

D-23

Personal Computer Data Input for Department Of Energy Contractors

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 DOE Contractors

D-23

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Washington, DC 20585-1290

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1. INTRODUCTION

1.1. Reporting Guidelines

Refer to the **DOE M 474.1-2, Manual for Nuclear Materials Management and Safeguards System Reporting and Data Submission** for specific Department of Energy (DOE) requirements in reporting data to the Nuclear Materials Management Safeguards System (NMMSS). This document specifies that data submissions should be made in acceptable electronic forms to the NMMSS and provides the information necessary for completing the source documents (forms) referenced in this directory.

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 DOE guidelines. A reporting facility 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 “/”) for every opening tag.**
- ❑ **A data attribute without surrounding double 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(19,7) 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, electronic mail, unclassified or classified mail. Electronic data may be mailed through the U.S. Postal Service on electronic media to the following address.

**Peter Dessaules
Program Manager
Office of Nuclear Materials Integration
NMMSS Program, NA-532, Germantown Building
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1290**

(For classified documents)

Refer to the SIMS for a Classified Address

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

- Facility'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=""
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
    • lines that make up the concise note
  OBLIGATION
    • lines required to report the obligations
    ELEMENT
      Contains element information for OBLIGATION
      ISOTOPE
        Contains isotope information for ELEMENT
  MATERIAL
    • 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="" 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

SHIPPERRIS="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 known 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.

>

<**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 up to 7 decimal places
Decimal point is not implied

>

<**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 up to 7 decimal places
Decimal point is not implied

/>

</**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="100.0000000"

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

NETWEIGHT="10.0000000"

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

KEYMEASUREPOINT=""

Attribute in Material node

2 Alphanumeric Characters

Validated by IAEA Facility Attachment Authority Reference Table

MEASUREBASIS=""

Attribute in Material node

1 Alphanumeric Characters

Validated by IAEA Facility Attachment Authority Reference Table

OTHERMEASUREPOINT=""

Attribute in Material node

2 Alphanumeric Characters

Validated by IAEA Facility Attachment Authority Reference Table

MEASUREMETHOD=""

Attribute in Material node

1 Alphanumeric Characters

Validated by IAEA Facility Attachment Authority Reference Table

TOPROJECT="ABCDEF1000"

Attribute in Material node

10 Alphanumeric Characters

Validated by Project Number Authority Reference Table if required

Only reportable with P Action Code Project Transfer

Also called To Project Number

TOCOEILINENUMBER=""

Attribute in Material node

4 Alphanumeric Characters

Validated by Comp Code Authority Reference Table

Only reportable with P Action Code 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 node for each Material node

ELEMENTWEIGHT="99.000000"

Attribute in Element node

Numeric (19,7)

19 digits of precision and up to 7 decimal places

Decimal point is not implied

ELEMENTLOE="10"

Attribute in Element node

Integer

>

<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 up to 6 decimal places
Decimal point is not implied

ISOTOPEWEIGHT="9.0000000"

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

ISOTOPELOE="10"

Attribute in Isotope node
Integer

/>

</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>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)	

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.

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>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>Note</u>
Description		DESCRIPTION	Char(1000)	

Miscellaneous Information <MISCELLANEOUS>

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

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>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>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>Note</u>
Material Type	19	MATERIALTYPE	Char(2)	
Obligated Isotope Weight ^{5,6}	21	ISOTOPEWEIGHT	Num(15,3)	

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

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

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

Value must include a decimal point.

Isotope Weight¹⁰ 26/27 q ISOTOPEWEIGHT Num(15,3)

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

2.2. Requirements for Internal Project Transfers DOE/NRC Form 749

2.2.1. XML File Formatting

An example of an internal project transfer transaction submission in XML format is shown below. Additional examples are shown in Appendix B along with the corresponding DOE/NRC forms.

```
<TRANSACTIONS>
  <SHIPMENT SHIPPERRIS="ABC" RECEIVERRIS="ABC" TRANSFERNUMBER="000010" CORRECTION=""
  PROCESSCODE="A" ACTIONCODE="P" NUMBEROFLINES="1" NATUREOFTRANSACTION="" SHIPPEDFORRIS=""
  SHIPPEDTORIS="" TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="01/15/2002" LICENSENUMBER=""
  TOTALGROSSWEIGHT="" TOTALVOLUME="" SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
    <MATERIAL PROJECT="PEI8400029" COEILINENUMBER="105" TYPEINVENTORYCHANGE="" OWNER="G"
    KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
    NETWEIGHT="" TOPROJECT="PEI84930E9" TOCOEILINENUMBER="105" BACKREFLINENUMBER="" LINENUMBER="1"
    BATCH="" NUMBEROFITEMS="">
      <ELEMENT ELEMENTWEIGHT="1005.00" ELEMENTLOE="" UNIT="">
        <ISOTOPE MATERIALTYPE="10" WEIGHTPERCENT="10.0000" ISOTOPEWEIGHT="100.00" ISOTOPELOE=""
        UNIT="">
          </ISOTOPE>
        </ELEMENT>
      </MATERIAL>
    </SHIPMENT>
  </TRANSACTIONS>
```

Form ADP-749, used for Internal Project Transfers, does not list blocks by number and therefore is not included in the list below. See the 80 column format for the columnar cell source on the ADP 749.

Root Tag <TRANSACTIONS>

Header Information <SHIPMENT>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Shipper RIS	SHIPPERRIS	Char(4)	
Receiver RIS	RECEIVERRIS	Char(4)	
Internal Transaction Number	TRANSFERNUMBER	Char(8)	Right justified Zero fill blanks
Correction Number	CORRECTION	Char(1)	
Process Code	PROCESSCODE	Char(1)	See Appendix A.
Action Code	ACTIONCODE	Char(1)	Value is P
Number of Data Lines	NUMBEROFLINES	Num(5)	

¹⁰ The RIS must attain authorization from DOE to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

TI Code/Nature of Transaction	NATUREOFTRANSACTION	Char(1)	List tag only
RIS For Account	SHIPPEDFORRIS	Char(4)	List tag only
RIS To Account	SHIPPEDTORIS	Char(4)	List tag only
Contract Identification Number	TRANSFERAUTHORITY	Char(17)	
IAEA UK Reportable	UKFLAG	Char(1)	List tag only
Action Date	ACTIONDATE	Date	MM/DD/YYYY
License Number	LICENSENUMBER	Char(10)	List tag only
Total Gross Weight	TOTALGROSSWEIGHT	Num(10)	List tag only
Total Volume	TOTALVOLUME	Num(9)	List tag only
Sealed Source Serial Number	SEALEDSOURCE	Char(10)	List tag only
Receiving Transfer Authority	TOTRANSFERAUTHORITY	Char(17)	List tag only

Detail Information <MATERIAL>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
From Project Number	PROJECT	Char(10)	
From Composition Facility Code	COEILINENUMBER	Char(4)	
Type of Inventory Change	TYPEINVENTORYCHANGE	Char(2)	List tag only
Owner Code	OWNER	Char(1)	Value is G
Key Measurement Point	KEYMEASUREPOINT	Char(2)	List tag only
Measurement Basis	MEASUREBASIS	Char(1)	List tag only
Other Measurement Point	OTHERMEASUREPOINT	Char(2)	List tag only
Measurement Method	MEASUREMETHOD	Char(1)	List tag only
Gross Weight	GROSSWEIGHT	Num(10)	List tag only
Net Weight	NETWEIGHT	Num(10)	List tag only
To Project Number	TOPROJECT	Char(10)	
To Composition Facility Code	TOCOEILINENUMBER	Char(4)	
Back Reference Number	BACKREFLINENUMBER	Char(3)	List tag only
Line Number	LINENUMBER	Num(5)	
Batch Name/Identification	BATCH	Char(16)	List tag only
Number of Items	NUMBEROFITEMS	Num(2)	List tag only

