

DFA 14

Consideration of the Risk from Mechanically Recovered Meat (MRM) in 1989

Draft Factual Accounts

9 July 1999

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Responses should reach the Secretariat by 9 August 1999 for them to be of most assistance to the Inquiry.

Draft Factual Account 14 – Consideration of the Risk from Mechanically Recovered Meat (MRM) in 1989-1990

1. The Bovine Offal (Prohibition) Regulations 1989 introduced a ban on the sale or use of specified bovine offal in food intended for human consumption. The Regulations were made on 8 November 1989 and came into force on 13 November 1989.¹ They did not contain any specific measures concerning the manufacture or sale of mechanically recovered meat.
2. On 30 November 1989, Miss Jones of the Meat Hygiene Division in MAFF sent a minute to Mr Maslin of the Animal Health Division, with copies to Mr D Taylor, Mr K Taylor, Mr Hutchins, Ms Rimmington and to the Territorial Departments, regarding a call she had received from ‘a rather unhappy Environmental Health Officer from Carrick District Council (Cornwall)’.² The caller maintained that the Bovine Offal (Prohibition) Regulations were ‘unworkable’. Miss Jones said that he would not go into details over the telephone, but that she had gathered that his chief concerns were over what he saw as unnecessary requirements for movement permits, and the danger of contamination of meat arising from the practice of splitting heads to remove the brain. In respect of the former, Miss Jones said that she had invited him to let her have his observations in writing, preferably via the Institution of Environmental Health Officers (IEHO). With regard to head splitting, Miss Jones asked Mr Maslin to consider whether it was necessary to amend the regulations. Miss Jones set out her own view as follows:

‘My own reaction to this is that we have never attempted to, nor can we, ensure that all of the risks from this material (minimal though they are) are eliminated. I should have thought that the removal of the brain and other specified bovine offal by whatever means carries some unavoidable risk of cross-contamination. However, I should be grateful for your advice on whether we should consider taking up this point in our amendments.’
3. The issue of the use of heads for MRM processing has been raised on several occasions during the Inquiry hearings. Mr Soul told the Inquiry that “heads are not really suitable for the production of MRM...because the enamel of the teeth was such as to damage the machine.”³ Mr Hibbett agreed with the Chairman that heads would go off for MRM production after removal of the brain; he had not come across the suggestion that “the

¹ L2, tab 3B

² YB89/11.30/1.1

³ T37, page 55

machine could not cope with the teeth”.⁴ Mr Oberst (MLC) thought that “if they went in at all it was in a very small number of cases.”⁵ Mr Clark (then a Deputy Senior Meat Hygiene Inspector for South Holland DC) told the Inquiry that “I believe that heads are not used in the production of MRM...As far as I am aware heads would damage the machinery...and they would not be used.”⁶

4. Mr Maslin replied to Ms Jones on 12 December 1989 (copying to recipients of her minute), having discussed the matters raised with Mr K Taylor. He explained that:

‘On the splitting of heads, or spinal columns, we agree with your reaction. Some contamination is bound to occur but we have already gone further than Southwood suggested in tackling an already remote risk from offals. Through the prohibition we have taken all practical steps and an amendment to the Regulations is neither necessary nor practical.’⁷

5. On 1 February 1990, the IEHO wrote to MAFF (Mrs C Goodson, AHD) setting out the views of its members regarding difficulties in the interpretation of, compliance with and enforcement of the SBO regulations.⁸ The letter reported (amongst other things) that IEHO members were concerned about the speed with which the ban had been implemented. Specific comments raised by the IEHO included the following issues (amongst others):

- (i.) Many specialist boning plants would not under normal circumstances receive daily veterinary/EHO supervision.
- (ii.) Given that the spinal cord had been designated as SBO, the tail, from which it was ‘almost impossible’ to remove the spinal cord, should also be regarded as prohibited offal.
- (iii.) In practice the spinal cord was often shredded and fragmented by the mechanical carcase splitting saw, not only contaminating the meat but also prohibiting effective removal as per the Regulations.
- (iv.) Given the risk of contamination of meat from current slaughterhouse practices, the removal of brains should be prohibited in order to ensure that the risk of contamination was kept to a minimum.
- (v.) Problems were encountered in obtaining information as to whether a calf was more or less than 6 months old (under the Regulations, offals from calves under the age of 6 months were exempted from the SBO ban).

⁴ T56, page 122

⁵ T59, page 130

⁶ T62, page 23

⁷ YB 89/12.12/1.1

⁸ YB90/2.1/2.1-2.11

6. On 6 February 1990, Mr Meldrum responded to a minute from Mr Baker of 2 February 1990. Mr Meldrum's minute was copied to Mr Crawford, Mrs Attridge and Mr Griffiths. Mr Meldrum asked whether it would be wise to draft instructions to local authorities on the implementation of the BSE sterilisation and staining regulations.⁹
7. Mr Baker's manuscript reply included the following comments:¹⁰
- ‘The last guidance note (FSH Circular) was sent out when the Sterilisation and Staining Regs were amended in 1984. No problems have come to our attention in implementing the Regulations. If we go back to Local Authorities offering guidance it might be wise to cover a number of topics rather than BSE alone as this will raise its profile yet again. Perhaps ‘unfit meat’ could be covered as well – a meeting with ADC/IEHO and others is mooted for 21 February & BSE could also feature on the agenda. Any guidance might also have to cover brain removal, spinal cord, major nerve trunks and lymph nodes and MRM as these have come up as BSE related topics. I suggest our approach to these needs careful consideration & probably a round table discussion.’
8. Mrs Attridge forwarded to Mr Lowson a copy of Mr Meldrum's minute with Mr Baker's manuscript comments. In a manuscript note to Mr Lowson, Mrs Attridge said:
- ‘I would welcome your views on presentation. We need to be sure Local Authorities are enforcing the regulations. The spread between divisions is awkward.’¹¹
9. On 6 February 1990, Ms Rimmington wrote to Mr Hutchins on Mechanically Recovered Meat.¹² She said that:
- ‘In a recent BBC radio programme (‘Face the Facts’, Radio 4, 29.1.90), Mr Martin Cooke, OVS, was interviewed in connection with BSE. He commented that bovine vertebrae were particularly high-yield sources of MRM and that since they would contain residual spinal cord which would then be incorporated into MRM-based meat products, neither he nor his family would in future be eating such products.’
10. Mr Hutchins forwarded the minute to Mr Baker on 7 February 1990 with the following hand-written annotation:
- ‘Please see attached papers. I would welcome the opportunity to discuss. It is a situation which is in some ways analogous to head splitting, although the “risks” of neural tissue reaching the consumer seem greater with MRM’

⁹ YB 90/2.6/6.1

¹⁰ YB90/2.6/6.1

¹¹ YB90/2.6/6.1

¹² YB90/02.06/9.1

11. Mr Baker responded on 9 February 1990, also by way of a hand written annotation:
- ‘This is another subject for discussion refers advice to the industry. I do not concur with Mr Eames’ views but let us await the outcome of our deliberations on related matters’.
12. On 9 February 1990, Mr Hutchins replied to Ms Rimmington on MRM.¹³ He explained that:-
- ‘I understand from the CVO that this question was discussed with DoH. It was agreed that it did not pose a health risk and that a ban on the use of spinal columns for MRM production was not justified.’
13. Mr Matthew Taylor MP tabled a PQ for answer on 20 February 1990. He asked if the Minister intended to ‘take steps to ensure that the process of stripping animal bones to obtain mechanically recovered meat entails no risk of spinal tissue being included in the final product.’ Mr Griffiths submitted a draft reply under a covering minute of 20 February 1990 (copied to PS/Perm Sec, Mr Meldrum, Mrs Attridge, Mr K Baker, Mr K Taylor, Mr Lowson, Miss Jones and Mr Maslin).¹⁴ He commented that:-
- ‘There is a possibility that a small amount of residual material may be left on the vertebrae after the cord is removed.
- However, the bovine offal ban is an ultra-precautionary measure which affects offal from healthy animals and we have no reason to suppose that this poses a risk. Veterinary advice is that even if the animal were to be in the sub-clinical stages of BSE, the agent is unlikely to be present in the central nervous system.’
14. The accompanying draft reply to the PQ stated that:-
- “As an ultra-precautionary measure my Department introduced the Bovine Offal (Prohibition) Regulations 1989, which prohibit the use of spinal cord and other specified bovine offals in food for sale for human consumption. In practice the spinal cord would be removed before recovery of MRM. Animals displaying symptoms of BSE are required to be slaughtered and disposed of so that they do not enter the human food chain.”
15. On 9 April 1990, a meeting took place to discuss the comments in the letter of 1 February 1990 from the IEHO regarding difficulties associated with the Bovine Offal (Prohibition) Regulations 1989.¹⁵ The meeting was attended by Mr Baker, Miss Jones, Mr Maslin and Ms Rimmington from MAFF, and Mr Corbally of the IEHO. On the issue of timing, MAFF officials acknowledged that the time scale for the introduction of the Regulations had been unusually short and that this might initially have led to some enforcement difficulties. However, officials stated that

¹³ YB90/02.09/21.1

¹⁴ YB90/2.20/16.1-16.2

¹⁵ YB90/4.9/1.1

considerations of public health and awareness had necessitated the speed of action, which the IEHO accepted. The IEHO offered help in disseminating such information as quickly as possible in the future. In response to other concerns raised by the IEHO, MAFF officials made the following points (amongst others):

- (i.) Removal of the tail need not incorporate any spinal cord. It was necessary to adopt a practical approach to the removal of spinal cord from all parts of the carcase.
- (ii.) The main nerves of the carcase were not considered to represent a risk by specialist advisors. Practical difficulties would be met when trying to remove them.
- (iii.) No evidence had as yet been found to suggest that BSE was congenital. The 6 month cut off point for the offals ban is cautious since the disease showed itself in grown animals and on the scrapie analogy would be likely to manifest itself only at 10 months. There is therefore a safety margin in determining which animals might be exempt.
- (iv.) The IEHO's opposition to head splitting was noted. However, veterinary studies of methods indicated the operation could be performed safely providing some basic principles were followed. Guidance on these principles was being considered.

