HASS RECORD GUIDANCE

Version 4

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Transitional arrangements for high-activity sealed radioactive sources

What has changed?

The activity threshold at which a sealed radioactive source becomes a high-activity sealed radioactive source (HASS) has changed. This is because of a change in activity thresholds in the European Directive which has been transposed into Scottish legislation in the Environmental Authorisations (Scotland) Regulations 2018 (EASR) which have replaced the High-activity Sealed Sources and Orphan Sources Regulations 2005 and the Radioactive Substances Act 1993.

Under previous legislation the threshold at which a source became a HASS was based on the IAEA A1 transport values, now it is based on the IAEA D-values. Generally this means that the threshold has increased, although there are some radionuclides for which the threshold has decreased. Table 1 shows the previous and current HASS thresholds for some commonly used radionuclides and those highlighted are the ones for which the threshold has decreased.

What do I need to do?

If you have a source that is ***no longer HASS*** you need to update the HASS database by sending us a HASS Record Form with your details and section 1d completed with the date "01092018". This is the date at which the source decayed is below the exemption level, and although the source did not decay it is the closest option we have on the form.

There is no need to do anything else, we are reviewing all authorisations as part of the transitioning process and will contact you in the next few months to review your new authorisation.

If you have a source that ***has become HASS*** because of the change in threshold, you need to make an application to us by 1 March 2018. The application form can be found on our website.

Where can I get more information?

If you have any questions on the change to HASS thresholds or the transitional arrangements, please contact us at radioactivesubstance@sepa.org.uk.

Table 1 – Previous and current HASS thresholds

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Americium 241	Am-241	100	60
Americium 243	Am-243	50	200
Antimony 124	Sb-124	6	40
Antimony 125	Sb-125	20	200
Argon 41	Ar-41	3	50
Arsenic 76	As-76	3	200
Astatine 211	At-211	200	500
Barium 133	Ba-133	30	200
Beryllium 7	Be-7	200	1 000
Bismuth 210	Bi-210	10	8 000
Bromine 76	Br-76	4	30
Bromine 77	Br-77	30	200
Bromine 82	Br-82	4	30
Cadmium 109	Cd-109	300	20 000
Caesium 134	Cs-134	7	40
Caesium 135	Cs-135	400	Unlimited
Caesium 137	Cs-137	20	100
Calcium 41	Ca-41	Unlimited	Unlimited
Calcium 45	Ca-45	400	100 000
Californium 252	Cf-252	1	20
Carbon 11	C-11	10	60
Carbon 14	C-14	400	50 000
Cerium 141	Ce-141	200	1 000
Cerium 144	Ce-144	2	900

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Chlorine 36	Cl-36	100	20 000
Chromium 51	Cr-51	300	2 000
Cobalt 55	Co-55	5	30
Cobalt-56	Co-56	3	20
Cobalt-57	Co-57	100	700
Cobalt 58	Co-58	10	70
Cobalt 60	Co-60	4	30
Copper 64	Cu-64	60	300
Copper 67	Cu-67	100	700
Curium 242	Cm-242	400	40
Curium 243	Cm-243	90	200
Curium 244	Cm-244	200	50
Erbium 171	Er-171	8	200
Europium 152	Eu-152	10	60
Europium 154	Eu-154	9	60
Fluorine 18	F-18	10	60
Gadolinium 148	Gd-148	200	400
Gadolinium 153	Gd-153	100	1 000
Gallium 67	Ga-67	70	500
Gallium 68	Ga-68	5	70
Germanium 68	Ge-68	5	70
Gold 198	Au-198	10	200
Holmium 166	Ho-166	4	2 000
Indium 111	In-111	30	200
Indium 113m	In-113m	40	300

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Iodine 123	I-123	60	500
Iodine 124	I-124	10	60
Iodine 125	I-125	200	200
Iodine 129	I-129	Unlimited	Unlimited
Iodine 131	I-131	30	200
Iridium 192	Ir-192	10	80
Iron 52	Fe-52	3	20
Iron 55	Fe-55	400	800 000
Iron 59	Fe-59	9	60
Krypton 79	Kr-79	40	1 000
Krypton 81	Kr-81	400	30 000
Krypton 85	Kr-85	100	30 000
Lanthanum 140	La-140	4	30
Lead 210	Pb-210	10	300
Manganese 52	Mn-52	3	20
Manganese 54	Mn-54	10	80
Manganese 56	Mn-56	3	40
Mercury 203	Hg-203	50	300
Molybdenum 99	Mo-99	10	300
Neptunium 237	Np-237	200	70
Nickel 59	Ni-59	Unlimited	1 000 000
Nickel 63	Ni-63	400	60 000
Nitrogen 13	N-13	9	60
Palladium 103	Pd-103	400	90 000
Phosphorus 32	P-32	5	10 000

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Phosphorus 33	P-33	400	200 000
Plutonium 238	Pi-238	100	60
Plutonium 239	Pi-239	100	60
Plutonium 240	Pi-240	100	60
Plutonium 241	Pi-241	400	3 000
Plutonium 242	Pi-242	100	70
Polonium 210	Po-210	400	60
Potassium 40	K-40	9	Unlimited
Potassium 42	K-42	2	200
Promethium 147	Pm-147	400	40 000
Protactinium 231	Pa-231	40	60
Radium 224	Ra-224	4	50
Radium 226	Ra-226	2	40
Radium 228	Ra-228	6	30
Rhenium 186	Re-186	20	4 000
Rhenium 188	Re-188	4	1 000
Rubidium 81	Rb-81	20	100
Rubidium 84	Rb-84	10	70
Rubidium 86	Rb-86	5	700
Ruthenium 103	Ru-103	20	100
Ruthenium 106	Ru-106	2	300
Samarium 151	Sm-151	400	500 000
Samarium 153	Sm-153	90	2 000
Scandium 46	Sc-46	5	30
Scandium 47	Sc-47	100	700

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Selenium 75	Se-75	300	200
Silver 110m	Ag-110m	4	20
Sodium 22	Na-22	5	30
Sodium 24	Na-24	2	20
Strontium 85	Sr-85	20	100
Strontium 89	Sr-89	6	20 000
Strontium 90	Sr-90	3	1 000
Sulphur 35	S-35	400	60 000
Tantalum 182	Ta-182	9	60
Technetium 99m	Tc-99m	100	700
Thallium 201	TI-201	100	1 000
Thallium 204	TI-204	100	20 000
Thorium 228	Th-228	5	40
Thorium 229	Th-229	50	10
Thorium 230	Th-230	100	70
Thorium 232	Th-232	Unlimited	Unlimited
Thorium natural	Th-nat	Unlimited	Unlimited
Thulium 170	Tm-170	30	20 000
Tin 113	Sn-113	40	300
Tin 117m	Sn-117m	70	500
Tin 121m	Sn-121m	400	70 000
Tin 125	Sn-125	4	100
Tritium	H-3	400	2 000 000
Uranium depleted	U Dep DU	Unlimited	Unlimited
Uranium natural	U Nat	Unlimited	Unlimited

Radionuclide	Symbol	HASS threshold (GBq)	
		Previous	Current
Vanadium 48	V-48	4	20
Xenon 133	Xe-133	200	3 000
Ytterbium 169	Yb-169	40	300
Ytterbium 175	Yb-175	300	2 000
Yttrium 88	Y-88	4	30
Yttrium 90	Y-90	3	5 000
Zinc 65	Zn-65	20	100
Zirconium 95	Zr-95	20	40

1. General

1.1 This guidance is intended to help HASS holders make clear, accurate and consistent records, to make the necessary reports to SEPA and therefore allow SEPA to maintain an accurate national inventory.

1.2 The records and reporting requirements are set out in Annex II of Council Directive2003/122/EURATOM on the control of high-activity sealed radioactive sources and orphan sources (the "HASS Directive"), including which parts are mandatory and which are not. This has been transposed into Scottish legislation by the Environmental Authorisations (Scotland) Regulations 2018 (EASR). SEPA has changed the format and content from the one set out in Annex II so that your record keeping obligations are as clear and straightforward as we can make them – whilst satisfying the Directive's requirements. SEPA has expanded on those requirements where this seems necessary for clarity and has added a small number of additional pieces of information which we think are necessary for an efficient and effective process.

1.3 You are required to keep a record for each HASS source you hold and report some of the information in that record to SEPA. SEPA does not need to maintain all the information which you need to keep within the national inventory. But, for simplicity and convenience, the HASS Record form has been reproduced as a schedule of your registration and it can be used to make reports to SEPA. The Record schedule can be photocopied and completed by hand. However, an electronic version (in PDF format) can be obtained from SEPA's web site and this can be completed electronically. The title of the document is the HASS Record (RSA10). The SEPA web site address for these forms is:

http://www.sepa.org.uk/system_pages/application_forms.aspx

Please note that the form contains sensitive information when you have completed it, and you will need to keep this document in an appropriate manner in accordance with this. SEPA cannot receive reports electronically as sending them across the internet is not sufficiently secure for this information. You will need to send a paper copy to the address notified to you by SEPA. Do not, under any circumstances, send the completed form to any other SEPA address or person. For reports to SEPA, the address to which the completed form is to be sent is:

SEPA
Radioactive Substances Unit
6 Parklands Avenue
Motherwell
ML1 4WQ

1.4 It is important that you keep and maintain accurate records. Similarly, it is important that the first report you send to SEPA concerning sources that you have recently received, and any subsequent reports telling SEPA about changes, are made promptly. Your permit confirms the timescales you must work to and the changes SEPA needs to know about – and they are summarised below. This will allow SEPA to maintain up-to-date records and will help to ensure that our site inspectors have a clear understanding of the sources you hold when they make compliance assessment visits. Importantly, clear and prompt reports will let SEPA track the locations of HASS sources and will help to maintain high standards of source control and management, regulation and environmental protection.

1.5 The record and reporting contents and formats explained here are essentially common across all the UK 'HASS' regulators. SEPA thinks that this is important so that HASS holders have a clear understanding of their obligations – irrespective of where they are located. The UK regulators have a common database so common record formats allows us to share information – we want to provide for a UK-wide source tracking system - and to migrate records efficiently into the future system we are now developing.

1.6 Should you have any queries or difficulties in completing the form, please contact your site inspector or send an email to radioactivesubstance@sepa.org.uk.

2 Formatting

Addresses and dates

2.1 Please use the UK standard address format (building number or name & road, town, county or equivalent and postcode). For manufacturers, suppliers or previous users from abroad, add their country.

2.2 Please use the date format DD-MM-YYYY.

3 Record Contents

3.1 Making and amending records

1a. Date record made
1b. Replaces record made on
1c. Amends information about

Most of the information you record about each source will not change during the time you keep that source. But you will need to make new, replacement records and report those changes to us if you:

- apply for and receive a new registration
- change the equipment in which a source is kept
- transfer the source to someone else
- lose, have stolen or recover a source
- need to correct information you have reported before

For clarity, to ensure that a changed record can be clearly linked with the record it replaces and to make plain what changes you are reporting, these record items allow you to confirm when and what changes have been made. At 1c, your first report about a HASS should be marked as such. Subsequent reports should list the record items now being changed.

1d. Below exemption level on

SEPA needs to know when the HASS to which this record relates has decayed below the relevant threshold level. When it has, please complete this section with that date.

1e. Contact name for this record

1f. Contact's telephone number

SEPA may need to speak with you to confirm the detail of your report – if your report is complete and clear, we will not.

3.2 Identifying the source

2a. Source identifying number

Source manufacturers should supply customers with a document confirming the identifying number inscribed on the source – and the intended holder should not accept delivery of a source from a source manufacturer, supplier or previous holder without appropriate accompanying documentation confirming this and other information. You should record the identifying number as supplied, and should not try to confirm its accuracy by examination of the source itself.

2b. Name of Source Manufacturer or Supplier
2c. Address of Source Manufacturer or Supplier

If the manufacturer of the source is located outside the European Union, the name and address of the importer or supplier may be recorded instead. The intention is to identify a European 'entry point' at which a source first enters a regulatory and record system maintained within one of the Member States. Its movements, until it leaves that system of control, can then be tracked and transfers reconciled. As yet, no truly international tracking system exists and these arrangements seek to make the most of the current arrangements.

Please add either [M] or [S] to the name recorded at 2b to confirm whether this is the manufacturer or the supplier. For older sources whose provenance is uncertain, but only after having made reasonable efforts to discover these details, you should enter 'not known'.

2d. Equipment identifying number

Other than during the manufacturing process, sources will usually be installed in some form of equipment, for example a gauge, irradiator, exposure assembly, storage or transport container. It is important to associate each source with the equipment in which it is currently installed. Sources are commonly delivered in a transport container for subsequent installation in a holder's equipment. You should record the identifying number of your equipment and amend that record if you later move the source to different equipment. Changes which are of very short duration need not be reported to SEPA.

Some sources are delivered in equipment and may remain there throughout their working life. Equipment should come from its manufacturer, supplier or previous holder with documentation confirming the equipment's identifying number together with confirmation of the source it contains. You should confirm that the equipment identifying number supplied to you matches that marked on the outside of the equipment, and record that number. Holders of sources not installed in equipment should mark this section as 'not applicable'.

2e. Name of equipment manufacturer

2f. Equipment manufacturer's address

You may acquire equipment for which the original manufacturer is not known – in which case you should make reasonable efforts to confirm this information.

If necessary, confirm that the manufacturer is 'not known'. If the manufacturer of the equipment is located outside the European Union, the name and address of the importer or supplier may be recorded instead. Where this is the case please add [I] or [S] to the name you record at 2e.

2g. Practice
2h. Associated activity

Please complete these sections by confirming the practice and activity for which this source is to be used – consistent with the description used in your registration.

3.3 Identifying the HASS holder

SEPA needs to know clearly who you are. This is so that SEPA can avoid confusion between you and other organisations of similar name – and between different parts of your own organisation, which may hold and manage sources at different locations. SEPA also needs to be certain who has responsibility for sending records to us.

3a. Holder's name Please record the name of your organisation, as used when applying for permit to hold a source of this type.

