

SCHEDULE 1

Regulation 14

PART 2

INVENTORY CHANGE REPORT

Commencement Information

II Sch. 1 Pt. 2 in force at 31.12.2020 on IP completion day (in accordance with [2020 c. 1, Sch. 5 para. 1\(1\)](#)), see [reg. 1\(2\)](#)

<i>Label/tag</i>	<i>Content</i>	<i>Comments</i>	<i>#</i>
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Line count	Number (8)	Total number of lines reported	5
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Reporting person	Character (30)	Name of person responsible for the report	8
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PIT date	DDMMYYYY	Date of physical inventory taking (PIT) to which MF adjustment refers (use with IC code MF only)	21

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Line number	Number (8)	Sequential number, no gaps	22
Accounting date	DDMMYYYY	Date on which the inventory change occurred or became known	23
Items	Number (6)	Number of items	24
Element category	Character (1)	Category of qualifying nuclear material	25
Element weight	Number (24.3)	Element weight	26
Isotope	Character (1)	G for U-235, K for U-233, J for a mixture of U-235 and U-233	27
Fissile weight	Number (24.3)	Weight of fissile isotope	28
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Obligation	Character (2)	Safeguards obligation	30
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Previous obligation	Character (2)	Previous obligation (use for IC codes BR, CR, PR and SR only)	32
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Correction	Character (1)	D for deletions, A for additions forming part of a deletion/addition pair, L for late lines (stand-alone additions)	35
Previous report	Number (8)	Report number of line to be corrected	36
Previous line	Number (8)	Line number of line to be corrected	37
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Burn-up	Number (6)	Burn-up in MW days/tonne (use for IC codes NL and NP in nuclear reactors only)	39
CRC	Number (20)	Hash code of line for quality control purposes	40
Previous CRC	Number (20)	Hash code of line to be corrected	41
Advance notification	Character (8)	Reference to advance notification sent to the ONR (use for IC codes RD, RF, SD, SN and SF only)	42
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Explanatory notes

1. MBA:
Code of the reporting material balance area. This code is notified to the qualifying nuclear facility concerned by the ONR.

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2. REPORT TYPE:
I for inventory change reports.
3. REPORT DATE:
Date on which the report was completed.
4. REPORT NUMBER:
Sequential number, no gaps.
5. LINE COUNT:
Total number of lines reported.
6. START REPORT:
Date of first day of reporting period.
7. END REPORT:
Date of last day of reporting period.
8. REPORTING PERSON:
Name of person responsible for the report.
9. TRANSACTION ID:
Sequential number. This is used to identify all inventory change lines relating to the same physical transaction.
10. IC CODE:
One of the following codes must be used:

<i>Keyword</i>	<i>Code</i>	<i>Explanation</i>
Receipt	RD	Receipt of qualifying nuclear material from material balance area within the United Kingdom.
Import	RF	Import of qualifying nuclear material.
Receipt from non-safeguarded activity	RN	Receipt of qualifying nuclear material from a non-safeguarded activity.
Shipment	SD	Transfer of qualifying nuclear material to a material balance area within the United Kingdom.
Export	SF	Export of qualifying nuclear material.

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Shipment to non-safeguarded activity	SN	Transfer of qualifying nuclear material to a non-safeguarded activity.
Transfer of conditioned waste	TC	Qualifying nuclear material contained in waste that is measured or estimated on the basis of measurements, and which has been conditioned in such a way (e.g. in glass, cement, concrete or bitumen) that it is not suitable for further nuclear use. The quantity of qualifying nuclear material involved is to be subtracted from the inventory of the material balance area. Separate records must be kept for this type of material.
Discards to the environment	TE	Qualifying nuclear material contained in waste that is measured or estimated on the basis of measurements, and which has been irrevocably discarded to the environment as the result of a planned discharge. The quantity of qualifying nuclear material involved is to be subtracted from the inventory of the material balance area.
Transfer of retained waste	TW	Qualifying nuclear material generated from processing or from an operational accident contained in waste that is measured or estimated on the basis of measurements, and which has been transferred to a specific location within the material balance area from which it could be retrieved. The quantity of qualifying nuclear material involved is to be subtracted from the inventory of the material balance area. Separate records must be kept for this type of material.
Retransfer of conditioned waste	FC	Retransfer of conditioned waste to the inventory of the material balance area. This applies whenever conditioned waste undergoes processing.
Retransfer of retained waste	FW	Retransfer of retained waste to the inventory of the material balance area. This applies whenever retained waste is retrieved from the specific location within the material balance area, either for any processing involving the separation of elements in the material balance area or for any shipment from the material balance area.
Accidental loss	LA	Irretrievable and inadvertent loss of a quantity of qualifying nuclear material as the result of an operational accident. Use of this code requires a special report to be sent to the ONR.
Accidental gain	GA	Qualifying nuclear material unexpectedly found, except when detected in the course of a physical inventory taking. Use of this code requires a special report to be sent to the ONR.
Category change	CE	Accountancy transfer of a quantity of qualifying nuclear material from one category to another as a result of an enrichment process (only one line to be reported per category change).
Category change	CB	Accountancy transfer of a quantity of qualifying nuclear material from one category to another as a result of a blending operation (only one line to be reported per category change).
Category change	CC	Accountancy transfer of a quantity of qualifying nuclear material from one category to another for all types of category change not covered by codes CE and CB (only one line to be reported per category change).
Rebatching	RB	Accountancy transfer of a quantity of qualifying nuclear material from one batch to another (only one line to be reported per rebatching).