16. Mr Corbally wrote to Mr K Baker on to thank him for the 'informative and worthwhile discussion' held on 9 April.¹⁶ Mr Corbally noted that 'there are still a number of points that concern me'. He said that he would be obliged to receive comments on the following:-

'Although the Ministry consider that the implementation of the Regulation is a prudent measure, minimising still further a risk that is believed to be very small, if not insignificant (according to present knowledge), do you consider that the continued use of mechanically recovered meat from bovines is acceptable? I recall that during our discussion on the subject of removing the spinal cord you felt that the requirements had to provide a reasonable balance. That is, while removal of the major parts of the spinal cord should be performed it was not considered necessary, nor indeed practical to remove fragments of the major nerves. However, MRM could contain significant quantities of spinal cord nervous tissue.'

17. On 2 May 1990 Mr Griffiths wrote to PS/Mr Maclean (copied to Private Offices, Mr Capstick, the CVO, Mrs Attridge, Mr Wentworth, Mr K Baker, Mr Lawson, Miss Jones and others) regarding the question of head splitting and the possibility that the Bovine Offal (Prohibition) Regulations 1989 might be amended to ban the procedure.¹⁷ He also noted that:-

'Amendment regulations would fuel debate on BSE generally and, inevitably, lead to demands for similar action on spinal cords. This issue

¹⁶ YB90/04.18/4.1-4.4

¹⁷ YB 90/5.02/1.1-1.2

has already been raised in a recent PQ from Mr Matthew Taylor and in correspondence from Carrick District Council suggesting that there is a risk of contamination as a consequence of the splitting of bovine carcasses along the spine and from residual spinal cord. On this, we are satisfied that the removal of all visible spinal cord is acceptable in health terms. Slaughterhouses cannot handle whole carcasses and splitting is an EC requirement for intra-community trade. A ban on splitting would have grave consequences for the industry and for the export trade. Nor would it end with spinal cords. Concern would then be directed at nerve trunks and lymph nodes, which cannot be removed from carcasses.'

18. On 3 May 1990 Mr Hill (PS/Mr Maclean) noted by way of annotation

'In the light of the Minister's recent discussion with the Parliamentary Secretary (Mr Maclean) we have commissioned further advice on procedure for splitting heads. In the light Mr Griffiths' minute above, Mr Maclean has agreed that we ought not to ban the removal of brains before head meat is removed, or to legislate on the methods, but that we should strengthen the guidelines.

Does the Minister agree?'

19. On 15 May 1990 Mr Nick Hibbett (Chairman of the Meat Legislation Review Group of the Institution of Environmental Health Officers) was reported in the Financial Times as saying that the requirement to remove from bovine carcasses the brain and specified offals deemed to carry BSE was 'frankly not enforceable'.¹⁸

20. Against a background of heightened concern in the media regarding the risk of transmission of BSE to humans from eating beef, the Minister and the Government Chief Medical Officer made public statements on 15 May and 16 May 1990 respectively regarding the safety of British beef.¹⁹ The CMO's statement had been approved by members of SEAC.²⁰

21. On 18 May 1990, Miss Jones wrote to Mr Holmes of Carrick District Council regarding concerns he had raised about the Bovine Offal (Prohibition) Regulations 1989.²¹ Miss Jones explained that independent experts had already assessed the risk to humans from BSE as remote. She added that when results of investigations into the nature and transmissibility of the disease were available it would be possible to make a fuller appraisal of any risk, but that in the meantime, the offals ban ensured that those parts of the animal in which the BSE agent was most likely to be present did not enter the human food chain. Miss Jones said that liaison was taking place with the IEHO with a view to ensuring that the Regulations work as 'smoothly and effectively as possible'. She asked

¹⁸ YB90/5.15/27.1

¹⁹ YB90/05.15/14.1-14.2; YB90/05.16/1.1

²⁰ IBD 1, tab 7, Q.441

²¹ YB90/5.18/6.1

Mr Holmes to inform her, either directly or through the IEHO, if he had any suggestions for improving the SBO controls.

22. Briefing material was provided in readiness for a BSE debate in the House of Commons on 21 May 1990.²² On MRM and splitting of carcasses, the brief explained that:-

‘Veterinary advice is that removal of the spinal cord from bovine carcasses may be carried out in an acceptable manner. Any transference of spinal material to meat can be minimised by exercise of due care and observance of established hygiene rules.

...The law requires that the spinal cord and other specified offals must be removed before the carcass leaves the abattoir. The carcasses and bones used in the production of mechanically recovered meat will not therefore contain any specified bovine offal.’

23. On 21 May 1990, a meeting was held with representatives of the meat industry and retailers, attended by the Parliamentary Secretary (Mr Maclean), Mrs Attridge, Mr Meldrum, Mr Wentworth, Mr Smith and Mr Cowan.²³ The issues of head splitting and MRM were raised. The minute recorded that:

‘some suggested that public fears might be laid to rest if heads were removed completely. Mr Meldrum explained that, firstly only healthy animals’ heads were used, secondly expert advice was that head splitting could be done safely, thirdly a change of policy would undermine our current position and finally the value of the cheek meat was not insignificant. In any case the meat industry pointed out that the great majority of heads were not split near carcasses, but in specialist boning plants. On MRM, they could not guarantee a 100% removal of all the specified offal, but Mr Meldrum explained that zero risk was an impossibility.’

24. On 22 May 1990, the Minister, Mr Gummer, discussed with the Permanent Secretary, Mr Andrews (amongst other things) the possibility of referring questions on slaughterhouse practices to SEAC.²⁴ It was decided that SEAC should be invited to consider the new guidelines that had been drafted following the advice of Dr.A.M. Johnston, a senior lecturer at the College of Veterinary Surgeons. It was also considered that SEAC had no expertise covering slaughterhouse practices, and that accordingly it would be appropriate to suggest that they involve Dr Johnston in their proceedings. The Minister said that SEAC should also be invited to look into the issue of feeding animal protein to animals. Mr Andrews acknowledged the case for requesting advice from SEAC in the circumstances. However, he advised that the implementation of any measures arising out of SEAC’s advice would depend on the terms of the

²² YB 90/5.21/28.10

²³ Yb90/05.23/5.1

²⁴ YB90/05.22/5.1

advice given by the Committee. Mr Andrews advised that the question whether action was taken for health reasons or because of public sensitivity was crucial.

25. The Minister said that he would convey the request for advice to Dr Tyrrell when he dined with him on the following evening. He also said that he would invite Dr Tyrrell to bring forward SEAC's discussion of both issues in order that recommendations could be made well before July, and any legislative changes that might be required following SEAC's advice could be completed before the summer recess if possible.
26. In June 1990, the MLC instigated work to develop a suction device to remove the spinal cord of cattle before splitting.²⁵ In his statement to the BSE Inquiry, Mr Colin Maclean, who was the technical director of the MLC at the time, stated that this was in response to supermarket interest in removing all contact of SBOs with meat and to remove any hypothetical risk to abattoir workers. However, the project was technically unsuccessful and was terminated in August 1991.²⁶
27. In relation to the concern of supermarkets about the risk of contamination from sagittal splitting of carcasses with saws, Mr Colin Maclean explained in oral evidence that:²⁷
- ‘... we did not believe it was a threat at all I think is the honest answer at that stage. But to deal with the perceived concern we started work on the sucking devices to try to suck the spinal cord out of the column without sagittally [sic] cutting the carcass. We spent a lot of time in our own workshops because we have cutting plant and cutting rooms in our own offices where we can obviously do that sort of work. And we spent about a year and a half trying to achieve that in a way that could meet the line speeds, obviously. It is not a matter of getting it out, it has to meet the commercial needs of the industry. We did not succeed at that stage. Therefore we stopped that work because I would not say the problem had gone away but the supermarkets had retreated from their area of concern as more knowledge had been disseminated in the industry that the concern associated with the sawing of carcasses had receded throughout the industry, and it remained so until probably 1994/1995 when it actually returned again. So having not been able to succeed with that sucking device we actually -- well, kept the equipment and so on and so forth but retreated from the research.’
28. In his statement to the Inquiry, Mr Hutchins of MAFF's Meat Hygiene Veterinary Section recalled that in further investigations attempts to remove the spinal cord intact by cutting down either side of the spinal canal with a double-bladed saw were found to run the risk of damaging the

²⁵ Statement 147 para 18

²⁶ Statement 147, para.18

²⁷ T59, pp. 27-28

vertebral column to the extent that it would have made it impossible for the half carcasses to be handled on existing dressing lines.²⁸

29. On 4 June 1990, Mr Meldrum minuted Mrs Attridge (copied to Mr Crawford, Mr K Baker and Mr Lawrence) to provide “some notes on the major issues that could arise in the Scientific Veterinary Committee, the Standing Veterinary Committee or in Council on BSE.”²⁹ On the subject of MRM, Mr Meldrum noted that:-

“Once again no MRM is known to be exported from red meat animals, nor indeed is the volume of production known. Most of the MRM extraction plants are in export cutting plants where they have a significant throughput to make the operation financially viable. Trade in MRM and indeed head meat is not covered at this time by a trade directive and therefore bilateral arrangements apply. We in Tolworth are concerned at this practice because in the extraction of the MRM small fragments of nervous tissue would be sucked out and therefore it is difficult to argue that the resultant material could not be significantly contaminated. So far as we are aware bovine heads are not used for the preparation of MRM. We doubt whether this will be raised at the Scientific Veterinary Committee but it is an issue of some importance and sensitivity.”

