EXECUTIVE NOTE

THE SHEEP AND GOATS (RECORDS, IDENTIFICATION AND MOVEMENT) (SCOTLAND) ORDER 2009
SSI/2009/414

The Scottish Ministers make the above Order in exercise of the powers conferred by sections 1, 8(1) and 83(2) of the Animal Health Act 1981 and all other powers enabling them to do so.

Policy Objectives

The purpose of this Order is to make provision for the administration and enforcement of Council Regulation (EC) No.21/2004 (establishing a system for the identification, and registration of ovine and caprine animals and amending Regulation (EC) No. 1782/2003 and Directives 92/102/EEC and 64/432/EEC). This Order replaces the Sheep and Goats (Identification and Traceability) (Scotland) Regulations 2006 ("the principal Regulations") and those instruments amending the principal Regulations.

This order clarifies that electronic identification ("EID") will be mandatory for sheep born on or after 31 December 2009 except for those animals that are intended for slaughter within 12 months for which various 'slaughter tagging' options are available.

It provides that EID will not be mandatory for goats because the UK goat population falls below the EU threshold and clarifies the rules for identifying goats. It also allows for keepers to voluntarily opt to use EID for goats.

It provides clarity on means of identification to be used as well as the options available for identifying any animal originally identified under any slaughter derogation once the animal reaches 12 months or age or is to be exported.

It provides for the rules and procedures to be followed in the event of any animal losing or requiring replacement of identification devices.

It provides that holding registers and movement documents have to be kept and completed within set timelines whilst providing for the use of critical control points to assist keepers with the administrative burden by allowing them to record individual identifications on behalf of keepers.

It provides that contingency plans have to be agreed in the event of any power or technical failure and sets out the powers available to inspectors.

Consultation

A formal public consultation was carried out between 07 September and 02 November 2009. All the main industry stakeholders responded. As a result of the responses received this order looks to provide for all the options and derogations provided within the Council Regulation.

Financial Effects

The Order will have a financial effect on the industry dependant on the way they choose to operate the system. The Regulatory Impact Assessment formed part of the public consultation and the finalised RIA is attached which includes all the options chosen by industry in the consultation exercise.

Scottish Government
Rural Directorate
November 2009

1. FULL REGULATORY IMPACT ASSESSMENT (RIA) FOR THE IMPLEMENTATION OF ELECTRONIC IDENTIFICATION (EID) OF SHEEP AND INDIVIDUAL RECORDING OF SHEEP AND GOATS UNDER COUNCIL REGULATION (EC) 21/2004 IN SCOTLAND

Issue Date: November 2009

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1. The Council Regulation

1.1 Council Regulation (EC) 21/2004 ("the Regulation") establishes a system for the identification and registration of ovine and caprine animals and amending Regulation (EC) No 1782/2003 and Directives 92/102/EEC and 64/432/EEC. The Regulation applies throughout the United Kingdom. This RIA only applies to the introduction of individual recording and electronic identification (EID) in Scotland.

2 Purpose and Intended Effect

2.1 The objective

2.1.1 This RIA assesses the potential impact upon the livestock industry, Government, and other stakeholders of the regulatory introduction of electronic identification (EID) of sheep and individual recording of sheep and goats on 01 January 2010.

2.1.2. The introduction of individual recording and electronic identification is intended to improve the system of identification and traceability of sheep and goats, giving rise to disease control benefits that include reduced outbreak costs, and fewer infected premises and animals culled. The rules of the system will be linked to the payments of EU subsidies.

2.2 Background

2.2.1 Following the 2001 Foot and Mouth Disease (FMD) outbreak the EU Commission decided on the need to improve traceability of sheep and goats in order to control future disease outbreaks better. This led to the adoption of the Council Regulation (EC) No 21/2004.

2.2.2 The first phase required double tagging from 2005. In Scotland those rules were deferred until 18 January 2008 following an initial derogation that maintained batch recording. The second phase is to move to individual animal traceability. This requires the introduction of individual animal recording through electronic identification and the date when this must be introduced is 01 January 2010 as set by the EU Council of Ministers.

2.2.3 Since the introduction date was agreed, concessions have been agreed by the EU Commission's Standing Committee on the Food Chain and Animal Health (SCoFCAH) that provides for a phased in approach to individual recording with the use of 3rd parties to record the information as follows:

- No animals have to be individually recorded on a movement document until 01 January 2011.
- No animals born before 01 January 2010 have to be individually recorded on a movement documents until 01 January 2012.
- No animal born before 01 January 2010 and moving to slaughter (directly or via a market) will have to be individually recorded at all.
- Animals born after 01 January 2010 will require to be individually recorded in farm registers.
- Animals born after 01 January 2010 require two means of identification one must be electronic) – although a slaughter derogation exists for animals intended to be slaughtered within 12 months of age.

2.3 Rationale for Intervention

2.3.1 EU Regulation 21/2004 is directly applicable to all Member States. If the Scottish Government fails to enforce this Regulation there is a high risk that the European Commission would commence infraction procedures against Scotland and the UK. The

Regulation is also considered for the purpose of cross-compliance and therefore keepers that fail to comply with the Regulation could have some or all of their Single Farm Payment withheld under disallowance procedures.

2.3.2 The ability to identify and trace livestock movements is an important part of the Scottish Governments capability in controlling animal's disease. By setting nationalised standards and procedures, rather that leaving traceability to individuals, quicker and more efficient traceability should be recognised leading to better disease outbreak management and eradication. This is the basis of the case for compulsory animal identification.

3 Options for implementing the Regulation

3.1 The implementation options are different for sheep and goats. The Regulations provide for compulsory EID in Member States which have over 600,000 sheep and over 160,000 goats. As the UK has over 600,000 sheep we must provide for compulsory EID for sheep but do not have provide this for goats as we have less than 160,000. Both sheep and goats are, however, subject to individual recording.

3.2 Sheep

3.2.1 All sheep born or identified after 01 January 2010 must be identified by two identifiers, one of which must be electronic. The exception to this rule is in case of animals intended for slaughter within 12 months of age, where a single non electronic slaughter batch tag may be applied. This is known as the slaughter derogation.

Option 1 – Do nothing

3.2.2 In this scenario, Scotland would continue to rely on the current system of identification; that is, double identification of sheep and goats (two eartags or one eartag and a tattoo, with manual recording of details in holding registers and on movement documents at batch level. A slaughter derogation will allow keepers to identify animals that are below the age of twelve months, and intended for slaughter, with a single eartag.

3.2.3 This is not an option for Scotland as it would result in us knowingly under implementing EU Regulations which would leave us open to infractions procedures that could cost millions of pounds. If the Scottish Government do not implement the EID regulation and do not instruct farmers to adhere to the Regulations and of their cross compliance obligations, which stand regardless of domestic EID implementation, we could suffer disallowance of approx £11.5 million initially, which could quickly rise to 100% of SFP paid to sheep farmers in Scotland. This could be well in the region of several hundred million pounds. In addition the Scottish Government could lose our paying agency status resulting in no agricultural payments being allowed in Scotland.

3.2.4 Sheep farmers who choose not to comply could lose 15% - 50% of their SFP at the start. Continued non-compliance by farmers would result in 100% loss of their SFP.

Option 2 – Full EID implementation

3.2.5 Identify all newborn sheep, from 01 January 2010, with an EID device and one other means of identification. From 01 January 2010, all animals born after this date will be required to be individually identified in farm holding registers and then on movement documents by 01 January 2011. The only exemption from reporting individual IDs in holding registers and on movement documents will be where older non-electronically identified animals are moved directly to slaughter (or to slaughter by way of a market) from the holding on which they stand.

3.2.6 Although this would be the easiest option to implement as all animals would be identified under the one option it would also be by far the most expensive option. This would be due to a result of all animals requiring two means of identification, one of which would electronic, and be individually recorded. The cost and practicality of this option therefore makes this option very difficult to implement.

Option 3 – Restricted Slaughter Derogation

3.2.7 Identify all newborn breeding sheep and goats, from 01 January 2010, with an EID device and one other means of identification. From 01 January 2010, all breeding animals born after this date will be required to be individually identified in farm holding registers and then on movement documents by 01 January 2011. Where older, non-electronically identified animals are moved directly to slaughter (or to slaughter by way of a market) from the holding on which they stand, there will be an exemption from the need to report individual IDs in holding registers and on movement documents.

3.2.8 However, for animals under the age of 12 months and moving **direct** to slaughter (or via a market) only a single non electronic slaughter batch tag need be applied containing the flock mark of the holding of birth. Only the flock mark of animals identified under the slaughter derogation will be required to be recorded in farm holding registers and on movement documents.