Detail Information <ELEMENT>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Element Weight ¹¹	ELEMENTWEIGHT	Num(19,7)	Value must include a decimal point.
Element Limit of Error	ELEMENTLOE	Num(5)	List tag only
Unit of Measure	UNIT	Char(4)	List tag only

Detail Information <ISOTOPE>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Material Type	MATERIALTYPE	Char(2)	
Weight Percent Isotope/Parts Per Million	WEIGHTPERCENT	Num(6,4) ¹²	

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

Isotope Weight ²¹	ISOTOPEWEIGHT	Num(19,7)	
			<i>Value must include a decimal point.</i>
Isotope Limit of Error	ISOTOPELOE	Num(5)	List tag only
Unit of Measure	UNIT	Char(4)	List tag only

2.3. Requirements for Contract Reclassifications DOE/NRC Form 749A

2.3.1. XML File Formatting

An example of contract reclassification transaction submission in XML format is shown below. Additional examples are shown in Appendix C along with the corresponding DOE/NRC forms.

```
<TRANSACTIONS>
<SHIPMENT SHIPPERRIS="ABC" RECEIVERRIS="ABC" TRANSFERNUMBER="000214" CORRECTION=""
PROCESSCODE="A" ACTIONCODE="P" NUMBEROFLINES="1" NATUREOFTRANSACTION="" SHIPPEDFORRIS=""
SHIPPEDTORIS="" TRANSFERAUTHORITY="SC001546982157658" UKFLAG="" ACTIONDATE="02/15/2002"
LICENSENUMBER="" TOTALGROSSWEIGHT="" TOTALVOLUME="" SEALEDSOURCE=""
TOTRANSFERAUTHORITY="TC998582584659715">
  <MATERIAL PROJECT="" COEILINENUMBER="105" TYPEINVENTORYCHANGE="" OWNER="G"
KEYMEASUREPOINT="" MEASUREBASIS="" OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER="105" BACKREFLINENUMBER="" LINENUMBER="1" BATCH=""
NUMBEROFITEMS="">
    <ELEMENT ELEMENTWEIGHT="1000.00" ELEMENTLOE="" UNIT="">
      <ISOTOPE MATERIALTYPE="10" WEIGHTPERCENT="10.0000" ISOTOPEWEIGHT="100.00" ISOTOPELOE=""
UNIT="">
        </ISOTOPE>
      </ELEMENT>
    </MATERIAL>
  </SHIPMENT>
</TRANSACTIONS>
```

Form ADP-749A, used for Contract Reclassifications, does not list blocks by number and therefore is not included in the list below. See the 80 column format for the columnar cell source on the ADP 749A.

Root Tag <TRANSACTIONS>

Header Information <SHIPMENT>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Shipper RIS	SHIPPERRIS	Char(4)	
Receiver RIS	RECEIVERRIS	Char(4)	
Internal Transaction Number	TRANSFERNUMBER	Char(8)	Right justified Zero fill blanks
Correction Number	CORRECTION	Char(1)	
Process Code	PROCESSCODE	Char(1)	See Appendix A.
Action Code	ACTIONCODE	Char(1)	Value is P

¹² 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.

Number of Data Lines	NUMBEROFLINES	Num(5)	
TI Code/Nature of Transaction	NATUREOFTRANSACTION	Char(1)	List tag only
RIS For Account	SHIPPEDFORRIS	Char(4)	List tag only
RIS To Account	SHIPPEDTORIS	Char(4)	List tag only
Contract Identification Number	TRANSFERAUTHORITY	Char(17)	
IAEA UK Reportable	UKFLAG	Char(1)	List tag only
Action Date	ACTIONDATE	Date	MM/DD/YYYY
License Number	LICENSENUMBER	Char(10)	List tag only
Total Gross Weight	TOTALGROSSWEIGHT	Num(10)	List tag only
Total Volume	TOTALVOLUME	Num(9)	List tag only
Sealed Source Serial Number	SEALEDSOURCE	Char(10)	List tag only
Receiving Transfer Authority	TOTRANSFERAUTHORITY	Char(17)	

Detail Information <MATERIAL>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
From Project Number	PROJECT	Char(10)	List tag only
From Composition Facility Code	COEILINENUMBER	Char(4)	
Type of Inventory Change	TYPEINVENTORYCHANGE	Char(2)	List tag only
Owner Code	OWNER	Char(1)	Value is G
Key Measurement Point	KEYMEASUREPOINT	Char(2)	List tag only
Measurement Basis	MEASUREBASIS	Char(1)	List tag only
Other Measurement Point	OTHERMEASUREPOINT	Char(2)	List tag only
Measurement Method	MEASUREMETHOD	Char(1)	List tag only
Gross Weight	GROSSWEIGHT	Num(10)	List tag only
Net Weight	NETWEIGHT	Num(10)	List tag only
To Project Number	TOPROJECT	Char(10)	List tag only
To Composition Facility Code	TOCOEILINENUMBER	Char(4)	
Back Reference Number	BACKREFLINENUMBER	Char(3)	List tag only
Line Number	LINENUMBER	Num(2)	
Batch Name/Identification	BATCH	Char(16)	List tag only
Number of Items	NUMBEROFITEMS	Num(2)	List tag only

Detail Information <ELEMENT>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Element Weight ¹³	ELEMENTWEIGHT	Num(19,7)	Value must include a decimal point.
Element Limit of Error	ELEMENTLOE	Num(5)	List tag only
Unit of Measure	UNIT	Char(4)	List tag only

Detail Information <ISOTOPE>

<u>Field Description</u>	<u>XML Attribute</u>	<u>Type</u>	<u>Note</u>
Material Type	MATERIALTYPE	Char(2)	

¹³ The RIS must attain authorization from DOE to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

Weight Percent Isotope/Parts Per Million	WEIGHTPERCENT	Num(6,4) ¹⁴	
Isotope Weight ²⁷	ISOTOPEWEIGHT	Num(19,7)	
			<i>Value must include a decimal point.</i>
Isotope Limit of Error	ISOTOPELOE	Num(5)	List tag only
Unit of Measure	UNIT	Char(4)	List tag only

¹⁴ 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.

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="0.000000" UNIT="">  
        <ISOTOPE MATERIALTYPE="R" WEIGHTPERCENT="0.000000" ISOTOPEWEIGHT="0.000000"  
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="R" 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 up to 7 decimal places
        Decimal point is not implied
>
<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 up to 6 decimal places
        Decimal point is not implied
    ISOTOPEWEIGHT="9.0000000"
        Attribute in Isotope node
        Numeric (19,7)
        19 digits of precision and up to 7 decimal places
        Decimal point is not implied
/>
</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>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>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>Note</u>
Process Code	5q	PROCESSCODE	Char(1)	See Appendix A.
Sequence Number ¹⁵	5i	SEQUENCENUMBER	Num(6)	
Project Number ¹⁶	5e	PROJECT	Char(10)	
Composition-Facility Code ¹⁷	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>Note</u>
Process Code	5e	PROCESSCODE	Char(1)	See Appendix A.
Line Number	7a	LINENUMBER	Num(2)	
Entry Reference	7b	ENTRYREFERENCE	Char(20)	

¹⁵ 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).

