Physical Inventory Listing for selected IAEA facilities.

NRC FORM 742CU (MM-YYYY) MANDATORY DATA COLLECTION AU 1/30/2012 PUBLIC LBN 68, 75, 150, 612-438, 95-91		U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION PHYSICAL INVENTORY LISTING		APPROVED BY OMB: NO. 3150-0058 Estimated burden per response to comply with the mandatory collection request is 6 hours. This information is required by NRC to fulfill its obligations responsible, bilateral agreements, and responsibilities as a participant in the US/IAEA Safeguards Agreement. Send comments regarding burden estimate to the e-records and FOIA/Privacy Services Branch (1-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to info.comments@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-10202, (160-0058), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person that is required to respond to, the information collection.		EXPIRES: MM/DD/YYYY MM/DD/YYYY													
1. NAME AND ADDRESS Advanced Physics 123 Anywhere Road Commontown		2. REPORTING IDENTIFICATION SYMBOL (RIS) ABC		3. INVENTORY DATE 12/31/2002		4. LICENSE NUMBER(S)													
STATE ZA		ZIP CODE 11111		5. BATCH DATA															
MATERIAL TYPE	CONCAC CODE	ELEMENT WEIGHT	ISOTOPE WEIGHT	DOE PROJECT NO.	SCRAP PROGRAM	WEIGHT PER CENT ISOTOPE	OTHER OVER CODE	SEQUENCE NUMBER	BATCH NAME	NO. OF ITEMS	KEY MEASURE	MEASUREMENT BASIS	OTHER MEASUREMENT POINT	MEASUREMENT METHOD	STATUS	ENTRYS	BY MBEA	PROCESS CODE	
E3	OGRB	155	112				J	1	Batch0422	10	02	N		N	N				A
E3	OGRB	268	159				J	2	Batch0434	10	02	N		N	N				A
6. TOTALS		423	271					3											
To the best of my knowledge and belief, the information given above and in any attached schedules is true, complete, and correct.																			
7. SIGNATURE John Doe																			
8. TITLE MC&A Representative																			
9. DATE 12/31/2002																			
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 MATERIAL 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 ITS JURISDICTION.																			

Example 5

XML format:

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<PHYSICALINVENTORY>
<INVENTORY
  RIS="ABC" DATE="12/31/2002">
  <MATERIAL
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    COEILINENUMBER="OGRB" OWNER="J" KEYMEASUREPOINT="02"
    MEASUREBASIS="N" OTHERMEASUREPOINT="" MEASUREMETHOD=""
    SCRAPPROGRAM="" ENTRYSTATUS="N" NUMBEROFITEMS="10"
    BATCH="BATCH0422" LOCATION="" SITEMBA="">
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      <ISOTOPE
        MATERIALTYPE="E3" WEIGHTPERCENT=""
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      </ISOTOPE>
    </ELEMENT>
  </MATERIAL>
  <MATERIAL
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    SCRAPPROGRAM="" ENTRYSTATUS="N" NUMBEROFITEMS="10"
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        ISOTOPEWEIGHT="159.00" UNIT="">
      </ISOTOPE>
    </ELEMENT>
  </MATERIAL>
  <MATERIAL
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    OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
    ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
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      ELEMENTWEIGHT="423.00" UNIT="">
      <ISOTOPE
        MATERIALTYPE="20" WEIGHTPERCENT=""
        ISOTOPEWEIGHT="271.00" UNIT="">
      </ISOTOPE>
    </ELEMENT>
  </MATERIAL>
</INVENTORY>
</PHYSICALINVENTORY>
```

Example 6a
Material Balance Report

DOE/NRC FORM 742U (MM-YYYY) 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. 3150-0004		EXPIRES: MM/DD/YYYY			
MATERIAL BALANCE REPORT				Estimated burden per response to comply with this mandatory collection request: 5 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NE0B-10202, (3150-0004), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.					
1. NAME AND ADDRESS Advanced Physics 123 Anywhere Road Commontown, ZA 11111		2. LICENSE NUMBER(S)		3. REPORTING IDENTIFICATION SYMBOL (RIS) ABC		4. REPORT PERIOD (MM/DD/YYYY) FROM: 01/01/2002 TO: 12/31/2002		5. MATERIAL TYPE (Submit separate report for each type) 50	
SECTION A MATERIAL ACCOUNTABILITY									
PC	SEQ					A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT		
A	1	8. BEGINNING INVENTORY -- U.S. GOVT-OWNED				0.00	0.00		
		9. BEGINNING INVENTORY -- NOT U.S. GOVT-OWNED							
		RECEIPTS							
		11. PROCUREMENT FROM DOE RIS							
A	2	FROM:		DEF	11207.00	1112.00			
		13. PROCUREMENT -- FOR THE ACCOUNT OF DOE							
		14. DOD RETURNS -- USE A							
		15. DOD RETURNS -- USE B							
		16. DOD RETURNS -- OTHER USES							
		21. PRODUCTION							
		22. FROM OTHER MATERIALS							
		a. ICT							
		b. ICT							
		c. ICT							
		30. RECEIPTS REPORTED TO DOE/NRC ON DOE/NRC 741 (not listed elsewhere)							
A	3	FROM:		RIS					
				GHI	38.00	25.00			
		34. RECEIPTS -- MISC							
		37. PROCUREMENT BY OTHERS							
		38. DONATED MATERIAL -- FROM U.S. GOVT TO OTHERS							
		39. DONATED MATERIAL -- FROM OTHERS TO U.S. GOVT							
		40. TOTAL (Lines 8-39)							
		REMOVALS							
		41. EXPENDED IN SPACE PROGRAMS							
		42. SALES TO U.S. GOVT RIS TO:		RIS					
		TO:							
		43. SALES TO OTHERS FOR THE ACCOUNT OF U.S. GOVT RIS							
		TO:							
		44. DOD -- USE A							
		45. DOD -- USE B							
A	4	46. DOD -- OTHER USES			2.00	1.00			
		47. EXPENDED IN U.S. GOVT TESTS							
		48. ROUTINE TESTS							
		49. SHIPPER -- RECEIVER DIFFERENCE							
		51. SHIPMENTS REPORTED TO NRC/DOE ON NRC/DOE 741 (not listed elsewhere)							
		TO:		RIS					

Example 6b
Material Balance Report

DOE/NRC FORM 742U (MM-YYYY) 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. 3150-0004		EXPIRES: MM/DD/YYYY			
MATERIAL BALANCE REPORT				Estimated burden per response to comply with this mandatory collection request: 5 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov , and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0004), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.					
1. NAME AND ADDRESS <i>Advanced Physics 123 Anywhere Road Commontown, ZA 11111</i>		2. LICENSE NUMBER(S)		3. REPORTING IDENTIFICATION SYMBOL (RIS) ZZZ		4. REPORT PERIOD (MM/DD/YYYY) FROM 01/01/2002 TO 12/31/2002		5. MATERIAL TYPE (Submit separate report for each type) E2	
SECTION A MATERIAL ACCOUNTABILITY									
PC	SEQ					A. ELEMENT WEIGHT	B. ISOTOPE WEIGHT		
		8. BEGINNING INVENTORY -- U.S. GOVT-OWNED							
A	1	9. BEGINNING INVENTORY -- NOT U.S. GOVT-OWNED				800.00	150.00		
		RECEIPTS							
		11. PROCUREMENT FROM DOE RIS							
		FROM:							
		13. PROCUREMENT -- FOR THE ACCOUNT OF DOE							
		14. DOD RETURNS -- USE A							
		15. DOD RETURNS -- USE B							
		16. DOD RETURNS -- OTHER USES							
		21. PRODUCTION							
A	2	22. FROM OTHER MATERIALS		a. ICT ED	74.00	14.00			
				b. ICT					
				c. ICT					
		30. RECEIPTS REPORTED TO DOE/NRC ON DOE/NRC 741 (not listed elsewhere)							
		FROM: RIS							
		34. RECEIPTS -- MISC							
		37. PROCUREMENT BY OTHERS							
		38. DONATED MATERIAL -- FROM U.S. GOVT TO OTHERS							
		39. DONATED MATERIAL -- FROM OTHERS TO U.S. GOVT							
		40. TOTAL (Lines 8-39)							
		REMOVALS							
		41. EXPENDED IN SPACE PROGRAMS							
		42. SALES TO U.S. GOVT RIS TO:		RIS					
		TO:							
		43. SALES TO OTHERS FOR THE ACCOUNT OF U.S. GOVT RIS							
		TO:							
		44. DOD -- USE A							
		45. DOD -- USE B							
		46. DOD -- OTHER USES							
		47. EXPENDED IN U.S. GOVT TESTS							
		48. ROUTINE TESTS							
		49. SHIPPER -- RECEIVER DIFFERENCE							
		51. SHIPMENTS REPORTED TO NRC/DOE ON NRC/DOE 741 (not listed elsewhere)							
		TO:		RIS					

Example 6a, 6b

XML format:

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