Option 4 – Full Slaughter Derogation

3.2.9 Identify all newborn breeding sheep and goats, from 01 January 2010, with an EID device and one other means of identification. From 01 January 2010, all breeding animals born after this date will be required to be individually identified in farm holding registers and then on movement documents by 01 January 2011. Where older, non-electronically identified animals are moved directly to slaughter (or to slaughter by way of a market) from the holding on which they stand, there will be an exemption from the need to report individual IDs in holding registers and on movement documents.

3.2.10 However, for animals **intended** for slaughter before the age of 12 months only a single non electronic slaughter batch tag need be applied containing the flock mark of the holding of birth. Only the flock mark of animals identified under the slaughter derogation will be required to be recorded in farm holding registers and on movement documents. However, where a batch contains animals bearing several different flockmarks, the movement document will be required to contain a count of the numbers of sheep within the batch bearing each flockmark (batch within a batch).

3.2.11 This option provides for the least amount of animals requiring an electronic identifier (approx 70% would not require them – see section 5.5.1) however the requirement to record 'batch within a batch' information, particularly in places of high throughput (such as markets and abattoirs) would be almost impossible to carry out unless the animals could be electronically read and recorded. Therefore this option would be very difficult for high throughput premises to operate. (Batch within a batch is where animals in a mixed batch that have the same flock numbers needs to identified to identify the holdings the animals where born on. This would have to be done by manual checks unless the animals are electronically identified).

Option 5 – Electronic Slaughter Tag Derogation

3.2.12 In order to alleviate the problem of 'batch within a batch' (see option 4) an alternative exists that would allow animals intended for slaughter under the age of 12 months to be identified by a single electronic tag. As mentioned in the main consultation document the electronic slaughter tag may contain only a flock mark or a full 12 digit unique number and the difference will effect the 'upgrading' of these animals if they reach 12 months of age. This RIA assumes that the full 12 digit will be used. By use of electronic slaughter tags mixed batched animals could be recorded electronically removing the need to manually record this information.

3.2.13 This option would continue to provide for the use of the slaughter derogation to its fullest extent, but by allowing the use of an electronic slaughter tag it would alleviate the problem of 'batch within a batch recording'.

3.3 Goats

3.3.1 The rules for the identification of goats will not change, but goats will have to be individually recorded in holding registers and movement documents. Goats will require to be identified by two non electronic identifiers but keepers may fit electronic ones if they wish. As with sheep we can choose to apply the slaughter derogation or not.

Option 1 – Continue with existing system and introduce individual recording

3.3.1 Only goats which are to be kept beyond the age of 12 months would be double identified with a matching pair of identifiers. These animals would need to be individually recorded on movement documents and holding registers. All animals intended for slaughter with 12 months of age would be identified by the slaughter derogation – identified with a slaughter tag and recorded on a batch basis.

Option 2 - No slaughter derogation and introduce individual recording

3.3.2 All goats, with no exception, would be double identified. This would mean that all animals would need to be individually read and recorded.

3.4 Critical Control Points (CCP's)

3.4.1 Following representations by the Scottish and UK Governments the Commission have amended the Regulations to permit the use of Critical Control Points (CCP's) to act as third parties. This means that CCP's can record the individual identities of animals on behalf of

the receiver/consigner, rather than farmers having to individually record animal identities as they leave the holding and therefore markets and abattoirs appear to be well suited to acting as CCP's. This therefore avoids the need for many keepers to purchase recording equipment and transfers the individual recording requirement to the approved reading facility. All movement of animals outwith CCP's would still require to be individually recorded by the consigning and receiving keepers.

Option 1 – Allow the use of CCP's

3.4.2 This allows for third parties (for example markets and abattoirs) to be approved CCP and record the individual identities of animals and pass this information to the consigning and receiving keepers, therefore fulfilling the requirements of the holding registers and movement documents. In order for CCP's to act effectively and in particular those of high throughput volumes, animals may require to be electronically identified (full EID or slaughter EID tag).

Option 2 – Do not allow the use of CCP's

3.4.3 This would mean that all animals would have to be individually read and recorded at individual holding level before the animals departed. This would require most farms in Scotland to purchase electronic reading equipment. Holdings with few numbers of animals could operate on a manual basis, but it would be a management decision on the best way to individually record the animals identities.

3.5 Central Database

3.5.1 The Regulation also provides derogations from the requirement to maintain farm records and complete movement documents where a central database containing individual information is operational. A national database containing individual animal information is not, however, an EU obligation and therefore any costs to carry out these functions would be over and above the EU requirements. As such only high level estimates are given to costs associated with these derogations. If this is an option the Scottish Government and its industry wishes to pursue then further cost analysis will be carried out.

4. Benefits

4.1.1 Cost-benefit analysis (CBA) offers a framework within which information may be assembled on the economic gains and losses associated with a course of action (in this case the implementation of EU Regulations and the attempt to combat disease control and ensure public health).

4.1.2 In the case of sheep EID and individual recording of sheep and goats in Scotland, it is unfortunate that some information on costs and benefits remains incomplete. This is mainly due to the absence of an individual animal database that could be interrogated to provide detailed animal movement patterns. None the less costs and benefits have been derived from known sources, including evidence gathered from the Scottish electronic research pilot and from Industry stakeholders.

Benefits

4.2.1 The potential benefits of EID and individual recording falls into three main categories; disease control, consumer confidence; and flock management. This is in addition to the benefit of the Scottish Government and Industry in complying with EU regulations and therefore avoiding disallowance and infraction procedures as mentioned earlier.

Disease Control

4.2.2 The outbreak of FMD in 2001 was the principle driver towards the introduction of the EU Regulation. In this context the benefits of EID and individual recording depends not only to its contribution to reduction the duration of the outbreak but also on the frequency and intensity of outbreaks.

4.2.3 In the absence of any formal epidemiological modelling of EID's efficacy at reducing the duration of an FMD outbreak it is not possible to state categorically the impact on FMD costs. However for illustrative purposes it is possible to consider how EID and individual recording could impact on the costs. In the 2007 FMD outbreak it is estimated that the costs to the Scottish Industry was around £36.5 million if which nearly three quarters was attributed to withholding costs arising from the movement ban. If EID and individual recording were highly effective (and therefore fully implemented) it is possible that, in the extreme, all of these costs might be avoided through reducing the duration of the outbreak and facilitating earlier relaxation of movement restrictions. Equally, a proportion of the market losses arising from the export ban might be avoided, although some losses cannot be avoided since the legal minimum period of an export ban would still be observed.

4.2.4 It can therefore be assumed that up to around £30 million of costs might be avoided of a disease outbreak of the 2007 magnitude if a fully effective EID system was in place. However if such an outbreak occurs only once every 10 years then expected annual benefit is only £3 million. If EID is less than effective then the gains would be smaller.

Consumer Confidence

4.3.1 Livestock traceability systems originally arose in response to consumer concerns over BSE in the cattle sector. However, for the sheep sector, given the absence of any high profile food safety risk, it is not clear exactly why consumer confidence would be expected to be affected by the introduction of individual traceability for sheep. Moreover, whilst it is true that evidence on consumer preferences suggests that systems of quality assurance and origin labelling do have some value, individual traceability per se does not feature in this. That is, consumers are generally either unaware of or uninterested in the mechanics of how quality assurance and origin labelling operate and are unlikely to pay a price premium for individual traceability if they perceive no advantage from it.

4.3.2 An alternative view of this is that requirements for individual traceability might become a requirement for continued access to export markets. Indeed, notwithstanding uncertainty over the status of such moves under the WTO, countries such as Australia and New Zealand are pushing individual traceability partly as a response to expectations that the EU and other trading partners may adopt such a stance. However, given the relatively low volumes of Scottish sheep exported beyond the EU, the relevance of the market access argument is rather limited.

Flock management

4.4.1 In principle, EID offers the technical potential to improve flock management by linking ewes to lambs and permitting the collation of information on, for example, daily liveweight gains and final carcass weight and grade. Such a management system could deliver productivity improvements, provided that additional investments were also made to on-farm information systems and at abattoirs for passing information back along the supply chain – therefore linked to Food Chain Information (FCI).

4.4.2 For example, enterprise costing reported by Quality Meat Scotland (QMS) for the top, middle and third of sheep flocks suggest that differences in both technical and marketing performance generate a difference in gross margin per ewe of around £12 between the top and average performers and £25 between the top and bottom performers. Simplistically, this implies that better flock management and marketing could add £37m to the aggregate gross margin of the sector, although a more sophisticated analysis of the distribution of current performance and variation in management constraints lowers this to perhaps £20m (Pareto Consulting - CBA of Scottish Electronic Research Pilot 2009).