¹⁶ Project numbers are reported only for government owned material.

¹⁷ For total lines, this field will always contain "899".

Concise Note Text 7c TEXTOFCONCISENOTE Char(60)

Detail Information <ELEMENT>

<u>Field Description</u>	<u>742C</u>	<u>XML Attribute</u>	<u>Type</u>
Element Weight ¹⁸	5c	ELEMENTWEIGHT	Num(15,3) <i>Value must include a decimal point.</i>
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>
Material Type	5a	MATERIALTYPE	Char(2)
Weight Percent Isotope/Parts Per Million	5g	WEIGHTPERCENT	Num(6,4) ¹⁹ <i>Value must include a decimal point.</i>
Isotope Weight ³⁴	5d	ISOTOPEWEIGHT	Num(15,3) <i>Value must include a decimal point.</i>
Unit of Measure	-	UNIT	Char(4) List tag only

¹⁸ The RIS must attain authorization from DOE to report to the 3rd decimal. Three decimal reporting is only allowed when reporting Source Material.

¹⁹ 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.

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

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.

APPENDIX B EXAMPLES

Example 1

DOENRC FORM 711		U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION				NUCLEAR MATERIAL TRANSACTION REPORT				EXERCISE 413 (10/01)					
1. SHIPPER'S NAME AND ADDRESS 2. RECEIVER'S NAME AND ADDRESS		3. TRANSACTION NO.		4. CORRECTION NO.		5. RECEIVED DATE		6. LICENSE NO.		7. LICENSE NO.		8. RECEIVED DATE		9. RECEIVED DATE	
ABC DEF 131															
10. NUCLEAR MATERIAL TYPE AND DESCRIPTION		11. NATURE OF TRANSACTION		12. SHIPPER'S ACCOUNT NO.		13. RECEIVER'S ACCOUNT NO.		14. COUNTRY OF ORIGIN		15. MATERIAL TYPE		16. DATE OF EXPORT TRANSACTIONS LICENSE NO.		17. DATE OF EXPORT TRANSACTIONS LICENSE NO.	
Advanced Physics 123 Anywhere Road Commontown ZA 1111		3													
18. TOTAL URGOS WEIGHT		19. TOTAL URGOS WEIGHT		20. TOTAL URGOS WEIGHT		21. TOTAL URGOS WEIGHT		22. TOTAL URGOS WEIGHT		23. TOTAL URGOS WEIGHT		24. TOTAL URGOS WEIGHT		25. TOTAL URGOS WEIGHT	
20081		20081		20081		20081		20081		20081		20081		20081	
26. SHIPPER'S DATA		27. RECEIVER'S DATA		28. SHIPPER'S DATA		29. RECEIVER'S DATA		30. SHIPPER'S DATA		31. RECEIVER'S DATA		32. SHIPPER'S DATA		33. RECEIVER'S DATA	
34. SHIPPER'S DATA		35. RECEIVER'S DATA		36. SHIPPER'S DATA		37. RECEIVER'S DATA		38. SHIPPER'S DATA		39. RECEIVER'S DATA		40. SHIPPER'S DATA		41. RECEIVER'S DATA	
42. SHIPPER'S DATA		43. RECEIVER'S DATA		44. SHIPPER'S DATA		45. RECEIVER'S DATA		46. SHIPPER'S DATA		47. RECEIVER'S DATA		48. SHIPPER'S DATA		49. RECEIVER'S DATA	
50. SHIPPER'S DATA		51. RECEIVER'S DATA		52. SHIPPER'S DATA		53. RECEIVER'S DATA		54. SHIPPER'S DATA		55. RECEIVER'S DATA		56. SHIPPER'S DATA		57. RECEIVER'S DATA	
58. SHIPPER'S DATA		59. RECEIVER'S DATA		60. SHIPPER'S DATA		61. RECEIVER'S DATA		62. SHIPPER'S DATA		63. RECEIVER'S DATA		64. SHIPPER'S DATA		65. RECEIVER'S DATA	
66. SHIPPER'S DATA		67. RECEIVER'S DATA		68. SHIPPER'S DATA		69. RECEIVER'S DATA		70. SHIPPER'S DATA		71. RECEIVER'S DATA		72. SHIPPER'S DATA		73. RECEIVER'S DATA	
74. SHIPPER'S DATA		75. RECEIVER'S DATA		76. SHIPPER'S DATA		77. RECEIVER'S DATA		78. SHIPPER'S DATA		79. RECEIVER'S DATA		80. SHIPPER'S DATA		81. RECEIVER'S DATA	
82. SHIPPER'S DATA		83. RECEIVER'S DATA		84. SHIPPER'S DATA		85. RECEIVER'S DATA		86. SHIPPER'S DATA		87. RECEIVER'S DATA		88. SHIPPER'S DATA		89. RECEIVER'S DATA	
90. SHIPPER'S DATA		91. RECEIVER'S DATA		92. SHIPPER'S DATA		93. RECEIVER'S DATA		94. SHIPPER'S DATA		95. RECEIVER'S DATA		96. SHIPPER'S DATA		97. RECEIVER'S DATA	
98. SHIPPER'S DATA		99. RECEIVER'S DATA		100. SHIPPER'S DATA		101. RECEIVER'S DATA		102. SHIPPER'S DATA		103. RECEIVER'S DATA		104. SHIPPER'S DATA		105. RECEIVER'S DATA	

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMITTERS 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 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="XXX1234567" COEILINENUMBER="309"
      TYPEINVENTORYCHANGE=""
      OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
      BACKREFLINENUMBER="" LINENUMBER="1" BATCH="A BATCH ID"
      NUMBEROFITEMS="1">
      <ELEMENT
        ELEMENTWEIGHT="426.00" ELEMENTLOE="" UNIT="" >
        <ISOTOPE
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      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
      BACKREFLINENUMBER="" LINENUMBER="2" BATCH="A BATCH ID"
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      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
      BACKREFLINENUMBER="" LINENUMBER="3" BATCH="A BATCH ID"
      NUMBEROFITEMS="1">
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</TRANSACTIONS>
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Example 2

20. MISC. REFERENCE NO.		21. MISC. REFERENCE NO.		22. MISC. REFERENCE NO.		23. MISC. REFERENCE NO.		24. MISC. REFERENCE NO.	
001	01	001	01	001	01	001	01	001	01
010	02	010	02	010	02	010	02	010	02
020	03	020	03	020	03	020	03	020	03
030	04	030	04	030	04	030	04	030	04
<p>27. RECEIVER DATA</p>									
<p>28. BILFIBER DATA</p>									

25. MATERIAL TYPE AND DESCRIPTION	26. BILFIBER DATA	27. RECEIVER DATA	28. BILFIBER DATA
Advanced Physics 123 Anywhere Road Commontown ZA 1111			

29. TOTAL VOLUME WEIGHT TRANSPORTED (MAY)	30. RECIPIENT'S CORRECTION	31. YEAR (YYYY)
426.00		2002
430.00		
2213.00		
2211.00		

Example 2

XML format:

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<TRANSACTIONS>
  <SHIPMENT
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    CORRECTION="1" PROCESSCODE="A" ACTIONCODE="C" NUMBEROFLINES="4"
    NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
    TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002"
    LICENSENUMBER="" TOTALGROSSWEIGHT="" TOTALVOLUME=""
    SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
    <MATERIAL
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      TYPEINVENTORYCHANGE=""
      OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
      BACKREFLINENUMBER="001" LINENUMBER="1" BATCH=""
      NUMBEROFITEMS="-1">
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        ELEMENTWEIGHT="-426.00" ELEMENTLOE="" UNIT="" >
        <ISOTOPE
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          ISOTOPEWEIGHT="-3.00" ISOTOPELOE="" UNIT="" >
        </ISOTOPE>
      </ELEMENT>
    </MATERIAL>
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      OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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    </MATERIAL>
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      TYPEINVENTORYCHANGE=""
      OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
      NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
      BACKREFLINENUMBER="002" LINENUMBER="3" BATCH=""
      NUMBEROFITEMS="1">
      <ELEMENT
        ELEMENTWEIGHT="-2213.00" ELEMENTLOE="" UNIT="" >
        <ISOTOPE
          MATERIALTYPE="20" WEIGHTPERCENT="2.5305"
          ISOTOPEWEIGHT="-56.00" ISOTOPELOE="" UNIT="" >
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    </MATERIAL>
  </SHIPMENT
</TRANSACTIONS>
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PROJECT="XXX1234567" COEILINENUMBER="309"  
TYPEINVENTORYCHANGE=""  
OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""  
OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""  
NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""  
BACKREFLINENUMBER="103" LINENUMBER="4" BATCH=""  
NUMBEROFITEMS="1">  
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</SHIPMENT>  
</TRANSACTIONS>
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Example 3a

DO ENRC FORM 741
 U.S. DEPARTMENT OF ENERGY
 AND
 U.S. NUCLEAR REGULATORY COMMISSION
NUCLEAR MATERIAL TRANSACTION REPORT

APPROVED BY (OMB NO. 3240-0043)
 Estimated burden per response to comply with this mandatory collection request is minutes. The information is required for RAB accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the Records Management Branch (24-50), U.S. Nuclear Regulatory Commission, Washington DC 20555-0043, or by Internet e-mail to: nrc.records@nrc.gov, and to the local Office of Information Regulatory Affairs, NRC (400), 500 13th Street, NW, Washington, DC 20541. Its main use is to impose an information collection obligation on the dealer or carrier and OMB control number 3240-0043 may not be used to respond to the information collection.

1. SHIPPER'S RS: ABC
 2. RECEIVER'S RS: DEF
 3. RECEIPT NO.: 131
 4. LICENSE NO.: 0

5. NAME AND ADDRESS OF SHIPPER:
 Advanced Physics
 123 Anywhere Road
 Commontown ZA 1111

6. NAME AND ADDRESS OF RECEIVER:
 Attention
 Telephone

7. TRANSFER AUTHORITY, CONTRACT, INQUIRY, OR ORDER NUMBER:
 8. MATRIAL TYPE AND DESCRIPTION:
 9. EXPORT OR INQUIRY NUMBER, LICENSE NO.:
 10. MATERIAL TYPE AND DESCRIPTION:
 11. NUMBER OF TRANSACTIONS:
 12. SHIPPED FOR ACCOUNT OF (R. NS):
 13. RECEIPT OF RECEIVED MATERIAL NO.:

14. SHIPPER'S SIGNATURE: A
 15. RECEIVER'S SIGNATURE: B
 16. DATE OF TRANSACTION: 12 31 2002

17. COMMERCIAL INVOICE NO. 18. MATERIAL TYPE 19. SHIPPER'S CORRECTION 20. ACTION DATE 21. OBLIGATED GROSS WEIGHT
 22. ELEMENT WEIGHT 23. SUPPLEMENT 24. RECEIPT 25. RECEIVER'S CORRECTION
 26. NET WEIGHT 27. RECEIVED DATA

28. SHIPPER'S DATA
 29. RECEIVER'S 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 IMPOSES 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 3c

DD FORM 7-001 (2-2000) Previous editions are obsolete. ANNUAL REPORTING INSTRUCTIONS FOR THE U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION PUBLIC LAW 107-173, DIVISION 1, TITLE 10, SECTION 1702, AND PUBLIC LAW 107-173, DIVISION 1, TITLE 10, SECTION 1703		U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0008 Es mailed herein per response to comply with the mandatory collection request. This information is required by the providers of the IAEA Safeguards Agreement. Send comment regarding burden estimate to the Regulatory Management Branch (The Reg. U.S. Nuclear Regulatory Commission, Washington DC 20545-0001), or to the Office of Management and Budget (Washington, DC 20503). It is a measure used to impose an information collection burden on individuals. It is currently valid OMB control number, the NRC may not conduct or sponsor an information collection 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: ABC B. RECEIVERS REB: RGHI C. TRANSFER NUMBER: 10257 D. CORR. NUMBER: E. PC: A F. AC: A		4. REPORTING PERIOD FROM: TO:	
STREET ADDRESS 123 Anywhere Road		STATE ZIP CODE ZA 77777		6. REPORTING DATE	
CITY Comintown		7B. ENTRY REFERENCE		7C. TEXT OF CONCISE NOTE	
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			
8. SIGNATURE (See instructions [NUREG/B R-0006] for provisions regarding confidentiality.) John Doe		9. TITLE MC&A Representative		10. DATE 12/31/2002	
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED HEREIN IS TRUE, COMPLETE, AND CORRECT. WARNING: FALSE STATEMENTS IN THIS CERTIFICATE CATEGORY ARE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMITTERS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIALS REPORTS. 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

DO ENRC FORM 141
 U.S. DEPARTMENT OF ENERGY
 U.S. NUCLEAR REGULATORY COMMISSION
 NUCLEAR MATERIAL TRANSACTION REPORT

APPROVED BY (OMB NO. 3165-0043)
 Estimated burden per response to comply with this mandatory collection request is minutes. The information is required for RRI accounting reports that show changes in inventory of nuclear materials. Send comments regarding burden estimate to the Records Management Branch (74-50), U.S. Nuclear Regulatory Commission, Washington DC 20555-0043, or by Internet email to info@nrc.gov, and to the local Office of Information Management Regulatory Affairs, NRC, 400 9th St., NW, Washington, DC 20545. It is meant to impose an information collection when the data is current and OMB control number should not be used to respond to the information collection.

1. SHIPPER'S RS: ABC
 2. RECEIVER'S RS: ABC
 3. TRANSACTION NO.: 21229
 4. LICENSE NO.:
 5. RECEIVED FOR ACCOUNT OF: 2
 6. MATERIAL TYPE AND DESCRIPTION:
 7. SHIPPER'S NAME AND ADDRESS:
 Advanced Physics
 123 Anywhere Road
 Commontown ZA 11111
 8. ATTENTION:
 9. TELEPHONE:
 10. TRANSPORT AUTHORITY CONTRACT NUMBER, AIRCRAFT, OR OTHER NUMBER:
 11. SHIPPER'S NAME AND ADDRESS:
 12. RECEIVED FOR ACCOUNT OF: N/A
 13. SHIPPER'S TO ACCOUNT OF: N/A
 14. LICENSE NO.:
 15. EXPORT OR IMPORT TRANSPORT LICENSE NO.:
 16. MATERIAL TYPE AND DESCRIPTION:
 17. LICENSE NO.:
 18. NO. OF BULK LINES:
 19. SHIPPER'S CORRECTION:
 20. RECEIVER'S CORRECTION:
 21. OBLIGATED GROSS WEIGHT FOR TRANSPORT ONLY:
 22. ACTION DATE:
 23. SHIPPER'S CORRECTION:
 24. RECEIVER'S CORRECTION:
 25. TOTAL GROSS WEIGHT:
 26. TOTAL VOLUME (WEIGHT TRANSPORT ONLY):
 27. RECEIVER DATA:
 28. SHIPPER DATA:
 29. RECEIVER DATA:

LINE NO.	SHIPPER'S RS	RECEIVER'S RS	TRANSACTION NO.	LICENSE NO.	SHIPPER'S NAME AND ADDRESS	RECEIVED FOR ACCOUNT OF	MATERIAL TYPE AND DESCRIPTION	EXPORT OR IMPORT TRANSPORT LICENSE NO.	MATERIAL TYPE AND DESCRIPTION	SHIPPER'S CORRECTION	RECEIVER'S CORRECTION	TOTAL GROSS WEIGHT	TOTAL VOLUME (WEIGHT TRANSPORT ONLY)	SHIPPER DATA	RECEIVER DATA
01	NP											4767.00	45.6681	1255.00	
02	TN											10945.00	24.4303	10945.00	

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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    TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002" LICENSENUMBER=""
    TOTALGROSSWEIGHT="" TOTALVOLUME="" SEALEDSOURCE=""
    TOTRANSFERAUTHORITY="">
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    NATUREOFTRANSACTION="" SHIPPEDFORRIS="" SHIPPEDTORIS=""
    TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002"
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    SEALEDSOURCE="" TOTRANSFERAUTHORITY="">
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    </CONCISENOTE>
    <CONCISENOTE
      LINENUMBER="2" ENTRYREFERENCE="WHOLE REPORT"
      TEXTOFCONCISENOTE="MBA Code UABC BL1">
    </CONCISENOTE>
    <CONCISENOTE
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      TEXTOFCONCISENOTE="Batch ID -Any Batch Name- BL24d">
    </CONCISENOTE>
    <CONCISENOTE
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      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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  </ELEMENT>
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  MEASUREMETHOD="" GROSSWEIGHT="" NETWEIGHT="" TOPROJECT=""
  TOCOEILINENUMBER="" BACKREFLINENUMBER="" LINENUMBER="2" BATCH=""
  NUMBEROFITEMS="1">
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    </ISOTOPE>
  </ELEMENT>
</MATERIAL>
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  TRANSFERAUTHORITY="" UKFLAG="" ACTIONDATE="12/31/2002" LICENSENUMBER=""
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  TOTRANSFERAUTHORITY="">
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    OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
    NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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    </ELEMENT>
  </MATERIAL>
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  OTHERMEASUREPOINT="" MEASUREMETHOD="" GROSSWEIGHT=""
  NETWEIGHT="" TOPROJECT="" TOCOEILINENUMBER=""
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        <ISOTOPE
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  </SHIPMENT>
</TRANSACTIONS>
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**Example 4
 Physical Inventory Listing**

NRC FORM 742CU (MM-YYYY) MANDATORY DATA COLLECTION APPROVED BY OMB: NO. 3150-0058 U.S. DEPARTMENT OF ENERGY AND U.S. NUCLEAR REGULATORY COMMISSION PHYSICAL INVENTORY LISTING Expires: MM/DD/YYYY Estimated burden per response to comply with this mandatory collection request: 8 hours. This information is required by NRC to fulfill its safeguards responsibilities, bilateral agreements, and responsibilities as a participant in the USIAEA Safeguards Agreement. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (7-5 P52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to: nrc.privacy@nrc.gov. 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.		APPROVED BY OMB: NO. 3150-0058 Expires: MM/DD/YYYY Estimated burden per response to comply with this mandatory collection request: 8 hours. This information is required by NRC to fulfill its safeguards responsibilities, bilateral agreements, and responsibilities as a participant in the USIAEA Safeguards Agreement. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (7-5 P52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to: nrc.privacy@nrc.gov. 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</i> STREET ADDRESS <i>123 Anywhere Road</i> CITY <i>Commontown</i>		STATE <i>ZA</i>	ZIP CODE <i>11111</i>	3. INVENTORY DATE <i>12/31/2002</i>	4. LICENSE NUMBER(S) <i>ABC</i>											
5. BATCH DATA																
MATERIAL TYPE	ELEMENT CODE	ELEMENT WEIGHT	ISOTOPE WEIGHT	DDE PROJECT NO.	SHIP PROGRAM	MEASUREMENT CENTER	OTHER CODE	BATCH NUMBER	BATCH NAME	KEY MEASUREMENT POINT	OTHER MEASUREMENT POINT	MEASUREMENT METHOD	STATUS	NEA	DU	PROCESS CODE
33	725	99	18	GGE044499X			G	1								A
39	771	100	1	GAF2949999			G	2								A
23	771	45	12	GDD49949RM			G	3								A
23	771	65	20	GDD49949RM			G	4								A
6. TOTALS		210	51					5								
To the best of my knowledge and belief, the information given above and in any attached schedules is true, complete, and correct.						8. TITLE <i>MC&A Representative</i>		9. DATE <i>12/31/2002</i>								
7. SIGNATURE <i>John Doe</i>																
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 4

XML format:

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<PHYSICALINVENTORY>
  <INVENTORY
    RIS="ABC" DATE="12/31/2002" >
    <MATERIAL
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      COEILINENUMBER="725" OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
      ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
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    <ISOTOPE
      MATERIALTYPE="33" WEIGHTPERCENT=""
      ISOTOPEWEIGHT="18.00" UNIT="">
    </ISOTOPE>
  </ELEMENT>
</MATERIAL>
  <MATERIAL
    PROCESSCODE="A" SEQUENCENUMBER="2" PROJECT="GAF2949999"
    COEILINENUMBER="771" OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
    OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
    ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
  <ELEMENT
    ELEMENTWEIGHT="100.00" UNIT="">
  <ISOTOPE
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    ISOTOPEWEIGHT="1.00" UNIT="">
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</ELEMENT>
</MATERIAL>
  <MATERIAL
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    COEILINENUMBER="771" OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
    OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
    ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
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  </ISOTOPE>
</ELEMENT>
</MATERIAL>
  <MATERIAL
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    COEILINENUMBER="771" OWNER="G" KEYMEASUREPOINT="" MEASUREBASIS=""
    OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
    ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
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    ISOTOPEWEIGHT="20.00" UNIT="">
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  <MATERIAL
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COEILINENUMBER="899" OWNER="" KEYMEASUREPOINT="" MEASUREBASIS=""  
OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""  
ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">  
<ELEMENT  
  ELEMENTWEIGHT="210.00" UNIT="">  
  <ISOTOPE  
    MATERIALTYPE="20" WEIGHTPERCENT=""  
    ISOTOPEWEIGHT="51.00" UNIT="">  
  </ISOTOPE>  
</ELEMENT>  
</MATERIAL>  
</INVENTORY>  
</PHYSICALINVENTORY>
```


Example 5

XML format:

```
<PHYSICALINVENTORY>
  <INVENTORY
    RIS="ABC" DATE="12/31/2002" >
    <MATERIAL
      PROCESSCODE="A" SEQUENCENUMBER="1" PROJECT="GGE077799X"
      COEILINENUMBER="771" OWNER="G" KEYMEASUREPOINT="02"
      MEASUREBASIS="S" OTHERMEASUREPOINT="" MEASUREMETHOD=""
      SCRAPPROGRAM="" ENTRYSTATUS="N" NUMBEROFITEMS="10"
      BATCH="BATCH0422" LOCATION="" SITEMBA="">
      <ELEMENT
        ELEMENTWEIGHT="155.00" UNIT="">
        <ISOTOPE
          MATERIALTYPE="33" WEIGHTPERCENT=""
          ISOTOPEWEIGHT="112.00" UNIT="">
        </ISOTOPE>
      </ELEMENT>
    </MATERIAL>
    <MATERIAL
      PROCESSCODE="A" SEQUENCENUMBER="2" PROJECT="GGE077799X"
      COEILINENUMBER="771" OWNER="G" KEYMEASUREPOINT="02"
      MEASUREBASIS="S" OTHERMEASUREPOINT="" MEASUREMETHOD=""
      SCRAPPROGRAM="" ENTRYSTATUS="N" NUMBEROFITEMS="10"
      BATCH="BATCH0434" LOCATION="" SITEMBA="">
      <ELEMENT
        ELEMENTWEIGHT="268.00" UNIT="">
        <ISOTOPE
          MATERIALTYPE="33" WEIGHTPERCENT=""
          ISOTOPEWEIGHT="159.00" UNIT="">
        </ISOTOPE>
      </ELEMENT>
    </MATERIAL>
    <MATERIAL
      PROCESSCODE="A" SEQUENCENUMBER="3" PROJECT=""
      COEILINENUMBER="899" OWNER="" KEYMEASUREPOINT="" MEASUREBASIS=""
      OTHERMEASUREPOINT="" MEASUREMETHOD="" SCRAPPROGRAM=""
      ENTRYSTATUS="" NUMBEROFITEMS="" BATCH="" LOCATION="" SITEMBA="">
      <ELEMENT
        ELEMENTWEIGHT="423.00" UNIT="">
        <ISOTOPE
          MATERIALTYPE="20" WEIGHTPERCENT=""
          ISOTOPEWEIGHT="271.00" UNIT="">
        </ISOTOPE>
      </ELEMENT>
    </MATERIAL>
  </INVENTORY>
</PHYSICALINVENTORY>
```

APPENDIX C TRANSACTION SCHEMA

Transaction Schema Version 2

```
<?xml version="2.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.4 U (http://www.xmlspy.com) by Rick Edwards
(Westinghouse Savannah River Co) -->
<!--W3C Schema generated by XML Spy v4.4 U (http://www.xmlspy.com)-->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
  <xs:element name="TRANSACTIONS">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="SHIPMENT" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="CONCISENOTE"
minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:attribute
name="LINENUMBER" type="xs:int" use="required">
                    <xs:annotation>
                      <xs:documentation source="Comment LINENUMBER">Integer, non-
negative</xs:documentation>
                    </xs:annotation>
                  </xs:attribute>
                  <xs:attribute
name="ENTRYREFERENCE" type="xs:string" use="required">
                    <xs:annotation>
                      <xs:documentation source="Comment ENTRYREFERENCE">20 Alphanumeric
Characters</xs:documentation>
                    </xs:annotation>
                  </xs:attribute>
                  <xs:attribute
name="TEXTOFCONCISENOTE" type="xs:string" use="required">
                    <xs:annotation>
                      <xs:documentation source="Comment TEXTOFCONCISENOTE">60 Alphanumeric
Characters</xs:documentation>
                    </xs:annotation>
                  </xs:attribute>
                  <xs:anyAttribute/>
                </xs:complexType>
              </xs:element>
              <xs:element name="OBLIGATION"
minOccurs="0" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element
name="MATERIAL">
                      <xs:complexType>
                        <xs:sequence>
```



```
<xs:element name="ELEMENT">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="ISOTOPE">
        <xs:complexType>
          <xs:attribute name="MATERIALTYPE"
type="xs:string" use="required">
            <xs:annotation>
              <xs:documentation source="Comment
MATERIALTYPE">2 Alphanumeric Characters
Validated by MaterialType Authority Reference Table
</xs:documentation>
            </xs:annotation>
          </xs:attribute>
          <xs:attribute name="ISOTOPEWEIGHT"
type="xs:decimal" use="required">
            <xs:annotation>
              <xs:documentation source="Comment
ISOTOPEWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
decimal point is not implied
</xs:documentation>
            </xs:annotation>
          </xs:attribute>
          <xs:anyAttribute/>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
    <xs:attribute name="ELEMENTWEIGHT" type="xs:decimal"
use="required">
      <xs:annotation>
        <xs:documentation source="Comment
ELEMENTWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
decimal point is not implied</xs:documentation>
      </xs:annotation>
    </xs:attribute>
  </xs:complexType>
</xs:element>
```



```

                <xs:documentation source="Comment MATERIALTYPE">2
Alphanumeric Characters
Validated by MaterialType Authority Reference Table</xs:documentation>

            </xs:annotation>

        </xs:attribute>

        <xs:attribute name="WEIGHTPERCENT" type="xs:decimal"
use="optional">

            <xs:annotation>

                <xs:documentation source="Comment
WEIGHTPERCENT">Numeric (16,6)
16 digits of precision and up to 6 decimal places
Decimal point is not implied</xs:documentation>

            </xs:annotation>

        </xs:attribute>

        <xs:attribute name="ISOTOPEWEIGHT" type="xs:decimal"
use="required">

            <xs:annotation>

                <xs:documentation source="Comment
ISOTOPEWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied</xs:documentation>

            </xs:annotation>

        </xs:attribute>

        <xs:attribute name="ISOTOPELOE" type="xs:decimal" use="optional">

            <xs:annotation>

                <xs:documentation source="Comment
ISOTOPELOE">Integer</xs:documentation>

            </xs:annotation>

        </xs:attribute>

        <xs:anyAttribute/>

    </xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="ELEMENTWEIGHT" type="xs:decimal" use="required">

<xs:annotation>
```

```

    <xs:documentation source="Comment ELEMENTWEIGHT">Numeric (19,7)
    19 digits of precision and up to 7 decimal places
    Decimal point is not implied
  </xs:documentation>

  </xs:annotation>

</xs:attribute>

<xs:attribute name="ELEMENTLOE" type="xs:decimal" use="optional">

  <xs:annotation>

    <xs:documentation source="Comment
ELEMENTLOE">Integer</xs:documentation>

  </xs:annotation>

</xs:attribute>

<xs:anyAttribute/>

</xs:complexType>

</xs:element>
</xs:sequence>
<xs:attribute
name="LINENUMBER" type="xs:int" use="required">

  <xs:annotation>

    <xs:documentation source="Comment LINENUMBER">Integer, non-
    negative</xs:documentation>

  </xs:annotation>
</xs:attribute>
<xs:attribute
name="TYPEINVENTORYCHANGE" type="xs:string" use="optional">

  <xs:annotation>

    <xs:documentation source="Comment TYPEINVENTORYCHANGE">2 Alphanumeric
    Characters
    Validated by list of Codes when required</xs:documentation>

  </xs:annotation>
</xs:attribute>
<xs:attribute
name="BATCH" type="xs:string" use="optional">

  <xs:annotation>

    <xs:documentation source="Comment BATCH">16 Alphanumeric
    Characters</xs:documentation>

  </xs:annotation>
</xs:attribute>
<xs:attribute
name="NUMBEROFITEMS" type="xs:int" use="required">