30. On 7 June 1990, Ms Rimmington wrote to Mr Evans (DEHO, Pembrokeshire District Council). Amongst other things, she explained that³⁰:-

“When carcasses are split, the spread of spinal cord tissue onto immediately adjacent carcase surfaces can be kept to an absolute minimum by exercising normal care during these operations. This, taken with the assessment by independent experts that the risk for humans from BSE is in any case remote, indicates that the risk from contamination of meat by spinal cord tissue must be negligible.”

31. On 10 June 1990, an article appeared in the Sunday Times, in which it was stated that the BVA was intending to raise with the House of Commons Agriculture Committee, as part of its inquiry into BSE, concerns about the safety of meat products made from MRM. On 11 June 1990, Mrs Attridge sent a minute to the PS/Minister advising the Minister on the background to the article and on the MRM process in general.³¹ Mrs Attridge explained that:-

“The background to this Sunday Times article is that Bill Riley was invited to a meeting which the BVA Policy Committee held to consider a number of points relating to their evidence to the House of Commons Committee. The views which Bill Riley expressed were his own, they were not endorsed by the rest of the Committee, and I understand that in their

²⁸ Statement 86, para.22

²⁹ YB90/06.04/19.1

³⁰ YB90/06.04/19.2

³¹ YB 90/06.11/1.1

evidence the BVA will simply indicate that MRM is a process which needs to be examined.'

32. Mrs Attridge explained that 'When looked at [from] the hygiene point of view, it [MRM] was considered to be a safe process and it does require to be specifically labelled if it is used in meat products.' Mrs Attridge advised that if steps were to be taken to ban MRM as a process for obtaining meat from beef carcasses, a scientific base for this would be needed and this in turn would require research. She went on to say that since the spinal cord and other specified offal were removed from the bones before being used in the MRM process, 'on the face of it the risks should be minimal'. However, Mrs Attridge suggested that, if the CVO agreed, it would be worthwhile to find out precisely what parts of the carcass were used for MRM production, and in particular whether the head was used after removal of the brain. ('It would not be legal to send it with the brain still in it.') It was suggested that a better assessment of risk (if any) could then be given to the Minister.
33. On 11 June 1990, Mr Maslin put forward a briefing and a line to take for the Prime Minister on the safety of UK sausages.³² The minute was copied to Mr Meldrum, Mrs Attridge, Mr K Baker, Mr Lowson, Mr K Taylor, Mr Lawrence and Mr Griffiths; it drew on advice provided by Ms Rimmington on 11 June. Amongst other things, the briefing noted that:-

3. The ban on certain bovine offals requires that they are removed before the carcass leaves the abattoir and not used in human food. The carcass bones used in the production of mechanically recovered meat do not therefore contain any specified offal. ...

Background

1. The Bovine Offal (Prohibition) Regulations 1989 provide for removal from the human food chain of those parts of all cattle over 6 months of age where the agent (if it is present) is most likely to occur. Those Regulations require that the spinal cord and other specified offal must be removed before the carcass leaves the abattoir. The carcass bones used in the production of mechanically recovered meat will not therefore contain any specified bovine offal.

2 The report in the Sunday Times (on 10 June) of the opinion of a veterinary surgeon on mechanically recovered eat (sic) has been investigated with the BVA by veterinary officials. The BVA have confirmed that it does not represent their policy but constitutes the personal views of a private individual.'

34. On 12 June 1990, Mr Meldrum sent a minute to Mrs Attridge, copied to Mr Crawford, Mr Baker, Mr Griffiths and Mr Lawrence, explaining that he had 'some difficulties with the concept of obtaining MRM from bovine carcasses and particularly from the vertebral column because of the risk of

³² YB90/06.11/28.1-28.3

sucking out residual nervous tissue and causing contamination'.³³ He stated that 'although we have accepted, so far, that the risk is minimal we do need to be guarded in any statement we make since this is an issue that will be considered by Tyrrell and may lead to a restriction on the derivation of MRM from some parts of the bovine carcass.'

35. On 13 June 1990, slaughterhouse practices were discussed at SEAC's third meeting.³⁴ The Committee felt that precautions about the removal of the brain from bovine skulls were a common sense measure. The following conclusions were also recorded in the minutes of the meeting in relation to the risk of contamination from spinal cord:

'Similar issues arose with spinal cord; if it makes sense to avoid contamination by brain tissue of meat for human consumption it appeared on the face of it to make equal sense to avoid the contamination of such meat with the spinal cord, which was just as likely to carry infection. Further information is needed on this'.

36. In oral evidence to the BSE Inquiry, Mr Lowson was asked if the IEHO letter of 1 February 1990 was provided to SEAC when they were asked to give advice on slaughterhouse practices at their meeting on 13 June 1990. Mr Lowson said:³⁵

'I probably would have remembered if it had been, and I do not think it was.'

37. On the same day (13 June 1990), a meeting took place between the Minister, Mr Gummer, and the Parliamentary Secretaries, Mr Maclean and Mr Curry, attended by Mrs Attridge, Mr Meldrum, Mr D Taylor, Mr Packer, Mr Wentworth and Mr Dugdale.³⁶ The Minister said that he would like guidelines on removal of lymph nodes, removal of head meat and the export of bone-in beef to be issued at the same time. The draft guidelines needed to be amended to reflect that necessary action should be taken at both domestic and export approved plants. On MRM, Mr Meldrum said that there 'was a need for further work on possible contamination with nervous material'. He said that Dr Tyrrell was not an expert on the procedures involved and it would therefore be necessary for MAFF to prepare a paper on the technical issues. Mrs Attridge said that the possibility of controls of beef MRM opened the question of MRM produced from other species: its production was a hygienic process and MRM was specifically labelled in meat products. The Minister concluded that MAFF should not take immediate action to introduce controls. However, Mrs Attridge or Mr Meldrum was asked to take forward urgently the preparation of a detailed assessment of the possible hazard from MRM, as suggested in Mrs Attridge's minute of 11 June.

³³ YB 90/06.12/11.1

³⁴ YB90/6.13/1.1-1.5

³⁵ T43, p.118

³⁶ YB90/6.14/2.1-2.3

38. On 14 June 1990, Mr Meldrum received a minute from Mrs Attridge on the issue of MRM.³⁷ Mrs Attridge suggested that the assessment of the possible hazard from MRM should take the form of a paper to SEAC. She recommended that such a paper should take into account what the MRM production process was, and in particular how it dealt with parts of the vertebral column from which the specified offals had been removed; the quantity of MRM being produced and what it was used for; and some risk assessment of MRM in relation to other materials such as sheep and sheep products, lymph nodes and similar nervous tissue in meat which would not be affected by any restrictions, 'bearing in mind that this material will be coming from clinically healthy animals and that increasingly animals slaughtered will not have been eating meat and bonemeal'.
39. Mrs Attridge also suggested that the paper for SEAC might also need to consider what powers MAFF could use if the Committee suggested that any action should be taken. She noted her understanding – which Mr Cockbill was asked to confirm - that current requirements stipulated that MRM had to be clearly identified as such when used in meat pies and similar products. Mrs Attridge suggested that if this was the case, consumers had a choice whether or not to use MRM. She advised that if the Minister decided that any action was appropriate, he would need to act on a rational basis, otherwise he would be subject to judicial review. She also emphasised that it was 'particularly important that decisions should not be taken for presentational or other reasons, but be clearly based on science and on appropriate risk assessment'.
40. Mrs Attridge went on to say that she was copying her minute to the Food Standards and Food Science Divisions, those dealing with meat and meat products and also with the food industry as she felt that any action on MRM would have 'serious repercussions in the meat product area', because of the value of the material. She added that it would also be necessary to take into account the fact that 'we would have no rational argument for prohibiting the importation of products using mechanically recovered meat and that butchers and others would still strip the meat from bones with a sharp knife – which may be effective in recovering the meat, but is not necessarily as hygienic a process as mechanical recovery'.
41. Mr Bremner replied to Mrs Attridge on 19 June 1990.³⁸ He explained that the CVO had already asked the SVS and Meat Hygiene Division to prepare a draft paper which would be circulated shortly to all interested parties, and would take into account the points that she had raised.
42. On 15 June 1990, the MLC produced a document entitled 'Evidence to the Select Committee of Agriculture's Enquiry on Bovine Spongiform

³⁷ YB 90/06.14/12.1-12.2

³⁸ YB90/6.19/16.1

Encephalopathy'.³⁹ Paragraph 19 dealt with abattoir practice. It explained that:-

‘Following dressing the carcase is split either by saw or by chopping and this involves exposure of and damage to the spinal cord. At this stage it is possible that a very few fragments of spinal cord could be left on the carcase but these will be removed by wiping or washing as the carcase is processed. The spinal cord is then removed under hygienic conditions and disposed of as ‘specified offal’.’

43. Dr Denner of the Food Science Division sent a minute to Mrs Attridge on 18 June 1990, which was copied to the PS/Minister, Private Offices, Mr Meldrum, Mr Capstick, Mr Crawford, Mr Baker, Mr Griffiths, Mr Lawrence and others. In his minute, Dr Denner advised that the majority of beef MRM manufacturers adhered to the BMMA draft code of practice, which required the removal of the spinal cord and specifically excluded use of the long bones and head bones for the production of MRM.⁴⁰ He stated that there was no evidence to suggest that heads were used in MRM production. Dr Denner also advised that his Division was embarking on a project to develop a method of detecting the presence of MRM in meat products and this could be used to enforce any ban on the use of MRM, or certain types of MRM, if necessary. It was hoped to commission this work by the end of June. Dr Denner ended by observing that if the risk of BSE from muscle meat was regarded as negligible, the use of MRM would not seem to add to that risk, provided that MRM was prepared in accordance with the BMMA’s draft code of practice.
44. On 19 June 1990, Mrs Attridge sent a manuscript minute to Mr Lowson, copied to Mr Meldrum and Mr Lawrence, in which she suggested that Dr Denner’s minute was useful and could be incorporated in any paper to be put to SEAC.⁴¹
45. On 20 June 1990, members of the Institution of Environmental Health Officers gave evidence to the Agriculture Select Committee.⁴² The memorandum submitted by the IEHO raised concerns about practical difficulties that were being encountered in applying and enforcing the SBO regulations, especially in the removal of the brain and spinal cord. The memorandum stated that:

‘During carcase splitting a mechanical splitting saw travels down the spinal axis of the suspended carcase. Whilst the spinal cord may be ‘pushed aside’ by the blade of the saw, thus remaining virtually complete, this is not generally the case. The spinal cord is usually severed, on occasions along its length, spreading cord tissue across the whole cut surface of the split carcase. The result is that both the carcase, the saw blade and the

³⁹ YB 90/6.21/6.6

⁴⁰ YB 90/06 18/2.1-2.2

⁴¹ YB 90/6.18/2.1-2.2

⁴² IBD 1 tab 7 p115

environment are contaminated, again potentially with the infective agent of BSE.⁴³

46. The memorandum from the IEHO to the Select Committee also stated that the Institution had received no reply from MAFF to questions that it had raised with respect to the continued use of mechanically recovered meat from bovines, especially with respect to the possibility that MRM might contain significant quantities of spinal cord and nervous tissue. The memorandum stated that this formed 'the basis of a letter to the Assistant Chief Veterinary Officer confirming the meeting on 9 April'.⁴⁴
47. When giving oral evidence to the House of Commons Agriculture Committee on 20 June 1990, Mr Hibbert was joined by Mr Cracknell (Anglo Beef Processors Limited) and Mr Cawthorne (The Fresh Meat Company Limited), amongst others. These two witnesses were giving evidence on behalf of the Association of British Meat Processors and The Federation of Fresh Meat Wholesalers⁴⁵. The issue of MRM was discussed:-

'...The Environmental Health Officers are concerned about mechanically recovered meat, I understand, and the possibilities of the agent being included in the bits and pieces that are flayed off the bones. Do you think this is a significant risk or is it a risk that is perhaps worth avoiding, and what does the Association think about that?

(Mr Hibbert) Can I answer first and say, whether it is a significant risk or not we are not scientists. We do not have access to the kind of evidence we understand that is available. All we know is that some one is saying there is a risk, and if there is a risk in the food chain our view is that that risk should be eliminated completely. Our concern with mechanically removed flesh is that very often - and in particular may I refer to the point we have made in our evidence about splitting the animal through the spinal cord - in the very act of splitting an animal in half you destroy the spinal cord in many places, which means that parts of the spinal cord will be splashed over the carcass. In particular it may be that the removal of meat by the mechanical process will actually pick up those fragments. That is our concern'

'(Mr Cracknell) I think [MRM] is a wider consumer issue really. I am satisfied that in the abattoirs that I visit regularly in the act of splitting a carcass the saw moves backwards and forwards through the backbone and undoubtedly there is some raking of the spinal column. That is then followed by a cleaning process. The spine is actually hosed from the inside down, historically primarily to remove bone dust. Clearly now that also removes any remaining pieces of spinal cord that the actual scraping process has failed to remove. What is risk? That is what this whole debate is about: nil risk and minimal risk. MRM has an economic part to play in our industry. We sell bones to people.'

⁴³ IBD 1 tab 7 p108

⁴⁴ IBD 1 tab 7 p108

⁴⁵ IBD 1, tab 7, pages 117-118

‘But is it a normal practice to wash the bone dust away, and therefore you are likely to wash away any small quantity of spinal cord?’

(Mr Cracknell) Yes, that is vital to preserve the keeping qualities of the carcase.

(Mr Cawthorne) I think it should be appreciated that the spinal cord has got all the strength and consistency of a skipping rope in some respects, and it is possible to account for the spinal cord, whether it has been split or whether it comes out whole. In a great many cases - and I mean a great many - the spinal cord falls into the left-hand or right-hand side of the channel and can be taken out from neck to sternum in one piece and cut into bits. That happens in most cases.’

48. Concerns about the difficulty involved in removing the spinal cord and possible resulting contamination were also expressed by the following organisations in letters and memoranda to the Agriculture Committee: North Yorkshire County Council, Consumers in the European Community Group, the Food Safety Advisory Centre, the British Veterinary Association, the Consumers’ Association, the Institute of Biology, the British Medical Association and the British Federation of University Women.⁴⁶
49. Various individuals and organisations also made submissions to the Agriculture Committee expressing concern about or recommending a ban on the continued production of MRM from bovine carcases or vertebral columns. They included the Consumers Association, the Consumers In the European Community Group, the National Consumer Council, the Food Safety Advisory Centre, the British Medical Association, the British Veterinary Association, Dr. G.I. Forbes, the Director of the Environmental Health (Scotland) Unit and the British Federation of University Women.⁴⁷
50. In his evidence to the Agriculture Committee on 20 June 1990, Sir Donald Acheson was asked the following question by the Committee:⁴⁸
- ‘In your statement, Sir Donald, you made no distinction between solid cuts of meat and mechanically recovered meat. We have had some evidence that mechanically recovered meat may well contain traces of the specified offal. I wondered, with that in mind, if you still considered your statement applied to both solid cuts of meat and meat products containing mechanically recovered meat?’
51. Sir Donald stated:-
- ‘Yes. The definition of beef, which is covered in my statement of the 16 May, is bovine material for human consumption, excluding the material banned under the Offal Order. That includes any type of bovine material

⁴⁶ IBD 1 tab 7

⁴⁷ IBD 1 tab 7

⁴⁸ IBD 1 tab 7 at p124-125

that is for human consumption, and it includes the type of meat that you refer to.'

52. Sir Donald was asked whether that was still the case 'even if that type of meat includes some of the banned offal you were referring to':-

'Then we get into the issue of contamination of bovine meat products by one or other of the materials, such as brains and the spinal cord. I know that you have received evidence on that. When we get into the technicalities of how carcasses are butchered I would have to turn to my colleague, the Chief Veterinary Officer, but in general we are talking about a degree of contamination which, if you take the total dose or theoretical dose that might be consumed in the material, will be very small. It is tiny anyway because we know that the spongiform agent does not appear in meat in any case in tangible quantities. On the matter of contamination I would simply say that from the public health point of view, if this is regarded as significant in any way it would be prudent to see what could be done to reduce it, but I am advised that currently there is not a significant health problem due to this. That would be my position.'

53. On 20 June 1990, Mrs Attridge minuted Mr Bremner on MRM. She assumed that Dr Denner's minute of 18 June would be taken into account in the paper being drafted by the SVS and Meat Hygiene Division. The next stage would be to get an assessment of any possible hazards from MRM compared to more conventional recovery methods. Mrs Attridge said:⁴⁹

'It will obviously not be ready for the next meeting of the Tyrrell Committee but we will need to think of something for the subsequent meeting.'

54. Mr Meldrum wrote to Mrs Attridge on 20 June 1990. He confirmed that:-

'We are preparing a paper on MRM for internal discussion prior to submission to the Tyrrell Committee. Thereafter I have suggested to the Committee that they may consider seeking advice from Mac Johnston when they are discussing meat hygiene issues. I should add, however, that Mac does not have the full support of the whole industry since it is argued that he has insufficient background experience'.⁵⁰

55. On 21 June 1990 Dr Pickles wrote to Ms Smart with comments on a draft Which? magazine report.⁵¹ She copied her letter to Mr Maslin. Amongst other things, Dr Pickles noted that:-

'You may be interested to read of Chief Medical Officer's reassurances about mechanically recovered meat at the Agriculture Select Committee on the 20 June.'

⁴⁹ YB90/06.20/21.1

⁵⁰ YB90/06.20/22.1

⁵¹ YB90/06.21/16.1-16.2

56. On 21 June 1990, Mr Bremner minuted Mr K Baker, Mr D Taylor and Mr Griffiths on a visit by Mr Curry to Canvins Slaughterhouse and Cutting Room on 20 June 1990 to see the treatment of prohibited offal and the production of MRM.⁵² Mr Bremner noted that:-
- ‘Small pieces of spinal cord were being left in the sides of beef and Canvins suggested that the cords should be sucked out before the carcasses were split...There was very little contamination of carcass during the splitting as a saw with a band saw blade was being used.
- Sales of beef MRM have declined and MRM was not being produced any longer as a routine. A small demonstration was put on for Mr Curry. All the bones from the carcass go into the MRM machine, some having been previously broken into smaller pieces. Canvins thought it would be uneconomic to sort the bones prior to going into the machine.’
57. On 22 June 1990, the APS/Parliamentary Secretary (Mr Curry) sent a minute to Dr Denner, copied to Mr Capstick, Mr Meldrum, Mr Crawford, Mr Baker, Mr Griffiths, Mr Lawrence and others, in which he explained that at a demonstration of the MRM process which Mr Curry had seen at a slaughterhouse, traces of spinal tissue had been found in the product and as a result the Parliamentary Secretary was ‘very unhappy about MRM’.⁵³ A suggestion had been made to Mr Curry that an efficient method of removing the spinal tissue would be to apply a suction pump to the spinal canal after the head had been removed and before the carcass was split. The Parliamentary Secretary asked for a short note on the feasibility of such a method.
58. On 25 June 1990, Mr Bremner sent a minute to Mr Meldrum, copied to Dr Denner, Mr Crawford, Mr D Taylor and Mr Griffiths. Mr Bremner reported that he was ‘very surprised’ that the Parliamentary Secretary had seen traces of spinal tissue in MRM and that ‘it is so unlikely that I suspect he was misinformed’.⁵⁴ Mr Bremner explained that what the slaughterhouse operators had said was that ‘they were not happy to sell MRM because of the risk of contamination of the vertebrae with the spinal cord. Unfortunately not all the spinal cord was being removed by the meat inspectors although only small pieces were left’. He went on to say that although the idea of using a suction pump was being pushed by the operators, he found it difficult to imagine how it would work, and that ‘my own view was that if the meat inspectors had done their job correctly, there would have been little risk and if the vertebrae were excluded from MRM, there should be no further risk’.

⁵² YB90/06.21/17.1

⁵³ YB 90/06.22/4.1

⁵⁴ YB 90/06.25/14.1

59. In a manuscript minute dated 28 June 1990, Mr Meldrum asked Mr Bremner to find out from his trade contacts whether any suction pumps were actually available on the market.⁵⁵
60. Dr Denner wrote to APS/Mr Curry on 26 June 1990 regarding the visit to Canvin International Ltd. His minute was copied to PS/Minister, Private Offices, Mr Capstick, Mr Packer, Mr Meldrum, Mrs Attridge, Mr Wentworth, Mr Crawford, Mr Baker, Mr Griffiths and Mr Lawrence amongst others.⁵⁶ Dr Denner explained that:-

‘There are two separate issues arising from the Parliamentary Secretary’s (Mr Curry) visit to the abattoir. The first is the efficacy of removing spinal cord from the carcase, which is a mandatory requirement of the Bovine Offals (Prohibition) Regulations 1989. This issue is related to other problems of abattoir practice such as the removal of the head meat and brains from cattle heads, and the prevention of cross contamination from spinal fluids and tissue during carcase dressing.

The second problem is the safety of MRM prepared from spinal column bones. Since legislation already exists for the removal of spinal cord, any further consideration must stem from the risk posed by using spinal column with the spinal cord removed in MRM piston type machines.

Any policy decision on BSE must be based on the best technical evidence available to be consistent with previous MAFF policy. The CVO is already organising a study to improve abattoir practice of splitting carcasses. The use of a suction tube for removal of spinal cord after splitting the carcase is an effective technique already in use in some plants producing MRM from lamb spinal column bones. This may be one of several possible techniques that can be studied.

I understand the Tyrrell Committee will discuss the use of spinal column in the preparation of MRM at their next meeting on 2 July. Subject to their recommendation, Food Science Division would be prepared to commission a study into verifying whether central nervous system fluid or tissue is extracted into MRM during the preparation in piston type machines when spinal column with the cord removed is used. The results of such a study would give Ministers the basis for any further action.’

61. The APS/Mr Curry replied to Dr Denner on 2 July 1990⁵⁷. She explained that:-

‘The MRM [at Canvins] was produced using a machine which used a piston under hydraulic pressure. The traces of spinal tissue were identified by eye by Canvin’s vet. However, Mr Bremner - who accompanied the Parliamentary Secretary on this visit - said that it was possible that the material in question could have been cartilage tissue. Mr Bremner felt that

⁵⁵ YB 90/6.25/14.1

⁵⁶ YB90/06.26/17.1

⁵⁷ YB90/07.02/14.1

the machine was not working properly as the MRM it produced was in larger pieces than normal.'

62. On 26 June 1990 Mr Andrews sent a minute to the Minister with a short paper summarising the 'next steps' in respect of BSE.⁵⁸ The paper was copied to Mr Capstick, Mrs Attridge, Mr Meldrum, Mr Crawford, Mr Lowson, Mr Lawrence and Mr Gueterbock. The following matters were mentioned (amongst others):
- (i.) Mechanically Recovered Meat – 'A paper is being prepared for the Tyrrell Committee on this which will be submitted to you [the Minister] before it goes to the Committee'.
 - (ii.) Slaughterhouse practices – 'A paper is being prepared for the Tyrrell Committee on this subject. Again this will come to you before being sent to the Committee'.
63. On 27 June 1990, Mr F Taylor circulated a draft paper on MRM. The paper was intended to go forward to the Tyrrell Committee in due course.⁵⁹ Mr Meldrum commented to Mr Lowson on 28 June that he would prefer not to put a firm recommendation to the Committee in the paper. He also pointed out that:-
- 'One further option would be to design a suction machine to remove residual pieces of spinal cord from the vertebral column.'⁶⁰
64. On 28 June 1990, Mr Lawrence sent a minute to Mr Lowson, copied to Mr Meldrum, Mrs Attridge, Mr Crawford, Mr Baker, Mr Bradley, Mr Griffiths, Ms Jones and Mr Maslin.⁶¹ The minute explained that he and Mr Maslin had recently visited abattoirs in the Sheffield area in the company of Peter Carrigan. Mr Lawrence advised that there was considerable expertise available on slaughterhouse practices which could be made available to SEAC and suggested that David Leith, Director of the Institute of Meat at Langford, Bristol, be asked to advise on appropriate technical experts. Mr Meldrum replied on 28 June:-
- 'I have suggested that the Tyrrell Committee should commission a 'hygiene report' from the SVS and we will need to consult in preparing that report to ensure we take on board the advice of those who have relevant technical expertise.'⁶²
65. Slaughterhouse practices were mentioned briefly at the fourth meeting of SEAC held on 2 July 1990.⁶³ The minute of the meeting recorded that:

⁵⁸ YB90/6.26/1.1

⁵⁹ YB90/06.27/14.1-14.7

⁶⁰ YB90/06.27/14.1

⁶¹ YB90/6.28/1.1

⁶² YB90/6.28/1.1

⁶³ YB90/7.02/2.1-2.3

‘Mr Lowson reported that MAFF were working on a paper on slaughterhouse practices relevant to BSE for consideration at a future meeting. The committee agreed that after receiving this it would probably be necessary to see the slaughtering process at first hand before offering further advice.’

66. On 5 July 1990 Mr Maclean sent a note to the Minister setting out what he regarded as the issues in respect of BSE which would require further action.⁶⁴ The minute was copied to Private Offices, Mr Gueterbock, Mr Capstick, Mr Meldrum, Mrs Attridge, Mr Lowson and Mr Lawrence. In respect of MRM, Mr Maclean stated:

‘I am getting increasing media interest in MRM and I am not happy that we are watertight on two counts. First, we have seen David Curry’s minute of his visit to Canvin International and Dr Denner’s minute suggesting further research to see if any spinal material gets into MRM.

Dr Tyrrell is looking at this but even if he rules it perfectly safe, we will still have a massive lack of consumer confidence in a product which is universally disliked. If he is ambivalent about it, or says that some aspects are unsafe, then it will be impossible to defend the ‘safe’ aspects and we would, in all probability, lose the whole process.

However, until he reports on its safety, we have a defence and I do not anticipate any special onslaught against MRM until then.

The other problem about MRM is labelling. It is clear that labelling is not satisfactory though it is almost impossible to label MRM satisfactorily and guarantee its accuracy. Nevertheless, there are increasing demands for it to be labelled, which would effectively outlaw its use in British products, but not of course EC ones, thereby putting our industry at a great disadvantage. I therefore recommend that we raise MRM labelling in the EC since this will remove the debate from our own forum.

We should do this before Dr Tyrrell reports on safety since any questions he may raise on that score could also be addressed in an EC context.’

67. Mr Bremner sent Mr Meldrum, Mr D Taylor and Mr Baker, a copy of a minute dated 6 July 1990 from Mr Hutchins, explaining that following enquiries made of Regional Meat Hygiene Authorities (RMHAs), MLC and slaughterhouse equipment suppliers as to the availability of suction devices for removing spinal cord, ‘all are adamant that no such devices are commercially available’.⁶⁵ Mr Hutchins noted that one supplier produced a suction device for use on pig carcasses, but that the sales manager of this company did not believe that it had been used for cattle. Mr Hutchins also noted that the MLC had informed him that they were involved in a project to develop a commercial system, but that this was not yet operational. He added that the MLC had agreed to keep him advised of developments.

⁶⁴ YB90/7.5/4.1-4.7

⁶⁵ YB 90/7.6/16.1

68. On 9 July 1990 Mr Lowson wrote to Mr Lawrence regarding 'BSE/Tyrrell'.⁶⁶ He copied his minute to Mr Meldrum, Mr Crawford, Mrs Attridge, Mr Griffiths, Dr Denner, Mr D Taylor, Mr K Taylor, Mr Bremner, Mr Bradley, Mr F Taylor and others. Mr Lowson noted that he had already received a contribution from Mr F Taylor on MRM. The key questions for the Tyrrell Committee would be:-

1. To what extent in (sic) there a risk that material from the 'specified offals' particularly spinal cord, might contaminate MRM?
2. If so, is it practicable to do anything about it? (e.g. exclude certain bones from the process, use apparatus that would reduce the problem).
3. If we wanted to do anything about it, what legal powers would be available?
4. Is there any obvious research that could be done in addition to that mentioned in Dr Denner's minute of 26 June (e.g. to design equipment that would reduce the problem, if any, of contamination).

I would be grateful if Mr Taylor and his veterinary colleagues could look again at the paper with these points in mind. Mrs Attridge has suggested that Mr Locke of the BMMA might be able to advise on the practice followed in the relatively small number of abattoirs involved in bovine MRM (which is of course all that we are interested in). I will leave it to Mr Taylor to pursue the point as necessary.'

69. On 9 July 1990, a draft paper for SEAC on MRM, as amended by the Food Standards and Food Science Divisions, was circulated by Mr Cockbill under cover of a minute to Mr Lowson.⁶⁷ The paper was also copied to Mr Meldrum, Mr Crawford, Mrs Attridge, Mr Griffiths, Mr Bremner, Mr Lawrence and others. The minute said:

'Mr Taylor sent me a copy of the proposed paper on this subject for the Tyrrell Committee with his minute of 27 June to you. Unfortunately the paper contained a number of omissions and inaccuracies in the area of the meat products and food standards law which applies to MRM and also on the food technology / food science side. Rather than suggest a whole series of drafting amendments it seemed better to us to rewrite the paper correcting those omissions and inaccuracies and we have done so in conjunction with Food Science Division.'

70. The paper attached briefly explained the MRM process. It also stated that the Meat Products and Spreadable Fish Products Regulations 1984 did not allow brains and spinal cord to be used in raw meat products, and that in the case of cooked meat products, their presence had to be declared on the label either specifically or under the generic term 'offal'. It was noted that few meat products containing MRM were labelled as such, and that it was disputed whether there was a legal obligation to do so.

⁶⁶ YB90/7.9/13.1-13.2

⁶⁷ YB 90/07.09/2.1-2.6

71. The paper pointed out that:-

‘The majority of beef MRM manufacturers adhere to the British Meat Manufacturers’ Association (BMMA) draft code of practice regarding which bones can be used for MRM production. This code requires the removal of the spinal cord and specifically excludes the use of the longer bones i.e. bones with higher marrow content, and also head, feet and tail bones.’

72. The paper stated that ‘inevitably, when bovine carcasses are split through the centre of the vertebral column in the slaughterhouse some contamination of the vertebrae with central nervous system (CNS) tissue can occur’. Two major issues were identified, namely the question as to how spinal cord could be removed more efficiently from bovine carcasses, and the question as to what risk was posed by the remaining nervous tissue in the vertebral column. The paper advised that:

‘The following areas of investigation are being considered:

- (i) a study to improve abattoir practice of splitting carcasses;
- (ii) the use of a suction tube, as already used in some plants producing lamb MRM, for the removal of spinal cord; and
- (iii) to see if CNS tissue can be detected in MRM and whether it is transferred from spinal column bones during the manufacture of MRM.’

73. The draft paper contained a section entitled ‘Possible course of action’, which set out four possible options for the Committee to consider:-

‘In the absence of a wholly satisfactory method of removing nervous tissue from the vertebral column, the following courses of action might be considered to minimise the risk of meat and bones, contaminated with nervous tissue, being used in the manufacture of MRM:

- (a) issue guidance to the trade on how to minimise contamination of bovine carcasses from CNS tissue when splitting the carcass;
- (b) request local authorities to ensure that, on inspection of the carcass, spinal cord material has been removed;

In addition, based on the results of research work outlined in section 9, the following options could be considered:

- (c) prevention of the use of any meat or bones from the vicinity of the spinal column, by excluding the use of the vertebrae, in the production of MRM;
- (d) avoidance of all perceived risk by prohibiting manufacture of MRM from bovine carcasses.’

74. The paper concluded with a section entitled “ Recommendations”:

‘There is the likelihood that options (a) and (b) would be seen as recognition that there was a need for further action without taking any enforceable steps to ensure its fulfilment.

Option (d) would result in widespread opposition from a substantial number of MRM producers and users, with the accusation of wastage of perfectly good meat, a reduction in consumer choice, and increased costs.

On the other hand option (c) would solve any perceived problem while allowing trade in acceptable meat to continue.’

75. The fifth report of the House of Commons Agriculture Select Committee was published on 10 July 1990. The comments and recommendations of the Select Committee included (amongst other things) the conclusion that:⁶⁸

‘It is essential that action is taken and is seen to be taken to make the SBO ban as watertight as possible...[although some reports may give an exaggerated view of the poor state of abattoir practices] there may be some scope for improvement in the present arrangements.’

76. In respect of slaughterhouse procedures and MRM, the Report stated:⁶⁹

‘Since specified offals are now banned from human consumption (except those from calves under six months which are not regarded as a threat), this avenue of possible infection is now closed. The only slight loophole is that...the offals could enter the food-chain through slaughterhouses failing to carry out the letter of the regulations and allowing possibly infected tissues to be included in mechanically recovered meat (MRM). This is a process by which meat is recovered from the bone after the main cuts have been removed and then included in food products. Concerns have been expressed that MRM could contain small amounts of spinal cord and steps must be taken to minimise this risk. It is one thing to pass legislation prescribing that some parts of animals can be fed to humans and others cannot: it is another to ensure that such distinctions are rigorously enforced in practice. We have received no evidence of an irresponsible approach to the regulations, but it cannot be assumed that they are watertight.

This point is borne out by the memorandum submitted by the Institution of Environmental Health Officers, which gives an excellent account of the difficulties of implementing the legislation. As will be clear from this and other evidence, a number of aspects of slaughterhouse practice give concern to experts and, now that the protein and offals bans are in force, this is the main area where some tightening of procedures may be necessary to maintain public confidence. The Minister of Agriculture acknowledged that this is a legitimate source of concern and has asked the Tyrrell Committee to review slaughterhouse procedures. We questioned a number of interested bodies on this specific issue and shall make recommendations arising from that evidence in later paragraphs.’

⁶⁸ IBD 1, tab 7, para. 50

⁶⁹ IBD1 tab 7, para.28

77. In connection with paragraphs 28 and 29 of the Report, the Agriculture Committee concluded that:-

‘If the ban on the sale of specified cattle offals for human consumption is **properly policed in slaughterhouses**, full public confidence can be maintained.’

78. The Agriculture Committee recommended that legislation should be introduced to prohibit the practice of splitting bovine heads in abattoirs.⁷⁰ However, no recommendation was made in relation to MRM. In this respect the committee stated:

‘All our witnesses were in agreement that the infectivity of the BSE agent is related to the quantity of the agent involved. Thus the brains of a subclinically affected animal would be less infectious than that of one in the final throes of the disease; a six-month old calf less infectious than one in whom the disease had been incubating for two years; a nerve at the periphery of the nervous system less infectious than the brain itself. Although, therefore, the authorities are right to address the possibility that infectious tissue from a sub-clinically affected animal might inadvertently be included with, or otherwise contaminate, meat sold for human consumption, such a possibility need not cause undue concerns because of the small quantities of the agent likely to be involved. This element in scientific arguments has a critical bearing on the food safety issue, but has been consistently ignored or understated by those wishing to present the risks to humans in their most dramatic light..’

79. The MAFF Consumer Panel discussed labelling of MRM at its third meeting on 11 July 1990:-

‘Mr Bell believed that the rapid development of food production from farm to market place in recent years had taken place without the average consumer knowing what was happening. As food scares arose, the public were becoming aware of certain farming practices and did not like what they saw. This was leading to a general mistrust of farming practices and, as a result, the food produced. He believed that a solution might be to label foods with information on how they were produced. The Panel were critical of the practice of Mechanically Recovered Meat (MRM) particularly in the light of concern to consumers during the recent BSE scare. Mr Maclean explained that MRM was used throughout the EC. The labelling of meat products was currently under review within the EC. The UK would be advocating that MRM should be required in the labelling of meat products but this would be dependent on the outcome of EC discussions. Mr Dickinson added that food labelling regulations required the treatment of an ingredient to be included in ingredient lists where its omission could mislead the consumer; and the MAFF view that this applied to MRM was supported by magistrates. There was no percentage below which MRM did not have to be declared.’⁷¹

⁷⁰ IBD 1 tab 7, paras. 50-54

⁷¹ YB 90/7.11/1.4

80. Mr Meldrum commented on the draft paper for SEAC in his minute dated 11 July 1990 to Mr F.B. Taylor.⁷² In particular, he noted that some risk assessment needed to be introduced into the paper to explain that MRM was 'being obtained from totally healthy cattle in which the agent could either be totally absent from the brain or spinal cord or present in very low quantities indeed'. Mr Meldrum also noted an apparent inconsistency between Mr Hutchins' minute of 6 July 1990⁷³ and the revamped draft paper to SEAC where reference was made to the use of a suction tube in some plants producing lamb MRM. He asked Mr Hutchins to pursue this lead. Mr Meldrum also suggested that the paper could include under 'Possible Courses of Action' the development of a suitable hand held machine for removing residual traces of spinal cord.
81. Mr Meldrum felt that the section entitled "Recommendations" should be re-titled "Summary" and should not, at that stage, include any recommendations. He felt it would not be true to say that options (a) and (b) were as negative as they were stated and were very positive in the respect that MAFF would be giving clear advice to the industry and local authorities as to how to reduce any possible contamination of MRM. He considered that:⁷⁴
- "Although presentationally option (c) is attractive, it still has significant difficulties since we have allowed MRM to continue to be obtained for so long and we could be criticised that we are seeking a lower risk assessment than the facts warrant. We must not ignore the reality of the situation and that MRM is being obtained from healthy animals in which the agent is unlikely to be present at all and, if present, at very low concentrations indeed. On balance therefore I would link (a) and (b) in a rather more positive fashion for consideration by the Tyrrell Committee."
82. On 17 July 1990, Mr Bremner passed Mr Meldrum a copy of a minute from Mr Hutchins.⁷⁵ Mr Hutchins had been investigating the suction devices for removing residual spinal cord as requested in Mr Meldrum's minute of 11 July. Mr Hutchins provided details of apparatuses he had inspected. He noted that:-
- 'As indicated in my earlier minute, there are apparently no commercially available devices for the removal of bovine spinal cords...Whilst the development of a device with sufficient power to remove the cord should not be difficult, lack of precision in the splitting operation might cause problems of usage.'

⁷² YB 90/07.11/5.1

⁷³ YB 90/7.6/16.1

⁷⁴ YB909/7.11/5.1

⁷⁵ YB90/7.17/2.1

83. Mr Meldrum wrote to Mr Taylor on 19 July 1990 in the light of the advice provided by Mr Bremner and Mr Hutchins on suction removal of residual spinal cord.⁷⁶ He commented that:-

‘I do feel that this is an issue that should be addressed in the paper you are preparing and that we should commission, if at all possible, some research work into development of suitable devices for this purpose.

Is it possible to include such a recommendation in the paper for the Tyrrell Committee?’

84. On 3 September 1990 Mr Meldrum wrote to Mr Lawrence (copied to Mr Crawford, Mr K Baker, Mr Griffiths, Mr Bremner, Mr Lowson, Mr Cockbill and Mr F Taylor) to air some concerns that he had about the draft paper for SEAC on MRM⁷⁷:-

‘We may be placing ourselves in something of a quandary with particular reference to further action. If we go further than to offer advice then the Tyrrell Committee is going further than the action we have proposed within the SVS and presentationally it will appear as if our advice is faulty. For that reason I would prefer there to be a comment in the paper as to what advice we have given so far to the industry on MRM production and, in particular, to Local Authorities on removal of spinal cord tissue.

I assume that any regulation made under the Food Act would have to be based on the assumption that there was either a real or perceived public health hazard. Is this so and, if so, would it cause problems for our lawyers, since any such risk is purely hypothetical?’

85. In a minute of 6 September 1990 (to Mr Lawrence, copied to Mr Meldrum, Mr Crawford, Mr Baker, Mr Griffiths, Mr Bremner, Mr Lowson and others), Mr Cockbill set out a number of problems that might arise if it was decided to follow the route of legislating against MRM production.⁷⁸ Mr Cockbill ventilated difficulties with the introduction of legislation in EC terms, and pointed out that:-

‘So far as I am aware there is no analytical capability currently available to distinguish between MRM that has been taken from the vertebrae and MRM that has been taken from other more acceptable bones. Added to this I also believe that a fair amount of MRM is in fact not produced in slaughterhouses but taken to specific plants that specialise in MRM production. Thus it could be necessary to set up some kind of inspection system at those plants before the MRM is produced to determine whether amongst the bones there are any vertebrae or perhaps any bones from bovine animals over six months of age. I suspect that the logistics of setting up such an enforcement system are quite considerable. We are already receiving suggestions that the £30m which the Government is giving through the revenue support grant to assist local authorities with the

⁷⁶ YB90/7.19/9.1

⁷⁷ YB90/9.3/5.1

⁷⁸ YB90/9.6/3.1-3.2

extra enforcement tasks that the Food Safety Act brings is not enough. A proposal along the lines of 10(c) or 10(d) would add further weight to those who want further funds for food law enforcement from central Government. So far as I know there are no funds available unless they are found from offsetting savings within the central Government Department concerned.

Whilst therefore the option of legislation should not necessarily be excluded from the considerations of the Tyrrell Committee I think that the paper leads the Committee to the conclusion that it is an easy option which could be simply followed. I hope I have illustrated in this minute that it is not so easy and that even if it was followed I am far from certain that the problems which you would want to address would be solved by it.

I suggest therefore that the paper is far more tentative in its conclusions as regard (sic) possible legislation on the restriction of the bones from which MRM might be derived. Perhaps it ought to develop rather more the rules and guidance and controls on ensuring that spinal cord material is properly removed from the carcass at the slaughtering stage without the risk of contamination of other material. This would seem to me to address the problem far more directly at its real source.'

86. Under cover of a minute dated 8 October 1990⁷⁹ Mr Lowson circulated for comment a paper on slaughterhouse practices (intended for consideration by SEAC). The minute went to Mrs Brown, Mrs Attridge, Mr Meldrum, Mr K Baker, Mr Bremner, Mr Hutchins, Mr Cockbill, Mr Suich, Dr Woolfe, Mr Lawrence, Mr Bradley, Mr Murray (DoH) and Mr F Taylor. The paper took into account Mr Taylor's draft material on MRM. Recipients were asked to provide any final comments. Inter alia, this version of the paper confirmed that over 70% of chilled beef MRM was produced according to the BMMA's draft code of practice. However, this particular point was dropped from the final version of the paper after being challenged by Dr Hargin (minute of 12 October 1990 to Mr Lowson)⁸⁰.
87. On 11 October 1990 Mr Bradley wrote to Mr Lowson with comments on the draft paper on slaughterhouse practices.⁸¹ He provided extensive comments on MRM aspects:-

'Para 5 The circular saw procedure is inadequately described. These may have running water cooling which is sprayed over a distance of several metres and may be contaminated. Aerosol is almost certainly produced and may contaminate the same adjacent carcasses. The latter could be protected by isolation of the carcass being split in a sealed cabinet (like a shower cabinet). Guildford abattoir has a circular saw system.

Para 7 Add-"or which can be transferred with spray onto adjacent carcasses unless protected" at the end of the first sentence. 2nd sentence- is there scientific support (a reference) to "the few grams". In any case a gram of

⁷⁹ YB90/10.08/7.1

⁸⁰ YB90/10.12/9.1

⁸¹ YB90/10.11/8.5

infected cord could have a lot of infectivity. Last sentence- this data could be obtained by comparing the mean weight of spinal cord collected after splitting with that obtained after necropsy using a standard procedure to account for the length of spinal nerves etc.

Para 12. The meat products and spreadable fish pdcts regs 1984 does not permit the use of specified bovine offals (except thymus which is regarded as meat) to be used in uncooked meat products. Thus spinal cord is excluded. There was however no restriction on their use in cooked meat products before the specified offals ban. Community legislation states that steps must be taken to remove visible lymphatic and nervous tissue from meat before sale to the consumer. Meat is defined as any part of the carcass that is eaten. Therefore all nerve and lymphatic tissue must be removed before MRM is prepared (it would be impossible afterwards). MRM from limb bones would probably be less likely to be 'contaminated' than that prepared from the vertebral column. These points are not brought out [in the paper]. There are possibilities for analysis of MRM to determine the amount of myelin lipids present which could suggest the degree (or absence) of nervous tissue contamination. I have discussed this with Food Science Div - Dr M Wolfe. Limb bones other than scapula and pelvis are prevented from use by the trade.

Because detectable neuroinvasion does not occur until about half-way through the incubation period and, assuming similar in cattle incubating BSE, prime beef cattle killed at two years would present minimal risk compared with cull cows in regard to nervous tissue. However the thoraco-lumbar chain of lymph nodes would likely be infected in an exposed animal even at 2 years of age. We need to know not only if infectivity is present but how much is present. This could be important to know for decision making particularly if MRM from different species was mixed (to dilute infectivity) before use - would it be effective.'

88. On the suggestion in paragraph 21(c) of the draft paper that contamination of the vertebrae with CNS tissue might occur through 'the failure to remove nerves from between the vertebrae', Mr Bradley thought that:-

'I doubt this is done in practice.'

89. Mr Bradley also commented on paragraph 22 of the draft paper which noted that 'there will probably be some peripheral nervous tissue still present within the vertebral column. Therefore, any risk passed by MRM would seem to be by the transference of the BSE agent from nervous tissue to the MRM. It is still not known however, if even where the spinal cord is removed cleanly, any risk exists from the remaining nervous tissue in the vertebral column.' In this context, Mr Bradley considered that:-

'Assuming pathogenesis in cattle with BSE is similar to that in mice with scrapie infection of the cord would be via autonomic nerves (centripetal). Only after the cord was infected would peripheral efferents be infected (centrifugal). This would [be] unlikely unless clinical signs were present - at least titres would probably be low.'

90. Mr Meldrum wrote to Mrs Brown on 12 October 1990 with comments on the draft paper for the Tyrrell Committee⁸²:-

‘On a number of occasions I have suggested that we should look at the possibility of a machine that would suck out residual parts of the spinal cord after the carcase has been split. This would not be difficult technically and would be an improvement on the present manual extraction system. I would be grateful if this could be incorporated into the draft.’

91. Mrs Brown replied to Mr Meldrum on 15 October 1990. She confirmed that there was ongoing liaison with Dr MacOwan and IFR-Bristol on possible approaches to the issue.⁸³

92. On 15 October 1990, Ms Pawlyn (Consumer Protection Division) circulated to Messrs Lowson, Cockbill and F Taylor the latest version of the BMMA’s definition of MRM, and its labelling advice for meat products and preparations in relation to the declaration of MRM.⁸⁴

93. In its final form, the paper prepared for SEAC by MAFF officials contained sections on carcase splitting, mechanically recovered meat, the use of pithing rods and possible research. In an introductory section, the paper made the following points:⁸⁵

‘Most of the offals covered by the ban can readily be removed in the slaughtering and dressing process. However there is at least the theoretical possibility that some slaughtering practices could involve contact between material for human consumption and material covered by the Regulations, notably spinal cord and nervous tissue. It is important to bear in mind that, on the scrapie analogy, neuroinvasion is not likely to occur until about half way through the incubation process. Thus the risk that these tissues will be infected is much less in animals killed for prime beef at about two years old than in cull cows. Furthermore, assuming that BSE pathogenesis in cattle is like that of scrapie in mice, peripheral efferents are unlikely to be infected until clinical signs were visible.’

94. With regard to carcase splitting, it was explained to SEAC that it was normal for all bovine carcasses to be split, apart from those of calves up to the age of six months, and that this was a requirement of EC rules governing the intra-Community trade in meat. The paper also explained that:⁸⁶

‘The spinal cord will inevitably receive some damage during this operation, although it is often surprisingly intact.’

⁸² YB90/10.12/8.1-8.12

⁸³ YB90/10.12/8.1

⁸⁴ YB90/10.15/8.1-1.5

⁸⁵ YB 90/11.01/2.1-7 para 3

⁸⁶ YB 90/11.01/2.1-7 para 6

95. The question of contamination of the carcass with spinal cord material was also addressed in the paper. The following comments were made:⁸⁷

‘The concern that has been expressed regarding carcass splitting relates to the possible transfer of material from the damaged spinal cord onto the carcass. The volume of material is likely to be small, in most cases no more than a few grams. It will be concentrated around the cut surface of the spinal column, perhaps with some slight spill over onto exposed meat surfaces. The routine washing of the carcasses will, if done sufficiently promptly (as would be normal practice), remove the greater part of any gross particular matter. However no data are available about the quantity of spinal cord tissue likely to come into contact or remain with material used for human consumption. Such data could be obtained by comparing the mean weight of spinal cord collected after splitting with that obtained after necropsy using a standard procedure to account for the length of spinal nerve etc.’

96. On the possibility of sucking out the cord from the intact carcass, the paper said that this was unlikely to be practicable as the shape of the carcass and the spinal canal and the attachments of the cord would all act against such a method.⁸⁸ It was pointed out that this and other possible methods of reducing the risk of spinal cord contaminating material used for human consumption (e.g blowing out the cord from the intact carcass, or use of a double bladed saw) were not in commercial use, and that some R&D would be required to determine their practicability and the extent to which they would in practice reduce such a risk.
97. In the section specifically on MRM, the paper explained that there was currently no specific UK or EC legislation in force to regulate the use of mechanically recovered meat.⁸⁹ However, it was explained that by virtue of the Meat Products and Spreadable Fish Products Regulations 1984, MRM could not be used in uncooked meat products if it was obtained from certain specified parts of the carcass, including (amongst other organs and parts) brains, spleen, spinal cord and large and small intestines. Reference was also made to the Bovine Offal (Prohibition) Regulations 1989, which prohibited SBO from all human food, and also to EC rules requiring that all visible lymphatic and nervous tissue be removed in the normal cutting process.
98. The paper also pointed out that few meat products containing MRM were labelled as such and that the legal obligation to do so was disputed by the industry.⁹⁰ And it explained the guidance that was available to manufacturers via the BMMA’s draft code of practice. SEAC was informed that MAFF’s Food Science Division was embarking on a project to develop a method to detect the presence of MRM in meat

⁸⁷ YB 90/11.01/2.1-7 para 8

⁸⁸ YB 90/11.01/2.1-7 para 9(a)

⁸⁹ YB 90/11.01/2.1-7 para 14

⁹⁰ YB 90/11.01/2.1-7 para 15

products.⁹¹ The paper noted that it might be possible to use this method ‘to enforce a ban on the use of MRM, or certain types of MRM, should this be necessary.’

99. The paper then considered the implications regarding BSE. It was pointed out that the vertebral column of bovine carcasses, excluding the spinal cord, could be used in the manufacture of MRM. The paper continued as follows:⁹²

‘Inevitably when bovine carcasses are split through the centre of the vertebral column in the slaughterhouse some nervous tissue can remain and some contamination of the vertebrae with central nervous system (CNS) tissue can occur. This will be as a result of:-

- (i.) small pieces of spinal cord inadvertently remaining in the vertebral column;
- (ii.) contamination from carcase splitting...; or
- (iii.) the failure to remove nerves from between the vertebrae.

It is unlikely that lymph nodes and other nervous tissue associated with the muscle are left adhering to the bones, since only residual meat remains after the deboning stage. However, there will probably be some peripheral nervous tissue still present within the vertebral column. Therefore, any risk passed by MRM would seem to be by the transference of the BSE agent from nervous tissue to the MRM. It is still not known however, if even where the spinal cord is removed cleanly, any risk exists from the remaining nervous tissue in the vertebral column.’

100. In the section on possible research, the paper indicated a number of areas in which R&D could be useful. These included:

- (a) bioassay of MRM or potentially contaminated tissue from affected animals;
- (b) the quantification of the extent of any residue of CNS tissue left with the carcase when the cutting process was complete;
- (c) assessment of possible alternative methods of removing the spinal cord or cutting the carcase; and
- (d) methods of detection of CNS in MRM, and then determination of the presence of CNS tissue in MRM.

101. The paper concluded:-

‘The Committee is invited to consider on the basis of the available evidence whether any action or guidance is required in relation to slaughterhouse practices, and whether any new R&D is needed, and if so with what priority.’

⁹¹ YB 90/11.01/2.1-7 para 19

⁹² YB 90/11.01/2.1-7 para 23-24

102. SEAC considered the paper provided by MAFF at its meeting of 1 November 1990. The minutes of the meeting do not record any specific discussion of MRM. Under the heading, 'Slaughterhouse Practices', the minutes of the meeting record the following:⁹³
- 'Those members who had been involved in the slaughterhouse visit had noted that, if proper procedures were followed, specified offals could be satisfactorily removed at the slaughterhouse, and in particular that the spinal cord could be extracted from the carcase without difficulty. The Committee therefore concluded that, provided all the rules were properly followed and supervised, there was no need to recommend further measures on the grounds of consumer protection (operator safety was a matter for HSE).'
103. On 9 November 1990 Mr Lowson minuted PS/Mr Maclean on the subject of slaughterhouse practices. He explained that the Tyrrell Committee had now:-
- 'specifically consider[ed] the issues raised by carcase splitting, mechanically recovered meat and pithing rods. This included visiting two slaughterhouses and seeing the slaughtering process at first hand. In the light of these visits and of papers prepared in Tolworth the Committee concluded that so long as the rules were properly observed and proper supervision was maintained, there was no need to recommend further control measures on grounds of food safety.
- The Committee does not intend to produce a formal document setting out this advice, but are aware that the Minister may choose to make some kind of public announcement. One possibility would be to cover the point in the response to the report of the Agriculture Committee on BSE. Paragraph 9 of the draft which the Minister sent to his ministerial colleagues says that the Government has asked the Tyrrell Committee to advise on slaughterhouse practices. If the Parliamentary Secretary is content this could be revised as attached, and Mr Alderton could arrange to have the draft altered.'⁹⁴
104. On the question of publicising the Committee's advice, the Parliamentary Secretary agreed with Mr Lowson's suggestion that the point could be covered in the response to the Agriculture Committee on BSE.⁹⁵
105. When giving oral evidence to the BSE Inquiry, Mr Lowson was asked about the basis upon which SEAC had issued their advice on slaughterhouse practices. He was asked whether he believed that, in making the proviso that practices were safe so long as the 'rules were properly followed and supervised', the Committee had been provided with any information regarding compliance with the regulations. Mr Lowson

⁹³ YB/90/11.01/2.6

⁹⁴ YB 90/11.09/3.1

⁹⁵ YB 90/11.09/3.1

replied that ‘they advised that way because they did not feel able to advise about the extent to which those provisos were met.’⁹⁶

106. In his evidence to the BSE Inquiry, Mr Meldrum was asked whether it was his view, at this time, that small parts of the spinal cord might in fact contaminate meat recovered mechanically from the spinal column of bovine carcasses. He said:⁹⁷

‘... we have always accepted that brain, spinal cord was the most dangerous part of the animal, particularly in those that are clinically affected, and under the SBO ban it was clear we wanted to ensure total removal of both brain and spinal cord. Certainly when you split the carcass of an adult animal you would expect to get some contamination of the area around the saw cut, particularly on the bone. To some extent this would be dealt with by the washing of the carcass, and it was certainly acknowledged by us that contamination of the bony surface of the spinal column could occur. It was an issue that we considered, an issue that was considered by the Advisory Committee; and it was considered that so long as we removed the spinal cord that the other bovine products were safe...

I believed that the contamination problem would be on the bones. As you cut through the bone of the spinal column, on that cut surface you may get some contamination with spinal cord material, although in many cases when you split the spinal column the spinal cord will move to one side or the other and is not in fact damaged. In some cases it could be damaged or cut through. That contamination would occur on the bony surface.’

107. In her written statement to the BSE Inquiry, Mrs Attridge explained that:-

‘Because of adverse press comments on the production of mechanically recovered meat and concern that it was not being properly labelled, research had been commissioned by Food Science at Bristol which was completed in August 1989. This studied the compositional differences between the mechanically recovered meat and hand de-boned meat. This concluded that there were very few differences and that the majority of beef MRM manufacturers adhered to British Meat Manufacturers Association Draft Code of Practice regarding which bones can be used for MRM production. The Code required the removal of the spinal cord and excluded the use of longer bones which would have a higher marrow content and also excluded head bones. In the light of this there appeared no reason to prohibit the use of mechanically recovered meat (see Dr Denner’s minute to me of 18th June 1990 [paragraph 39, above] and my reply of 19th June [paragraph 40, above]). The views of the Tyrrell Committee were sought on it.’⁹⁸

108. A number of industry representatives who gave evidence to the BSE Inquiry expressed the view that it was likely that bones used for the production of MRM would probably carry some spinal cord on them. Mr

⁹⁶ T43, pp.124-125

⁹⁷ T68, 54

⁹⁸ S Attridge, para. 39

Baker of the Federation of Fresh Meat Wholesalers said that most boning plants were using machines to recover meat at the time, and that a number of carcase bones that would go through the machines 'would probably have some spinal cord in them'.⁹⁹ When Mr Carrigan of SpecialPack Limited, was asked about the possibility that spinal cord would be contained in MRM he stated that there was 'no question' that it would.¹⁰⁰

109. Mr Ridge, a quality assurance executive of Somerfield Stores, stated in his evidence to the Inquiry that they had excluded MRM from their products from 1990 onwards. He explained that the reason for this involved fears about the microbiological standard of some MRM and concern that the process was 'actually going to potentially extrude a certain amount of lymphatic and nervous tissues.'¹⁰¹

⁹⁹ T58, p.107

¹⁰⁰ T58, p.23

¹⁰¹ T63, p.120