3b. Holder's address This section should confirm your registered office or principal place of business, not the current location of the source. Please ensure that this matches the address on your permit.

3c. Organisation's identifier Many HASS holders will be businesses who have had to register with Companies House for other purposes. If this applies to you, you should record your Companies House Registration number here.

3d. Type of Holder Please confirm here whether you are holding this source because you are its manufacturer, as a supplier, as a user or because you are storing the source.

3.4 Location of HASS

4a. Use
4b. Usual source location

You should record here the address of the premises where you usually keep, use or store the source. If the source will only be used at these premises, you should record it as fixed use at 4a.

4c. Other source location

If this source has been registered under section 10 of the Radioactive Substances Act 1993 or your EASR permit authorises mobile sealed sources, you should record this source as for mobile use at 4a. SEPA, or the police, may wish to inspect your arrangements at any of the locations where you keep, use or store the source. But, to allow SEPA to plan our visit programme, we need to know when the source is being kept, used or stored for an extended period at somewhere other than its usual location. If the source is, or is likely to be, kept at another single location for longer than three months, please record that address here.

3.5 Your Permission

5a. Permission number
5b. Date it became effective
5c. Date of expiry

SEPA of course already know this information but it will be helpful to us and allow you to keep clear records if we ask you to confirm the details here. You should record here the reference number on the face of your permit, together with the date it became effective. In some cases SEPA issues permits which are time-limited, and if this applies to your permit you should record the date here.

3.6 Operational information

This section is to enable you to record source leakage tests - events that are important in demonstrating compliance with the requirements of your permit. SEPA will not record this information. When you amend a record to reflect a recent leakage test you need not report this to SEPA unless you are also telling us of other changes. Your permit requires you to maintain a record of source movements within your premises and, where the registration allows mobile use, to and from other locations. You will need to keep separate records for those purposes – you should not report those movements.

3.7 Characterising the Source

The information you provide here will help SEPA to identify sources that are lost or are found and may be important in responding to an incident involving this source.

7a. Radionuclide

Please specify this in the form cobalt – 60, iridium – 192, etc.

7b. Date of manufacture
7c. Activity at that date
7d. Other reference date
7e. Activity at that date

One purpose of this section is to record a date on which the activity of the source can be confirmed and therefore allow the activity at any later date to be calculated. This may be specified for a reference date which is not necessarily the date of manufacture. But the date of manufacture is of further importance, as it defines the age, rather than activity, of a source – useful where a comparison with its designed working life is of relevance. Therefore, please record all the available information relevant to this section. Please use the standard scientific prefixes and the abbreviation Bq. Recorded activities should be rounded.

Further Source Characterisation details

These items are optional - where a source has been manufactured to ISO 2919 most of this information will be contained within the certificate supplied with the source.

7f. Physical and chemical characteristics

Where concise information is available, for example ‘Cs Cl pellet in double stainless steel capsule’, please record it here. Where further information is held, you may wish to retain this separately. Otherwise, please record ‘not known’.

7g. Source type

SEPA is not aware of a comprehensive, industry-wide Type classification scheme which might be adopted here. Where known, please record here the ‘model number’ assigned by the manufacturer.

7h. Capsule identification
7i. ISO classification
7j. ANSI Classification

Where this information is available to be recorded, it will be of alphanumeric form and should be recorded as such.

7k. Special form certificate number
7l. Date of expiry of Special Form Certificate

This certificate affects the type of container necessary to transport the source. Where you are able to complete this section we believe that you should do so as it may be of value in some responses to events involving the source.

3.8 Receipt of HASS

8a. Date of Receipt of this Source

Please record here when you first received the source or equipment from the manufacturer or your supplier or previous user.

8b. Name of consignor
8c. Address of consignor
8d. Type of consignor

Please record the consignor’s declared name and address. Also record whether the consignor is the manufacturer of this source or equipment, its supplier or is a previous user. If you have already supplied this information in Section 2 put “As Section 2”.

3.9 Source Transfer

9a. Date of transfer of this source

Where appropriate, please record here the date when you transferred the source or equipment to the management of another organisation.

9b. Name of recipient
9c. Address of recipient
9d. Type of recipient
9e. Recipient’s permission number

Please record the recipient's declared name and address. Also record whether the recipient is a manufacturer of HASS or equipment containing HASS, is a supplier of HASS or equipment containing HASS, is the next user of this source or equipment, is a person permitted for short-term storage of waste sources, is someone who will recycle the source or is a facility on a nuclear-licensed site for long-term storage or disposal of waste sources.

SEPA also requires you to obtain and record the intended recipient's permit number under which it will keep this source, if that user is within the EU. SEPA will expect to see a complementary report from that new user, if it is in the UK, which will allow us to reconcile our records.

Where you pass a source to a carrier for delivery to the intended recipient, you should not report this as a separate, intermediate transfer.