

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**CONFIDENTIAL  
WHEN COMPLETED**

APPROVED BY OMB: NO. 3150-0056  
EXPIRES: 08/31/2014

**INTERNATIONAL ATOMIC ENERGY AGENCY  
DEPARTMENT OF SAFEGUARDS AND INSPECTION**

**DESIGN INFORMATION  
QUESTIONNAIRE \***

**(CONTINUED)**

The "Confidential" marking on this form is for IAEA purposes only. It indicates that the IAEA considers the information in the completed form to be 'safeguards confidential' and is not to be confused with any U.S. security classification.

IAEA USE ONLY

--	--	--	--

\* Questions which are not applicable may be left unanswered.

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN ONE EFFECTIVE KILOGRAM)**

**GENERAL FACILITY DATA**

13. FACILITY DESCRIPTION (with indication of accountability areas)	GENERAL DIAGRAM(S) ATTACHED UNDER REFERENCE NUMBERS:
14. NORMAL INVENTORY	

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

<b>GENERAL FACILITY DATA</b>	
15. ANTICIPATED ANNUAL THROUGHPUT AND/OR INVENTORY FOR THE FACILITY WORKING AT NOMINAL CAPACITY	
16. DESCRIPTION OF THE USE OF NUCLEAR MATERIAL	
17. IMPORTANT ITEMS OF EQUIPMENT WHICH USE, PRODUCE OR PROCESS NUCLEAR MATERIAL	
<b>NUCLEAR MATERIAL DESCRIPTION</b>	
18. MAIN TYPES OF ACCOUNT UNITS TO BE HANDLED IN THE FACILITY	

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

NUCLEAR MATERIAL DESCRIPTION	
<p>19. NUCLEAR MATERIAL DESCRIPTION FOR EACH ACCOUNTABILITY AREA (general)</p> <p>i) Chemical and Physical Form (with cladding materials description)</p>	
<p>ii) Enrichment Ranges and Pu Content</p>	
<p>iii) Estimated Nominal Weight of Nuclear Material at the Facility</p>	
<p>20. WASTE MATERIAL</p> <p>i) Source and Form (indicating major contributors; liquid or solid; range of constituents, enrichment range and Pu content, including contaminated equipment)</p>	
<p>ii) Quantities in Storage and at Other Locations</p>	

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

<b>NUCLEAR MATERIAL DESCRIPTION</b>	
20. WASTE MATERIAL (Continued)  iii) Method and Frequency of Recovery/Disposal	
21. OTHER NUCLEAR MATERIAL IN THE FACILITY AND ITS LOCATION (each separately located)	
22. MEANS OF NUCLEAR MATERIAL IDENTIFICATION IN THE FACILITY	

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

NUCLEAR MATERIAL DESCRIPTION	
23. RADIATION LEVEL AT NUCLEAR MATERIAL LOCATIONS (at specified places)	
NUCLEAR MATERIAL FLOW	
24. SCHEMATIC FLOW SHEET FOR NUCLEAR MATERIAL (identifying measurement points, accountability areas, inventory location, etc., for operator purposes)	DIAGRAM (S) ATTACHED UNDER REFERENCE NUMBERS:
25. TYPES, FORM AND RANGE OF QUANTITIES OF NUCLEAR MATERIAL IN:  <ul style="list-style-type: none"> <li>- Operation Areas</li> <li>- Storage Areas</li> <li>- Other Locations</li> </ul> (average data for each location)	
NUCLEAR MATERIAL HANDLING (FOR EACH ACCOUNTABILITY AREA)	
26. DESCRIPTION OF NUCLEAR MATERIAL STORAGE (indicating capacity, anticipated inventory and throughput, etc.)	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
27. MAXIMUM QUANTITY OF NUCLEAR MATERIAL TO BE HANDLED IN ACCOUNTABILITY AREAS	

**RESEARCH AND DEVELOPMENT FACILITIES  
 (LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
 ONE EFFECTIVE KILOGRAM)**

DATE:

<b>NUCLEAR MATERIAL HANDLING            (FOR EACH ACCOUNTABILITY AREA)</b>	
28. MODIFICATION OF THE PHYSICAL/ CHEMICAL FORM DURING OPERATION	
29. NUCLEAR MATERIAL TRANSFER	
30. FREQUENCY OF RECEIPT AND SHIPMENT	
31. NUCLEAR MATERIAL TRANSFER EQUIPMENT (if applicable)	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
32. DESCRIPTION OF CONTAINERS USED FOR STORAGE AND HANDLING	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
33. ROUTES FOLLOWED BY NUCLEAR MATERIAL	
34. SHIELDING (for storage and transfer)	

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**PROTECTION AND SAFETY**

35. BASIC MEASURES FOR PHYSICAL  
PROTECTION OF NUCLEAR MATERIAL

36. SPECIFIC HEALTH AND SAFETY RULES  
FOR INSPECTOR COMPLIANCE  
(if extensive, attach separately)

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

**37. SYSTEM DESCRIPTION**

Give description of:

- the nuclear material accountancy system
- the method of recording and reporting accountancy data and establishing material balance
- the procedures for account adjustment after inventory, and corrections of mistakes, etc., under the following headings

i) General

SPECIMEN FORMS USED IN ALL PROCEDURES ATTACHED UNDER REFERENCE NUMBERS:



**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

37. SYSTEM DESCRIPTION  
(Continued)

ii) Receipts  
(including method of dealing with  
shipper/receiver differences and  
subsequent account corrections)

iii) Shipments  
(including waste)

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

37. SYSTEM DESCRIPTION  
(Continued)

iv) Measured Discards  
(estimated quantities per year (month),  
method of management)

v) Retained Waste  
(estimated quantities per year,  
period of storing)

vi) Physical Inventory

Description of procedures, scheduled frequency, estimated distribution of nuclear material, method of operator's inventory taking (both for item and/or mass accountancy, including relevant assay method), accessibility and possible verification method for irradiated nuclear material, expected accuracy, and access to nuclear material

LIST OF MAJOR ITEMS OF EQUIPMENT REGARDED AS NUCLEAR MATERIAL CONTAINERS ATTACHED UNDER REFERENCE NUMBERS:

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

37. SYSTEM DESCRIPTION  
(Continued)

- vii) Operational Records and Accounting Records (including method of adjustment or correction and place of preservation and language)

38. FEATURES RELATED TO CONTAINMENT AND SURVEILLANCE MEASURES (general description of applied or possible measures)

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

39. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 24, GIVE THE FOLLOWING (if applicable)

i) Description of Location, Type, Identification

ii) Anticipated Types of Inventory Change and/or Possibilities to Use This Measurement Point for Physical Inventory Taking

iii) Physical and Chemical Form of Nuclear Material (with cladding materials description)

SEPARATE SHEET(S) FOR EACH MEASUREMENT POINT CAN BE ATTACHED. (If necessary, attach drawing(s).)

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

39. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 24, GIVE THE FOLLOWING (if applicable)  
(Continued)

iv) Nuclear Material Containers, Packaging

v) Sampling Procedure and Equipment Used

vi) Measurement Method(s) and Equipment Used

vii) Source and Level of Random and Systematic Errors  
(weight, volume, sampling, analytical, NDA)

viii) Technique and Frequency of Calibration of Equipment Used

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

39. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 24, GIVE THE FOLLOWING (if applicable)  
(Continued)

ix) Method of Converting Source Data to Batch Data

x) Means of Batch Identification

xi) Anticipated Batch Flow Rate Per Year

xii) Anticipated Number of Inventory Batches

xiii) Anticipated Number of Items Per Flow and Inventory Batches

xiv) Type, Composition and Quantity of Nuclear Material Per Batch (with indication of batch data, total weight of nuclear material in item, the isotopic composition (for uranium), and Pu content, when appropriate; form of nuclear material)

**RESEARCH AND DEVELOPMENT FACILITIES  
(LOCATIONS OF NUCLEAR MATERIAL IN AMOUNTS GREATER THAN  
ONE EFFECTIVE KILOGRAM)**

DATE:

**NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL**

39. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 24, GIVE THE FOLLOWING (if applicable)  
(Continued)

- xv) Features Related to Containment-Surveillance Measures

**OPTIONAL INFORMATION**

40. OPTIONAL INFORMATION (that the operator considers relevant to safeguarding the facility)

Signature of Responsible Officer:

\_\_\_\_\_

Date:

\_\_\_\_\_