

Chapter 2.7 Specified Risk Material Controls

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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 duty of the FBO to comply with the legislation.

1.1.4 Introduction to FSA duties

The FSA has a number of duties relating to SRM controls focused on regulating the continuous compliance of the FBO with the legislation.

These duties include:

- inspection of carcasses
- verification that the FBO carries out their duties

- audit of GHP, FBOs 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 and effective 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
- national legislation:
 - the TSE (England) Regulations 2018
 - the TSE (Wales) Regulations 2008 (as amended)
 - the Animal By-Products (Enforcement) (England) Regulations 2013
 - the Animal By-Products (Enforcement) (Wales) Regulations 2014

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. FSA 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 form bovine carcasses
- 2.4 Enforcement

2.1 Inspection duties in slaughterhouses

2.1.1 Legislative requirement

In accordance with specific Community rules on SRM and other animal by-products, the OV is to check the removal, separation and, where appropriate, marking of such products. The OV is to ensure that the FBO takes all necessary measures to avoid contaminating meat with SRM during slaughter (including stunning) and removal of SRM.

Regulation: (EC) 854/2004 Annex I Chapter II, E

2.1.2 Frequency of checks

There must be frequent inspections to verify the correct application of requirements in Regulation (EC) 999/2001 (as amended) concerning SRM and slaughtering techniques. These must ensure measures are taken to avoid contamination in places where SRM is removed. There must also be a system to ensure that SRM is only used for authorised purposes and / or is disposed of in accordance with Regulation (EC) 1069/2009.

Regulation: (EC) 999/2001 (as amended) Annex V, point 11

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

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Task	By	Recommended Minimum Frequency		
		Slaughterhouse or approved GHE	Additionally Authorised Cutting Plants	VC Removal Cutting Plants
Removal of SRM	Any FSA team member who is appropriately authorised	Every bovine, ovine or caprine carcass	Any FSA team member who is appropriately authorised	Every day of supervision
Identification and separation (Animal By-Products are removed from food production areas as quickly as possible, avoiding cross contamination and Animal By-Products, including SRM, are correctly identified, segregated and categorised)	Any FSA team member who is appropriately authorised	Daily	VA during the FBO audit / UAI	Every day of supervision
Staining (Animal By-Products, including SRM, are correctly stained where necessary)	Any FSA team member who is appropriately authorised	Daily	VA during the FBO audit / UAI	Every day of supervision

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Task	By	Recommended Minimum Frequency		
		Slaughterhouse or approved GHE	Additionally Authorised Cutting Plants	VC Removal Cutting Plants
Storage (Animal By-Product containers are leak proof, closable, kept in sound condition, cleaned and disinfected as often as necessary. Waste stores are pest proof)	Any FSA team member who is appropriately authorised	At the end of processing	VA during the FBO audit / UAI	Every day of supervision
Transport and disposal (Animal By-Products, including SRM, are dispatched to approved premises with correctly completed commercial documentation)	Any FSA team member who is appropriately authorised	Monthly	VA during the FBO audit / UAI	Monthly
Commercial documents (Transport records with regards to VC removal or adult sheep splitting)	Any FSA team member who is appropriately authorised	When applicable	VA during the FBO audit / UAI	When applicable

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Task	By	Recommended Minimum Frequency		
		Slaughterhouse or approved GHE	Additionally Authorised Cutting Plants	VC Removal Cutting Plants
Blood Management	Any FSA team member who is appropriately authorised	Daily	VA during the FBO audit / UAI	n/a
Checks on Approval Status of receiving establishments	Any FSA team member who is appropriately authorised	Monthly	VA during the FBO audit / UAI	Monthly
Enforcement	OV Any FSA team member who is appropriately authorised	As required in accordance with the hierarchy of enforcement	VA during the FBO audit / UAI	As required in accordance with the hierarchy of enforcement
Audit of FBOs own procedures for ABP management	OV for monthly check / VAs as part of the FBO Audit /UAI for data gathering	As determined by risk assessment	VA during the FBO audit / UAI	VA during the FBO Audit/UAI for data gathering

2.1.3 Identification of bovine carcasses or wholesale cuts containing VC-SRM

When removal of the vertebral column (VC) is required, carcasses or wholesale cuts of carcasses of bovine animals containing vertebral column shall be identified by a clearly visible red stripe on the label referred to in Article 13 of Regulation (EC) No 1760/2000.

Any other label can be used for identifying carcasses or wholesale cuts of carcasses of bovine animals containing vertebral column that are not required to have the VC removed (example, under 30 months bovines from England or Wales).

Regulation: (EC) No 999/2001 (as amended, Annex V point 11.3)

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

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

2.2 Definition of SRM

2.2.1 FSA key issue

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

Cattle: Member States with controlled risk of BSE (England, Wales, ROI, France and Greece)	
All ages	<ul style="list-style-type: none">• tonsils• the last four metres of small intestine• the caecum• mesentery

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Over 12 months	Skull excluding the mandible 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
Cattle: Member States with negligible risk of BSE (all Member States except England, Wales, ROI, France and Greece)	
Over 12 months	Skull excluding the mandible and including the brain and eyes, and spinal cord.
Under 12 months	No SRM
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.

Additional reference can be made as to which countries are under negligible risk or controlled risk by accessing the following link:

https://ec.europa.eu/food/sites/food/files/safety/docs/biosafety_food-borne-disease_tse_risk-status-map.pdf

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.

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Exception	If
Older sheep or goat carcasses requiring spinal cord removal	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 FSA has a pre-existing agreement with the Competent Authority.
Bovine SRM vertebral column from carcasses and wholesale cuts from animals over 30 months	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 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 animals over 30 months of age 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 or any other Member State. 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 animals over 30 months of age 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.
Material for use in education or research purposes	the specific movement is centrally approved by the FSA and supported by a valid ABP 7/1 document for the use of animal by-products is for diagnostic, educational and research purposes.

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 carcasses

2.3.1 Scope

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 alive and slaughtered when aged over 30 months
- bovine carcasses from domestic animals aged over 30 months at slaughter

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

- the Transmissible Spongiform Encephalopathies (England) Regulations 2010, Schedule 7 paragraph 13(1)(a) for authorisations issued before 19 July 2018
- the Transmissible Spongiform Encephalopathies (England) Regulations 2018, Schedule 7 paragraph 8(1)
- 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)

The updated list of cutting plants authorised for the removal of VC-SRM is available at:

<https://www.food.gov.uk/business-guidance/cutting-plants-authorised-to-remove-specified-risk-material>

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, which are available from the Approvals Team in York.

2.3.3 Procedure: Required methods of operations (RMOP)

The removal of SRM VC must take place in accordance with the relevant protocol and the operator's RMOP.

Copies of the protocol and examples of RMOP are available from the Approvals Team.

FBOs of stand-alone cutting plants should contact FVC in the first instance. The FVC 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 FVC for the region.

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. The OV must keep and file the written notice given by the FBO for keeping track of the agreed changes in the RMOP.

Any questions regarding the use and completion of the form should be directed to the relevant FVC 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 plan.

2.3.4 Application for authorisation to remove SRM vertebral column from bovine carcasses

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 them to complete section 4.

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Once completed the FBO must submit this form and the completed RMOP to the FSA Approvals Team.

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
- assess the breach and take proportionate enforcement action (see below)
- record the breach in the daybook and Chronos.

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:

Where	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 programme (ENF 11/5). Should a contravention be repeated, the issue should be escalated through the hierarchy of enforcement.
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 FBO's actions must include addressing the root cause of the problem, to ensure there is no recurrence. Escalate through the hierarchy of enforcement.
Lack of or ineffective HACCP based system leading to repetitive failures	enforcement action is to be taken against the root cause and the substantive offences using the hierarchy of enforcement (see chapter 7 on 'Enforcement').

<p>SRM has not been removed from a carcass and has been despatched to another premises or exported (excluding VC consigned to an approved cutting plant that is authorised for VC-SRM removal)</p>	<p>this SRM breach should be referred to Operations Assurance (by the OV / FVL / FVC) for internal investigation, by e-mail or phone to CSU Transactions Team York . The breach should also be referred, by the OV, for criminal investigation. A trace back exercise may be justified. See chapter 2.8 on 'Animal By-Products' for further guidance.</p>
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Effective SRM controls remain a high priority for the FSA and it 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 FSA operational staff:

- detain carcass(es) / offal under FSA control (if necessary using a Detention of Food Notice issued under Regulation 10(1) of the Food Safety and Hygiene (England) Regulations 2013 or Regulation 9 (5) of the Food Hygiene (S/W) Regulations 2006) (ENF 11/26)
- make contemporaneous detailed records in the daybook or personal notebook and sign them
- obtain photographic evidence (including evidence of the SRM in situ) if possible
- obtain verification of findings from other FSA staff if possible
- notify the FBO
- retain a sample of the SRM as evidence and freeze it to preserve its condition (until the case is concluded)
- record details on monthly ABP 7/5 (currently located in (SHV) K2 system) and Chronos.