  <xs:annotation>

    <xs:documentation source="Comment
NUMBEROFITEMS">Integer</xs:documentation>

  </xs:annotation>
</xs:attribute>

```

```
<xs:attribute
name="OWNER" type="xs:string" use="required">
</xs:attribute>
<xs:documentation source="Comment OWNER">1 Alpha Character
Validated by OwnerCode section of StaticData Authority Reference Table
Also called Owner Code</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
name="PROJECT" type="xs:string" use="optional">
</xs:attribute>
<xs:documentation source="Comment PROJECT">10 Alphanumeric Characters
Validated by ProjectNumber Authority Reference Table if required
Also called Project Number</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
name="COEILINENUMBER" type="xs:string" use="optional">
</xs:attribute>
<xs:documentation source="Comment COEILINENUMBER">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</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
name="GROSSWEIGHT" type="xs:decimal" use="optional">
</xs:attribute>
<xs:documentation source="Comment GROSSWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
name="NETWEIGHT" type="xs:decimal" use="optional">
</xs:attribute>
<xs:documentation source="Comment NETWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
name="KEYMEASUREPOINT" type="xs:string" use="optional">
</xs:attribute>
<xs:documentation source="Comment KEYMEASUREPOINT">2 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference Table
</xs:documentation>
</xs:documentation>
</xs:attribute>
</xs:attribute>
```

```

                                                                 <xs:attribute
name="MEASUREBASIS" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment MEASUREBASIS">1 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference Table
</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:attribute>
                                                                 <xs:attribute
name="OTHERMEASUREPOINT" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment OTHERMEASUREPOINT">2 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference Table
</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:attribute>
                                                                 <xs:attribute
name="MEASUREMETHOD" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment MEASUREMETHOD">1 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference Table
</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:attribute>
                                                                 <xs:attribute
name="TOPROJECT" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment TOPROJECT">10 Alphanumeric Characters
Validated by ProjectNumber Authority Reference Table if required
Only reportable with P ActionCode Project Transfer
Also called ToProject Number
</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:attribute>
                                                                 <xs:attribute
name="TOCOEILINENUMBER" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment TOCOEILINENUMBER">4 Alphanumeric
Characters
Validated by CompCode Authority Reference Table
Only reportable with P ActionCode Project Transfer
Also called To Comp Code
</xs:documentation>
                                                                 </xs:annotation>
                                                                 </xs:attribute>
                                                                 <xs:attribute
name="BACKREFLINENUMBER" type="xs:string" use="optional">
                                                                 </xs:attribute>
                                                                 <xs:annotation>
      <xs:documentation source="Comment BACKREFLINENUMBER">3 Alphanumeric
Characters
1st Character is the BackReferenceChangeDigit

```



```

                                <xs:documentation
source="Comment NUMBEROFLINES">Integer, non-negative</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="NATUREOFTRANSACTION"
type="xs:string" use="optional">
                                <xs:annotation>
                                <xs:documentation
source="Comment NATUREOFTRANSACTION">1 Alpha Character
Validated by TICode section of StaticData Authority Reference Table if
required
Also called TI Code</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="SHIPPEDFORRIS"
type="xs:string" use="optional">
                                <xs:annotation>
                                <xs:documentation
source="Comment SHIPPEDFORRIS">4 Alphanumeric Characters
Validated by RIS Authority Reference Table if required
Also called ForAccount</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="SHIPPEDTORIS"
type="xs:string" use="optional">
                                <xs:annotation>
                                <xs:documentation
source="Comment SHIPPEDTORIS">4 Alphanumeric Characters
Validated by RIS Authority Reference Table if required
Also called ToAccount</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="TRANSFERAUTHORITY"
type="xs:string" use="optional">
                                <xs:annotation>
                                <xs:documentation
source="Comment TRANSFERAUTHORITY">17 Alphanumeric Characters
No validation performed</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="UKFLAG"
type="xs:string" use="optional">
                                <xs:annotation>
                                <xs:documentation
source="Comment UKFLAG">1 Alpha Character
Validated by SpecialIAEACode section of StaticData Authority Reference Table,
acceptable values are blank, N or R
Also called SpecialIAEACode</xs:documentation>
                                </xs:annotation>
                                </xs:attribute>
                                <xs:attribute name="ACTIONDATE"
use="required">
                                <xs:annotation>
                                <xs:documentation
source="Comment ACTIONDATE">Date in mm/dd/yyyy format
Also called Activity Date</xs:documentation>
                                </xs:annotation>
                                <xs:simpleType>
                                <xs:restriction
base="xs:string">
```


</xs:schema>

APPENDIX D INVENTORY SCHEMA

Inventory Schema Version 2

```
<?xml version="2.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.4 U (http://www.xmlspy.com) by Rick Edwards
(Westinghouse Savannah River Co) -->
<!--W3C Schema generated by XML Spy v4.4 U (http://www.xmlspy.com)-->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
  <xs:element name="PHYSICALINVENTORY">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="INVENTORY">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="MATERIAL">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element
name="CONCISENOTE">
  <xs:complexType>
    <xs:attribute name="PROCESSCODE" type="xs:string" use="required">
    <xs:annotation>
      <xs:documentation source="Comment PROCESSCODE">1 Alpha Character
Accepted values A,C or D </xs:documentation>
    </xs:annotation>
  </xs:attribute>
    <xs:attribute name="LINENUMBER" type="xs:int" use="required">
    <xs:annotation>
      <xs:documentation source="Comment LINENUMBER">Integer, non-
negative</xs:documentation>
    </xs:annotation>
  </xs:attribute>
    <xs:attribute name="ENTRYREFERENCE" type="xs:string" use="required">
    <xs:annotation>
      <xs:documentation source="Comment ENTRYREFERENCE">20 Alphanumeric
Characters</xs:documentation>
    </xs:annotation>
```

```
</xs:attribute>

<xs:attribute name="TEXTTOFCONCISENOTE" type="xs:string" use="required">

<xs:annotation>

  <xs:documentation source="Comment TEXTTOFCONCISENOTE">60 Alphanumeric
  Characters</xs:documentation>

</xs:annotation>

</xs:attribute>

</xs:complexType>

</xs:element>
</xs:element
name="ELEMENT">

<xs:complexType>

<xs:sequence>

<xs:element name="ISOTOPE">

<xs:complexType>

  <xs:attribute name="MATERIALTYPE" type="xs:byte" use="required">

    <xs:annotation>

      <xs:documentation source="Comment MATERIALTYPE">2
      Alphanumeric Characters
      Validated by MaterialType Authority Reference Table
    </xs:documentation>

  </xs:annotation>

</xs:attribute>

  <xs:attribute name="WEIGHTPERCENT" type="xs:decimal"
  use="required">

    <xs:annotation>

      <xs:documentation source="Comment
      WEIGHTPERCENT">Numeric (16,6)
      16 digits of precision and up to 6 decimal places
      Decimal point is not implied
    </xs:documentation>

  </xs:annotation>

</xs:attribute>

  <xs:attribute name="ISOTOPEWEIGHT" type="xs:decimal"
  use="required">

    <xs:annotation>
```

```

                <xs:documentation source="Comment
ISOTOPEWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied
                </xs:documentation>

            </xs:annotation>

        </xs:attribute>

    </xs:complexType>

</xs:element>

</xs:sequence>

<xs:attribute name="ELEMENTWEIGHT" type="xs:decimal" use="required">

    <xs:annotation>

        <xs:documentation source="Comment ELEMENTWEIGHT">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied
    </xs:documentation>