Change particular obligation	in BR	Accountancy transfer of a quantity of qualifying nuclear material from one particular safeguards obligation to another, to balance the total uranium stock following a blending operation (only one line to be reported per change of obligation).
Change particular obligation	in PR	Accountancy transfer of a quantity of qualifying nuclear material from one particular safeguards obligation to another, used when qualifying nuclear material enters or leaves an accountancy pool (only one line to be reported per change of obligation).
Change particular obligation	in SR	Accountancy transfer of a quantity of qualifying nuclear material from one particular safeguards obligation to another, following an obligation exchange or a substitution (only one line to be reported per change of obligation).
Change particular obligation	in CR	Accountancy transfer of a quantity of qualifying nuclear material from one particular safeguards obligation to another, for all cases not covered by codes BR, PR or SR (only one line to be reported per change of obligation).
Nuclear production	NP	Increase in the quantity of qualifying nuclear material due to nuclear transformation.
Nuclear loss	NL	Decrease in the quantity of qualifying nuclear material due to nuclear transformation.
Shipper/receiver difference	DI	Shipper/receiver difference.
New measurement	NM	Quantity of qualifying nuclear material, in one particular batch, accounted for in the nuclear material balance area, being the difference between a newly measured quantity and the quantity formerly accounted for, and which is neither a shipper/receiver difference nor a correction.
Balance adjustment	BJ	Quantity of qualifying nuclear material accounted for in the material balance area, being the difference between the result of a physical inventory taken by the plant operator for his own purposes (without reporting a physical inventory listing to the ONR) and the book inventory established on the same date.
Material unaccounted for	MF	Book adjustment for material unaccounted for. Must be equal to the difference between the ending physical inventory (PE) and the ending book inventory (BA) reported in the material balance report (Part 4). The original date must be that of the physical inventory taking, while the accounting date must be after the date of the physical inventory taking.
Roundings	RA	Rounding adjustment to make the sum of the quantities reported in a given period coincide with the ending book inventory of the material balance area.
Isotope adjustment	R5	Adjustment to make the sum of the isotope quantities reported coincide with the ending book inventory for U-235 of the material balance area.
Material production	MP	Quantity of qualifying nuclear material, obtained from substances originally not subject to safeguards, which has become subject to safeguards because its concentration now exceeds the minimum levels.
Termination use	of TU	Quantity of qualifying nuclear material considered as irrecoverable for practical or economic reasons which is:

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- (i) incorporated in end products used for non-nuclear purposes; or
- (ii) contained in waste in very low concentrations measured or estimated on the basis of measurements, even if these materials are not discarded to the environment.

The quantity of qualifying nuclear material involved is to be subtracted from the inventory of the material balance area.

Ending inventory	book BA	Book inventory at the end of a reporting period and at the PIT date, separate for each category of qualifying nuclear material and for each particular safeguard obligation.
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11. BATCH:

The batch designation may be chosen by the operator, but:

- (a) in the case of the inventory change ‘Receipt (RD)’, the batch designation used by the shipper must be reported;
- (b) a batch designation must not be used again for another batch in the same material balance area.

12. KMP:

Key measurement point. The codes are notified to the qualifying nuclear facility concerned in the particular safeguard provisions or otherwise in writing. If no codes have been specified, ‘&’ should be used.

13. MEASUREMENT:

The basis on which the quantity of qualifying nuclear material reported was established has to be indicated. One of the following codes must be used:

<i>Measured</i>	<i>Estimated</i>	<i>Explanation</i>
M	E	In the reporting material balance area.
N	F	In another material balance area.
T	G	In the reporting material balance area when the weights have already been given in a previous inventory change report or physical inventory listing.
L	H	In another material balance area when the weights have already been given in a previous inventory change report or physical inventory listing for the present material balance area.