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

2.4.4 Record of action taken

Enforcement action must be recorded on the Enforcement Programme. FBO non-compliances must also be recorded on the monthly ABP 7/5 form currently located

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in the Slaughter Hygiene Verification (SHV) K2 system. 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 dispatch
- 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 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:
- 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 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

The list of establishments authorised to remove vertebral column from bovines OTM is available at:

<https://www.food.gov.uk/business-guidance/cutting-plants-authorised-to-remove-specified-risk-material>

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) apply 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) on 0845 054 8888) 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.

When the slaughterhouse is authorised for BSE testing, 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 carcasses by either direct incineration or rendering followed by incineration of the rendered material.

The ABP commercial document for the bovine body or carcass must include, in the description of the product, the eartag number of the bovine animal and the required method disposal by incineration after BSE testing (if it is required and if it has not been done at the slaughterhouse).

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

3.1.3 Animals found DOA, DIL or stillborn in the Scilly Isles or Lundy Island

There is no requirement to test animals found dead on arrival, dead in lairage or stillborn in the Isles of Scilly or Lundy Island.

3.1.4 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

3.1.5 Stain

The FBO must ensure that:

- there is a sufficient supply of patent blue V E131 or blue colourant producing equivalent effect, the dye is prepared correctly using measuring equipment
- the data sheets are available

3.1.6 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: (EC) 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 Environment Agency. The OV should advise the FBO and report the matter to the Environment Agency if this is not the case.

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

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3.1.7 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
Check on the staining, further handling and disposal of SRM and report any cases of FBO failure.	OV / MHI / MT	When establishing the frequency of checks the OV should use the 'Risk Based Decision Tool for ABP and 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.
<p>Note: The 'Risk Based Decision Tool (RBT) for ABP and SRM' at Annex 1 is designed to assist the OV in deciding 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 monthly or, in sites operating less than 3 times a week, quarterly, 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 FVC. Any changes should be regularly reviewed.</p> <p>The daybook and SHV system should be used to record all non-compliances found during your checks (frequency as determined by the RBT). A new record should be completed for each period of checks, for example, if the RBT determines checks should be weekly, then the checks should be completed weekly; if the RBT determines checks should be daily, then the checks should be completed daily.</p>		

Inspection and verification	By	Frequency
Check on the staining, further	OV / MHI /	When establishing the frequency of checks the OV should use the 'Risk

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<p>handling and disposal of SRM and report any cases of FBO failure.</p>	<p>MT</p>	<p>Based Decision Tool for ABP and SRM Inspections' (RBT) at Annex 1 as</p> <p>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.</p>	
<p>Time coding of offline SRM checks (staining and further handling) should reflect a reduced frequency of checks.</p> <p>If there is any reason the OV considers that a higher level of checks is required, they should discuss this with their FVC in the first instance.</p> <p>Note that every carcass will still be checked for the removal of SRM as part of routine post mortem inspection.</p>			
<p>Age checks:</p> <p>Bovine:</p> <p>See chapter 2.5 on 'Animal identification' for additional information.</p> <p>Ovine / Caprine:</p> <p>The FBO must establish a system that allows the FSA to be confident that carcasses that require their spinal cord to be removed as SRM (See sub topic: Age checks of ovine/caprine animals) are identified.</p> <p>FSA must perform verification checks on FBO</p>	<p>OV / MHI / MT</p>	<p>At appropriate percentage in force as per Chapter 2.5</p>	<p>OV / MHI / MT</p> <p>5% of ovine / caprine presented as 'young'. <i>These checks should be random throughout the day, and take place in 'real time', (as the FBO representative performs the check).</i></p>

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

3.3.2 FSA 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 of 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
 - the FBO 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 unless there is a specific agreement to despatch heads containing specified risk material to another Member State and only after that Member State has agreed to receive the material and has approved the conditions of despatch and transport
 - 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

Note: In bovine heads from cattle aged 12 months or less, only the tonsils are SRM. This is only applicable to countries with controlled or undetermined risk of BSE (see section 2.2.1 on 'FSA key issue' in this chapter for full list).

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 carcass 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).

The FBO must have in place a robust system at the point of identification to ensure that heads from sheep under 12 months old are clearly separated from heads of sheep over 12 months old when the heads are separated from the carcasses.

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 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

3.3.9 Removal of spinal cord

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 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 carcasses.

3.3.11 Handling of SRM

The FBO must ensure that all appropriate SRM is:

- removed completely from the carcass as soon as practicable after slaughter and before the carcass 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 carcass 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 carcass
- any animal matter that comes into contact with that material or with SRM after it has been removed from the carcass

3.3.13 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. Sheep spinal cord can still be present if there is an alternative system to re-present the carcass after spinal cord removal or a protocol is in place to transfer these carcasses (unsplit) to an authorised cutting plant.