    </xs:annotation>

    </xs:attribute>

</xs:complexType>

                                </xs:element>
                                </xs:sequence>
                                <xs:attribute
name="PROCESSCODE" type="xs:string" use="required">
                                <xs:annotation>

                                    <xs:documentation source="Comment PROCESSCODE">1 Alpha Character
Accepted values A,C or D</xs:documentation>

                                    </xs:annotation>
                                </xs:attribute>
                                <xs:attribute
name="SEQUENCENUMBER" type="xs:boolean" use="required">
                                <xs:annotation>

                                    <xs:documentation source="Comment SEQUENCENUMBER">Integer, non-
negative</xs:documentation>

                                    </xs:annotation>
                                </xs:attribute>
                                <xs:attribute
name="BATCH" type="xs:string" use="required">
                                <xs:annotation>

                                    <xs:documentation source="Comment BATCH">16 Alphanumeric Characters
                                </xs:documentation>

                                    </xs:annotation>
                                </xs:attribute>
                                <xs:attribute
name="NUMBEROFITEMS" type="xs:boolean" use="required">
                                <xs:annotation>
```



```

    <xs:documentation source="Comment OTHERMEASUREPOINT">2 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference
Table</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:attribute
name="MEASUREMETHOD" type="xs:string" use="required">
    </xs:annotation>

    <xs:documentation source="Comment MEASUREMETHOD">1 Alphanumeric
Characters
Validated by IAEAFacilityAttachment Authority Reference
Table</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:attribute
name="LOCATION" type="xs:string" use="required">
    </xs:annotation>

    <xs:documentation source="Comment LOCATION">20 Alphanumeric Characters
No validation occurs at this time</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:attribute
name="SITEMBA" type="xs:string" use="required">
    </xs:annotation>

    <xs:documentation source="Comment SITEMBA">20 Alphanumeric Characters
No validation occurs at this time</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="RIS" type="xs:string"
use="required">
    </xs:annotation>
  </xs:documentation
source="Comment RIS">4 Alphanumeric Characters
Validated by RIS Authority Reference Table</xs:documentation>
    </xs:annotation>
  </xs:attribute>
<xs:attribute name="DATE"
type="xs:string" use="required">
    </xs:annotation>
  </xs:documentation
source="Comment DATE">Date in mm/dd/yyyy format
Also called Inventory Report Date</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="VERSION" type="xs:byte"
use="required"/>
  </xs:complexType>
</xs:element>
</xs:schema>
```

APPENDIX E

MATERIAL BALANCE SCHEMA

Material Balance Schema Version 2

```
<?xml version="2.0" encoding="UTF-8"?>
<!-- edited with XML Spy v4.4 U (http://www.xmlspy.com) by Rick Edwards
(Westinghouse Savannah River Co) -->
<!--W3C Schema generated by XML Spy v4.4 U (http://www.xmlspy.com)-->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
  <xs:element name="MATERIALBALANCEREPORT">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="MATERIALBALANCE">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="MATERIAL">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element
name="CONCISENOTE">
          <xs:complexType>
            <xs:attribute name="PROCESSCODE" type="xs:string" use="required">
            <xs:annotation>
              <xs:documentation source="Comment MATERIALTYPE">1 Alpha Character
Accepted values A,C or D</xs:documentation>
            </xs:annotation>
          </xs:attribute>
            <xs:attribute name="LINENUMBER" type="xs:int" use="required">
            <xs:annotation>
              <xs:documentation source="Comment MATERIALTYPE">Integer, non-
negative</xs:documentation>
            </xs:annotation>
          </xs:attribute>
            <xs:attribute name="ENTRYREFERENCE" type="xs:string" use="required">
            <xs:annotation>
              <xs:documentation source="Comment MATERIALTYPE">20 Alphanumeric
Characters</xs:documentation>
            </xs:annotation>
          </xs:attribute>
```



```
<xs:attribute name="TEXTTOFCONCISENOTE" type="xs:string" use="required">
<xs:annotation>
<xs:documentation source="Comment MATERIALTYPE">60 Alphanumeric
Characters</xs:documentation>
</xs:annotation>
</xs:attribute>
</xs:complexType>
</xs:element>
</xs:element>
name="ELEMENT">
<xs:complexType>
<xs:sequence>
<xs:element name="ISOTOPE">
<xs:complexType>
<xs:attribute name="MATERIALTYPE" type="xs:string"
use="required">
<xs:annotation>
<xs:documentation source="Comment MATERIALTYPE">2
Alphanumeric Characters
Validated by MaterialType Authority Reference Table
</xs:documentation>
</xs:annotation>
</xs:attribute>
<xs:attribute name="ISOTOPEWEIGHT" type="xs:decimal"
use="required">
<xs:annotation>
<xs:documentation source="Comment
MATERIALTYPE">Numeric (19,7)
19 digits of precision and up to 7 decimal places
Decimal point is not implied </xs:documentation>
</xs:annotation>
</xs:attribute>
</xs:complexType>
</xs:element>
</xs:sequence>
<xs:attribute name="ELEMENTWEIGHT" type="xs:decimal" use="required">
```

```
<xs:annotation>

  <xs:documentation source="Comment MATERIALTYPE">Numeric (19,7)
  19 digits of precision and up to 7 decimal places
  Decimal point is not implied</xs:documentation>

</xs:annotation>

</xs:attribute>

<xs:attribute name="TYPEINVENTORYCHANGE" type="xs:string"
use="required">

  <xs:annotation>

    <xs:documentation source="Comment MATERIALTYPE">2 Alpha Characters
    Validated by Inventory Change Type section of StaticData Authority Reference
    Table</xs:documentation>

  </xs:annotation>

</xs:attribute>

<xs:attribute name="OTHERRIS" type="xs:string" use="required">

  <xs:annotation>

    <xs:documentation source="Comment MATERIALTYPE">4 Alphanumeric
    Characters
    Validated by RIS Authority Reference Table</xs:documentation>

  </xs:annotation>

</xs:attribute>

<xs:attribute name="ENTRYSTATUS" type="xs:string" use="required">

  <xs:annotation>

    <xs:documentation source="Comment MATERIALTYPE">1 Alpha Character
    Validated by Entry Status section of StaticData Authority Reference
    Table</xs:documentation>

  </xs:annotation>

</xs:attribute>

</xs:complexType>

</xs:element>
</xs:sequence>
<xs:attribute
name="PROCESSCODE" type="xs:string" use="required">

  <xs:annotation>

    <xs:documentation source="Comment MATERIALTYPE">1 Alpha Character
    Accepted values A,C or D</xs:documentation>

  </xs:annotation>

</xs:attribute>
```

```

        <xs:attribute
name="SEQUENCENUMBER" type="xs:byte" use="required">
        </xs:attribute>
        <xs:documentation source="Comment MATERIALTYPE">Integer, non-
negative</xs:documentation>
        </xs:annotation>
    </xs:attribute>
    <xs:attribute
name="DATACODE" type="xs:string" use="required">
        </xs:attribute>
        <xs:documentation source="Comment MATERIALTYPE">1 Alphanumeric
Character
Allowed values; 3 or 4
Also known as TypeCode</xs:documentation>
        </xs:annotation>
    </xs:attribute>
    <xs:attribute
name="MATERIALBALANCECATEGORY" type="xs:byte" use="required">
        </xs:attribute>
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Characters
Validated by RIS Material Balance Category Authority Reference
Table</xs:documentation>
        </xs:annotation>
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    <xs:attribute name="ENDDATE"
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