Chapter 2.7
Specified Risk Material Controls

Section 1  Introduction
Section 2  FSS role
Section 3  Verification and inspection tasks
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1. Introduction

1.1 Purpose

1.2 Legislation

1.1 Purpose

1.1.1 Background
The correct removal and disposal of SRM in slaughterhouses and cutting plants is essential to minimise risks to public 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 carcases
- 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.

1.1.5 Outside of approved establishments
Local authorities enforce the TSE Regulations outside approved establishments.
1.2 Legislation

1.2.1 Applicable regulations

The following SRM legal controls are applicable:

- (EC) 999/2001 (as amended) specifies 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 OTM bovine vertebral column or mature ovine and caprine spinal cord

The Regulation is directly applicable throughout all Member States and lays down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies (TSEs) including, in Annex V, the definition of SRM.

- (EC) 854/2004 specifies official controls to verify continuous compliance with FBOs own procedures and HACCP-based procedures concerning controls on 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

- Legislation:
  - the TSE (Scotland) Regulations 2010
  - the Animal By-Products (Enforcement) (Scotland) Regulations 2013

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

2.1 Inspection duties in slaughterhouses

2.2 Definition of SRM

2.3 OV role on supporting the authorisation of cutting plants to remove SRM VC from bovine carcases

2.4 Enforcement

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.

<table>
<thead>
<tr>
<th>Task</th>
<th>By</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry out verification of FBO controls</td>
<td>OV or MHI</td>
<td>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. <strong>Note:</strong> This does not remove the requirements of (EC) 854/2004 to inspect every carcase to verify the removal of SRM.</td>
</tr>
<tr>
<td>SRM reconciliation: Inspect the FBOs records of SRM consignments</td>
<td>OV or MHI</td>
<td>Monthly</td>
</tr>
<tr>
<td>Destination for SRM: Check receiving ABP plant is approved for Category 1 ABP (SRM)</td>
<td>OV</td>
<td>Monthly</td>
</tr>
<tr>
<td>Task</td>
<td>By</td>
<td>Frequency</td>
</tr>
<tr>
<td>------</td>
<td>----</td>
<td>-----------</td>
</tr>
<tr>
<td>In the case of SRM bovine vertebral column removal, or SRM sheep and goat spinal cord removal, carcases are dispatched to appropriately authorise cutting plants.</td>
<td>OV or MHI</td>
<td>Paperwork checked at regular intervals</td>
</tr>
<tr>
<td>Take appropriate enforcement action</td>
<td>OV</td>
<td>When non-compliances are noted</td>
</tr>
<tr>
<td>Audit of FBOs procedures for SRM management</td>
<td>OV and Veterinary Auditor (VA)</td>
<td>As determined by risk assessment</td>
</tr>
</tbody>
</table>

**Reference**: See chapter 4 on ‘Audit, HACCP based procedures and verifying operator’s own checks’ for further information

### 2.1.2 Identification of bovine carcases or wholesale cuts containing VC SRM

Until 30 June 2017, bovine carcases, half carcases, half carcases cut into no more than three wholesale cuts, and quarters that do not require vertebral column to be removed as SRM must be marked with a blue striped label in the slaughterhouse prior to despatch to the cutting premises.

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

From 1 July 2017, there will be no legislative requirement to mark the label with a blue stripe to meat containing VC that is not SRM. However, a new legal requirement will come into force for a clearly visible red stripe label to be applied to bovine carcases or wholesale cuts of carcases from which the removal of the vertebral column is required.

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

Further cutting of wholesale cuts of carcases containing vertebral column classified as SRM must only be carried out in approved cutting plants authorised for the removal of vertebral column from OTM carcases in accordance with the RMOP.
2.2 Definition of SRM

2.2.1 FSS key issue

It is imperative that all OVs and MHIs are aware of the parts of the animal that are classified as SRM by EU regulation 999/2001 (as amended). FSS operational staff can use the following tables.

<table>
<thead>
<tr>
<th>All ages</th>
<th>Cattle: BSE Controlled or Undetermined Risk Status</th>
<th>Cattle: BSE Negligible Risk Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• tonsils</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the last four metres of small intestine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the caecum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• mesentery</td>
<td></td>
</tr>
<tr>
<td>Over 12 months</td>
<td>Skull excluding the mandible and including the brain and eyes, and spinal cord.</td>
<td>Skull excluding the mandible and including the brain and eyes, and spinal cord.</td>
</tr>
<tr>
<td>Over 30 months</td>
<td>Vertebral column including the dorsal root ganglia, but excluding:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• vertebrae of the tail</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• spinous and transverse process of the cervical, thoracic and lumbar vertebrae</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• median sacral crest and wings of the sacrum</td>
<td></td>
</tr>
</tbody>
</table>

**Sheep and goats: UK and all other 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.

<table>
<thead>
<tr>
<th>Exception</th>
<th>If</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Older sheep or goat carcases requiring spinal cord removal</strong></td>
<td>Accompanied by a Transfer Permit transferred to a cutting plant authorised for removal of spinal cord, or transferred to a cutting plant in another member state where the FSS has a pre-existing agreement with the Competent Authority.</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Bovine SRM vertebral column from carcases and wholesale cuts from animals over 30 months</strong></td>
<td>Transferred to an approved cutting plant authorised for removal of vertebral column from animals aged over 30 months at slaughter, in UK, or any other Member State. Should be accompanied by commercial documentation, indicating the number of carcases or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.</td>
</tr>
<tr>
<td><strong>SRM bovine vertebral column from the carcases of animals over 30 months of age imported live from countries with a controlled or undetermined BSE risk and slaughtered in GB</strong></td>
<td>Transferred to an approved cutting plant authorised for removal of vertebral column in UK or any other Member State. Should be accompanied by commercial documentation, indicating the number of carcases or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.</td>
</tr>
<tr>
<td><strong>Bovine carcases of animals over 30 months of age containing SRM vertebral column imported, in accordance with the community TSE Regulations</strong></td>
<td>Transferred to an approved cutting plant authorised for removal of vertebral column. Should also be accompanied by commercial documentation, indicating the number of carcases or wholesale cuts from which vertebral column is required to be removed, or is not required to be removed.</td>
</tr>
<tr>
<td><strong>Material for use in education or research purposes</strong></td>
<td>The use of animal by-products is for diagnostic, educational and research purposes.</td>
</tr>
</tbody>
</table>

### 2.2.3 Mechanically separated meat

Mechanically separated meat 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.

Mechanically separated meat (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 OV Role on supporting the authorisation of cutting plants to remove SRM VC from bovine carcases

2.3.1 Scope
The duties detailed below relate to:

- bovine carcases from animals aged over 30 months, imported from countries with a controlled or undetermined BSE risk
- bovine carcases from animals aged over 30 months, imported from countries with a negligible risk, but which have had an indigenous BSE case
- bovine carcases from animals imported alive and slaughtered when aged over 30 months
- bovine carcases from domestic animals aged over 30 months at slaughter

Only cutting plants that have been authorised under the following regulations are permitted to remove vertebral column (VC) from domestic and imported carcases from animals aged over 30 months:

- the Transmissible Spongiform Encephalopathies (England) Regulations 2010, Schedule 7 paragraph 13(1)(a)
- the Transmissible Spongiform Encephalopathies (Wales) Regulations 2008, Schedule 7 paragraph 12(1)(a)
- the Transmissible Spongiform Encephalopathies (Scotland) Regulations 2010, Schedule 6 paragraph 13(1)(a)

OVs involved in the authorisation process will endeavour a better understanding of the whole process.

2.3.2 Procedure: Application packs
The OV should assist and guide the FBO in obtaining an OTM application pack, available from operational delivery in Aberdeen: operations@fss.scot

2.3.3 Procedure: Required methods of operations
The removal of SRM VC must take place in accordance with the relevant protocol and the operator’s required method of operation (RMOP).

Copies of the protocol and examples of RMOP are available from the Approvals Team (01224 285146) and are located in Annex section of Chapter 2.6
FBOs of standalone cutting plants should contact VM in the first instance. The VM will organise assistance through local teams; OVs or trained MHIs.

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 and referring the FBOs to the Meat Industry Guide (MIG), chapter 19 on ‘Specified risk material’. In case of doubt, the OV will consult on the appropriate course of action with the VM 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.

If, at a later stage, 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 VM 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.

### 2.3.4 Application for authorisation to remove SRM vertebral column from bovine carcases

The OV should assist and guide the FBOs in order to obtain the form ABP 7/6. The FBO must complete all relevant sections of the form and pass it to the OV for completion of section 4.

Once completed the FBO must submit this 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 ENF 11/5 and OWS and check for other breaches in the same year.
- assess the breach and take proportionate enforcement action (see below)
- record the breach on the ABP 7/5 Section 2 The retention period should be 18 months and be accessible via sharepoint.

2.4.2 **If carcase contains SRM at inspection**

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

<table>
<thead>
<tr>
<th>Where</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>the FBO has effective HACCP based systems in place, including effective training of staff</td>
<td>An incident in which a carcase 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 programme (ENF 11/5). Should a contravention be repeated, the issue should be escalated through the hierarchy of enforcement.</td>
</tr>
<tr>
<td>HACCP based systems exist but they have not been effectively implemented or maintained</td>
<td>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. FSS should be notified via VM</td>
</tr>
<tr>
<td>Repeated instances of SRM presentation occur</td>
<td>Record and retain evidence of each non-compliance and after 3 occasions in one year, refer for investigation.</td>
</tr>
</tbody>
</table>
SRM has not been removed from a carcase and has been despatched to another premises or exported (excluding VC consigned to an approved cutting plant)  

| This SRM breach should be referred to FSS Operations (by the OV/VM) for internal investigation. The breach should also be referred, by the OV, for criminal investigation. |

All non-compliances identified and recorded on the enforcement programme (ENF 11/5) must be uploaded in 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 carcase(s) (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 carcase(s)/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 authorised officer who discovered the SRM breach should stay with the carcase/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 carcase/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 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 ABP 7/5
- record details on OWS ABP application on SCOTS laptop

On completion of evidence gathering, and the removal of all SRM, the carcase/offal may be health marked and enter the food chain. The matter should be referred for investigation after the third non-compliance has been identified.
2.4.4 Record of action taken

Enforcement action must be recorded on the Enforcement Programme (ENF 11/5) 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

3.1 Verification tasks for pre-slaughter and pre-cutting period
3.2 At slaughter: inspection and verification duties
3.3 Verification tasks during slaughter
3.4 Verification tasks at despatch
3.5 Verification tasks for the cutting plant
3.6 Verification tasks for the management of SRM staining, transfer and storage
3.7 Verification tasks for the disposal of SRM by incineration or co-incineration

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:
  - UK bovines over thirty months of age at slaughter
  - bovines imported from countries with a controlled or undetermined BSE risk aged over 30 months at slaughter
  - imported bovine carcases, half carcases, half carcases cut into no more than 3 wholesale cuts, and quarter carcases from animals over 30 months of age at slaughter

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@nfsco.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 direct to BCMS.

The OV can also authorise the FBO to take the sample and send it to a private laboratory (code FSCA2) and dispose of the body as Category 1 ABP for incineration.

Carcasses of cattle awaiting a BSE test result must be sent for destruction or destroyed at Category 1 ABP premises approved to receive such carcases 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 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 patent blue V E131
• the dye is prepared correctly using measuring equipment
• the data sheets are available

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 the Environment Agency if this is not the case – SEPA number 0300099699

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

<table>
<thead>
<tr>
<th>Inspection and Verification</th>
<th>By</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check on the staining, further handling and disposal of SRM and report any cases of FBO failure.</td>
<td>OV / MHI</td>
<td>When establishing the frequency of checks the OV should use the 'Risk Based Decision Tool for SRM Inspections' (RBT) at Annex 1 as an aide memoire. This may be daily, or once every five days of processing. Checks should take no longer than 30 minutes. The frequency of checks determined by the Risk Based Decision Tool must be recorded in the plant daybook and in the FSS forms ABP 7-3 and ABP 7-4</td>
</tr>
</tbody>
</table>
### Chapter 2.7 – SRM Controls

#### Inspection and Verification

<table>
<thead>
<tr>
<th>Inspection and Verification</th>
<th>By</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check on the staining,</td>
<td>OV / MHI</td>
<td>When establishing the frequency of checks the OV should use the ‘Risk</td>
</tr>
<tr>
<td>further handling and</td>
<td></td>
<td>Based Decision Tool for SRM Inspections’ (RBT) at Annex 1 as an aide</td>
</tr>
<tr>
<td>disposal of SRM and</td>
<td></td>
<td>memoire. This may be daily, or once every five days of processing.</td>
</tr>
<tr>
<td>report any cases of</td>
<td></td>
<td>Checks should take no longer than 30 minutes. The frequency of checks</td>
</tr>
<tr>
<td>FBO failure.</td>
<td></td>
<td>determined by the Risk Based Decision Tool must be recorded in the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>plant daybook and in the FSS forms ABP 7-3 and ABP 7-4.</td>
</tr>
</tbody>
</table>

**Note:** The ‘Risk Based Decision Tool’ at Annex 1 is designed to assist the OV in making a decision as to whether checks on the staining and further handling of SRM should take place on a daily basis, or less frequently. OVs should use the decision tool 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 amend the level of checks, in consultation with the VM. Any changes should be regularly reviewed. A copy of the SRM decision tool should be available in the plant folder, on FSS Sharepoint.

Form ABP 7/3 or ABP 7/4 should be used to record all non-compliances found during your checks (frequency as determined by the RBT). A new form should be completed for each period of checks, for example, if the RBT determines checks should be weekly, and then a new ABP 7/3 or 7/4 should be completed weekly; if the RBT determines checks should be daily, and then a new ABP 7/3 or 7/4 should be completed daily. Checks should be also recorded on OWS ABP application on SCOTS laptop according to the RBT.

Time coding of off-line SRM checks (staining and further handling) should reflect a reduced frequency of checks.

If there is any reason the OV considers that a higher level of checks is required, they should discuss this with their VM in the first instance.

Note that every carcase will still be checked for the removal of SRM as part of routine post mortem inspection.
### Inspection and Verification

<table>
<thead>
<tr>
<th>Age checks:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bovine:</strong></td>
</tr>
<tr>
<td>See chapter 2.5 on ‘Animal identification’ for additional information.</td>
</tr>
<tr>
<td><strong>Ovine/ Caprine:</strong></td>
</tr>
<tr>
<td>The FBO must establish a system that allows the FSS to be confident that carcases that require their spinal cord to be removed as SRM (See sub topic: Age checks of ovine/caprine animals) are identified.</td>
</tr>
<tr>
<td>FSS must perform verification checks on FBO systems to verify that animals that do not require spinal cord removal have no permanent incisors erupted through the gum, or they are not more than 12 months.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carcase inspection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry out an inspection of every carcase presented to ensure that all SRM has been removed (apart from bovine vertebral column and sheep spinal cord where applicable).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application of stamps:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bovine:</strong></td>
</tr>
<tr>
<td>Apply Health Mark stamp when the meat is declared fit for human consumption and all SRM except</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>OV / MHI</td>
<td>10% of UK cattle carcases presented as less than 30 months (unless percentage of checks has been increased following cattle ID non-compliance) and 100% of cattle from Northern Ireland.</td>
</tr>
<tr>
<td>OV / MHI</td>
<td>5% of ovine / caprine presented as ‘young’. These checks should be random throughout the day, and take place in ‘real time’, (as the FBO representative performs the check).</td>
</tr>
<tr>
<td>OV/ MHI</td>
<td>All carcases</td>
</tr>
<tr>
<td>Health Mark –</td>
<td>All carcases</td>
</tr>
</tbody>
</table>
vertebral column has been removed.  
**Note:** Carcases with BSE test results pending must be kept secure under FSS control until a negative BSE test result is received. See chapter 2.6 on ‘TSE testing’, section 2.

**Ovine/ Caprine:**
Apply Health Mark stamps when the meat is declared fit for human consumption and all SRM (except spinal cord, where carcases are to be sent with spinal cord attached for it to be removed at an authorised cutting plant) has been removed.

<table>
<thead>
<tr>
<th>Audit</th>
<th>By</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct audit of FBOs own procedures for SRM management</td>
<td>Veterinary Auditor</td>
<td>As determined by risk assessment</td>
</tr>
</tbody>
</table>

### 3.3 Verification tasks during slaughter

#### 3.3.1 FBO age checks of ovine/ caprine animals
FBOs must establish a system which identifies animals that are either over one year old, or have one or more permanent incisor erupted, to allow SRM to be removed from the carcase.

Options may include:

- ante-mortem checks (for example, some batches of spring lambs are clearly identifiable at ante-mortem inspection)
- post-mortem dentition checks undertaken by FBO staff (for example, at the point of head removal where this occurs manually)
- removing SRM by default from all animals (for example, when ewes are being processed)

#### 3.3.2 FSS verification of age checks of ovine/ caprine animals
The OV must be satisfied that such systems provide the confidence required to apply the Health Mark after the completion of post-mortem inspection.

Checks should be undertaken to verify these systems are working.
The OV must also use other information available to him to assist in this verification task, for example, Food Chain Information (in the form of AML1), 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 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.

### 3.3.4 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 CNS tissue; this includes harvesting the head meat in a dedicated area, separate from the slaughter line
  - 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 central nervous system 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 amended to reflect the measures taken to prevent contamination of the head meat with CNS material
• heads must not be despatched to any other premises for the purpose of head meat harvesting
• the head inspection point is situated close to the point of detachment from the carcase 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

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

3.3.5 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 carcase pending the results

3.3.6 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).
3.3.7 Horns (bovine and ovine)
Horns of cattle, sheep and goats are not SRM, but the cornual process of the frontal bone is SRM in cattle over 12 months old.

3.3.8 Bovine spinal cord
FBO controls should include:
- spinal cord should be removed from bovine carcases 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 carcase
  - wash their hands and sterilise their tools after removal of SRM from each carcase

3.3.9 Removal of spinal cord
Band saws that have a water supply should have the water ducted away from the carcase.
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 carcase for fragments of SRM and trim any bone spicules and dispose of them as SRM.

3.3.10 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 carcases.

3.3.11 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

3.3.12 Material in contact with SRM

The following is regarded as SRM:

any material still attached to SRM (except SRM bovine vertebral column and sheep/goat spinal cord) 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

3.3.13 Carcasses presented for inspection (ovine and bovine)

Only carcases which have had all appropriate SRM removed should be presented for inspection, with the exception of bovine vertebral column or sheep spinal cord can still be present.

3.3.14 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.

3.3.15 Pithing

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

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 the FSS: includes all parts excluding hides
• the pithed carcase must be kept separate from other carcases 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

3.4 Verification tasks at despatch

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

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

The commercial documentation should indicate the number of carcases in the consignment that require SRM VC removal as well as the number of carcases 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) carcases for the removal of VC (SRM) or for the despatch of un-split sheep carcases for the removal of spinal cord, in order to ensure these are only sent to cutting plants with the appropriate authorisation.

Before being transferred to the cutting premises, bovine carcases requiring SRM vertebral column removal must:

• have received a negative BSE test result if BSE testing is required
• have passed a post-mortem health inspection
• carry a label not bearing a blue stripe
• as of 1 July 2017, 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 it takes more than a week between loads, then an entry should be made when a transfer is completed.

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

### 3.5 Verification tasks for the cutting plant

#### 3.5.1 Scope of the instructions

The duties detailed below relate to:

- bovine carcases from animals aged over 30 months, imported from countries with a controlled or undetermined BSE risk
- bovine carcases from animals aged over 30 months, imported from countries with a negligible risk, but which have had an indigenous BSE case
- bovine carcases from animals imported live and slaughtered when aged over 30 months
- bovine carcases 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


#### 3.5.2 FSS attendance during SRM VC removal operations

FSS presence is not required 100% of the SRM removal time (please refer to your VM for

#### 3.5.3 Verification requirements

FSS staffs are required to verify that the cutting establishment is in possession of an authorisation for the removal of SRM Vertebral Column from bovine carcases or SRM spinal cord from sheep carcases.

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

#### 3.5.4 Verification particulars

During the visit to the cutting establishment, particular attention should be paid to the following points, when observed:
• Correct identification and labelling of the carcases stored in the chillers.
• FBO records on consignments received and number of carcases processed (bovine and ovine).
• 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 vertebral column/spinal cord is placed in appropriate and labelled SRM containers prior to 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.
• FBO has robust systems in place to ensure that all SRM is removed from imported carcases (when applicable) before the meat enters the food chain.
FSS staff should also verify ABP consignment documents against the number of carcases 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**

The following standards must be met:

- the plant holds the appropriate authorisation (which includes a Recommended Method of Operation (RMOP))
- effective separation of carcases containing SRM and those containing non-SRM is maintained at all times
- cleansing and disinfection is implemented before processing any non-SRM carcases
- carcases are held in a separate chiller or on separate dedicated rails

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 carcase 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 carcase 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**

Verify all SRM is stained as soon as practicably possible (even if it is going for incineration on site) after removal from the carcase with a 0.5% solution of patent blue V.

**Note:** Where it is suspected that the correct dye is not being used, record the incident in the Daybook, preserve any relevant evidence, and report your findings to your VM. Local Trading Standards should then be informed, so they can investigate the matter and take appropriate action.

3.6.2 **Stain application**

SRM is stained before it leaves the slaughterhall unless doing so risks contamination of fresh meat. If not, stain is 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 is 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 Mixing of animal by-products

A system for disposal of animal by-products is robust to ensure that all by-products are disposed 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

All SRM is transferred to correctly identified storage bins without undue delay.

3.6.6 Storage of SRM

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

- indelibly marked
- impervious and leak proof
- lidded

3.6.7 Consignment of SRM

The FBO has:

- 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 BSE 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 SRM consigned
• the name of the haulier transporting it
• the date on which the SRM was consigned from the premises
• the destination to which it was consigned including licence number

Consignment records are 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
• reconciling weights recorded by the FBO against weights recorded on ABP 7/3 and ABP 7/4
• 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 (SRM) after the point where it would normally be removed:

• the meat should be detained if necessary (see chapter 7 on ‘Enforcement’)
• the FBO should be required to remove the SRM under FSS supervision
• record evidence of the non-compliance
• issue verbal warning

When VC 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 FSS incidents. If this is impractical, the OV may declare the meat unfit as per the Hygiene Regulations and report to FSS incidents. These instances are classed as a major non – compliance.

For a repeated non-compliance, the OV should:

• detain the meat first and require the FBO to remove SRM under FSS supervision
record non-compliance and issue written warning or consider referral for investigation, or possible suspension of the authorisation to remove SRM VC after three instances a referral for investigation or suspension of the authorisation to remove SRM VC should be considered. The OV should contact the VM before any of these decisions are made. If suspension is the chosen option then this will come into operation 21 days after the notice is issued (subject to appeal by the FBO). This period should give the FBO the opportunity to take corrective action otherwise the suspension will come into effect.

a major non-compliance is regarded as:
- when an attempt to break the law is suspected, irrespective of where it is discovered
- when meat containing SRM has been despatched from the cutting plant

3.6.10 Verification of the disposal of VC 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.

If the OV finds evidence that Category 1 material (SRM) has been disposed of as Category 2 or Category 3 material, the OV should consider enforcement action in accordance with FSS Enforcement Policy and notify Animal and Plant Agency (APHA) and the relevant Local Authority as soon as possible. APHA will carry out a risk assessment to determine (with Defra) what, if any, further action is required to safeguard animal health.

3.6.11 Estimated SRM weight

The estimated SRM weight in Scotland is obtained in each plant based on the number of animals slaughtered during the previous 3 months:

TOTAL SRM WEIGHT MONTH 1/ NUMBER OF ANIMALS SLAUGHTERED +
TOTAL SRM WEIGHT MONTH 2/ NUMBER OF ANIMALS SLAUGHTERED +
TOTAL SRM WEIGHT MONTH 3/ NUMBER OF ANIMALS SLAUGHTERED
3.6.12 FSS actions on SRM weights discrepancies

If the SRM weights provided by the FBO are smaller than those estimated by the FSS team, enforcement action must be triggered in accordance with the enforcement based procedures.

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.

3.7.2 Category 1 SRM by incineration

(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:

- carcases, blood, hides/ skins/ fleeces and body parts from animals tested positive to a TSE
- carcases, blood, hides / skins/ fleeces and body parts from 'no test' bovine or caprine animals
- carcases, blood, hides and all body parts of insufficient test animals
- the carcase before and two carcases after a positive bovine, their blood, hide (unless individually identified) and body parts
- the carcase before and two carcases after an insufficient test bovine, their blood and all body parts
- any body part from an animal that has been sampled for TSE that is disposed of before a test result is received

4. Operational policy

4.1 Removal of the SRM from bovine intestines

4.2 Unstained SRM

4.1 Removal of the SRM in bovine intestines

4.1.1 SRM in bovine intestine

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

- the last four metres of the small intestine
- the caecum
- mesentery

4.1.2 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.

4.1.3 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)
if digestive tract content has not been emptied, or the carcase 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 VM should be contacted.

4.1.4 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).

4.1.5 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.

4.1.6 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 for further guidance.
4.2 Unstained SRM

4.2.1 When staining of SRM is not necessary

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

- whole 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

4.2.2 Checks on FBOs records

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

4.2.3 Procedure

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 VM 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 VM via FSS Operations at: operations@fss.scot

Reference: See chapter 9 on ‘Forms’

- the VM reviews and signs the form
- copies of the signed form are then sent to the applicant, AHPA, the OV and the Local Authority
- the OV then completes section 3 when the unstained SRM is despatched
- a copy is sent to FSS Operations
5. Annexes

Annex 1  Replaced by Annex 4 which covers SRM and ABP
Annex 2  Removal of the SRM from bovine intestines poster
Annex 3  SRM QA document
Annex 4  Risk Based Decision Tool for ABP and SRM Inspections