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INTERNATIONAL ATOMIC ENERGY AGENCY
DEPARTMENT OF SAFEGUARDS AND INSPECTION

DESIGN INFORMATION QUESTIONNAIRE *

(CONTINUED)

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* Questions which are not applicable may be left unanswered.

CRITICAL (SUB-CRITICAL) FACILITIES

GENERAL FACILITY DATA

13. NUMBER OF CRITICAL ASSEMBLIES IN THE FACILITY AND THEIR LOCATION	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:

CRITICAL (SUB-CRITICAL) FACILITIES

DATE:

GENERAL FACILITY DATA	
14. EXPECTED MAXIMUM OPERATING POWER	
15. (1) MODERATOR, (2) REFLECTOR, (3) BLANKET, (4) COOLANT	
NUCLEAR MATERIAL DESCRIPTION	
16. MAIN TYPES OF NUCLEAR MATERIAL/ FUEL AND NOMINAL WEIGHT OF NUCLEAR MATERIAL IN THE FACILITY	
17. FUEL ENRICHMENT RANGE AND PU CONTENT	

NUCLEAR MATERIAL DESCRIPTION	
18. DESCRIPTION OF FUEL ELEMENTS (for each type) ~ physical and chemical form of fuel; – geometrical form or type; – dimensions; – number of slugs per element; – nuclear material and fissionable material and its quantity (with design tolerance); – composition of alloy, etc.	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
19. CLADDING MATERIAL: – thickness; – composition of material; – bonding	
20. SUB-ASSEMBLIES OF FUEL (number of fuel elements per nuclear assembly, arrangement of fuel elements in sub-assembly, configuration and nominal weight of nuclear material per sub-assembly [with design tolerance])	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
21. BASIC OPERATIONAL ACCOUNTING UNIT (fuel elements/assemblies, etc.)	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:

CRITICAL (SUB-CRITICAL) FACILITIES

DATE:

NUCLEAR MATERIAL DESCRIPTION	
22. OTHER TYPES OF UNITS	
23. MEANS OF NUCLEAR MATERIAL/FUEL IDENTIFICATION	
24. OTHER NUCLEAR MATERIAL IN THE FACILITY (each separately identified)	

CORE	
25. CORE DIAGRAM (for each critical assembly showing the general disposition, core support structure, shielding and heat removal arrangements, channels for fuel elements or sub-assemblies, control rods, moderator, reflector, beam tubes, dimensions, etc.)	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
26. RANGES OF CRITICAL MASS AND MAXIMUM RADIUS	
27. DESCRIPTION OF MOST COMMON CONFIGURATIONS	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
28. AVERAGE MEAN NEUTRON FLUX IN THE CORE: Thermal: Fast:	
29. INSTRUMENTATION FOR MEASURING NEUTRON AND GAMMA FLUX: – accuracy and type of principal instruments; – location of indicator and recorder;	
30. RADIATION LEVEL OUTSIDE/INSIDE SHIELDING AT SPECIFIED PLACES	RADIATION LEVEL DIAGRAM(S) ATTACHED UNDER REF. NUMBERS:
31. MAXIMUM RADIATION ACTIVITY OF FUEL AFTER REFUELING (at the surface and at a distance of 1 metre)	

NUCLEAR MATERIAL FLOW	
32. SCHEMATIC FLOW SHEET FOR NUCLEAR MATERIAL (identification of: -- measurement points; -- accountability areas; -- inventory location, etc. for operator purposes)	FLOW SHEET(S) FOR NORMAL OPERATION ATTACHED UNDER REFERENCE NUMBERS:
33, INVENTORY State quantity range and approximate uranium enrichment and plutonium content for: i) Nuclear Material Storage(s)	
ii) Core Area(s)	
iii) Assembly Core(s) Itself	
iv) Other Locations	

NUCLEAR MATERIAL HANDLING	
34. NUCLEAR MATERIAL i) Packaging (description)	
ii) Storage Plan and Arrangements	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
iii) Capacity of Storage	
iv) Nuclear Material Preparation (description and identification of layout and general arrangement)	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
35. FUEL TRANSFER EQUIPMENT, IF ANY	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:
36. ROUTES FOLLOWED BY NUCLEAR MATERIAL	DRAWING(S) ATTACHED UNDER REFERENCE NUMBERS:

NUCLEAR MATERIAL HANDLING	
37. MAIN EQUIPMENT USED FOR i) Nuclear Material Assembling	
ii) Nuclear Material Testing	
iii) Nuclear Material Measuring	
PROTECTION AND SAFETY MEASURES	
38 BASIC MEASURES FOR PHYSICAL PROTECTION OF NUCLEAR MATERIAL	

PROTECTION AND SAFETY MEASURES	
39. SPECIFIC HEALTH AND SAFETY RULES FOR INSPECTOR COMPIANCE (if extensive, attach separately)	

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL	
40. SYSTEM DESCRIPTION Give description of: – the nuclear material accountancy system; – the method of recording and reporting accountancy data; – the procedures for account adjustment after inventory and correction of mistakes, etc. under the following headings: i) General	SPECIMEN FORMS USED IN ALL PROCEDURES ATTACHED UNDER REFERENCE NUMBERS:

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL

40. SYSTEM DESCRIPTION (Continued)

i) General (continued)

ii) Receipts

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL	
40. SYSTEM DESCRIPTION (Continued) iii) Shipments	
iv) Physical Inventory Description of procedures, scheduled frequency, methods of operator's inventory taking (both for item and/or bulk accountancy), including relevant assay methods and expected accuracy, access to nuclear material, methods of verification of nuclear material in the core	LIST OF MAJOR ITEMS OF EQUIPMENT REGARDED AS NUCLEAR MATERIAL CONTAINERS ATTACHED UNDER REFERENCE NUMBERS:
v) Operational Records and Accounting Records (including method of adjustment or correction and place of preservation and language)	
41. HOW OFTEN IS CORE DISASSEMBLED TO PERMIT THE VERIFICATION OF CONTAINED NUCLEAR MATERIAL?	

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL	
42. FEATURES RELATED TO CONTAINMENT AND SURVEILLANCE MEASURES (general description of applied or possible measures)	
43. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 32, GIVE THE FOLLOWING (if applicable) i) Description of Location, Type, Identification	SEPARATE SHEET(S) CAN BE ATTACHED FOR EACH MEASUREMENT POINT IF NECESSARY, ATTACH DRAWING(S)
ii) Anticipated Types of Inventory Change and Possibilities to Use This Measurement Point for Physical Inventory Taking	
iii) Physical and Chemical Form of Nuclear Material (with cladding materials description)	
iv) Nuclear Material Containers, Packaging	IF NECESSARY, ATTACH DRAWING(S)
v) Sampling Procedure and Equipment Used	

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL	
43. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 32, GIVE THE FOLLOWING (if applicable) (Continued) vi) Measurement Method(s) and Equipment Used	
vii) Source and Level of Random and Systematic Errors (measurements)	
viii) Technique and Frequency of Calibration of Equipment Used	
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 Items Per Flow and Inventory Batch	

NUCLEAR MATERIAL ACCOUNTANCY AND CONTROL	
43. FOR EACH MEASUREMENT POINT OF ACCOUNTABILITY AREAS, IDENTIFIED UNDER QS. 32, GIVE THE FOLLOWING (if applicable) (Continued) xiii) 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)	
xiv) Features Related to Containment-Surveillance Measures	

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

Signature of Responsible Officer:

Date: