

FOOD STANDARDS AGENCY CONSULTATION

Title: Removal of Post-Chernobyl Sheep Controls

CONSULTATION SUMMARY PAGE

Date consultation launched:	Closing date for responses:
17 November 2011	8 February 2012

Who will this consultation be of most interest to?

Sheep farmers in the restricted areas of North Wales, Cumbria and West & Central Scotland. Producers and retailers of lamb and mutton and consumers of these products.

What is the subject of this consultation?

Twenty-five years after the Chernobyl nuclear accident, controls remain on a small number of UK sheep farms following radioactive contamination deposited on certain upland areas. The Food Standards Agency (FSA) has recently conducted an updated risk assessment which shows the risk to consumers is very low. Therefore, the FSA is proposing to remove all remaining controls.

What is the purpose of this consultation?

The Agency is seeking views on the proposal to remove all remaining controls on the movement of sheep from the restricted areas, based on the assessment that the risk to consumers from radioactivity in sheep resulting from the Chernobyl nuclear accident is now very low.

The overall objective is to ensure that the proposal is risk based, proportionate and that consumer safety is not compromised.

Responses to this consultation should be sent to:

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Is an Impact Assessment included with this consultation?

Yes ☒

No ☐ See Annex A for reason.



INVESTOR IN PEOPLE

If you would prefer to receive future FSA consultations by e-mail, or if you no longer wish to receive information on this subject please notify the named person in this consultation.



Removal of Post-Chernobyl Sheep Controls

DETAIL OF CONSULTATION

Introduction

1. We would welcome your comments on the proposal to remove all remaining post-Chernobyl sheep controls enforced by Orders under the Food and Environment Protection Act 1985 (known as FEPA Orders). An impact assessment has been included as Annex B and we would particularly welcome comments on any cost implications that may arise from this proposal.
2. Risk assessments have been carried out to assess the potential risk to consumers of sheep meat originating in the two areas where full controls remain (North Wales and Cumbria in England)¹.
3. All formal monitoring controls have been removed in Scotland, although FEPA Orders remain in place covering 4 farms and their removal is considered as part of this consultation.
4. The scope of this policy is UK wide; however there will be no action in Northern Ireland as all remaining restrictions were removed there in 2000.

Background

5. On 26 April 1986, an accident occurred at a nuclear power station at Chernobyl in the former USSR (now Ukraine), releasing a plume of radioactivity that travelled across Europe. As the plume passed over the UK, radioactivity was deposited on certain upland areas. Radiocaesium ingested by sheep grazing in these upland areas was identified as a potential food safety risk. In order to protect consumers, restrictions were placed on the movement of sheep in these areas using powers under the Food and Environment Protection Act 1985 (known as FEPA Orders).
6. The Food Standards Agency is responsible for maintaining these controls through a scheme known as *Mark and Release*. Under this scheme, sheep are prohibited from moving out of the restricted area unless they have first been monitored to assess the level of radiocaesium contamination using a live-monitoring technique. Sheep assessed to be below a limit of 1,000 Bq/kg are permitted to move out of the restricted area and may be slaughtered and enter the food chain. Sheep assessed to be above this limit are considered to have failed and are marked with indelible paint. Marked sheep are permitted to move out of the restricted area, but may not be slaughtered for a minimum of three-months.
7. Under the current policy, individual farms may be considered for removal from these controls (de-restricted) where certain criteria are met. The precise criteria varies across the UK, but the minimum is that a full-flock survey, conducted during the summer months, when contamination is at the highest, has assessed that no sheep within the flock contain levels above the 1,000 Bq/kg limit.
8. Using the current policy, the number of farms under restriction has reduced substantially over the years; out of the nearly 10,000 farms originally restricted across

¹ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

the UK only 8 farms in Cumbria, England and 299 in North Wales remain under full restrictions, although a number of these farms in North Wales are not currently active sheep farms. In addition, 28 farms in North Wales and 1 in Scotland have been released from formal controls but issued with *Conditional Consents* or *Directions*. These *Conditional Consents* or *Directions* have been issued on the basis of specific conditions pertaining to individual farms. The conditions are set on a case-by-case basis but in general they require that sheep are kept on clean pasture or clean feed for a period of time before they are sent for slaughter.

9. *Unconditional Consents* have been issued on 41 farms in England, 7 in Wales and 3 in Scotland. These are farms which have met the criteria for derestriction and so have been removed from all formal controls and conditions, either pending revocation of the FEPA Order or because the legislation does not easily permit their removal from the FEPA Order.

10. The Agency has reviewed the controls which remain on the relatively small number of farms to consider if they are still required to protect food safety. As part of this review, the use of the current limit of 1,000 Bq/kg as a measure of risk has been considered. Using a fixed limit of contamination in effect considers that sheep above 1,000 Bq/kg are unsafe and sheep below that level are safe. However, recent international guidance published by the International Commission on Radiological Protection² has reinforced the view that protection from radioactivity should consider the actual risk to individuals (measured as the effective dose) rather than purely relying on a fixed limit of contamination. Therefore, the Agency has carried out an updated risk assessment to consider the actual risk to consumers from eating sheep meat originating in the restricted areas.

11. These controls comply with European Council Directive 96/29/Euratom which lays down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation. Article 53 covers intervention in cases of lasting exposure. This states that where the Member States have identified a situation leading to lasting exposure resulting from the after effects of a radiological emergency they shall put measures in place which are necessary for the exposure risk involved. This can include monitoring of exposure and implementing any appropriate interventions. However, Article 48 of Directive 96/29 specifies that such intervention shall be undertaken only if the reduction in detriment due to radiation is sufficient to justify the harm and costs, including social costs, of the intervention and so the updated risk assessment has led to a review considering whether this is still the case.

Risk Assessment

12. New recommendations were published by the International Committee on Radiological Protection (ICRP) in 2007 and 2010. These recommendations provide clearer guidance on how to protect people from radiation exposure. They support the concept of using the effective dose when determining the risk to consumers from existing exposure situations. In radiological protection, effective dose is a measure of the harmful effect of radiation to an exposed individual which takes account of the type of radiological contaminant, the age of the individual and the level of exposure (in this case, the quantity consumed as contamination within the food). Where individuals are continually exposed to a source of radioactivity for an extended period, the dose

²The 2007 Recommendations of the International Commission on Radiological Protection, (ICRP Publication 103; 2007); and Application of the Commission's Recommendations to the Protection of People Living in Long-Term Contaminated Areas after a Nuclear Accident or a Radiation Emergency, (ICRP Publication 111; 2010)

received over the duration of a year is often used as a comparison and so doses are expressed in units of millisiverts per year (mSv/yr). For these reasons the risk assessment looks at consumer dose rather than a fixed limit of radiocaesium contamination.

13. An updated risk assessment has been carried out which is consistent with the latest ICRP advice. It considers the radiological dose which could be received by a consumer of sheep meat. This provides a more realistic measure of risk instead of relying purely on a fixed limit of contamination within individual sheep.

14. During the summers of 2010 and 2011, the FSA carried out a monitoring survey in the restricted areas of Cumbria and North Wales. These surveys were carried out during the summer months when radiocaesium concentrations in sheep meat are expected to be at their highest.

15. The data gathered in these surveys were used to assess the risk to consumers of sheep meat originating in the currently restricted areas. The risk assessment calculated the likely dose to the more highly exposed individuals by defining a representative person. This is an individual whose habits are realistic and not outside the range of what people encounter in their day to day life but that the probability is less than approximately 5% that a person drawn at random from the exposed population would receive a greater dose. The representative person is defined as an adult frequent buyer (purchasing their meat in bulk once per fortnight) who sources all their meat from the monitored farm and who consumes a high level (20kg) of sheep meat per year at the 97.5th percentile of the radiocaesium distribution in their sheep meat intake.

16. The risk assessment conclude that:

- The results of the sheep monitoring survey and the consumer dose assessment demonstrate that although low levels of radiocaesium persists in sheep throughout the restricted areas of Cumbria and North Wales, the consumer risks are very low.
- The doses to the representative person (representing more highly exposed consumers) range from <0.05 to 0.21 mSv per year with an average dose of less than 0.09 mSv per year. This is considerably below the 1mSv per year reference level typically used in existing exposure situations and 1mSv per year limit for members of the public exposed to radiation from routine planned exposures.

17. The Agency's risk assessment report, titled *An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses*, has been independently peer reviewed and can be downloaded from the Food Standards Agency's website³.

18. Taking this risk assessment into account, the conclusion of the review is that the current controls (including *consents* and *directions*) in England and Wales are no longer proportionate to the very low risk, they are ineffective in further minimising the already low doses and removing controls will not compromise consumer safety. Furthermore, the very low risk shows that intervention is no longer required to comply with Council Directive 96/29/Euratom requirements for cases of lasting exposure.

³ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses – <http://www.food.gov.uk/science/surveillance/radiosurv/chernobyl/>

19. All formal *Mark and Release* controls have been removed in Scotland using the current derestriction criteria, the last of these in 2010. The risk to consumers from the remaining *consented* farms in Scotland is therefore considered to be very low. Removing the final legislative controls will not compromise consumer safety and is no longer required to meet the requirements of Council Directive 96/29/Euratom.

Proposals

20. Two options are presented in the attached impact assessment:

- **Option 1 – Do nothing (Maintain the current policy)** – Movement restrictions continue under existing FEPA Orders with *Mark and Release* monitoring controls; previously issued *Consents* would remain
- **Option 2 – Remove all post-Chernobyl controls and associated regulation on sheep farming in the UK** – FEPA Orders are revoked; *Mark and Release* controls cease and existing *Consents* are removed.

21. Option 1 is presented as the status quo and is used as the baseline for comparison. However, the risk assessment demonstrates that these controls are no longer proportionate to the very low risk, they are ineffective in further minimising the already low doses and, thus, removing controls will not compromise consumer safety. Furthermore, the very low risk shows that intervention is no longer required to comply with Council Directive 96/29/Euratom requirements for cases of lasting exposure. Therefore, it is not considered viable to continue this option, as discussed in the impact assessment.

22. A range of alternative options to the current *Mark and Release* controls have previously been considered as part of a review in 1999⁴ and at a workshop meeting held in August 2010 (Annex D). These options were considered as part of this review but were subsequently not taken forward due to the very low risk demonstrated by the risk assessment which means they cannot be clearly shown to further reduce the already low doses. Further details are provided in the impact assessment at Annex B.

23. Due to the very low risks demonstrated by the risk assessment, Option 2, removing all post-Chernobyl controls and associated regulation on sheep farming in the UK, is the Agency's preferred course of action.

Key proposal:

- **The Agency proposes to remove all post-Chernobyl controls and associated regulation on sheep farming in the UK.**

Consultation Process

24. The current consultation is part of the Agency's review into the post-Chernobyl controls in place on sheep in the UK. Informal consultations with farming unions, meat industry representatives and radiological experts, including an initial workshop meeting held in August 2010, have taken place and their views have been used in setting out the options presented here.

⁴ Nisbet, AF and Woodman, RFM, 1999. Options for the Management of Chernobyl-restricted Areas in England and Wales, NRPB-R305. National Radiological Protection Board.

25. The Agency now welcomes comments from all interested parties on the proposal set out above. Interested parties are particularly invited to respond to the following questions:

Questions asked in this consultation:

Our key proposal

Q1: Do you have any evidence that would alter the assessment that the risk to consumers is very low and that removing controls will not compromise consumer safety? Please provide evidence to support your response.

Further evidence to ensure our impact assessment is robust

Q2: Do you agree with the estimates for the time farmers have to make themselves available during Mark and Release inspections, 2 hours per 100 sheep monitored and 1.5 hours for every 100 sheep not monitored but inspected (see paragraphs 68 to 71 of the Impact Assessment)? If you disagree please provide evidence to support your response.

Q3: Please provide evidence of any financial implications that the removal of controls, and hence ceasing of headage payments, will have on farmers currently under restriction?

Q4: Do you consider that there are any further costs, benefits or other implications to the farming, meat processing and retail industry that would result from the proposal to remove all remaining controls which have not been considered in the Impact Assessment? If so, please provide evidence to support your response.

Q5: Do you agree with the assessment of costs and benefits outlined in the Impact Assessment? If you disagree, please provide evidence to support your response.

26. The Agency will consider the comments received in finalising the proposal and take these into account in implementing the final decision.

27. We welcome comments from all interested parties. Please send your response by email or post using the contact details given on page 1. All responses received will be given careful consideration. We would particularly encourage responses from consumers, farmers and their representatives. A summary of all comments received and the Agency's response to each will be published on the Agency's website within 3 months following the end of the consultation period.

Other relevant documents

28. Listed below are the three principal FEPA Orders and the most recent amendments to each. Other amendments may still apply.

England

- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) (England) Order 1991 1991 No. 6 UK Statutory Instruments
<http://www.legislation.gov.uk/ukxi/1991/6/contents/made>
- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) (England) (Partial Revocation) Order 1996 1996 No. 62

Wales

- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) (Wales) Order 1991 1991 No. 5
<http://www.legislation.gov.uk/ukxi/1991/5/contents/made>
- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) (Wales) (Partial Revocation) Order 1998 1998 No. 72
<http://www.legislation.gov.uk/ukxi/1998/72/contents/made>

Scotland

- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) Order 1991 1991 No. 20
<http://www.legislation.gov.uk/ukxi/1991/20/contents/made>
- The Food Protection (Emergency Prohibitions) (Radioactivity in Sheep) Partial Revocation (Scotland) Order 2008 2008 No. 63
<http://www.legislation.gov.uk/ssi/2008/63/contents/made>

29. Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (OJ L 159, 29.6.1996, p. 1)
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1996L0029:20000513:EN:PDF>

30. The Agency's risk assessment report, which has been independently peer reviewed, can be downloaded from the Food Standards Agency's website.
Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses
<http://www.food.gov.uk/science/surveillance/radiosurv/chernobyl/>

31. The last review into the post-Chernobyl controls in England and Wales was published in a report by the National Radiological Protection Board:
Nisbet, AF and Woodman, RFM, 1999. Options for the Management of Chernobyl-restricted Areas in England and Wales, NRPB-R305. National Radiological Protection Board.

Responses

32. **Responses are required by close 8 February 2012.** Please state, in your response, whether you are responding as a private individual or on behalf of an organisation/company (including details of any stakeholders your organisation represents).

Thank you on behalf of the Food Standards Agency for participating in this public consultation.

Yours,

Name Christopher Thomas
Policy 3, Chemical Safety Division

Enclosed

Annex A: Standard Consultation Information

Annex B: Impact Assessment

Annex C: List of interested parties

Annex D: Minutes of a workshop meeting held on 18 August 2010

Queries

1. If you have any queries relating to this consultation please contact the person named on page 1, who will be able to respond to your questions.

Publication of personal data and confidentiality of responses

2. In accordance with the FSA principle of openness our Information Centre at Aviation House will hold a copy of the completed consultation. The FSA will publish a summary of responses, which may include your full name. Disclosure of any other personal data would be made only upon request for the full consultation responses. If you do not want this information to be released, please complete and return the Publication of Personal Data form, which is on the website at <http://www.food.gov.uk/multimedia/worddocs/dataprotection.doc> Return of this form does not mean that we will treat your response to the consultation as confidential, just your personal data.
3. In accordance with the provisions of Freedom of Information Act 2000/Environmental Information Regulations 2004, all information contained in your response may be subject to publication or disclosure. If you consider that some of the information provided in your response should not be disclosed, you should indicate the information concerned, request that it is not disclosed and explain what harm you consider would result from disclosure. The final decision on whether the information should be withheld rests with the FSA. However, we will take into account your views when making this decision.
4. Any automatic confidentiality disclaimer generated by your IT system will not be considered as such a request unless you specifically include a request, with an explanation, in the main text of your response.

Further information

5. A list of interested parties to whom this letter is being sent appears in Annex C. Please feel free to pass this document to any other interested parties, or send us their full contact details and we will arrange for a copy to be sent to them direct.
6. A Welsh version of the consultation letter can be found at www.food.gov.uk
7. Please contact us for alternative versions of the consultation documents in Braille, other languages or audiocassette.
8. Please let us know if you need paper copies of the consultation documents or of anything specified under '**Other relevant documents**'.
9. This consultation has been prepared in accordance with HM Government Code of Practice on Consultation, available at: <http://www.berr.gov.uk/files/file47158.pdf> The Consultation Criteria from that Code should be included in each consultation and they are listed below:

The Seven Consultation Criteria

Criterion 1 — When to consult

Formal consultation should take place at a stage when there is scope to influence the policy outcome.

Criterion 2 — Duration of consultation exercises

Consultations should normally last for at least 12 weeks with consideration given to longer timescales where feasible and sensible.

Criterion 3 — Clarity of scope and impact

Consultation documents should be clear about the consultation process, what is being proposed, the scope to influence and the expected costs and benefits of the proposals.

Criterion 4 — Accessibility of consultation exercises

Consultation exercises should be designed to be accessible to, and clearly targeted at, those people the exercise is intended to reach.

Criterion 5 — The burden of consultation

Keeping the burden of consultation to a minimum is essential if consultations are to be effective and if consultees' buy-in to the process is to be obtained.

Criterion 6 Responsiveness of consultation exercises

Consultation responses should be analysed carefully and clear feedback should be provided to participants following the consultation.

Criterion 7 Capacity to consult

Officials running consultations should seek guidance in how to run an effective consultation exercise and share what they have learned from the experience.

10. The Code of Practice states that an Impact Assessment should normally be published alongside a formal consultation. Please see the Impact Assessment at Annex B.
11. For details about the consultation process (not about the content of this consultation) please contact: [Food Standards Agency Consultation Co-ordinator](#), Room 2B, Aviation House, 125 Kingsway, London, WC2B 6NH. Tel: 020 7276 8140.

Comments on the consultation process itself

12. We are interested in what you thought of this consultation and would therefore welcome your general feedback on both the consultation package and overall consultation process. If you would like to help us improve the quality of future consultations, please feel free to share your thoughts with us by using the Consultation Feedback Questionnaire at <http://www.food.gov.uk/multimedia/worddocs/consultfeedback.doc>
13. If you would like to be included on future Food Standards Agency consultations on other topics, please advise us of those subject areas that you might be specifically interested in by using the Consultation Feedback Questionnaire at <http://www.food.gov.uk/multimedia/worddocs/consultfeedback.doc> The questionnaire can also be used to update us about your existing contact details.

Title: Removal of Post-Chernobyl Sheep Controls IA No: FOODSA0011 Lead department or agency: Food Standards Agency Other departments or agencies:	Impact Assessment (IA) Date: 01/01/2011 Stage: Consultation Source of intervention: Domestic Type of measure: Secondary legislation Contact for enquiries: Christopher Thomas Tel: 020 7276 8728 Email: radiation@foodstandards.gsi.gov.uk
Summary: Intervention and Options	RPC: RPC Opinion Status

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as One-Out?	
£3.1m	-£2.26m	£0.33m	No	N/A

What is the problem under consideration? Why is government intervention necessary?
On 26 April 1986, an accident occurred at the Chernobyl nuclear power station in the former USSR (now Ukraine), releasing a plume of radioactivity that travelled across Europe. Contamination, including radiocaesium, was deposited in certain upland areas of the UK and restrictions on the movement of sheep from these areas were imposed due to concerns over the safety to consumers of their meat.

The Food Standards Agency has recently conducted an updated risk assessment which shows the risk to consumers is now very low. Therefore, the Agency is proposing to remove all remaining controls.

What are the policy objectives and the intended effects?
The overall objective is to ensure that removal of controls is risk based, proportionate and that consumer safety is not compromised.
The aims are to:

- be proportionate to the risk
- maintain consumer confidence
- minimise the burden on businesses and the public sector
- be consistent with current international radiological protection guidance.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)
The following options have been considered:

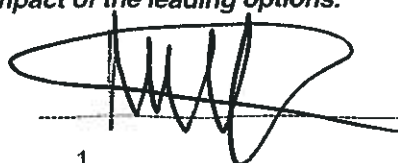
- Option 1 – Do nothing (Maintain current policy) – Movement restrictions continue under existing FEPA Orders with Mark and Release monitoring controls; previously issued Consents would remain
- Option 2 – FEPA Orders are revoked; Mark and Release controls cease and existing Consents are removed.

The risk assessment demonstrates that the current controls are no longer proportionate to the very low risk, they are unlikely to further minimise the already low doses and thus removing controls will not compromise consumer safety. Therefore, Option 2, removing all post-Chernobyl controls and associated regulation on sheep farming in the UK, is the Agency's preferred option.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 03/2017					
Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Chief Executive:



Date:

10/11/14

Summary: Analysis & Evidence

Policy Option 1

Description: Do nothing (Maintain current policy) – Movement restrictions continue under existing FEPA Orders with Mark and Release monitoring controls; previously issued Consents would remain

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate:

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate	0		0	0

Description and scale of key monetised costs by 'main affected groups'

Not applicable - option is baseline for comparison

Other key non-monetised costs by 'main affected groups'

Regulatory burden on farming industry and government would continue indefinitely despite the very low risk to consumers.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate	0		0	0

Description and scale of key monetised benefits by 'main affected groups'

Not applicable - option is baseline for comparison

Other key non-monetised benefits by 'main affected groups'

Not applicable - option is baseline for comparison

Key assumptions/sensitivities/risks

Not applicable - option is baseline for comparison

Discount rate (%)

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OIOO?	Measure qualifies as
Costs: 0	Benefits: 0	Net: 0	No	NA

Summary: Analysis & Evidence

Policy Option 2

Description: Remove all post-Chernobyl controls and associated regulation on sheep farming in the UK – FEPA Orders are revoked; Mark and Release controls cease and existing Consents are removed.

FULL ECONOMIC ASSESSMENT

Price Base Year 2011	PV Base Year 2010	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate: 3.08

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	0	0.34	2.89

Description and scale of key monetised costs by 'main affected groups'

Total cost of policy option: £3.35m (constant prices) to farmers through loss of headage payments paid to recompense for costs incurred in gathering and holding sheep.

Other key non-monetised costs by 'main affected groups'

Non-monetised costs were not identified (see monetised costs above)

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	0	0.69	5.97

Description and scale of key monetised benefits by 'main affected groups'

Total benefit of policy option: £6.93m (constant prices). Government: £6.21m through ceassation of headage payments to farmers and live sheep monitoring programme. Farmers: £0.07m through saving the time taken to gather sheep and make themselves available during monitoring inspections.

Other key non-monetised benefits by 'main affected groups'

Farmers: Reduction in regulatory burden and providing greater freedom in choosing when to move sheep.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
Estimated that farmers spend 2 hours per 100 sheep monitored and 1.5 hours per 100 sheep not monitored but inspected.		

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:	In scope of OIOO?	Measure qualifies as
Costs: 0.34 Benefits: 0.07 Net: -0.27	No	N/A

Evidence Base (for summary sheets)

Problem under consideration

1. Following the accident at the Chernobyl nuclear power station, radioactivity was deposited on certain upland areas of the UK. Meat from sheep grazing in these areas was identified as a potential food safety concern and so restrictions were put in place on the sale, movement and slaughter of sheep from defined areas using powers under The Food and Environment Protection Act 1985 (known as FEPA Orders).
2. Twenty-five years later, controls remain on a relatively small number of the originally restricted farms in North Wales and Cumbria, England. Restrictions also remain on a small number of farms in Scotland, although all formal controls have ceased. All restrictions in Northern Ireland were removed in 2000.
3. The controls are managed through a system known as the *Mark and Release* scheme. Under this scheme, a farmer wishing to move sheep from within the restricted area is required to have them monitored. Only those sheep that are monitored and assessed to have less than 1,000 becquerels per kilogram (Bq/kg) of radiocaesium contamination are permitted to enter the food chain.
4. An updated risk assessment has shown that the risk to consumers of sheep meat originating in these areas is now very low¹. Therefore, these restrictions are no longer required and removing controls will not compromise consumer safety.

Rationale for intervention

5. New recommendations were published by the International Committee on Radiological Protection (ICRP) in 2007² and 2010³. These recommendations provide clearer guidance on how to protect people from radiation exposure. They support the concept of using the effective dose when determining the risk to consumers from existing exposure situations. In radiological protection, effective dose is a measure of the harmful effect of radiation to an exposed individual which takes account of the type of radiological contaminant, the age of the individual and the level of exposure (in this case, the quantity consumed as contamination within the food). Where individuals are continually exposed to a source of radioactivity for an extended period, the dose received over the duration of a year is often used as a comparison and so doses are expressed in units of millisiverts per year (mSv/yr).
6. An updated risk assessment¹ has been carried out which is consistent with the latest ICRP advice and considers the radiological dose which could be received by a consumer of sheep meat. This provides a more realistic measure of risk instead of relying purely on a fixed limit of contamination within individual sheep.
7. This assessment has shown that the risk to consumers is now very low. Furthermore, the current controls are no longer proportionate to the very low risk, they are unlikely to further minimise the already low doses and thus removing controls will not compromise consumer safety. Furthermore, the very low risk shows that intervention is no longer required to comply with Council Directive 96/29/Euratom⁴ requirements for cases of lasting exposure.

¹ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

² The 2007 Recommendations of the International Commission on Radiological Protection, (ICRP Publication 103; 2007)

³ Application of the Commission's Recommendations to the Protection of People Living in Long-Term Contaminated Areas after a Nuclear Accident or a Radiation Emergency, (ICRP Publication 111; 2010)

⁴ Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation (OJ L 159, 29.6.1996, p. 1)

Policy Objective

8. The overall objective is to ensure that the removal of controls is risk based, proportionate and that consumer safety is not compromised.
9. The aims are to:
 - be proportionate to the risk
 - maintain consumer confidence
 - minimise the burden on businesses and the public sector
 - be consistent with current international radiological protection guidance.

Background

UK response to the Chernobyl nuclear accident

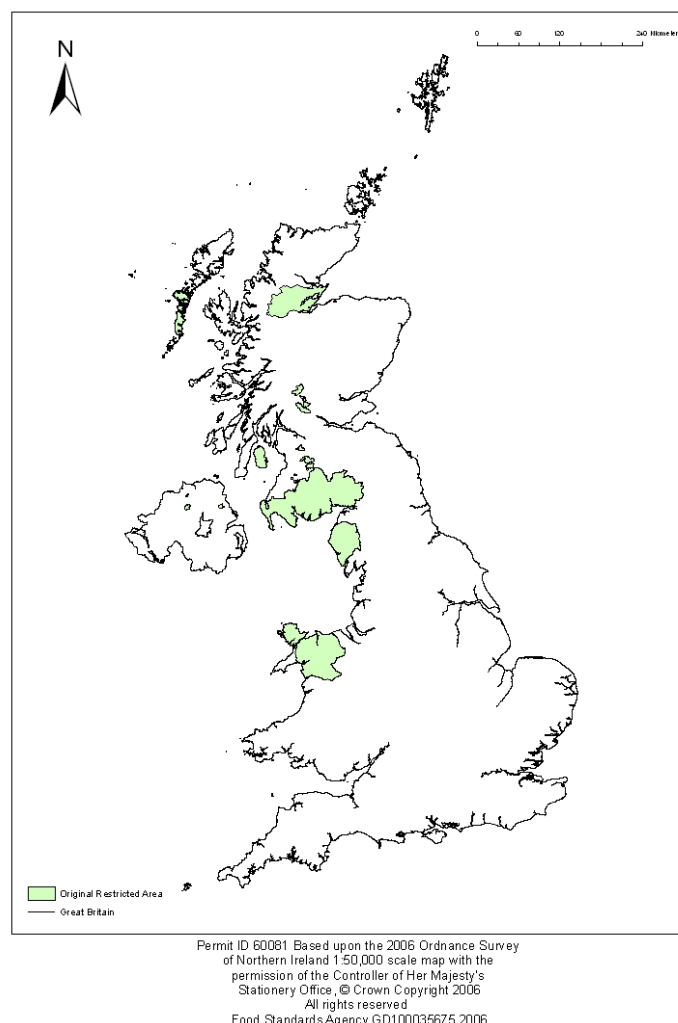
10. On 26th April 1986, an accident occurred at a nuclear power station at Chernobyl in the former USSR (now Ukraine), releasing a plume of radioactivity that travelled across Europe. As the plume passed over the UK, radioactivity, including the isotopes Iodine-131, Caesium-134 and Caesium-137, was deposited on certain upland areas.
11. Iodine-131 has a radioactive half-life of eight days and, therefore, did not present a long-term problem as it disappeared quickly. Caesium-134 and caesium-137 (collectively called 'radiocaesium') have radioactive half-lives of two years and thirty years respectively, so remain in the environment for much longer, although after twenty-five years it is now only caesium-137 which remains in the environment in any measurable quantity.
12. Following the accident, a country-wide monitoring programme was initiated. This identified food safety implications from radiocaesium taken up by vegetation and ingested by sheep in the affected areas. On the 20th June 1986, using powers under the Food and Environment Protection Act (FEPA) 1985, the Ministry of Agriculture, Fisheries & Food (MAFF) placed restrictions on the sale, movement and slaughter of sheep from defined areas within parts of North Wales and in Cumbria, England. Similar restrictions were placed by the Scottish Office on sheep in parts of Scotland on the 24th June.
13. In Northern Ireland, the Department of Agriculture for Northern Ireland imposed FEPA restrictions on individual farms in September 1987, with the areas restricted based on the results of live monitoring. Before that date, an alternative control method had been used which involved monitoring of sheep carcasses at slaughter houses to ensure sheep meat was safe.
14. The number of farms and sheep originally under restrictions are given in Table 1 and the areas illustrated in Figure 1.

Table 1: Initial numbers of farms and sheep under restriction in June 1986.

	England	Wales	Scotland	N Ireland
Farms	1,670	5,100	2,900	122
Sheep	867,000	2,000,000	1,358,000	53,000

Notes: All figures are approximate. Northern Ireland figures refer to September 1987.

Figure 1 – Original restricted areas under SI 1986/1027



15. In order to allow sheep farming to continue in the restricted areas, a management system known as the *Mark and Release* scheme was introduced. Under this scheme, a farmer wishing to move sheep from within the restricted area is required to have them monitored to determine the level of radiocaesium contamination. A live monitoring technique is used, where an external monitor is held against the sheep.
16. Individual sheep that are monitored and assessed to have less than 1,000 becquerels per kilogram (Bq/kg) of radiocaesium contamination are granted a consent from the FEPA Order permitting them to leave the restricted area and may enter the food chain. Sheep assessed to be above this level are considered to have failed and are marked with indelible paint. Marked sheep may leave the restricted area, but may not be sold to slaughter for a minimum of three-months during which time contamination levels are reduced through clean feeding.
17. Sheep which are to be temporarily moved off a restricted area (for example for overwintering) can be moved without monitoring. Inspectors, under contract with the Food Standards Agency, are required to visit the farm prior to movement to apply a stripe of indelible red paint. Sheep so marked are given a consent from the FEPA Order permitting them to move off the restricted area and later return, but may not be sold without first being monitored. This option is used regularly in Wales and termed *inspections*, as opposed to *monitoring*, but this is rarely applied in England where all sheep movements are monitored.
18. Under the current policy, individual farms may be considered for removal from these controls (de-restricted) where certain criteria are met. The precise criteria varies across the UK, but the minimum is that a full-flock survey, conducted during the summer months when contamination is at the highest, has assessed that no sheep within the flock have levels above the 1,000 Bq/kg

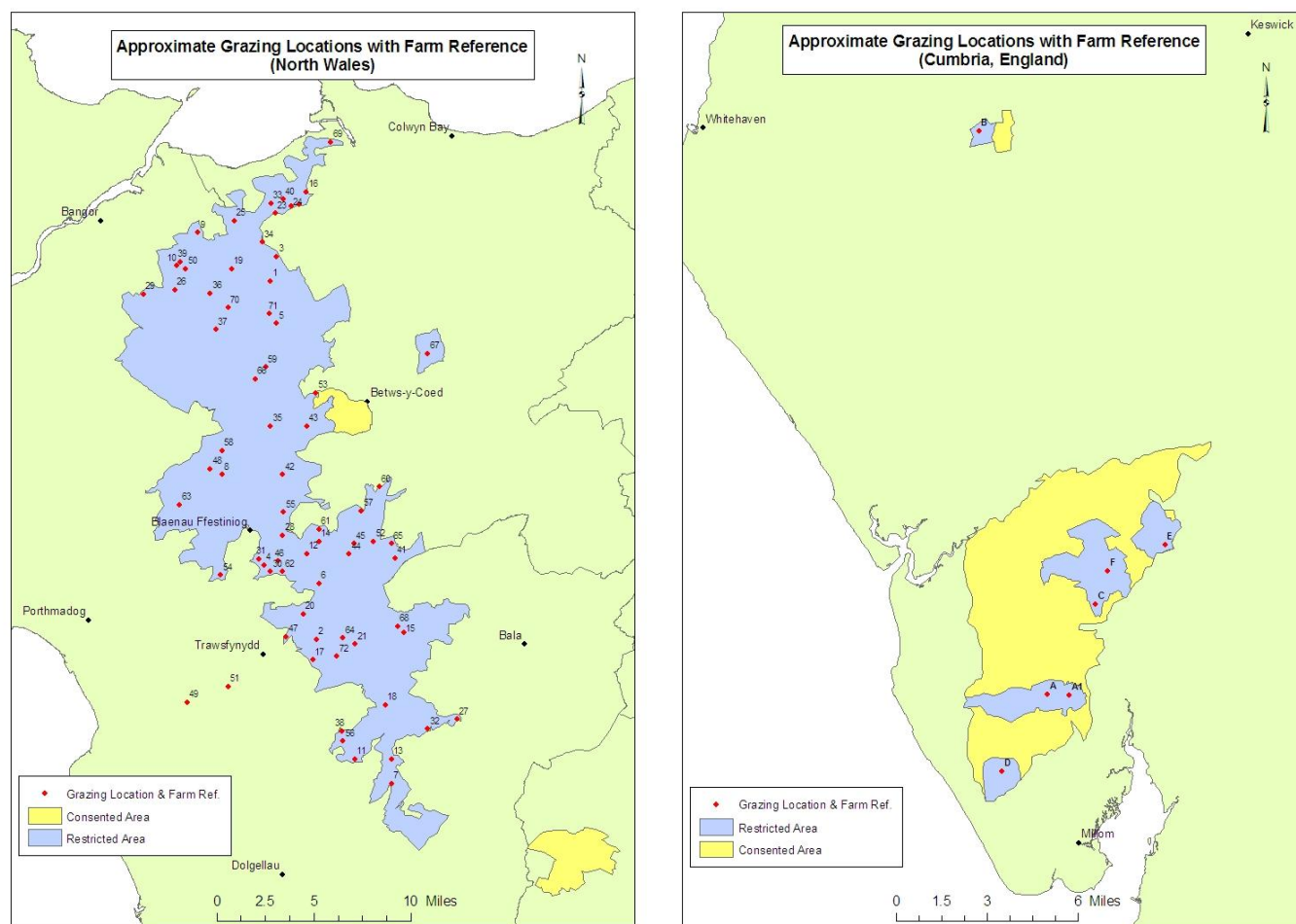
limit. In England and Wales, the policy is that this criterion must be met over two consecutive years.

19. Using the current policy, the number of farms under restrictions has reduced substantially with only 8 farms in Cumbria and 299 in North Wales remaining under full restrictions, although approximately 44 of these farms in North Wales are not currently thought to be active sheep farms.
20. In addition, 28 farms in North Wales and 1 in Scotland have been released from formal controls but issued with *Conditional Consents* or *Directions*. These *Conditional Consents* or *Directions* have been issued on the basis of specific conditions pertaining to individual farms. The conditions are set on a case-by-case basis but in general they require that sheep have been kept on clean pasture or clean feed for a period of time (typically between 1 and 4 weeks) before they are sent for slaughter.
21. *Unconditional Consents* have been issued on 41 farms in England, 7 in Wales and 3 in Scotland. These are farms which have met the criteria for derestriction and so have been removed from all formal controls and conditions. These farms are free to move their sheep without monitoring or inspection, however they technically remain under restriction pending revocation of the FEPA Order or because the legislation does not easily permit their removal from the FEPA Order.
22. The number of farms and sheep currently remaining under restrictions are given in Table 2 and the areas illustrated in Figure 2.

Table 2: Numbers of farms and sheep currently under restriction.

Country	Farms subject to full restrictions	Farms with <i>Conditional Consent</i> or <i>Direction</i>	Farms with <i>Unconditional Consent</i>	% of original farms still subject to full <i>Mark and Release</i> controls
England	8	0	41	0.5%
Wales	299	28	7	6%
Scotland	0	1	3	0%

Figure 2 – Current restricted areas showing grazing locations of farms monitored as part of the risk assessment⁵



Legal basis for the current policy

23. European Council Directive 96/29/Euratom lays down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation. Article 53 covers intervention in cases of lasting exposure. This states that where the Member States have identified a situation leading to lasting exposure resulting from the after effects of a radiological emergency they shall put measures in place where necessary for the exposure risk involved. This can include monitoring of exposure and implementing any appropriate interventions. However, Article 48 of Directive 96/29 specifies that such intervention shall be undertaken only if the reduction in detriment due to radiation is sufficient to justify the harm and costs, including social costs, of the intervention.
24. The Food and Environment Protection Act 1985 authorises the Secretary of State (or devolved equivalent) to make emergency orders. These specify activities to be prohibited, as a precaution against potential food safety concerns. It also provides for consents to undertake those specific activities, either unconditionally or subject to any condition that the Secretary of State (or devolved equivalent) considers appropriate.
25. The Food Protection (Emergency Prohibitions) Order 1986 (SI 1986/1027) restricted the movement or slaughter of sheep from within the areas as shown in Figure 1. The Order (called 'FEPA Order' for short) has since been amended a number of times and is currently enforced by:

⁵ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

- In Wales: The Food Protection (Emergency Prohibitions)(Radioactivity in Sheep)(Wales) Order 1991 (SI 1991/5) as amended
- In England: The Food Protection (Emergency Prohibitions)(Radioactivity in Sheep)(England) Order 1991 (SI 1991/6) as amended
- In Scotland: The Food Protection (Emergency Prohibitions)(Radioactivity in Sheep) Order 1991 (SI 1991/20) as amended

26. The Orders prohibit the following activities, subject to the issuing of an appropriate consent:

- No person shall in a designated area slaughter sheep for human consumption or for use in the preparation of feeding stuffs from which food could be derived;
- No person shall move any sheep from any farm, holding or agricultural premises situated in a designated area;
- No person shall move into a designated area any sheep which has previously been removed from the designated area in accordance with a consent which was subject to the condition that the sheep to which it applied should be marked with a green, blue or apricot paint mark.

Radiocaesium level in sheep meat

27. Following the Chernobyl accident, a maximum concentration of 1,000 Bq/kg for radiocaesium in sheep meat was imposed in the UK. This was based on interim advice from a group of experts set up under Article 31 of the Euratom Treaty⁶. The 1,000 Bq/kg level, which was set before the precise composition of the radionuclides released was known, was deliberately conservative in order to reassure the public and protect UK trade. This level was an administrative measure and not set in UK or EU legislation. It was decided to use this level in the UK as a means to permit movement of sheep from within the restricted area
28. Sheep ingest the radiocaesium contamination while grazing on upland pasture. Due to the nature of the soil in these areas, plants efficiently take up the radiocaesium which the sheep then consume. The types of soil typically found in lowland pastures have the capacity to bind with the radiocaesium and reduce its uptake by plants. Therefore, once sheep are brought down to lowland pastures, the contamination received from grazing on upland pastures passes through their bodies and the levels of contamination in the meat reduces.
29. The rate at which a contaminant passes through an animal is called the biological half-life. Research conducted following the Chernobyl incident demonstrated that the initial biological half-life for radiocaesium in lambs was approximately 10-12 days and 20 days for ewes⁷. Therefore, if sheep are grazed on clean land, the level of contamination rapidly decreases.
30. The Agency understands, through initial discussions with stakeholders and a small survey of farmers⁸, that sheep destined for slaughter are often taken from the upland pasture and fattened on improved or partially improved pasture for several weeks prior to being taken to market. This has the effect of “clean grazing” the sheep and so reducing the levels of contamination.

Risk assessment

31. During the summers of 2010 and 2011, the FSA carried out a monitoring survey in the restricted areas of Cumbria and North Wales. These surveys were carried out during the summer months when radiocaesium concentrations in sheep meat are expected to be at their highest.

⁶ The Euratom Treaty established the European Atomic Energy Community, whose member states are the same as the European Union, although it remains technically a legally distinct organisation. The Euratom Treaty helps to pool knowledge, infrastructure, and funding of nuclear energy. It ensures the security of atomic energy supply within the framework of a centralised monitoring system.

⁷ Howard BJ, Beresford NA, Burrow L, Shaw PV and Curtis EJC (1987). A comparison of caesium-137 and 134 activity in sheep remaining on upland areas contaminated by Chernobyl fallout with those removed to less active lowland pasture. *Journal of the Society for Radiological Protection* 7, pp71-73

⁸ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

32. The data gathered in this survey were used to assess the risk to consumers of sheep meat originating in the currently restricted areas. The risk assessment calculated the likely dose to the more highly exposed individuals by defining a representative person. This is an individual whose habits are realistic and not outside the range of what people encounter in their day to day life but that the probability is less than approximately 5% that a person drawn at random from the exposed population would receive a greater dose. The representative person is defined as an adult frequent buyer (purchasing their meat in bulk once per fortnight) who sources all their meat from the monitored farm and who consumes a high level (20kg) of sheep meat per year at the 97.5th percentile of the radiocaesium distribution in their sheep meat intake.
33. The risk assessment concluded that:
- The results of the sheep monitoring survey and the consumer dose assessment demonstrate that although low levels of radiocaesium persists in sheep throughout the restricted areas of Cumbria and North Wales, the consumer risks are very low.
 - The doses to the representative person (representing more highly exposed consumers) range from <0.05 to 0.21 mSv per year with an average dose of less than 0.09 mSv per year. This is considerably below the 1mSv per year limit for members of the public exposed to radiation from routine planned exposures, and the 1mSv per year reference level typically used in existing exposure situations⁹.
34. The risk assessment also considered a range of potential individuals who have habits more extreme than the representative person (for example a farmer who may freeze one of his sheep for consumption over the course of the year). The most extreme scenario gave a dose of 0.35 mSv per year, which is still considerably below 1mSv per year. It is unlikely that the most extreme consumers would receive doses in excess of this. This is because, for extremely high consumption rates, it would be unlikely that an individual could source all their meat from a single animal and so the dose would reduce.
35. The doses to children and infants were also considered and it was demonstrated that doses for children and infants are always less than those for adults.
36. The approach used in the risk assessment replaces the existing policy which only assessed risk against a fixed limit of 1,000 Bq/kg. This limit gives an incorrect impression that there is a step change in risk above this limit and ignores other factors which influence the dose a consumer receives. However, the risk assessment report did consider the levels of radiocaesium in sheep as a link to the existing policy and found that:
- The maximum observed levels of radiocaesium in sheep do not exceed 1,000Bq/kg of radiocaesium on over 97% of monitored Welsh farms. On farms where sheep exceed the limit, only a very small percentage is affected. This situation is likely to be representative of all restricted farms.
 - Only two farms monitored in Cumbria had a small number of sheep that exceeded 1,000Bq/kg of radiocaesium.
37. Finally, the risk assessment concluded that if no control measures were in place, the consumer risk would be less than the level of risk tolerated by the policy when it was introduced in 1986. As such, the current *Mark and Release* monitoring programme is having a negligible impact on reducing consumer dose.
38. The Agency's risk assessment report, titled *An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses*, has been independently peer reviewed and can be downloaded from the Food Standards Agency's website¹⁰.

⁹ Assessing Dose of the Representative Person for the Purpose of Radiation Protection of the Public. (ICRP Publication 101:2006) and The 2007 Recommendations of the International Commission on Radiological Protection, (ICRP Publication 103; 2007)

¹⁰ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses – <http://www.food.gov.uk/science/surveillance/radiosurv/chernobyl/>

39. Taking this risk assessment into account, the current controls (including *consents* and *directions*) in England and Wales are no longer proportionate to the very low risk, they are ineffective in further minimising the already low doses and removing controls will not compromise consumer safety. Furthermore, the very low risk shows that intervention is no longer required to comply with Council Directive 96/29/Euratom requirements for cases of lasting exposure.
40. All formal *Mark and Release* controls have been removed in Scotland using the current derestriction criteria, the last of these in 2010. The risk to consumers from the remaining *Consented* farms in Scotland is therefore considered to be very low. Removing the final legislative controls will not compromise consumer safety and is no longer required to meet the requirements of Council Directive 96/29/Euratom.

Optimisation and minimising risk

41. Radiological protection is based on the assumption that health risks are directly proportional to the radiation dose received. Therefore, as doses decrease the health risks approach zero, but there is no minimum dose which can be considered to have no risk. However, as there is a wide range of sources of radioactivity in the environment, both natural and man-made, it is impractical to reduce doses to zero. Thus, doses should be reduced as *low as reasonably achievable* considering social and economic factors (known as the ALARA principle).
42. Article 48 of Directive 96/29/Euratom specifies that in case of lasting exposure, intervention shall be undertaken only if the reduction in detriment due to radiation is sufficient to justify the harm and costs, including social costs, of the intervention.
43. This is also supported in ICRP guidelines¹¹ which recommend that in existing exposure situations, protection strategies should be implemented which will reduce individual doses to below an established reference level, typically in the range of 1 to 20 mSv per year. While the purpose of this review has not been to establish a reference level, the Agency's risk assessment has shown that dose to the high level consumer from the consumption of sheep meat is significantly below this range of reference levels and limits used in other areas, for example the 1 mSv/yr limit applied to members of the public from routine planned exposures as specified in Directive 96/29/Euratom.
44. The ICRP guidelines further state that exposure below the established reference level should not be ignored. Using the ALARA principle, even low doses should be assessed to ascertain if protection is optimised or whether further protective measures are needed. As part of the Agency's review into the controls, a full range of options have been considered including alternative monitoring protocols and use of clean grazing. However, due to the low doses assessed, these options are not considered to be technically feasible and cannot be clearly shown to further reduce the already low doses and, thus, have not been taken forward to full impact assessment.
45. An outline of alternative options previously suggested and reasons why they have not been taken forward are provided in the Annex to this impact assessment.

¹¹The 2007 Recommendations of the International Commission on Radiological Protection, (ICRP Publication 103; 2007); and Application of the Commission's Recommendations to the Protection of People Living in Long-Term Contaminated Areas after a Nuclear Accident or a Radiation Emergency, (ICRP Publication 111; 2010)

Options

46. Two options have been considered in this impact assessment:

- **Option 1 – Do Nothing (Maintain the current policy)** – Movement restrictions continue under existing FEPA Orders with *Mark and Release* monitoring controls; previously issued *Consents* would remain
- **Option 2 – Remove all post-Chernobyl controls and associated regulation on sheep farming in the UK** – FEPA Orders are revoked; *Mark and Release* controls cease and existing *Consents* are removed.

47. Option 1 is presented as the status quo and is used as the baseline for comparison. However, the risk assessment demonstrates that these controls are no longer proportionate to the very low risk, they are ineffective in further minimising the already low doses and thus removing controls will not compromise consumer safety. Furthermore, the very low risk shows that intervention is no longer required to comply with Council Directive 96/29/Euratom requirements for cases of lasting exposure. Therefore, it is not considered viable to continue this option, as discussed in paragraphs 53 to 55.

48. Due to the very low risks demonstrated by the risk assessment, Option 2, removing all post-Chernobyl controls and associated regulation on sheep farming in the UK, is the Agency's preferred course of action.

Option 1 – Do nothing (Maintain the current policy)

49. Movement restrictions continue under existing FEPA Orders with *Mark and Release* monitoring controls and previously issued *Consents* remaining. Restrictions preventing the operation of slaughterhouses in the restricted area would remain.
50. All sheep on farms under full controls are monitored before moving out of the restricted area. Sheep assessed to be over 1,000 Bq/kg are marked (with a coloured paint) and prevented from being sent to slaughter for a minimum of 3-months.
51. Farms would continue to be derestricted using the current criteria based on full-flock surveys conducted during the summer months. Farms could be derestricted if no sheep in a full-flock survey are assessed to be over 1,000 Bq/kg for two consecutive years.
52. *Conditional & Unconditional Consents* and *Directions* previously issued on the basis of the specific conditions pertaining to individual farms would remain in place on those farms.

Risks

53. The risk assessment¹² demonstrates that the dose, and hence the risk, to consumers is very low and that maintaining the controls is not required to maintain food safety.
54. Maintaining the existing *Mark and Release* criteria of 1,000 Bq/kg is equivalent to permitting a tolerance of 0.26 mSv/yr to a high level consumer (an adult consuming 20 kg of sheep meat per year all of which is contaminated at the limit of 1,000 Bq/kg). As our risk assessment demonstrates that the highest potential dose to the high level consumer is lower than this tolerance (a maximum of 0.21 mSv/yr and in the majority of cases far lower), monitoring at this level is no longer an effective or appropriate control measure to minimise the dose to consumers.
55. A secondary impact of compulsory monitoring is that it may encourage farmers to adopt practices (e.g. clean grazing on improved pasture), which acts to reduce the level of contamination in the sheep to increase the chances that they will pass the monitoring. This has the potential to reduce the dose to consumers. It is unclear the degree to which farmers use

¹² Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

clean grazing for this purpose, particularly where levels in sheep are now in any case very low and the majority of sheep will pass the monitoring without any clean grazing practices. Farmers who currently graze sheep on improved pasture are likely to continue this practice, with or without monitoring, as they benefit from increased weight and therefore value of their sheep when sold. Any potential reduction to the already low dose is unquantifiable and in any case likely to be small; consequently, it cannot be justified as a reason to continue compulsory live monitoring.

Wider impacts

56. With current resource levels, full-flock surveys cannot be conducted on every farm in a single year. There is also no legal compulsion for farmers to take part in full-flock surveys and so it may require a change in legislation to make it mandatory or introduce an additional financial incentive to encourage farms to participate. The baseline costs have assumed the level of monitoring in 2009 where 7 farms in North Wales and 3 in Cumbria were surveyed. It would take several years to systematically cover all the farms based on current spending levels and, thus, the majority of farms will remain restricted for many years despite the very low risk to consumers.

Option 2 – Remove all post-Chernobyl controls and associated regulation on sheep farming in the UK

57. All restrictions would be removed from all farms across the UK. Therefore, the current programme of *Mark and Release* monitoring controls would cease. In addition, all *Consents* (both *Conditional* and *Unconditional Consents*) and *Directions* in place on farms would be removed. Farmers would be free to move and sell their sheep without any restrictions or conditions. Slaughterhouses would be permitted to operate in the areas previously under restriction.
58. This option is the Agency's preferred course of action as assessments have shown that the risk to consumers is very low and that removing controls will not compromise consumer safety. It is therefore inappropriate to maintain regulation and the burden this places on farmers where the risk to consumers is very low.
59. This proposal will have no impact in Northern Ireland as the final restrictions were removed there in 2000.

Costs

Cost to farmers

60. Under the current *Mark and Release* scheme, farmers receive a headage payment of £1.30 for each sheep monitored. This payment is to recompense the farmers for the costs they incur in gathering and holding sheep for them to be monitored.
61. These headage payments would cease. This would result in a loss of income across the sheep farms in England and Wales under full restrictions. Approximately 7,750 sheep per year are monitored each year in England and 250,000 are monitored or inspected in Wales. It is estimated that the cessation of headage payments would cost farmers on average an approximately £335,075 per year in lost income, which is calculated by multiplying the loss of headage payment per sheep (£1.30) by the total number of sheep monitored per year (257,750) in England (Cumbria) and Wales. This is shown by country in table 3 below.

Table 3 Annual Loss of Headage Payments to Famers

Headage	England	Wales	England & Wales
Headage per sheep	£1.30	£1.30	£1.30
Number of sheep	7,750	250,000	257,750
Total annual cost	£10,075	£325,000	£335,075

Total Cost of Policy Option 2

62. The total cost of policy option 2 equates to £3.35m over 10 years at an average annual cost of £0.34m. Under Standard HMT Green Book guidance these cost are discounted at a rate of 3.5%¹³ over 10 years; where we obtain a present value cost of £2.9m. Broken down by country this equates to £0.1m for England (Cumbria) and £2.8m for Wales. However, as all controls have already ceased, there will be no quantifiable benefits from this proposal in Scotland. Total costs associated with option 2 are presented in table 4 below.

Table 4 Annual Profile of the loss of Headage Payments to Famers

Location	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total Cost	Average Annual Benefit	Present Value
	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)
England	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.10	£0.01	£0.09
Wales	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£3.25	£0.33	£2.80
Total	£0.34	£0.34	£0.34	£0.34	£0.34	£0.34	£0.34	£0.34	£0.34	£0.34	£3.35	£0.34	£2.88

Note: Totals may not sum due to rounding

Benefits

Government

Mark and Release

63. The live monitor programme of the *Mark and Release* scheme would cease in England (Cumbria) and Wales. Ceasing the current contracts to provide inspectors to carry out monitoring and inspections would yield on an annual recurring basis a potential cost savings of £232,075 in inspections, which is quantified by multiplying the number of hours (11,349) required in a given year to carry inspections by the hourly wage rate of an inspector of £20.45¹⁴; £2,049 in administrative activities, which is calculated by multiplying the number of hours (121) required in a given year to carry out administrative duties by the hourly wage rate of an *Executive Officer (EO)* of £16.90¹⁵; and £33,314 in travel cost, which has been estimated by multiplying the cost of travel per mile (£0.43) by the number of miles travelled in a given year related to monitoring and inspections. This represents a total annual cost saving of £267,438 in administering the *Mark and Release* scheme in England (Cumbria) and Wales. A breakdown of the cost by country is shown in table 5 below.

Other Related Monitoring Activities

64. It is estimated that ceasing to maintain the monitors and carrying out other related activities would represent an approximate annual saving of £18,000 based on a single contract covering both England and Wales. Using the respective number of monitors carried out per country; we assume that one sixth of this potential cost saving would be borne by England (£3,000) with the remaining 5/6 allocated to Wales (£15,000). The total cost savings associated with these

¹³ $D_n = 1 / (1 + r)^n$ where r is the discount rate and D_n is the discount factor

¹⁴ Wage rate obtained from *The Annual Survey of Household Earnings*, 2010(see: <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=15313>).

Median hourly wage of 'Environmental Health Officers (EHO)' (£15.73 + 30% to cover overheads = £20.45);

¹⁵ Wage rate obtained from *The Annual Survey of Household Earnings*, 2010(see: <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=15313>).

Median hourly wage of 'Civil Service Executive Officers' (£13.00 + 30% to cover overheads = £16.90)

activities is comprised of £9,500 for monitor repair and maintenance, £5,000 for equipment replacement parts, £2,000 in courier costs and £1,500 for radiological protection advice. A breakdown of these costs by country is also shown in table 5 below

Headage Payments

65. There would also be a saving to government by ceasing headage payments to farmers. The benefits associated with ceasing payments would equate to an annual benefit of £335,075 as per table 5; adopting the methodology used to quantify the annual cost to farmers (see table 3).

Table 5 Total Annual Savings to Government

Monitoring & Inspections		England	Wales	Annual Benefit (Cost Savings)
Mark & Release				
A	Inspectors time (Annual (hours))	746	10,603	11,349
B	Inspectors hourly rate (EHO)	£20.45	£20.45	£20.45
C	Inspection cost savings (A * C)	£15,255	£216,820	£232,075
D	Administrative time (Annual (hours))	12	109	121
E	Admin staff hourly rate (EO)	£16.90	£16.90	£16.90
F	Admin cost savings (D * E)	£203	£1,846	£2,049
G	Mileage	7,291	70,183	77,474
H	Cost per mile	£0.43	£0.43	£0.43
I	Travel cost savings (G * H)	£3,135	£30,179	£33,314
J	Total M&R cost saving (C + F + I)	£18,593	£248,845	£267,438
Other related monitoring activities				
K	Monitor repair, maintenance & upgrades	£1,583	£7,917	£9,500
L	Replacement parts (probes/ cables)	£833	£4,167	£5,000
M	Couriers costs	£333	£1,667	£2,000
N	Radiological protection advice	£250	£1,250	£1,500
O	Other cost savings (K + L + M + N)	£3,000	£15,000	£18,000
Headage Payments				
P	Total Headage Savings	£10,075	£325,000	£335,075
Total Annual Government Benefits				
Q	Total (J + O + P)	£31,668	£588,845	£620,513

66. The cessation of contracts associated with the *Mark and Release* scheme, monitoring activities and ceasing headage payments to farmers is estimated to generate a potential total annual cost saving to government of approximately £620,513.

Total Benefit to Government

67. The total benefit to government is estimated at approximately £6.21m over 10 years. Broken down by country this equates to £0.32m in England and £5.9m in Wales. Once these benefits are discounted at a rate of 3.5% over 10 years we obtain a present value benefit of £5.34m. The annual profile of benefits accrued by government over a 10 year period is presented in table 6 below.

Table 6 Annual profile of savings to government

Government - Cost Savings (Benefits)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total Benefit	Average Annual Benefit	Present Value
	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)
England													
Mark & Release	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.19	£0.02	£0.16
Other related activities	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.03	£0.00	£0.03
Headage payments	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.01	£0.10	£0.01	£0.09
England Total	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.32	£0.03	£0.27
Wales													
Mark & Release	£0.25	£0.25	£0.25	£0.25	£0.25	£0.25	£0.25	£0.25	£0.25	£0.25	£2.49	£0.25	£2.14
Other related activities	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.15	£0.02	£0.13
Headage payments	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£3.25	£0.33	£2.80
Wales Total	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£5.89	£0.59	£5.07
England & Wales													
Total	£0.62	£0.62	£0.62	£0.62	£0.62	£0.62	£0.62	£0.62	£0.62	£0.62	£6.21	£0.62	£5.34

Note: Totals may not sum due to rounding

Farmers

68. Farmers would no longer have to make themselves available for *Mark and Release* inspections and de-restriction surveys.

69. It is estimated that in England (Cumbria), farmers currently have to make themselves available for 2 hours for every 100 sheep monitored. Approximately 7,750 sheep are monitored in total per year which represents 155 hours per year of farmers' time across the region.

70. In North Wales, approximately 75,000 sheep are currently monitored per year. Using the same estimates as above, this equates to a total of 1,500 hours per year (see table 7). In addition, around 175,000 sheep are not monitored but inspected and marked for temporary movement out of the restricted area. Sheep still have to be gathered for inspection, but the inspections are quicker than if sheep are monitored. It is therefore estimated that farmers need to be available for 1 hour 30 minutes for every 100 sheep inspected, which equates to 2,625 hours per year. Therefore, including both monitoring and inspections, this represents a total of 4,125 hours per year of farmers' time across the region.

To quantify the annual saving to farmers we multiply the number of hours farmers will save from no longer observing inspections by the hourly wage rate of a farmer of £16.94¹⁶; representing an annual saving of £2,626¹⁷ in England and £69,873¹⁸ in Wales. This is presented in table 7 below.

¹⁶ Wage rate obtained from *The Annual Survey of Household Earnings*, 2010(see: <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=15313>). Median hourly wage of 'Managers In Farming, Horticulture, Forestry And Fishing (£13.03 + 30% to cover overheads = £16.94).

¹⁷ 155 hours * £16.94 = £2,626

¹⁸ 4,125 (1,500 + 2,625) hours * 16.94 = £69,873

Table 7 Annual Savings to Farmers

		Monitored and Inspected		Inspected Only	Total
		England	Wales	Wales	
A	Number of sheep	7,750	75,000	175,000	257,750
B	Sheep monitored per inspection	100	100	100	300
C	Number of inspections (A /B)	77.5	750	1750	2,578
D	Time per inspection (hours)	2	2	1.5	
E	Total hours (C * D)	155	1,500	2,625	4,280
F	Farmers hourly wage rate	£16.94	£16.94	£16.94	£16.94
G	Total Inspection/ Monitoring Cost Savings (E * F)	£2,626	£25,409	£44,465	£72,499

Note: Totals may not sum due to rounding

71. Total savings over 10 years to farmers total £724,989. Broken down by country this equates to £26,255 in England and £698,734 in Wales. Once these benefits are discounted at a rate of 3.5% over 10 years we obtain a present value benefit of £624,048. Table 8 displays the annual profile of the potential cost savings to farmers.

Table 8 - Annual profile of savings to farmers

Location	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total Benefit	Average Annual Benefit	Present Value
	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)
England	£0.003	£0.003	£0.003	£0.003	£0.003	£0.003	£0.003	£0.003	£0.003	£0.003	£0.026	£0.000	£0.020
Wales	£0.070	£0.070	£0.070	£0.070	£0.070	£0.070	£0.070	£0.070	£0.070	£0.070	£0.699	£0.070	£0.600
Total	£0.072	£0.072	£0.072	£0.072	£0.072	£0.072	£0.072	£0.072	£0.072	£0.072	£0.725	£0.070	£0.624

Note: Totals may not sum due to rounding

Non-monetised Benefits

72. There would be a reduction in regulatory burden and the resulting disruption to farmers. Farmers would have greater freedom to move their sheep without waiting up to 5 days for an inspection. This could mean that farmers may be able to take better advantage of short-term price fluctuations. However, as prices may fluctuate down as well as up, this benefit cannot be quantified.

Total Benefit of Policy Option 2

73. The total benefit of policy option 2 equates to £6.93m; an average annual benefit of £0.69m. Once these benefits are discounted at a rate of 3.5% over 10 years we obtain a present value benefit of £5.97m. However, as all controls have already ceased, there will be no quantifiable benefits from this proposal in Scotland.

Table 9 – Total Benefit of Policy Option 2

Total Cost Savings (Benefits)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total Benefit	Average Annual Benefit	Present Value
	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)
England													
Government	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.32	£0.03	£0.27
Farmers	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.00	£0.03	£0.00	£0.02
England Total	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.34	£0.03	£0.30
Wales													
Government	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£5.89	£0.59	£5.07
Farmers	£0.07	£0.07	£0.07	£0.07	£0.07	£0.07	£0.07	£0.07	£0.07	£0.07	£0.70	£0.07	£0.60
Wales Total	£0.66	£0.66	£0.66	£0.66	£0.66	£0.66	£0.66	£0.66	£0.66	£0.66	£6.59	£0.66	£5.67
England & Wales													
Total Benefit	£0.69	£0.69	£0.69	£0.69	£0.69	£0.69	£0.69	£0.69	£0.69	£0.69	£6.93	£0.69	£5.97

Note: Totals may not sum due to rounding

Net Benefit of Policy Option 2

Total benefits outweigh the total cost of preferred policy option 2, generating a positive net present benefit of £3.1m. This is shown in table 10 below.

Table 10 – Total net benefit of Policy Option 2

Total Net Benefit	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total Net Benefit	Average Annual Net Benefit	Net Present Value
	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)	£(m)
England													
Government	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.03	£0.32	£0.03	£0.27
Farmers	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.01	-£0.07	-£0.01	-£0.06
England Total	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.02	£0.24	£0.02	£0.21
Wales													
Government	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£0.59	£5.89	£0.59	£5.07
Farmers	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£0.26	-£2.55	-£0.26	-£2.20
Wales Total	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£0.33	£3.34	£0.33	£2.87
England & Wales													
Total Benefit	£0.36	£0.36	£0.36	£0.36	£0.36	£0.36	£0.36	£0.36	£0.36	£0.36	£3.58	£0.36	£3.08

Note: Totals may not sum due to rounding

Risks

74. The Agency considers that this should be the preferred course of action as the risk to consumers is low. Thus, no further controls or regulation is required to maintain food safety or to comply with the requirements of Council Directive 96/29/Euratom on lasting exposure situations. Our assumptions are consistent with national and international guidance and are explained in full in the risk assessment report¹⁹.
75. There may be the perception that controls are being relaxed and being removed because of government cost savings, which may result in a loss of consumer confidence in lamb from affected areas and criticism of the Agency. However, the Agency considers that the risk assessment clearly demonstrates that the risk to consumers is very low and that maintaining regulation in this area is no longer appropriate.

Wider impacts

76. While farms have been gradually removed from restrictions over the last 25 years, this has been done on a small scale with a few farms each time. Removing all remaining restrictions would be the largest single derestriction since 1990 (at which time restrictions had been in place for less than 4 years). A large scale removal of restrictions on farms which have had these controls in place for 25 years may unduly impact on some farms due to the loss of income from headage

¹⁹ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

payments. However, the Agency's position is that it is inappropriate to maintain regulation where the risk to consumers is considered to be very low.

Consultation Questions

Our Key Proposal

- **Q1:** Do you have any evidence that would alter the assessment that the risk to consumers is very low and that removing controls will not compromise consumer safety? Please provide evidence to support your response.

Further evidence to ensure our impact assessment is robust

- **Q2:** Do you agree with the estimates for the time farmers have to make themselves available during Mark and Release inspections, 2 hours per 100 sheep monitored and 1.5 hours for every 100 sheep inspected but not monitored (see paragraphs 68 to 71)? If you disagree please provide evidence to support your response.
- **Q3:** Please provide evidence of any financial implications that the removal of controls, and hence ceasing of headage payments, will have on farmers currently under restriction?
- **Q4:** Do you consider that there are any further costs, benefits or other implications to the farming, meat processing and retail industry that would result from the proposal to remove all remaining controls which have not been considered in the Impact Assessment? If so, please provide evidence to support your response.
- **Q5:** Do you agree with the assessment of costs and benefits outlined in the Impact Assessment? If you disagree, please provide evidence to support your response.

Statutory Equality Duties Impact Test

77. Under the statutory equality duties test the Food Standards Agency does not foresee any additional impact in terms of equality.

Small Firms Impact Test

78. This policy has a direct impact on upland sheep farms which are generally family run and would be classified as micro-businesses. The aim of this policy is to remove burden on farmers where there are no longer food safety concerns.
79. An initial meeting was held with representatives of the farming unions in August 2010 and the Agency will continue to engage with the affected farmers during the consultation process.

Rural Proofing Impact Test

80. The impact to rural communities has been considered. Communications in rural communities will be managed by direct communication with affected farmers. The policy will impact on the agricultural industry in the affected areas, but this should not have any knock-on effects on the environment. There may be an impact on people in seasonal employment as temporary workers are employed to monitor during the peak movement periods. This should have a minimal impact in Cumbria and affect around 6 full time staff and 13 temporary workers in North Wales.
81. The impact on rural businesses has been considered as part of the Small Firms Impact test above.

Sustainable Development

82. There may be an impact on people in seasonal employment as temporary workers are employed to monitor during the peak movement periods. This should have a minimal impact in Cumbria and affect around 6 full time staff and 13 temporary workers in North Wales.
83. Our assessments suggest that consumers would not receive a dose at or above 0.26 mSv per year, the constraint of our current policy. Therefore, the risk to consumers is considered to be very low and removal of restrictions will not compromise food safety.
84. Impacts under the 3 pillars of sustainable development (environmental, economic and social) have been, and continue to be, considered in the preparation of the IA. Option 2 is the preferred option because it minimises the costs of industry and the public sector by removing regulation which is no longer required to maintain food safety. There are no notable benefits, including no reduction in food safety risk, associated with any alternative options considered.

Annex: Options considered but not taken forward to full impact assessment

85. A range of alternative options to the current *Mark and Release* controls have previously been considered as part of a review in 1999²⁰ and at a workshop meeting held in August 2010. These options were considered as part of the Agency's review but were subsequently discounted due to the very low risk demonstrated by the risk assessment which means they cannot be clearly shown to further reduce the already low doses.
86. An outline of the options considered and reasons why they have not been taken forward are set out below.

Alternative monitoring protocols

87. A range of alternative monitoring protocols were discussed at a stakeholder meeting in August 2010. These were:
- Monitoring at the market place or slaughterhouse
 - Monitoring sheep for sale or slaughter only
 - Monitoring a representative sample of sheep (e.g. 10% of each movement)
88. All alternative monitoring protocols are considered to be unsuitable due to the very low risk to consumers. They would be ineffective methods of improving food safety for the same reasons as the current monitoring protocol, as given under the Risk section of Option 1 in the main Impact Assessment (paragraphs 53 to 55).
89. In addition, the following specific concerns are relevant.

Monitoring at the market place or slaughterhouse

90. This option would cease on-farm monitoring and instead replace it with a programme of monitoring at market place or slaughterhouse, thereby only targeting animals that are likely to enter the food chain.
91. This would require establishing new monitoring protocols and either ensuring all markets and slaughterhouses have provision to carry out monitoring or restricting where farmers are permitted to send their sheep.
92. The view of stakeholders was that, if there were any concerns over food safety, this moved the monitoring away from source which reduced the level of control and removed the opportunity to remedy the situation (e.g. by allowing the sheep a further period of clean grazing).

Monitoring sheep for sale or slaughter only.

93. In this option, monitoring would still take place on farm, but only those destined for sale or slaughter would be monitored, thereby only targeting animals that are likely to enter the food chain. Farmers would be allowed to move sheep for other purposes without monitoring provided they declared they would not go for sale or slaughter for a specified period.
94. This option is already partly available at present for temporary movements out of the restricted area and regularly applied in North Wales (see paragraph 17) but the definition of eligible movements could be extended.
95. The view of stakeholders was that this may prove difficult to enforce and requires farmers to establish in advance the purpose of the movement which is not always possible. Any cost savings over the current scheme may be minimal as farmers may decide to monitor their sheep in all movements just in case they later decide to send them to slaughter.

²⁰ Nisbet, AF and Woodman, RFM, 1999. Options for the Management of Chernobyl-restricted Areas in England and Wales, NRPB-R305. National Radiological Protection Board.

Monitoring a representative sample of sheep (e.g. 10% of each movement)

96. This would provide savings to government but minimal savings to industry as farmers would still have to gather their sheep and make them available for monitoring.

Use of improved pasture and/or clean feed for clean grazing

97. Sheep would be required to spend a period of 2 to 4 weeks on improved pasture to allow time for the radiocaesium contamination to pass through the sheep. Where improved pasture is not available, sheep could be housed and fed clean commercial feed prior to slaughter.
98. This could either be made mandatory under a regulatory framework or provided as recommended guidance to farmers.
99. While this option has previously been used on a small number of farms in the form of *Conditional Consents*, these have been on the basis of specific conditions pertaining to individual farms. It is difficult to identify a definition of clean pasture which could be universally applied to all farms.
100. The risk assessment demonstrates that the risk to consumers is in any case very low, even before any clean grazing period²¹. In many cases, the levels assessed in the risk assessment are below that which can be reasonably measured using the live monitoring technique. This makes it difficult to establish the potential reduction in dose that clean grazing may be able to provide.
101. Farmers who have access to improved pasture are likely to use this for grazing their sheep prior to slaughter in any case as they benefit from increased weight and therefore value of their sheep when sold.
102. Considering that the assessed dose to consumers is in any case very low, it is inappropriate to impose changes to the farming practices to those farms without suitable improved pasture where it will have an uncertain and probably minimal affect on reducing dose.

²¹ Field, A 2011. An Assessment of Radiocaesium Activity Concentrations in Sheep in Restricted Areas of England and Wales and Potential Consumer Doses

Annex C - List of interested parties

British Retail Consortium
Centre for Ecology and Hydrology
Consumer Focus
Consumer Focus Scotland
Consumer Focus Wales
Conwy County Council Trading Standards
Cumbria County Council
Department for Business, Innovation and Skills (BIS)
Department for Environment Food and Rural Affairs (DEFRA)
Department of Health
East Ayrshire Council
EBLEX (the organisation for the English beef and sheep meat industry)
Environment Agency
Environment Agency Wales
Farm Assured Welsh Livestock
Farmers currently under FEPA Order restrictions
Farmers Union of Wales
Federation of Small Businesses
Food and Drink Federation
Gwynedd County Council Trading Standards
Health Protection Agency – Radiological Protection Division
Hybu Cig Cymru
National Consumers' Federation
National Farmers Union
National Farmers Union Cymru
National Farmers Union Scotland
National Sheep Association
National Sheep Association (Scotland)
Nuvia
Public Health Wales
Rite Advice
Rural Payments Agency
Scottish Federation of Small Businesses
Scottish Food & Drink Federation (SFDF)
Scottish Government Rural Directorate
Scottish Environment Protection Agency (SEPA)
Scottish Government Health Directorate
Scottish Government Radioactive Waste Team
Scottish Government Rural Payments and Inspections Directorate Area Offices
Stirling Council
Welsh Government – Food, Fisheries and Market Development
Welsh Government – Offices of the CVO and CMO
Welsh Government – Health Protection
Welsh Government – Rural Affairs
Welsh Government – Rural Inspectorate Wales
Welsh Lamb and Beef Producers Ltd
Which?

Note of FSA post-Chernobyl sheep controls workshop

Wednesday 18th August 2010, 10:30AM

Rural Payments Agency offices, Hornbeam House, Electra Way, Crewe Business Park,
Crewe CW1 6GJ

Attendees

Brenda Howard	Centre for Ecology and Hydrology
Valerie Lyons	Department for Environment, Food and Rural Affairs
Glyn Roberts	Farmers Union of Wales
Anne Nisbet	Health Protection Agency
Siôn Aron Jones	Hybu Cig Cymru
Dafydd Jarrett	National Farmers Union Cymru
Adam Briggs	National Farmers Union
Bill Mellor	National Farmers Union
Wendy Jones	Rural Inspectorate Wales
Henry Jones-Parry	Rural Inspectorate Wales
Phil Brabbins	Rural Payments Agency
Claire Purdham	Rural Payments Agency
Jane Downes (Chair)	Food Standards Agency
Terry Donohoe	Food Standards Agency
Charissa Poynton	Food Standards Agency
Andrew Field	Food Standards Agency
Hef Davies	Food Standards Agency
Petronella Mwashita	Food Standards Agency
Pippa Eames	Food Standards Agency
Kevin Maher	Food Standards Agency
Carlos Ganarul	Food Standards Agency
Lisa Pugh (Translator)	Food Standards Agency
Sioned Owen (Translator)	Food Standards Agency

Part 1: Summary of FSA Presentations & Background

Introduction

Jane Downes

1. The Chair welcomed the attendees and thanked them for their participation. Consumer safety and continued confidence in the safety of sheep produced from the restricted areas were highlighted as vital by the Agency during its review of the post-Chernobyl controls.

Background

Terry Donohoe

2. Delegates were given a brief background to the Agency's work to date in terms of drivers, aims and outcomes.
3. The drivers for the Agency's review are:
 - The policy had been in place for 24 years without significant change;

- The last review was in 1999, therefore, it was due for revisiting as part of the normal policy review cycle;
 - New guidelines by the International committee on Radiological Protection (ICRP) in 2007 prompted a review to ensure that the current policy was up to date with the latest radiological protection methods;
 - The Agency had received questions from farmers, farming unions, trade bodies and others questioning if the controls were still required.
4. The Agency's aims are to have a risk-based, proportionate policy that protects consumer safety. It should support industry and follow current international guidance.
 5. The meeting was called to gather information on the current controls and practices in order to develop policy options. These options would be further developed in an impact assessment before being published for consultation towards the end of the year. The outcome of the consultation would then be presented to the Agency's Board in spring 2011 for a decision on future policy.

Current controls

Hefin Davies

6. Delegates were given a brief overview of the current controls. A restricted area defined by an emergency order was created following the Chernobyl accident, as there were concerns that food produced from sheep could be unsuitable for human consumption as a result of radioactive fallout.
7. Three activities were prohibited within the area:
 - Slaughter of sheep for human consumption or for use in feedingstuffs;
 - Movement of sheep from a holding within the restricted area;
 - Movement of sheep into the restricted area that had previously been removed unless marked as such.
8. In order to allow farming to continue within the area, consents for slaughter or movement could be given subject to sheep being live monitored and being below an action level of 1,000Bq/kg or being appropriately paint marked as stipulated in the emergency order.
9. Restrictions are removed if entire flocks are monitored at below 1,000 Bq/kg for two consecutive years. This monitoring takes place at the time of year when levels of radioactivity are expected to be at their peak (July – October) and immediately after sheep have been removed from the fells or high pastures. If restrictions are to be removed then an amendment to the emergency order is produced and approved by Government (or the Assembly in Wales). This can take time, therefore, consents are issued in the meantime removing obligations to abide by the restrictions.
10. Following the overview it was clarified that the length of time to produce amendments to emergency orders was due to procedures in preparing legislation and that the restrictions also applied to the slaughter of sheep from outside the restricted area at locations within the restricted area.

Introduction to dose assessment and the justification for intervention

Andrew Field

11. The morning session covered:
 - The ICRP principles of radiation protection;

- The work the FSA has been undertaking in developing a new decision-aiding tool, which helps to assess dose;
- Group discussion on the factors to be included when considering possible control measures.

The ICRP Principles of Radiation Protection

12. The latest recommendations of the International Commission on Radiological Protection (ICRP) include the following relevant publications:
 - The 2007 Recommendations of the International Commission on Radiological Protection, (ICRP Publication 103; 2007);
 - Application of the Commission's Recommendations to the Protection of People Living in Long-Term Contaminated Areas after a Nuclear Accident or a Radiation Emergency, (ICRP Publication 111; 2010);
 - Assessing Dose of the Representative person for the Purpose of Radiation Protection of the Public, (ICRP Publication 101; 2006).
13. Radiation exposure from the Chernobyl accident is classified as an 'Existing Exposure Situation' (ICRP Publication 111 provides details). The other 2 categories are 'Planned' and 'Emergency' Situations.
14. The ICRP guidance assumes that the risk increases in proportion to the radiation dose that people receive (a 'Linear Non-Threshold' model). Therefore, there is not a clear distinction between what is 'safe' and 'unsafe'.
15. This means that the level of protection established is based on what is deemed 'acceptable' (see below). Any intervention must be *justified* (do more good than harm), and protection measures should be *optimised* (maximise the margin of benefit over harm).
16. Optimisation balances the risk with the resources available to protect individuals. It also takes account of social and economic factors. Thus, the best option is *not necessarily* the one with the lowest dose.

Deciding on the need for controls

Current decision-making process

17. The current process uses monitoring data from a full-flock 'Summer Survey'. In order to have controls removed a farm is required to have two consecutive years with all sheep measuring below a Passmark. The Passmark is set so that there is a 1 in 40 chance of a sheep exceeding the 1000 Bq/kg ¹³⁷Cs limit.
18. Participation in Summer Surveys is voluntary. It was mentioned that not all farmers feel able to take part, as the survey can be disruptive.
19. It is a cautious approach:
 - It ensures that very few sheep exceeding the limit can enter the food chain;
 - It does not consider the radiation doses to consumers;
 - It does not account for the distribution of contamination within a flock;
 - It gives the impression that there is a step change in risk above the limit, which is not real (i.e. that 999 Bq/kg is OK, but 1001 Bq/kg is not).
20. Over time as the risks reduce, the current controls have a tendency to become less proportionate to the risks, unless reviewed.

New Dose Assessment Model to aid the decision-making process

21. The FSA has been developing a new way of assessing the risks to consumers, using an approach outlined in ICRP publication 101. It is a 'Probability Dose Assessment' model, and uses sheep monitoring data (from the Summer Surveys), together with published sheep meat consumption rates and dose coefficients for ¹³⁷Cs. It uses this information to estimate, or model, the dose that consumers might receive, focusing on those people who may be more highly exposed.
22. The Dose Assessment model helps to avoid making extreme judgements on the need for controls based on a single sheep failing the monitoring. It provides a more realistic representation of the risks to consumers than activity concentration alone.
23. The model does not require all sheep from a flock to be monitored, as a representative selection will suffice, as long as they are drawn randomly from the flock. Therefore, the amount of Summer Survey monitoring required could be reduced.

What is an acceptable level of dose/risk?

24. The *dose reference level* is defined as the dose above which it is judged to be inappropriate to plan to allow exposures to occur. Below this, optimisation of protection should be implemented, with exposures kept *as low as reasonably achievable* (ALARA), taking account of economic and social factors.
25. There is no precise dose limit that the ICRP recommends as either 'safe' or 'acceptable'. Their guidance is to select the dose reference level from the lower part of the 1-20 mSv per year range (ICRP Publication 103). ICRP Publication 111 says that 1mSv per year is a 'typical value for constraining the optimisation process'. Setting a dose reference level of 1mSv/Yr would seem to be in keeping with ICRP guidance and reference levels set in other countries. However it is extremely unlikely that a consumer could get a dose close to this limit.
26. Under the current controls, a high rate adult consumer of sheep meat (eating 25 kg per year) is likely to receive a maximum dose of 0.33 mSv per year by consuming meat contaminated at 1000 Bq/kg¹.
27. The Health Protection Agency (HPA) is currently planning an interim response to the new ICRP guidance, which should be available in a few months time, with a formal response planned for 2012.
28. Delegates commented if a policy change gave the perception that the risks had increased, it may harm the industry, and this should be taken into consideration in determining what is acceptable.

¹ Note added to Minutes: The UK sheep meat per capita consumption figure was 5.5 kg per person per year in 2009 (carcass weight equivalent. Source: AHDB).

Part II: Stakeholder Discussions

Session 1: Factors to consider when assessing control options

General Discussion

29. Delegates identified the key factors which should influence discussions on control measures:

- Health Risk
- Impact on Consumer confidence & Communication Strategy
- Impact on the Market Value of Sheep
- Flexibility
- Cost
- Technical Feasibility & Confidence in the Monitoring Method and Technology
- The Decision-Making Process & Degree of Conservatism required

Summary of Breakout Groups' Discussions

30. Delegates then split into three groups to discuss the factors, before feeding back to the large group. The following questions were posed to stimulate discussion:

- What are the main issues / concerns with each factor?
- How can these issues / concerns be addressed and mitigated?
- Which factors should have the most influence? (I.e., where does the balance lie?)

Health Risk

31. The delegates did not discuss the level of dose that would be acceptable to protect health per se, as this had been covered in the presentation prior to discussions. It was assumed that the current risks were almost certainly well below the lower end of the range of values recommended by the ICRP for setting a dose reference level. Therefore whether the risks were acceptable depended more on whether doses were seen to be as low as reasonably achievable (ALARA) taking the various economic and social factors into account. The ICRP do not advocate minimising radiation dose at any cost.
32. Delegates thought that the most important factor when justifying controls was people's perception of health risk. What consumers tolerate in terms of risk is down to the comfort they receive from the information communicated to them. It was felt important that there should be robust evidence that sheep meat was safe to eat, that there was agreement among experts that this was the case, and that the way this message was communicated to consumers was very important. These issues are discussed in more detail below.

Impact on Consumer confidence & Communication Strategy

33. Protection of consumer confidence was considered to be very important to ensure the meat industry was not adversely affected. It was mentioned that in Wales the meat industry had developed a number of important brands which need to be protected.
34. Delegates discussed what consumers knew about the controls. Welsh consumers are generally aware of the controls, as there are a large number of restricted farms. In Cumbria, consumers often feel that any radioactivity in sheep comes from Sellafield and not Chernobyl. The Chernobyl controls are considered a smaller issue in Cumbria than Wales. Outside of these areas there is likely to be little awareness among the general public of the controls.

35. Delegates agreed that if there were any changes to the current policy (including the large scale removal of controls) effective communication was key to getting the message across that sheep meat was safe to eat.
36. A clear and unified approach to communication was therefore considered important to maintain confidence in the industry. Delegates felt there was a need for all stakeholders including the FSA, other government and non-government experts, farming unions and the meat industry to work together to produce a good communication strategy.
37. Local communication was considered to be very important. Central government departments can be seen as being 'removed' from the situation.
38. In addition, it was felt important to ensure that key figures such as the Health and Agricultural Ministers, and Chief Scientific Advisors in the different Governments were briefed early so they could give the same message.
39. It was felt that poor communication coupled with a mixed message on the risks, could knock consumer confidence and bring down the price of lamb. It was considered important to have robust evidence available to back up any claims made about the safety of lamb.
40. There was some concern that a large media campaign to announce any changes to or removal of controls might do more harm than good. The Chernobyl issue is currently low profile, and care would be needed in the phraseology used in any briefings. Talk of 'relaxing controls' could be seen in a negative light unless there was a clear explanation of why it was ok to do so. Mention of 'low risks' when most people are unaware there are risks, could also knock consumer confidence.
41. Delegates also felt it was important to tailor briefings to different audiences (e.g. scientists, the media, farmers and the general public).
42. With the current financial climate, there was some concern that people might feel that any changes to the controls would be driven by the need to cut public sector spending rather than because the risk has decreased. This perception could also knock consumer confidence.
43. Thought was needed on how to prepare and deliver key messages about any policy changes at different levels. For example, how to get the message across in a short time, e.g. a 2 inch article in a local paper, or 30-seconds on the local news.
44. FSA should review the communications issued during 2010, when controls on the last few affected Scottish farms were removed, and the public & media response.
45. Finally, it was suggested that any communication could 'test the waters' by talking to consumer groups beforehand.

Impact on the Market Value of Sheep

46. Delegates felt that any policy change should consider the impact on the market value of sheep. In particular, to ensure the market value inside and outside of the restricted areas compared favourably.
47. In addition, the marking of sheep that fail monitoring can lead to a lower price at market. Delegates were not aware that there were any major concerns from farmers on the effect of current controls on market value, as very few sheep fail the mark and release monitoring.

Flexibility

48. Delegates felt that any policy change should consider the impact on the flexibility of farmers to carry out their business.
49. The loss of flexibility in getting sheep to market at short notice was discussed. In Wales, under the current monitoring controls, inspectors are usually able to monitor sheep within 5 days of being contacted by the farmer. It is usually less than this in Cumbria.

50. An important issue was farmers losing out on getting the best price for their sheep. If control measures delay farmers from moving their sheep to market, they may not be able to take advantage of short term increases in market value. Delegates felt that it would be difficult in practice to compensate farmers for this.
51. Delegates asked about the impact on farmers of carrying out the summer surveys. Inspectors try to arrange with the farmers the least inconvenient time to carry out the surveys. Where possible these are carried out to fit in with the farmer's calendar, for example when sheep are being gathered for clipping or dipping.
52. Where this is not possible, it can be quite a hassle for farmers to gather sheep, which means they cannot get on with other things. As the summer survey is not mandatory, many farmers do not feel obliged to take part. This can lead to restrictions staying place under the current policy, when perhaps they could be removed. Greater flexibility in the decision-making process is required when considering whether controls are still necessary.

Cost

53. Delegates acknowledged the costs involved in justifying control measures, become increasingly an issue over time as the risks decrease. It was felt that cost of any controls should be proportionate to the risks.
54. Cost can be split into two types. Firstly, there are the costs of running the programme, which include all the admin and inspector costs, equipment repair and maintenance and headage payments to farmers.
55. Secondly there are the costs to farmers. These include the time it takes to present sheep to the monitor, time which could be spent doing other things for their business. In addition, there are labour costs and potential market loss costs.
56. Delegates felt excessive costs could be mitigated by stopping the monitoring (where this has shown to be appropriate) and doing less monitoring (e.g., for slaughter only, taking less readings). Delegates also felt that long-term costs could be mitigated by carrying out larger scale summer surveys in Wales. These may have an additional short-term cost, but would provide a long-term saving, if areas could be derestricted.
57. Any policy change would need to avoid causing a decrease in the value of stock from the restricted area or increase the overall costs compared to the current controls.

Technical Feasibility & Confidence in the Monitoring Method and Technology

58. Delegates questioned about the accuracy of the sheep monitoring technique. Inspectors were concerned about the accuracy, as they had noticed that different monitors can give different readings on the same sheep, and that readings can change depending on the weather².

² The FSA commented that there was a degree of uncertainty with the monitoring process. This was in part caused by characteristics of the equipment, but also the ability to control the variety of external influences that can affect the monitor readings. Factors include the length of time a sheep is monitored, the ability to maintain a static monitoring location and the proximity of naturally-radioactive granite dry-stone walls on some farms.

Delegates were informed that the FSA had chosen a conservative monitoring pass mark to account for the uncertainty. This represented a 1 in 40 chance that a sheep on the pass mark would exceed the 1,000 Bq/kg limit. It was also mentioned that improvements had been made to the equipment to improve the signal to noise ratio, and that inspectors had recently received new procedures and training to try to reduce the uncertainty in the measurements. These procedures are being implemented in this year's Summer Surveys.

59. Delegates mentioned that scientists may wish to see details on the monitors, monitoring practice and data before they commented on any statements about the risk to consumers or the effectiveness of the monitoring itself. Delegates felt the FSA should be prepared for detailed scrutiny.

The Decision-Making Process & Degree of Conservatism required

60. Delegates agreed that the current conservatism employed in the decision-making process provided additional reassurance of safety. A degree of conservatism should remain with any control measure. There was some discussion over what level of conservatism is appropriate.
61. The use of Summer Survey data in deciding whether controls are necessary was questioned by a number of delegates. Few sheep go to slaughter during the summer, and delegates wondered whether this was the best approach, and asked why mark and release data was not used. Delegates thought mark and release data might be more relevant as it provided information close to when sheep go to slaughter. Using this data would mean summer surveys could be stopped, which would reduce costs and be less disruptive to farmers³.
62. The scientific evidence to suggest that contamination peaked during the summer months was questioned⁴.
63. Delegates also questioned the current decision-making process, which required a zero failure rate against the mark and release criteria, for 2 consecutive years. This was seen by some as very conservative.
64. Delegates generally agreed the proposed new approach (i.e. use of the Dose Assessment model), which modelled dose to consumers and was in line with ICRP guidance, probably represented a better way to make decisions on whether controls were necessary.

³ The FSA responded that the Summer Survey data provided information on the peak levels of contamination in the sheep. As it is difficult to determine the degree to which farmers change their practices to ensure their sheep pass the Mark & Release monitoring, it is difficult to know what the impact would be if the decision to remove controls was based solely on mark and release data. It is considered more appropriate to use Summer Survey data to understand the risk.

⁴ The FSA replied there was some evidence from a study conducted by MAFF on a farm in Cumbria in the late 1980's. This looked at the temporal and spatial distribution of contamination over a two-year period. This showed a steep rise in late May when ewes returned to the fell, peaking in July-August and declining in the autumn, concomitant with decreased radiocaesium levels in vegetation (details are in the Forty-Third Report of the Steering Group on Chemical Aspects of Food Surveillance, MAFF 1994).

Session II: Ideas for intervention

General Discussion

65. Delegates identified the following ideas for future policy:

- Maintain current mark and release control measures
- Remove controls entirely (with or without reassurance monitoring)
- Changing decision point for de-restriction to mark and release data
- Changing mark and release protocols
 - Monitoring those going for sale and slaughter only
 - Only monitoring during peak periods
 - Monitoring a representative sample of sheep
- Slaughterhouse monitoring
- Mandatory summer testing
- Clean grazing through conditional consents
- Targeted monitoring at farms
 - Those with no in-bye land
 - Sell straight from high pastures/fells
 - History of failures

Summary of Breakout Groups' Discussions

66. Delegates then split into three groups to discuss the factors, before feeding back to the large group. The following questions were posed to stimulate discussion:

- Discuss the options, considering the key factors identified in Session 1
- For each option, what are:
 - Benefits (to whom)?
 - Disadvantages or risks (to whom)?
 - How might these be mitigated?
 - Costs (to farmers, industry, government etc)?

Remove all controls (with or without reassurance monitoring)

67. The disruption to farmers would end; as would the headage payments they receive for their time. The headage payments may provide a supplement to some farmers' income.

68. Farmers would have full flexibility to carry out their business.

69. There would no longer be any cost to the taxpayer. A small number of inspectors may lose their jobs, the majority of which are agency staff in rural Wales.

70. Removal of all controls has the potential to result in a loss of consumer confidence, unless the evidence is robust and is communicated in the right way. Undertaking reassurance monitoring would help to reassure the public. A low level of monitoring could also provide information on whether doses were increasing or decreasing over time.

71. One potential drawback with reassurance monitoring, would be if high levels were subsequently recorded and controls had to be re-imposed.

Changing the monitoring Protocols

72. Delegates discussed a few different options for sheep monitoring that might be more selective or targeted than the current mark and release monitoring programme.

Monitoring sheep for sale and slaughter only:

73. Delegates discussed whether sheep should only be monitored for sale and slaughter only. Monitoring for grazing or of breeding stock was thought not to increase consumer protection. Monitoring for sale and slaughter only would result in time and financial savings. However, it was noted that farmers would have to decide beforehand, which sheep were for breeding, which is not always possible. Farmers might decide to have all their sheep monitored 'just in case' giving them the flexibility to decide later and negating any savings.

Monitoring at sheep at peak activity only:

74. Delegates considered whether Mark & Release monitoring should only be carried out when ¹³⁷Cs levels are at their peak during the summer and early autumn. It was thought that this would not reduce the amount of monitoring by much, as this is the period when the majority is undertaken. It would also prove difficult to employ suitable staff for a short period of the year only. There was some debate over the amount of evidence suggesting this did represent the peak period.

Monitoring a representative sample of sheep:

75. Delegates discussed the possibility of monitoring only a sub-sample of sheep (e.g., 10%) from each movement. This would result in less time on each farm; however, farmers would still have to gather their sheep and the time to travel to and from farms by inspectors would still be the same. It was agreed this approach represented re-assurance monitoring.
76. Delegates also discussed the obligations of farmers as food business operators, and whether the emphasis should be put on them to prove the sheep were safe, rather than the FSA. Delegates felt that the circumstance was exceptional as the contamination could not have been prevented, and therefore the FSA should therefore retain responsibility.

Monitoring at Slaughterhouses and farm shops

77. Delegates discussed whether monitoring could be done at slaughterhouse and/or farm shops instead of the farms. This was not considered a realistic option for a number of reasons. The principal argument against this option was that it shifted the monitoring further down the supply chain away from the source, and was therefore more difficult to control. Sheep from a single farm can be sent to several different slaughterhouses, which would make it difficult to monitor effectively.
78. In addition if a sheep fails at the slaughterhouse, there is the issue of disposing of the carcass. It is also better for a live sheep to fail the monitoring, so that it has the opportunity to clean feed and can therefore still enter the food chain at a later date.

Mandatory summer survey testing

79. Delegates discussed whether summer survey monitoring should be made mandatory for all farms. The main issue is that it is currently undertaken on a voluntary basis and farmers can decline the FSA's invitation to take part. This can make it difficult for the FSA to gather the data for possible de-restriction.
80. The pros for this option were that it would be possible to get information from all farms and would increase the potential to de-restrict them.

81. If this option were chosen the FSA would have to look at whether legislative changes were required, and would how participation could be enforced. There may be additional costs with doing this.
82. There would also be an additional burden on farmers and inspectors to carry out the summer monitoring during what is a busy period. Delegates felt there may be the need for additional incentives for farmers to buy in to this option, in addition to the threat of enforcement action.
83. Also mentioned was the 'Red Tape Review', which has resulted in the UK Government and their departments looking to reduce legislation and legislative burden, not increase it. It was questioned whether making summer surveys mandatory would increase legislative burden.

Clean grazing through conditional consents

84. Delegates considered making it mandatory for farmers to 'clean graze' their sheep, through the issuing of conditional consents.
85. Clean grazing was seen as consistent with current farming practices, as most farmers already fatten sheep on improved pasture anyway. This option was considered a good half-way house between the current mark and release controls and the removal of all restrictions. It would optimise protection and could be backed up with reassurance monitoring.
86. This option was considered good from a consumer confidence perspective, as it would show a progression towards normality whilst still maintaining a practice that could reduce the consumer risks further. This option would provide a much reduced cost saving as monitoring would only be undertaken on a reassurance basis.
87. It was mentioned that clean grazing was not an option for some farmers as they do not have access to improved pasture. In these instances, alternative arrangements may need to be considered, including keeping existing controls if necessary.
88. Delegates debated the issue of loss of headage payments to farmers if mark and release monitoring was no longer carried out. It was agreed that you couldn't argue for keeping current controls, if shown that it provided no benefit in terms of a reduction in health risk.
89. Delegates considered it important to back up the clean grazing option with scientific evidence, including monitoring data and information about the biological half-life of ¹³⁷Cs in sheep. Overall delegates felt this option was worthy of consideration.

Targeted monitoring

90. Delegates also discussed whether monitoring could be better targeted where the risks were greater. For example, at farms with no in-bye land, those with a history of mark and release failures or those that sold sheep straight from upland pasture grazing.

Summary of the workshop

91. The Chair thanked the delegates for their participation and summarised the next steps of the project. The options would be further developed in an impact assessment, before being published for consultation towards the end of the year. The outcome of the consultation would then be presented to the Agency's Board in spring 2011 for a decision on future policy.