

Chapter 2.7

Specified Risk Material Controls

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1. Introduction

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1.1 Purpose

1.1.1 Background

The correct removal and disposal of Specified Risk Material (SRM) in slaughterhouses and cutting plants is essential to minimise risks to public and animal health associated with TSEs in cattle, sheep and goats.

1.1.2 Specific prohibitions

The TSE Regulations specifically prohibit the sale or supply of:

- any SRM, or food containing SRM for human consumption;
- any SRM for use in the preparation of any food for human consumption.

1.1.3 Duties of the FBO

It is the FBOs duty to comply with the legislation.

1.1.4 Introduction to FSS duties

The FSS has a number of duties relating to SRM controls, centring on ensuring that the FBO continually complies with the legislation, including:

- inspection of carcasses;
- verification that the FBO carries out their duties;
- audit of GHP, FBO's own procedures for handling and disposal of SRM and FBO's HACCP-based procedures for ensuring the meat does not contain SRM;
- Enforcement.

1.1.5 Enforcement outside of approved establishments

Local authorities enforce the TSE Regulations outside approved establishments. APHA is responsible for supervision and Approval/Registration of transporters and premises handling and processing animal by-products (ABP)/SRM.

1.2 Legislation

1.2.1 Retained European Legislation

EU legislation which applied directly or indirectly to the UK before leaving the EU on 31 December 2020 has been retained in UK law as a form of domestic legislation known as 'retained EU legislation'. This is set out in sections 2 and 3 of the [European Union \(Withdrawal\) Act 2018](#) (c. 16). Section 4 of the Withdrawal Act ensures that any remaining EU rights and obligations, including directly effective rights within EU treaties, continue to be recognised and available in domestic law after exit.

The following SRM legal controls are applicable:

- [Regulation \(EC\) 999/2001](#) (as amended) defines what SRM is and that it shall be removed in:
 - a slaughterhouse, or, if appropriate, other place of slaughter;
 - authorised cutting plants, in the case of Over Thirty Months (OTM) bovine vertebral column or mature ovine and caprine spinal cord.
- The Regulation lays down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies (TSEs) including, in Annex V, the definition of SRM.
- [Regulation \(EC\) 1069/2009](#) laying down health rules as regards animal by-products and derived products not intended for human consumption
- [Regulation \(EU\) 2017/625](#) and [Commission Implementing Regulation \(EU\) 2019/627](#) specify official controls to verify continuous compliance with FBOs own procedures and HACCP-based procedures concerning controls on animal by-products (ABP), including SRM:
 - check the removal, separation and staining of SRM;
 - verify the FBO takes all necessary measures to avoid contamination of meat with SRM during slaughter (including stunning) and removal of SRM.

1.2.2 Domestic Legislation:

- [TSE \(Scotland\) Regulations 2010](#);
- [Animal By-Products \(Enforcement\) \(Scotland\) Regulations 2013](#).

Classify SRM as Category 1 Animal By-Product via the provisions of Article 8 of Regulation (EC) 1069/2009 and set out the rules for its disposal (Article 12).

2. FSS role

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2.1 Inspection duties in slaughterhouses

2.1.1 Frequency of checks

The table below lists the checks that should be carried out, the frequency and the Authorised Officer (AO) responsible for performing that task.

Task	By	Frequency
Carry out verification of FBO controls	OV or OA	As required to verify the FBOs compliance with their procedures and HACCP systems relating to removal, storage, handling, processing, use or transport of SRM and to ensure the FBOs continuous compliance with SRM legislation. Note: This does not remove the requirements of CIR(EU) 2019/627 to inspect every carcass to verify the removal of SRM.
SRM reconciliation: Inspect the FBOs records of SRM consignments	OV or OA	Monthly
Destination for SRM: Check receiving ABP plant is approved for Category 1 ABP (SRM)	OV	Monthly

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Task	By	Frequency
In the case of SRM bovine vertebral column removal, or SRM sheep and goat spinal cord removal, carcasses are dispatched to appropriately authorised cutting plants.	OV or OA	Paperwork checked at regular intervals
Take appropriate enforcement action	OV	When non-compliances are noted
Audit of FBOs procedures for SRM management	OV and Veterinary Auditor (VA).	As determined by risk assessment Reference: See chapter 4 on 'Audit, HACCP based procedures and verifying operator's own checks' for further information

2.1.2 Identification of bovine carcasses or wholesale cuts containing VC SRM

Bovine carcasses, half carcasses, half carcasses cut into no more than three wholesale cuts from which the removal of the vertebral column (VC) is required, must be marked with a clearly visible red stripe label in the slaughterhouse prior to despatch to the cutting premises. Specific information on the number of bovine carcasses or wholesale cuts of carcasses, from which the removal of the vertebral column is required, should be added on the commercial document relating to consignment.

Regulation: (EC) No 1760/2000
(EC) No 999/2001 Annex V, 11.3(a)

There is no longer any legislative requirement to mark the label of carcasses or wholesale cuts containing VC that is **not** SRM with a blue stripe.

FBO's HACCP-based procedures in slaughterhouses and cutting plants receiving bovine carcasses or wholesale cuts should incorporate SRM controls, which include the labelling and checks on these labelling requirements for bovine carcasses and wholesale primal cuts.

Further cutting of wholesale cuts of carcasses containing VC classified as SRM must only be carried out in approved cutting plants authorised for the removal of VC SRM from OTM carcasses in accordance with the RMOP.

2.2 Definition of SRM

2.2.1 FSS key issue

It is imperative that all OV's and OA's are aware of the parts of the animal that are classified as SRM by Regulation (EC) 999/2001 (as amended). FSS operational staff can use the following tables.

	Cattle: BSE Controlled or Undetermined Risk Status	Cattle: BSE Negligible Risk Status
All ages	<ul style="list-style-type: none"> • tonsils; • the last four metres of small intestine; • the caecum; • mesentery. 	
Over 12 months	Skull excluding the mandible and horns and including the brain and eyes, and spinal cord.	Skull excluding the mandible and horns and including the brain and eyes, and spinal cord.
Over 30 months	Vertebral column including the dorsal root ganglia, but excluding: <ul style="list-style-type: none"> • vertebrae of the tail; • spinous and transverse process of the cervical, thoracic and lumbar vertebrae; • median sacral crest and wings of the sacrum. 	
Sheep and goats: UK and EU Member States		
Under 12 months	No SRM	
Over 12 months (or permanent incisor erupted)	Skull, including the brain and eyes and spinal cord. Note: Skull does not include horns	

2.2.2 Exceptions to removal of SRM in the slaughterhouse

There are certain exceptions to the requirement to remove SRM as soon as practicable after slaughter as outlined in the table below.

Exception	If
Older sheep or goat carcasses requiring spinal cord removal	Accompanied by a Transfer Permit (ABP 7/2 form). Transferred to a cutting plant authorised for removal of spinal cord.
Bovine SRM vertebral column from carcasses and wholesale cuts from OTM animals	Transferred to an approved cutting plant authorised for removal of vertebral column from animals aged over 30 months at slaughter, in UK. Should be accompanied by commercial documentation, indicating the number of carcasses or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.
SRM bovine vertebral column from the carcasses of OTM animals imported live from countries with a controlled or undetermined BSE risk and slaughtered in GB	Transferred to an approved cutting plant authorised for removal of vertebral column in UK. Should be accompanied by commercial documentation, indicating the number of carcasses or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.
Bovine carcasses of OTM animals containing SRM vertebral column imported, in accordance with the community TSE Regulations	Transferred to an approved cutting plant authorised for removal of vertebral column. Should also be accompanied by commercial documentation, indicating the number of carcasses or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.
Bovine heads moved to an authorised cutting plant for head meat harvesting	Transferred to an approved cutting plant authorised for harvesting of bovine head meat. Should also be accompanied by commercial documentation, indicating the number of heads consigned, from which head meat is to be harvested.
Material for use in education or research purposes	The use of animal by-products is for diagnostic, educational and research purposes.

2.2.3 Mechanically separated meat

Mechanically separated meat (MSM) means the product obtained by removing meat from flesh-bearing bones after boning, using mechanical means resulting in the loss or modification of the muscle fibre structure.

MSM derived from cattle, sheep or goat bones, including bone in cuts, must not be used in the preparation of food for human or animal consumption.

Note: This does not include meat recovered during the boning process by the use of hand-held powered knives that do not use pressure or suction.

2.3 Process for authorisation to remove SRM VC from bovine carcasses, spinal cord from adult small ruminants or harvesting bovine head meat

2.3.1 Scope

The duties detailed below relate to:

- bovine carcasses from UK born and reared animals aged over 30 months at slaughter;
- bovine carcasses from animals aged over 30 months, imported from countries with a controlled or undetermined BSE risk;
- bovine carcasses from animals aged over 30 months, imported from countries with a negligible risk, but which have had an indigenous BSE case;
- bovine carcasses from animals imported alive and slaughtered when aged over 30 months;
- ovine and caprine carcasses from animals aged over 12 months at slaughter or that had one or more permanent incisors erupted through the gum;
- harvesting of meat from bovine heads from animals over 12 months.
- Only cutting plants that have been authorised under the following regulations are permitted to remove VC from the domestic and imported carcasses from bovine animals aged OTM, remove spinal cord from carcasses of adult small ruminants, or harvest head meat from bovine heads:
 - the Transmissible Spongiform Encephalopathies (Scotland) Regulations 2010, Schedule 7 paragraph 13(1)(a), (b) and (c).

OVs involved in the authorisation process must endeavour to gain a thorough understanding of the processes involved.

FSA authorise cutting plants in England and Wales in a similar manner.

2.3.2 Procedure: Application packs

The OV should assist and guide the FBO in obtaining the relevant application pack, available from FSS Approvals: Approvals@fss.scot. The application packs contain information related to the 3 potential authorisations under the Regulations.

2.3.3 Procedure: Required Method of Operations (RMOP)

The removal of bovine SRM VC, removal of spinal cord from sheep and goat carcasses, or the harvesting of meat for HC from bovine heads, must take place in accordance with the relevant protocol and the operator's required method of operation (RMOP).

Copies of the protocols and examples of RMOPs are available from the Approvals Team (01224 285146) Approvals@fss.scot and are located in Annex 1 of Chapter 2.6.

FBOs of standalone cutting plants should contact the Field Veterinary Manager (FSS Technical Lead) in the first instance. The FSS Technical Lead will organise assistance through local teams; OVs or trained OAs.

In the case of co-located cutting premises, the plant based OV should be the first point of contact to assist FBOs when completing a RMOP. In dealing with FBO queries, the OVs should play an advisory role, using their professional knowledge. In case of doubt, the OV will consult on the appropriate course of action with the FSS Technical Lead for the area.

The OV should sign and date the completed RMOP, once they are content that all requirements of TSE regulations are met. The date is particularly important as the document becomes legally binding when signed.

Once the establishments are authorised, the responsibility of keeping the procedures up to date remains with the FBO. If the FBO wishes to update or change the RMOP, they must give written notice to the OV and must gain agreement before implementing the intended change.

Any questions regarding the use and completion of the form should be directed to the relevant FSS Technical Lead in the first instance. Once signed, this document should become part of the FBO's HACCP based procedures. Consequently, any further change should be reflected in the HACCP.

FSS recommends uploading the final RMOP signed version in FSS SharePoint, inside the plant folder (Operations > Approval Documents > RMOP). FSS will verify compliance during FBO audits, UAls and any other routine visit.

2.3.4 Application for authorisation to remove SRM VC from bovine carcass, spinal cord from adult small ruminants and bovine head meat harvesting

The FBO must complete all relevant sections of the appropriate application form and pass it to the OV for completion of section 4.

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Once completed the FBO must submit the form and the completed RMOP to the FSS Approvals Team:

Approvals and Certifications Team
Food Standards Scotland
4th Floor, Pilgrim House
Aberdeen
AB11 5RL

Email: approvals@fss.scot

2.4 Enforcement

2.4.1 FBO fails to comply with regulations

If the FBO fails to comply with the regulations the OV must:

- notify the FBO of all deficiencies as soon as possible;
- check the OWS Enforcement Module and check for other breaches in the same year;
- assess the breach and take proportionate enforcement action (see below);
- assess the necessity of increased ABP and SRM inspections; Risk Based Decision Tool to be used
- record the breach on the ABP 7/5 and save the form on the plant Enforcement folder in FSS SharePoint; The retention period is 1 year.

2.4.2 If carcass contains SRM at inspection

Enforcement of SRM breaches should follow the proportionate and risk-based approach as detailed in the table below:

IF	Then
the FBO has effective HACCP based systems in place, including effective training of staff	An incident in which a carcass with SRM is presented at post mortem inspection, resulting from an isolated human error, should be treated in a risk-based and proportionate manner. The incident must be brought to the FBO's attention and recorded on the enforcement module. Should a contravention be repeated, the issue should be escalated through the hierarchy of enforcement.

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HACCP based systems exist, but they have not been effectively implemented or maintained	Where this deficiency has led to SRM being presented for inspection, then a warning letter must be sent to the FBO, clearly setting out the deficiencies they need to rectify. The FBOs actions must include addressing the root cause of the problem, to ensure there is no recurrence. Escalate through the hierarchy of enforcement.
Repeated instances of SRM presentation occur	Record and retain evidence of each non-compliance and follow enforcement instructions in chapter 7.
SRM has not been removed from a carcass and has been despatched to other premises or exported (excluding VC / spinal cord / bovine heads consigned to an approved cutting plant)	This SRM breach should be followed by proportionate enforcement in line with Chapter 7. A referral for investigation with views for prosecution should also be considered.

All non-compliances identified must be recorded in the OWS Enforcement Module, ABP 7-3 form and in the OWS ABP system.

SRM controls remain a high priority for the FSS and there continues to be an expectation of 100% FBO compliance.

2.4.3 Evidence gathering for SRM contraventions

If the FBO presents carcass(es) (or offal being harvested for human consumption) for inspection, that contain SRM or where SRM is attached, the following enforcement action should be taken by FSS operational staff:

- detain carcass(es)/ offal under FSS control (if necessary using a Detention Notice issued under Regulation 9 (5) of the Food Hygiene (Scotland) Regulations 2006) (ENF 11/26). The AO who discovered the SRM breach should stay with the carcass/offal, if possible, while another AO is on the way to assist with gathering the evidence;
- make contemporaneous detailed records in the daybook or personal notebook and sign them;
- obtain photographic evidence if possible – of the SRM, as found in the carcass/offal and once it has been taken out (including measurement);
- obtain verification of findings from other FSS staff, if possible;
- notify the FBO;

- retain a sample of the SRM as evidence in a sealed evidence bag (see Chapter 7 section 2.6.4 – protocol for the use of evidence bags), and freeze it to preserve its condition (until the case is concluded), note the details of that in the day book;
- record details on ABP 7/3 and update the RBT and ABP 7/5 form;
- record details on OWS Enforcement and ABP modules.
- On completion of evidence gathering, and after the removal of all SRM, the carcass/ offal may be health marked and enter the food chain.

2.4.4 Record of action taken

Enforcement action must be recorded on the OWS Enforcement Programme, ABP 7-3 and in OWS ABP application. This information is used to target resources and to inform policy team on the impact of policy changes on FBO non-compliance levels.

3. Verification and inspection tasks

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[3.7 Verification tasks for the disposal of SRM by incineration or co-incineration](#)

3.1 Verification tasks for pre-slaughter and pre-cutting period

3.1.1 Authorisations and approvals

The establishment must have the appropriate authorisations/ approvals in place for the operations it is carrying out, including approval for operation of the establishment.

Bovine:

- authorisation to enable cutting plants to remove SRM vertebral column from:
 - carcasses of UK bovines over thirty months of age at slaughter;
 - carcasses from bovines imported live from countries with a controlled or undetermined BSE risk aged over 30 months at slaughter;
 - imported bovine carcasses, half carcasses, half carcasses cut into no more than 3 wholesale cuts, and quarter carcasses from animals over 30 months of age at slaughter;
- authorisation to enable cutting plants to harvest meat for human consumption from bovine heads.

Ovine / Caprine:

- authorisation to enable cutting plants to remove spinal cord in sheep and goats over 12 months, or which have a permanent incisor erupted through the gum.

3.1.2 Animals found dead on arrival, dead in lairage or stillborn

The same rules on age requirements for BSE testing (chapter 2.6 on 'TSE testing', section 2) applies to animals found dead on arrival or dead in lairage.

FBOs may contact a collector (their normal collector or the National Fallen Stock Company (NFSCo) 01335320014 or collection@nfsc.co.uk) within 24 hours of death to arrange delivery to an approved sampling site. If delivering the carcass themselves, they should contact an approved sampling site to agree this within 24 hours and must deliver the carcass within a further 48 hours. The barcode label must be added to a movement card from the passport and sent to the sampling site with the carcass. The passport must be returned to ScotEID.

Carcasses of cattle awaiting a BSE test result must be sent for destruction or destroyed at Category 1 ABP premises approved to receive such carcasses by either direct incineration or rendering followed by incineration of the rendered material.

Sheep and goats that require testing must have the heads collected and despatched for testing.

3.1.3 Hygiene

The following hygiene requirements must be met:

- premises, machinery and implements used in SRM removal are clean before operations begin and during processing to prevent cross contamination;
- storage and transport bins are clean, leak free and impervious, indelibly marked/labelled "Category 1 material – For disposal only," with well-fitting lids which are used when the bin is used to store or transport SRM;
- bins are washed and disinfected when required and not used for any other purpose;
- bin liners, if used to line SRM bins, are used once only and disposed of entirely as SRM.

3.1.4 Stain

The FBO must ensure that:

- there is a sufficient supply of a suitable blue colouring agent for staining SRM;
- the colouring agent is of such a strength that the staining is clearly visible and remains visible after the specified risk material has been chilled or frozen;
- the data sheets are available.

Reference: SSI 2019/118 – the TSEs (S) Amendment Regulations 2019 – Reg 9 par 9 –

3.1.5 Specified solid waste management

All drains in areas where SRM is processed must have drain traps or gratings in place for the collection of carcase and offal solid waste. Specifications are:

- a maximum mesh size of 6mm;

Regulation: (EU) 142/2011, Annex IV, Chapter I, Section 2, Para 1.

- a maximum size of 4mm where the water is discharged into a public sewer drain.

Note: This is required by the Scottish Environment Protection Agency. The OV should advise the FBO and report the matter to SEPA if this is not the case – [SEPA Contacts](#)

All material collected by these traps/ gratings must be treated as SRM.

3.1.6 Training

The FBO must arrange or establish, in consultation with the OV, a staff training programme to ensure that all staff involved in the removal, separation, staining and disposal of SRM are fully aware of the requirements of the regulations and the FBO's own procedures, so they can operate a system that complies with the regulations.

3.2 At slaughter: inspection and verification duties

Inspection and Verification	By	Frequency
<p>Check on the staining, further handling and disposal of SRM and report any cases of FBO failure.</p>	<p>OV / OA</p>	<p>The OV must use the 'Risk Based Decision Tool for ABP and SRM Inspections' (RBT) at Annex 2 as an aide memoire to establish the frequency of checks and record the outcome in the plant daybook and in the ABP 7-3 form in Chapter 9.</p> <p>The frequency may be:</p> <ul style="list-style-type: none"> • daily, or; • once every five days of processing. <p>The OV must determine the minimum duration for daily ABP/SRM checks by using Risk Based Decision Tool for ABP Inspection Duration, ABP 7/5 form in chapter 9.</p>
<p>Note: OV should use the RBT, Annex 2 and ABP 7/5 in Chapter 9 at least monthly, and record the outcome in the plant Daybook. If there are any areas of SRM handling that change, or weak areas that pose a risk of SRM entering the animal or human food chain, the OV can use the RBT at any time to amend the level of checks, in consultation with the FSS Technical Lead. Any changes should be regularly reviewed. A copy of the RBT should be available in the plant folder, on FSS SharePoint.</p> <p>Form ABP 7/3 (in chapter 9) should be used to record all non-compliances found during your checks (frequency and duration as determined by the RBT). The form should be completed weekly, according to the required frequency of checks. Checks should also be recorded on OWS ABP application according to the RBT.</p> <p>Note that every carcass will still be checked for the removal of SRM as part of routine post mortem inspection.</p>		

Checks should be undertaken to verify these systems are working.

The OV must also use other information available to them to assist in this verification task. For example, Food Chain Information (on the SAMU movement document), and the previous history of that particular establishment with respect of the number or ovine/caprine carcasses that require splitting to allow spinal cord removal.

Note: OVs should be aware that:

- processing patterns may change from year to year;
- the number of animals presented requiring spinal cord removal varies according to the time of year;
- the location of provenance of the sheep/ goats can change;
- the range and number of suppliers or sources from which the FBO might use in procuring animals.

3.3.3 Ovine heads

Where head meat is harvested in sheep over 12 months old, the horns must be removed, and the head skinned and inspected. After harvesting, the skulls must be disposed of as Category 1 Animal by-product (SRM).

3.3.4 Horns (bovine, ovine and caprine)

Horns of cattle, sheep and goats are not SRM, but the corneal process of the frontal bone is SRM in cattle over 12 months old.

3.3.5 Carcasses presented for inspection (ovine and bovine)

Only carcasses which have had all appropriate SRM removed should be presented for inspection, **with the exception of** bovine vertebral column or sheep spinal cord which can still be present, and bovine heads from which meat is to be harvested.

3.3.6 Bovine heads from cattle aged over 12 months of age

The following standards must be met:

- care is exercised and all hygienic precautions taken when detaching heads or removing bovine tongues;
- when bovine heads are skinned, the skinning (flaying) is complete;
- if head meat is to be harvested, where heads are removed from conveyor or hook systems before harvesting, the following conditions should be met:
 - control measures should be in place to prevent the possible contamination of the head meat with central nervous system (CNS) tissue; this includes harvesting the head meat in a dedicated area, separate from the slaughter line;

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- any bolt hole on the frontal bone, and the foramen magnum should be sealed with a bung, stopper or sponge; if the brainstem is required for BSE testing, the foramen magnum should be sealed immediately after sampling;
 - a sampling plan using an appropriate laboratory test to detect CNS tissue shall be in place to verify that the measures to reduce contamination are properly implemented;
 - head meat must not be harvested from heads where the eyes are damaged or lost prior to, or after slaughter, or from heads that have not been sealed as above.
- FBO's should ensure HACCP systems, or equivalent control systems and checks are written to reflect the measures taken to prevent contamination of the head meat with CNS material;
 - the head inspection point is situated close to the point of detachment from the carcass and the head is transported to this point in a manner which is both hygienic and minimises the potential for cross-contamination of meat or surroundings with SRM;
 - if bovine brains and eyes are removed it is only for a permitted use (for example, instructional, diagnostic or research purposes) and cannot cause contamination to meat intended for human consumption;
 - care should be taken during the harvesting process to ensure tonsil is treated as SRM. This applies to cattle of all ages.
 - if heads are to be despatched to an authorised cutting plant for the purpose of head meat harvesting:
 - the heads intended for transport to the cutting plant shall be suspended on a rack during the storing period and the transport from the slaughterhouse to the cutting plant;
 - the frontal shot hole and the foramen magnum shall be properly sealed with an impermeable and durable stopper before being moved from the conveyor or hooks to the racks. Where the brainstem is sampled for laboratory testing for BSE, the foramen magnum shall be sealed immediately after that sampling;
 - heads which have not been properly sealed as above, where the eyes are damaged or lost immediately prior to or after slaughter or which were otherwise damaged in a way which might result in contamination of the head meat with CNS tissue must not be transported to an authorised cutting plant;
 - a sampling plan must be in place for the slaughterhouse using an appropriate laboratory test to detect CNS tissue to verify the proper implementation of the measures to reduce contamination.

Note: In bovine heads from cattle aged 12 months or less, only the tonsils are SRM.

3.3.7 Bovine tongues

The following standards must be met:

- tongues are harvested by a transverse cut rostral to the lingual process of the basihyoid bone at the level of the last vallate papillae;
- any material behind the last vallate papillae is disposed of as SRM;
- tongues are harvested after complete flaying and washing of the detached head;
- tongues are trimmed to remove any residual connective tissue;
- animals tested for TSE: the tongues remain correlated with the carcass pending the results.

3.3.8 Bovine spinal cord

FBO must ensure spinal cord is removed from bovine carcasses using a designated tool or knife to remove the meninges, fat and debris, so that no fragments of the spinal cord can remain in the spinal canal.

It is recommended that operatives removing spinal cord from bovines:

- ensure spinal cord and meninges do not come into contact with the floor, or other surfaces of the slaughterhouse;
- cover chain mail gloves with rubber gloves;
- change protective clothing as often as necessary to minimize cross contamination;
- wash hands frequently;
- use clean, sterilised tools for each carcass;
- wash their hands and sterilise their tools after removal of SRM from each carcass.

Band saws that have a water supply should have the water ducted away from the carcass.

Drain grating must have apertures no larger than 4mm, and that the material retained in the grating is disposed of as Category 1 ABP (SRM).

Where cleavers are used, the operative should examine the carcass for fragments of SRM, trim any bone spicules and dispose of them as SRM.

3.3.9 SRM in bovine intestines

The following parts of the bovine intestine are designated as specified risk material in animals of all ages:

- the last four metres of the small intestine;

- the caecum;
- mesentery.

The bovine intestine anatomy:

The small intestine starts at the pylorus and terminates at the entrance of the caecum at the ileo-caecal valve. The small intestine consists of duodenum, jejunum and ileum.

The large intestine extends from the end of the ileum to the anus. It is divided into the caecum, the colon and rectum.

The caecum is cylindrical, 50-70cm long and slightly curved with a blind end.

The mesentery is the connective tissue attached to the intestinal loops of small and large intestine including the mesenteric fat.

SRM removal from bovine intestine

Total separation of the intestines from other green offal must be carried out in the gut room and must include the whole length of intestines including any bag used in bunging.

SRM separation should be carried out in the gut room after post-mortem inspection in accordance with the following:

- the last four meters of the small intestine from the ileo-caecal junction, towards the small intestine, should be removed in each case; the FBO should establish an auditable and verifiable system for measuring the length of intestine to ensure that all SRM is removed;
- the caecum needs to be removed;
- the small intestine and large intestine need to be run off in order to remove mesentery;
- the removed section of small intestine, the caecum and mesentery must be treated as SRM (Category 1 animal by-product);
- <http://ec.europa.eu/avservices/video/player.cfm?ref=I123453&videolang=MUE%2FEN&devurl=http://ec.europa.eu/avservices/video/player/config.cfm> ;
- if digestive tract content has not been emptied, or the carcass has not passed post-mortem inspection, the remaining bovine intestines (where SRM was removed) should be disposed of as category 2 animal by-products; and FSS Technical Lead should be contacted.

SRM from bovine intestine not separated

If the FBO does not wish to separate the last four metres of small intestine, the caecum and the mesentery from the intestines of cattle they must ensure that the entire bovine intestine is treated as SRM (Category 1 animal by-product).

Mesenteric fat

Mesenteric fat is currently considered as SRM and shall be disposed of as such because it is very closely associated with the mesentery and cannot be safely separated from it.

FSS Duties

Having due regard to hygiene and the risk of cross-contamination, FSS staff must verify FBO controls by:

- undertaking spot checks on FBOs when removing the SRM from the bovine intestine to ensure that all SRM is removed from the intestines and stained as SRM (Category 1 animal by-product) or;
- where SRM separation is not being carried out, undertake spot checks to verify that all intestines remaining attached to the SRM are stained and disposed of as SRM (Category 1 animal by-product).

Note: Please refer to 'Removal of SRM from bovine intestines' poster ([Annex 1](#)) for further guidance.

3.3.10 Live bovine animals imported into UK from countries with a controlled or undetermined risk

All imported live animals should be treated as domestic animals as far as SRM is concerned.

3.3.11 Captive bolt stunning

Where captive bolt stunning is used, the captive bolt should, if possible, be wiped clean after each use with disposable wipes, that are then discarded as SRM. Ideally the bolt hole should be plugged to prevent escape of SRM during handling and dressing.

3.3.12 Bone dust

Where bone dust is removed from the cut surface of the vertebral column using a low pressure warm water wash, the washings must be prevented from contaminating the slaughterhall or other carcasses.

3.3.13 Handling of SRM

The FBO must ensure that all appropriate SRM is:

- removed completely from the carcase as soon as practicable after slaughter and before the carcase is presented for post-mortem health inspection and marking;
- removed by staff of the establishment who adopt the necessary hygiene measures to avoid the risk of cross-contamination. For example, avoid touching the carcase with hands or implements which have been used to remove, or come into contact with, SRM without being washed / cleaned in between;
- handled in such a way that there is no contact with any other animal material,
- processed under hygienic controls that are suitable and sufficient to protect public health.

3.3.14 Material in contact with SRM

The following is regarded as SRM:

- any material still attached to SRM after dissection of the carcase;
- any animal matter that comes into contact with that material or with SRM after it has been removed from the carcase.

3.3.15 Pithing

Pithing is prohibited for animals that are intended for human consumption. If pithing has been carried out in contravention of the regulations:

- the dry landing area must be cleaned;
- any brain tissue must be wiped away;
- any paper towels associated with cleaning SRM contaminated equipment must be placed in the SRM bin;
- the carcase must be disposed of as SRM and the disposal overseen by FSS: this includes all parts except hides;
- the pithed carcase must be kept separate from other carcasses or animal products which are not SRM;
- any knives or tools which have been used must be washed and sterilised before being used on any other carcase.

Note: Pithing is allowed if the meat is not intended for human consumption and is carried out by operatives under the relevant Certificate of Competence.

3.4 Verification tasks at despatch

3.4.1 Verification checks before transfer to an approved, authorised cutting premises

At a slaughterhouse despatching carcasses, the OV/AO is to make verification checks on the FBO documentation to confirm that the carcasses containing SRM VC, un-split adult sheep carcasses containing spinal cord, or bovine heads have been consigned to an approved cutting plant authorised to remove VC / sheep spinal cord (SRM) / harvest bovine head meat.

The commercial documentation should indicate the number of carcasses in the consignment that require SRM VC removal as well as the number of carcasses where SRM VC removal is not required.

Regulation: (EC) No 999/2001, Annex V, 11.3(b)

Although it is not a legal requirement, it is expected that FBOs agree a Recommended Method of Operation (RMOP) for the despatch of over thirty months (OTM) carcasses for the removal of VC (SRM), for the despatch of un-split sheep carcasses for the removal of spinal cord, or despatch of bovine heads for harvesting of head meat in order to ensure these are only sent to cutting plants with the appropriate authorisation.

Before being transferred to the cutting premises, OTM bovine carcasses requiring VC removal must:

- have received a negative BSE test result, if BSE testing is required;
- have passed a post-mortem health inspection;
- carry a label bearing a clearly visible red stripe;
- carry a health mark.

3.4.2 Loading operations: verification checks

The OV/ AO must perform spot checks on loading and documentation. These spot checks should take place on a risk-based frequency, according to the effectiveness of the FBO's controls and the frequency of the loads.

An entry in the daybook, confirming that these checks have been carried out, must be made, as a minimum, on a weekly basis. If more than a week elapses between loads, then an entry should be made when a transfer is completed.

Note: The carcasses may be transferred as carcasses, half carcasses, quarters or half carcasses cut into no more than three wholesale cuts.

3.5 Verification tasks at cutting plant

3.5.1 Scope of the instructions

The duties detailed below relate to:

- bovine carcasses from animals aged over 30 months, imported from countries with a controlled or undetermined BSE risk;
- bovine carcasses from animals aged over 30 months, imported from countries with a negligible risk, but which have had an indigenous BSE case;
- bovine carcasses from animals imported live and slaughtered when aged over 30 months;
- bovine carcasses from domestic animals aged over 30 months at slaughter;
- older sheep and goats (>12 months of age) where removal of spinal cord is taking place;
- bovine heads that undergo the harvesting process of the head meat
- The risk status of third countries is set out in [Commission Decision \(EC\) 2007/453](#).

3.5.2 FSS attendance during SRM VC removal, spinal cord from mature ovine and bovine head meat harvesting operations

FSS presence is not required 100% of the time during SRM removal the presence frequency will be based on a risk assessment which can be found in [Annex 3](#).

3.5.3 Verification requirements

FSS staff are required to verify that the cutting establishment is in possession of an authorisation for the removal of SRM Vertebral Column from bovine carcasses or SRM spinal cord from sheep carcasses and for harvesting meat from bovine heads.

Processing should be undertaken in accordance with the FBO's food safety management procedures and the agreed SRM removal RMOP.

During the visit to the cutting establishment, particular attention should be paid to the following points, when observed:

- Correct identification and labelling of the carcasses stored in the chillers;
- FBO records on consignments received and number of carcasses (bovine and ovine) and bovine heads processed;
- Adequate separation during processing between meat containing SRM and meat which does not contain SRM;
- SRM vertebral column (see SRM chart definition at [sub-topic 2.2.1](#) on 'FSS key issue' in this chapter):

- removal;
- collection;
- staining and storage;
- SRM spinal cord (sheep and goats):
 - removal;
 - collection;
 - staining and storage;
- SRM VC / spinal cord / bovine skulls are placed in appropriate and labelled SRM containers prior to staining and transfer to main holding container;
- Equipment is cleansed and disinfected after completion of SRM removal;
- FBO must not apply the identification mark to meat intended for human consumption until after all SRM vertebral column/ spinal cord has been removed, or head meat has been harvested;
- FBO has robust systems in place to ensure that all SRM is removed from imported carcasses (when applicable) before the meat enters the food chain.
- FSS staff should also verify ABP consignment documents against the number of carcasses processed which contain SRM vertebral column or spinal cord.
- An entry in the daybook confirming operations in accordance with the approved RMOP must be made at each visit, if applicable. Any discrepancies or findings must also be written in the daybook and appropriate action taken.

3.5.5 Mechanically separated meat (MSM)

MSM derived from cattle, sheep or goat bones or bone-in cuts cannot be used in the preparation of food for human consumption or animal consumption.

Reference: See topic [2.2.3 on 'Mechanically separated meat'](#) in this chapter.

3.5.6 Vertebral column or spinal cord removal and bovine head meat harvesting

The following standards must be met:

- the plant holds the appropriate authorisation (which includes a RMOP);
- effective separation of bovine heads and carcasses containing SRM from those not containing SRM is maintained at all times;
- bovine heads from cattle over 12 months of age must have the bolt hole and foramen magnum covered and no damaged or lost eye/broken horns;
- cleansing and disinfection is implemented before processing any non-SRM carcasses;

- carcasses are held in a separate chiller or on separate dedicated rails, and bovine heads are kept separate on racks.

3.5.7 Handling of SRM

The FBO is to ensure that SRM is:

- removed by staff of the establishment who adopt the necessary hygiene measures to avoid the risk of cross-contamination, for example, avoid touching the carcass with hands or implements which have been used to remove, or come into contact with, SRM without being washed/ cleaned in between;
- handled after removal from the carcass in such a way that there is no contact with any other animal material.

3.6 Verification tasks for the management of SRM staining, transfer and storage

3.6.1 Staining of SRM

Authorised Officers must verify all SRM is stained as soon as practicably possible (even if it is going for incineration on site), after removal from the carcass, with a blue colouring agent using a solution of such a strength that the staining is clearly visible and remains visible after the specified risk material has been chilled or frozen.

Note: Where a suitable dye is not being used, record the incident in the Daybook, preserve any relevant evidence, and report your findings to your Technical Lead. Local Trading Standards should then be informed, so they can investigate the matter and take appropriate action.

3.6.2 Stain application

FBO must ensure SRM is stained before it leaves the slaughterhall, unless doing so risks contamination of fresh meat. If this is not possible, the stain should be applied as soon as it leaves the slaughterhall and undertaken in a suitable area. The stain should be applied to each layer of SRM, and a suitable tool dedicated to the task used to stir the SRM to ensure it achieves individual coverage.

3.6.3 Stain visibility

The stain must be visible over 100% of the surface of all SRM, except sheep and goat heads where it needs to be clearly visible over the whole of the cut surface and majority of the head.

3.6.4 Unstained SRM

3.6.4.1 When staining of SRM is not necessary

SRM may only be removed from approved establishments without prior staining in the following circumstances:

- whole, unskinned bodies of dead cattle, sheep or goats;
- consignments intended for exhibition, teaching, scientific research, special studies or analysis;
- consignment to approved premises for the manufacture of products not connected with food.

3.6.4.2 Checks on FBO records

The AO must check the FBOs records of despatch of unstained SRM to verify that it is going to permitted destinations only.

3.6.4.3 Procedures to dispatch

ABP 7/1 (Dispatch of SRM and any other ABP for Exhibition, Teaching, Scientific Research, Special Studies or Analysis) is used to monitor the despatch of ABP material for research. The applicant must complete it in advance of the ABP material being removed from the establishment and receive FSS Technical lead approval. The OV must complete section 3 every time the specified material is despatched.

The outline procedure is as follows:

- the applicant completes section 1 of ABP 7/1 and sends the form to the FSS Technical Lead via FSS Operations at: Approvals@fss.scot
- the FSS Technical Lead reviews and signs the form;
- copies of the signed form are then sent to the applicant, APHA, the OV and the Local Authority;
- the OV then completes section 3 when the unstained SRM is despatched;
- a copy is sent to FSS Approval.

Reference: See chapter 9 on 'Forms'

3.6.4 Mixing of animal by- products

FBO must have a robust system for disposal of animal by-products in place to ensure that all by-products are disposed of according to their category, or if different categories are mixed with SRM, they are disposed as the higher risk category (SRM Category 1).

SRM (Category 1 animal by-product) is kept separate from all other animal by-product categories unless it is intended to dispose of all animal by-products as Category 1.

If SRM is not intentionally mixed with other animal by-product categories, there must be established procedures and separate lines for disposal to ensure that different by-product categories cannot be mixed.

3.6.5 SRM transfer

FBO is responsible to ensure that all SRM is transferred to correctly identified storage bins without undue delay.

3.6.6 Storage of SRM

FBO All SRM is stored entirely separately from all food material, in containers, which are:

- indelibly marked “Category 1 material – For disposal only”;
- impervious and leak proof;
- lidded.

3.6.7 Consignment of SRM

The FBO must have:

- records of SRM consigned to an approved destination, either an:
 - approved incinerator, or;
 - approved Category 1 processing plant, or;
 - approved Category 1 intermediate plant;
- additional records if unstained SRM is being consigned for TSE testing, research, educational or veterinary purpose;
- arranged for adequate transportation;
- a commercial document must be produced for each consignment.

3.6.8 Commercial documents

The commercial document must specify:

- the name, address and approval number of despatching establishment;
- the quantity, weight and description of Category 1 material/SRM consigned;
- the name and address of the haulier transporting it;
- the date on which the SRM was consigned from the premises;
- the destination to which it was consigned including approval number.

- Consignment records must be retained for 2 years from the date of consignment.

The OV should verify FBO controls by:

- reconciling the SRM weight records from the establishment with the number of animals slaughtered;
- investigating other discrepancies;
- taking appropriate action if there is evidence of possible contraventions of the TSE or ABP Regulations.

3.6.9 Verification of the removal of VC as SRM in approved, authorised cutting establishments

If meat is found to contain VC from OTM carcasses (SRM) after the point where it would normally be removed:

- the meat should be detained if necessary (see chapter 7 on 'Enforcement');
- the FBO is required to remove the SRM under FSS supervision;
- record evidence of the non-compliance;
- take risk-based and proportionate enforcement action.

When VC from OTM carcasses is found in packed meat, the FBO may be permitted to reprocess and remove the SRM under FSS supervision, if this is practical, and report the incident to Scottish Food Crime and Incidents Unit (SFCIU). If this is impractical, the OV may declare the meat unfit as per the Hygiene Regulations and report to SFCIU. These instances are classed as a major non – compliance.

For a repeated non-compliance, please refer to chapter 7.

3.6.10 Verification of the disposal of VC/spinal cord/bovine skulls as SRM in approved, authorised cutting establishments

- If the OV detects Category 1 material (SRM) identified for disposal as Category 2 or Category 3, the OV should serve a notice, requiring the resultant mixture to be disposed of as Category 1 (ENF 11/12). The OV should consider enforcement action in accordance with FSS Enforcement Policy (Chapter 7 Annex 2);
- If the OV finds evidence that Category 1 material (SRM) has been consigned as Category 2 or Category 3 material, the OV should consider enforcement action in accordance with FSS Enforcement Policy and notify the Animal and Plant Agency (APHA) and the relevant Local Authority as soon as possible. APHA will trace the material and carry out a risk assessment to determine (with Scottish Government/Defra) what, if any, further action is required to safeguard animal health.

3.7 Verification tasks for the disposal of SRM by incineration or co-incineration

3.7.1 Disposal of SRM by incineration

SRM from certain animals that require TSE testing must be disposed of by incineration or by rendering followed by incineration.

Reference: See chapter 2.6 on 'TSE testing' for additional information.

The OV must obtain a declaration from the consignee confirming that this material is incinerated after processing. Use of rendered fat/tallow for production of biodiesel, or combustion in specifically approved boilers, is also permissible.

Regulation (EC) 1069/2009 Article 12 (e)

3.7.2 Category 1 SRM by incineration

Regulation (EC) 999/2001 requires that the by-products from tested animals that have not been tested negative for a TSE must be disposed of by incineration or rendering followed by incineration:

- carcasses, blood, hides/ skins/ fleeces and body parts from animals tested positive to a TSE;
- carcasses, blood, hides / skins/ fleeces and body parts from 'no test' bovine, ovine or caprine animals;
- carcasses, blood, hides and all body parts of insufficient test animals;
- the carcase before and two carcasses after a positive bovine, their blood, hides (or batch if not individually identified) and body parts;
- the carcase before and two carcasses after an insufficient test bovine, their blood and all body parts (but not hides);
- any body part from an animal that has been sampled for TSE that is disposed of before a test result is received.
 - See Chapter 2.6 for further details and explanation of test results.
 - **Regulations:**
 - (EC) 999/2001 Annex III, Chapter A. I.6.3 and 6.4
 - (EC) 999/2001 Annex III. Chapter A. II.7.3 and 7.4
 - (EC) 1069/2009 Article 12

4. Annexes

Annex 1 Removal of the SRM from bovine intestines poster

Annex 2 Risk Based Decision Tool for ABP and SRM Inspections

Annex 3 Risk Based Decision Tool for Vertebral Column Removal
Inspection at Cutting Plants