14. MATERIAL FORM:

The following codes must be used:

<i>Main type of material form</i>	<i>Subtype</i>	<i>Code</i>
Ores		OR
Concentrates		YC
Uranium hexafluoride (UF ₆)		U6
Uranium tetrafluoride (UF ₄)		U4
Uranium dioxide (UO ₂)		U2
Uranium trioxide (UO ₃)		U3
Uranium oxide (U ₃ O ₈)		U8
Thorium oxide (ThO ₂)		T2
Solutions	Nitrate	LN
	Fluoride	LF
	Other	LO
Powder	Homogeneous	PH
	Heterogeneous	PN
Ceramics	Pellets	CP
	Spheres	CS
	Other	CO
Metal	Pure	MP
	Alloys	MA
Fuel	Rods, pins	ER
	Plates	EP
	Bundles	EB
	Assemblies	EA
	Other	EO

<i>Main type of material form</i>	<i>Subtype</i>	<i>Code</i>
Sealed sources		QS
Small quantities/samples		SS
Scrap	Homogeneous	SH
	Heterogeneous (clean-outs, clinkers, sludges, fines, other)	SN
Solid waste	Hulls	AH
	Mixed (plastics, gloves, papers, etc.)	AM
	Contaminated equipment	AC
	Other	AO

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Liquid waste	Low active	WL
	Medium active	WM
	High active	WH
Conditioned waste	Glass	NG
	Bitumen	NB
	Concrete	NC
	Other	NO

15. MATERIAL CONTAINER:

The following codes must be used:

<i>Type of container</i>	<i>Code</i>
Cylinder	C
Pack	P
Drum	D
Discrete fuel unit	S
Bird cage	B
Bottle	F
Tank or other container	T
Other	O

16. MATERIAL STATE

The following codes must be used:

<i>State</i>	<i>Code</i>
Fresh qualifying nuclear material	F
Irradiated qualifying nuclear material	I
Waste	W
Irrecoverable qualifying nuclear material	N

17. MBA FROM:

Use only for inventory change codes RD and RF. For inventory change code RD, the code of the shipping material balance area is reported. If this code is unknown, the code 'Q' is reported and the shipper's full name and address must be entered in the comment field (40). For inventory change code RF, the country code of the exporting state, or the MBA code of

the exporting installation if known, is reported, and the shipper's full name and address must be entered in the comment field (40).

18. **MBA TO:**
Use only for inventory change codes SD and SF. For inventory change code SD, the code of the receiving material balance area is reported. If this code is unknown, the code 'Q' is reported and the receiver's full name and address must be entered in the comment field (40). For inventory change code SF, the country code of the importing state or the MBA code of the importing installation if known, is reported, and the receiver's full name and address must be entered in the comment field (40).
19. **PREVIOUS BATCH:**
Batch designation before rebatching. The batch designation after the rebatching must be reported in field 11.
20. **ORIGINAL DATE:**
In the case of a correction, the day, month and year when the line to be corrected was originally entered must be reported. For correction chains, the original date is always the accounting date of the first line in the chain. For late lines (stand-alone additions), the original date is the date on which the inventory change occurred.
21. **PIT DATE**
Date of the physical inventory taking as reported in the material balance report on which the book adjustment for MUF (material unaccounted for) is based. Use only with inventory change code MF.
22. **LINE NUMBER:**
Sequential number starting with 1 in each report, no gaps.
23. **ACCOUNTING DATE:**
Day, month and year when the inventory change occurred or became known.
24. **ITEMS:**
The number of items making up the batch must be reported. If an inventory change consists of several lines, the sum of the number of items reported must equal the total number of items belonging to the same transaction ID. If the transaction involves more than one element the number of items should be declared in the line(s) for the element category of highest strategic value only (in descending order: P, H, L, N, D, T).
25. **ELEMENT CATEGORY:**
The following codes must be used:

<i>Category of qualifying nuclear material</i>	<i>Code</i>
Plutonium	P

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High enriched uranium (20% enrichment and above)	H
Low enriched uranium (higher than natural but less than 20% enrichment)	L
Natural uranium	N
Depleted uranium	D
Thorium	T