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. This includes under 12 months animals in England and Wales as pithing Regulations (The Restriction on Pithing (England) Regulations 2001 (SI No.447) and The Restriction of Pithing (Wales) Regulations 2001 (SI No.1303 (W80)) are still in force. These regulations make no distinction based on age.

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 carcass must be disposed of as SRM and the disposal overseen by the FSA: includes all parts excluding hides
- the pithed carcass 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 carcass

3.4 Verification tasks at despatch

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

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

Up to and including 30 June 2017, the commercial documentation should indicate the number of carcasses and wholesale cuts in the consignment that require SRM VC removal as well as the number of carcasses and wholesale cuts where SRM VC removal is not required.

From 1 July 2017, the commercial documentation should indicate the number of carcasses and wholesale cuts in the consignment that require SRM VC removal.

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

Although it is not a legal requirement, it is expected that FBOs agree a RMOP for the despatch of over thirty months (OTM) carcasses for the removal of VC (SRM) or for the despatch of unsplit sheep carcasses 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 additionally authorised cutting plant, bovine carcasses 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 bearing a 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 carcasses may be transferred as carcasses, half carcasses, quarters or half carcasses 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 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 (>12months of age) where removal of spinal cord is taking place

The risk status of third countries is set out in Commission Decision (EC) 2007/453.

3.5.2 FSA attendance during SRM VC removal operations

FSA presence is not required 100% of the SRM removal time (please refer to your FVC for current attendance requirements)

3.5.3 Verification requirements

FSA 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.

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 carcasses stored in the chillers.
- FBO records on consignments received and number of carcasses 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 'FSA key issue' in this chapter):

- removal

Note: an FBO may remove the VC but still leave the red label for traceability purposes. When checking red label carcasses, half carcasses or quarters, where an attempt to remove the VC had been made particular attention is to be put to verify whether or not that SRM removal had been effective. That is, no SRM VC remains.

In these cases particular attention needs to be made when assessing remaining bone fragments as whilst the vertebral body is SRM, the spinous and transverse processes of the cervical, thoracic and lumbar vertebrae, and the median sacral crest and wings of the sacrum are not SRM.

- 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 carcasses (when applicable) before the meat enters the food chain.

FSA 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

The following standards must be met:

- the plant holds the appropriate authorisation (which includes a Recommended Method of Operation (RMOP))
- effective separation of carcasses containing SRM and those containing non-SRM is maintained at all times
- cleansing and disinfection is implemented before processing any non-SRM carcasses
- carcasses 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 immediately (even if it is going for incineration on site) after removal from the carcase with a 0.5% solution of patent blue V or blue colourant producing equivalent effect.

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 FVC. 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, volume or number of packages and a description of the SRM consigned, including, if applicable (for example, whole bovine bodies or carcasses) the eartag number of the animal
- 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 the name, address and approval or registration number

Consignment records are retained for 2 years from the date of consignment.

The OV should verify FBO controls by:

- reconciling the SRM records from the establishment with the number of animals slaughtered
- investigating discrepancies
- taking appropriate enforcement 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, additionally 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 only under FSA 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 FSA supervision, if this is practical. If this is impractical, the OV may declare the meat unfit as per the Hygiene Regulations.

For a repeated non-compliance, the OV should:

- detain the meat (if necessary) and require the FBO to remove SRM only under FSA supervision
- record non-compliance and issue written warning or consider referral for investigation, or possible suspension of the authorisation to remove SRM VC
- if it is a major non-compliance, then referral for investigation or suspension of the authorisation to remove SRM VC should be considered. The OV should contact the FVC 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

In the event of SRM having been despatched from the cutting plant the Incidents Team will be informed immediately.

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 FSA 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 FSA 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.

3.7 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:

- 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 or caprine animals
- carcasses, blood, hides and all body parts of insufficient test animals
- the carcass before and two carcasses after a positive bovine, their blood, hide (unless individually identified) and body parts
- the carcass before and two carcasses 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

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. 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 SRM in animals of all ages in countries with controlled risk of BSE (England, Wales, ROI, Greece and France):

- 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)

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.

The FBO is to ensure the mesentery, including all of the mesenteric fat, is completely removed from the harvested product.

4.1.6 FSA duties

Having due regard to hygiene and the risk of cross-contamination, FSA 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 to that it is going to permitted destinations only.

4.2.3 Procedure

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

The outline procedure is as follows:

- the applicant completes section 1 of ABP 7/1 and sends the form to Operations Assurance SLA and Contract Team.

Reference: See chapter 9 on 'Forms'

- the AVL / FVL reviews and signs the form
- copies of the signed form are then sent to the applicant, AHPA, the OV and the LA
- the OV then completes section 3 when the unstained SRM is despatched
- copies are retained in plant

5. Annexes

Annex 1 Risk based decision tool for ABP and SRM inspections