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26. **ELEMENT WEIGHT:**
The weight of the element category referred to in field 25 must be reported. All weights must be reported in grams. The decimal digits appearing in the accounting lines can be reported up to a maximum of three decimal places.
27. **ISOTOPE:**
This code indicates the fissile isotopes involved and should be used when the weight of fissile isotopes is reported (28). Use the code G for U-235, K for U-233, and J for a mixture of U-235 and U-233.
28. **FISSILE WEIGHT:**
Unless otherwise stated in the particular safeguard provisions, the weight of fissile isotopes must only be reported for enriched uranium and category changes involving enriched uranium. All weights must be reported in grams. The decimal digits appearing in the accounting lines can be reported up to a maximum of three decimal places.
29. **ISOTOPIC COMPOSITION:**
If agreed in the particular safeguard provisions the isotopic composition of U and/or Pu must be reported in the format as a list of weights separated by semi-colons to denote the weight of U-233, U-234, U-235, U-236, U-238 or Pu-238, Pu-239, Pu-240, Pu-241, Pu-242. The decimal digits appearing in the accounting lines can be reported up to a maximum of three decimal places.
30. **OBLIGATION:**
Indication of any additional obligation assumed by the United Kingdom under a relevant international agreement, to which the qualifying nuclear material is subject (regulation 19). The ONR may communicate the appropriate codes to the qualifying nuclear facility.
31. **PREVIOUS CATEGORY:**
Code of the category of qualifying nuclear material before the category change. The corresponding code after the change must be reported in field 25. Use only with the inventory change codes CE, CB and CC.
32. **PREVIOUS OBLIGATION:**

Code of the particular safeguard obligation to which the qualifying nuclear material was subject before the change. The corresponding obligation code after the change must be reported in field 30. Use only with the inventory change codes BR, CR, PR and SR.

- 33. DOCUMENT:
Operator-defined reference to supporting document(s).
- 34. CONTAINER ID:
Operator-defined container number. Optional data element which can be used in those cases where the container number does not appear in the batch designation.
- 35. CORRECTION:
Corrections have to be made by deleting the wrong line(s) and adding the correct one(s), where appropriate. The following codes must be used:

Code	Explanation
D	Deletion. The line to be deleted must be identified by indicating in field 38 the report number (4), in field 39 the line number (22) and in field 43 the CRC (42) which were declared for the original line. Other fields need not be reported.
A	Addition (forming part of a deletion/addition pair). The correct line must be reported with all data fields, including the 'previous report' field (38) and the 'previous line' field (39). The 'previous line' field (39) must repeat the line number (22) of the line being replaced by the deletion/addition pair.
L	Late line (stand-alone addition). The late line to be added must be reported with all data fields, including the 'previous report' field (38). The 'previous report' field (38) must contain the report number (4) of the report in which the late line should have been included.

- 36. PREVIOUS REPORT:
Indicate the report number (4) of the line to be corrected.
- 37. PREVIOUS LINE:
For deletions, or additions forming part of a deletion/addition pair, indicate the line number (22) of the line to be corrected.
- 38. COMMENT:
Free-text comment field for short comments by operator.
- 39. BURN-UP:
For inventory changes of type NP or NL in nuclear reactors, burn-up in MW days/tonne.
- 40. CRC:

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Hash code of line for quality control purposes. The ONR must inform the operator of the algorithm to be used.

41. PREVIOUS CRC:
Hash code of the line to be corrected.
42. ADVANCE NOTIFICATION:
Reference code for the advance notification (regulations 21 and 22). Use with inventory changes SF and RF.
43. CAMPAIGN:
Unique identifier for the reprocessing campaign. Use only for inventory changes in the process material balance area(s) of those qualifying nuclear facilities where spent fuel is reprocessed.
44. REACTOR:
Unique identifier for the reactor from which irradiated fuel is being stored or reprocessed. Use only for inventory changes in those qualifying nuclear facilities where spent fuel is stored or reprocessed.
45. ERROR PATH:
Special code describing measurement errors and their propagation, for material balance evaluation purposes. The codes are agreed between the qualifying nuclear facility and the ONR.

GENERAL REMARKS CONCERNING THE COMPLETION OF THE REPORTS

1. In the case of transfer of qualifying nuclear material, the shipper must provide the receiver with all the necessary information for the inventory change report.
2. If numerical data contain fractions of units, a point should precede the decimal digits.
3. The following 55 characters may be used: the 26 capital letters A to Z, figures 0 to 9 and the characters 'plus', 'minus', 'slash', 'asterisk', 'space', 'equal', 'greater than', 'less than', 'point', 'comma', 'open bracket', 'close bracket', 'colon', 'dollar', 'percent', 'quotation mark', 'semi-colon', 'question mark' and 'ampersand'.
5. Reports must be prepared according to a world-wide accepted labelled reporting format, agreed between the ONR and operators.
6. The reports, duly completed and digitally signed, should be forwarded to the ONR in accordance with regulation 35.

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