4.4.3 However, the existence and persistence of variation in performance across farms is not new and has been the target of repeated efforts to raise management standards. When the Forward Strategy for Scottish Agriculture was launched in 2001, it was estimated that around only 10% of all farms were engaged in some form of benchmarking. Since then, various efforts have been made to extend the uptake, such as the provision of on-line information, the formation of monitor farms and the availability of funding under Land Management Contracts. Yet, taking the latter as an example, only around 13.5% of farms with sheep also enrolled in the benchmarking option (Pareto Consulting - CBA of Scottish Electronic Research Pilot 2009). Whilst this may not be truly representative of the sector, it does reveal that even when funding is available for relatively simple benchmarking activities, uptake by the industry remains low. This suggests that the likely usage of EID for flock management will be extremely limited and hence any performance gains attributable to it minimal.

Benefit of options identified in the paper

Identification

4.5.1 Pursuing option 1 for sheep identification could result in infraction procedures and disallowance. The possible fines associated to these procedures to the Scottish Government and industry significantly outweigh the costs associated with implementation and therefore this option would provide no real benefits. The benefit of option 2 is that it provides for a one system fits all and therefore makes it the simplest of systems to introduce. However as previously stated this is the most expensive option.

4.5.2 Option 3 and 4 both offer significant savings to industry because of the possibility of the use of a slaughter tag. Option 4 however, introduces the issue of dealing with mixed batches, which would appear to make the option impossible to operate whilst option 3 would only be useful to those who move animals direct from the holding of births to an abattoir. Option 5 provides the benefit of allowing all animals intended for slaughter to be identified by a single means of identification, would cater for mixed batches and the problem of

recording 'batch within a batch' and allows for slaughter animals to be upgraded to full identity status if they reach 12 months of age. The downside to this option is that animals moving direct to slaughter from the holding of birth (and therefore not causing any mixed batch problems) would require an electronic tag that is significantly more expensive that a plastic tag.

4.5.3 The benefits of option one with regards to goats is that it allows for current system to remain in place with only the addition if the extra information required in movement documents and holding registers. Option two for goats would provide a benefit of operating only one system, rather than allowing a two tier system (breeding animals and those intended for slaughter under 12 months).

Critical Control Points

4.6.1 Option one provides significant benefits' over option two by allowing the use of third parties to read and record individual animal identities. This means that all farmers who move animals through a CCP (primarily expected to be markets and abattoirs) will not have to buy electronic reading equipment and spend time and labour costs associated with using the equipment. There are no easily recognised benefits associated with option two. If farmers wish to read and record individual animals at their premises then they can do so as they wish, irrespective of the use of CCP's.

Central Database

4.7.1 As mentioned previously a central database that records the individual identity of animals is not a requirement under the European Regulation and therefore the creation on such a database could be seen as over implementation of the Regulation. However, if such a database does exist it does open up the options of removing farm records and movement documents if the required information is held centrally. This would lead to a paperless system with less on farm recording burdens for famers and industry bodies whilst looking to provide quicker and accurate data to the competent authority.

4.7.2 As such it would appear sensible that a central database should be a desired outcome for the Scottish Government and Industry, although perhaps be addressed in the long term with phased in approach being adopted. In the immediate future the derogations available could be made to those who wish to voluntary adopt the requirements – focussing on either only the derogation associated with movement document or on movement documents and the holding register.

Goats

4.8 The costs associated with option 1 and 2 are very similar (see section 5.14 – 5.17) although option one is slightly cheaper and maintains the current identification system for goats. Given that most, if not all, goats will be recorded on an individual basis then the Scottish Government see no reason to change the current rules on identification and therefore believes the slaughter derogation (option 1) should continue to be an option for goat keepers.

5 Costs

5.1 Sheep Identification

5.1.1 - number of animals:

- There are around 7.1 million sheep in Scotland.
- This includes approx 3.7 million lambs, of which approx 70% (2.6 million) are intended for slaughter before the age of 12 months
- Of the 2.6 million slaughter lambs 50% of the animals are estimated to go direct to slaughter and 50% are slaughtered after being on at least two holdings.
- The remaining 30% of the lamb crop (1.1 million) are retained beyond the 12 months, mainly as breeding animals.
- Of the 1.1 million breeding animals approximately 50% (550,000) will be kept on the holding of birth, with the other half moving to a different location.

5.1.2 Costs of means of identification will vary between different manufactures and the type of device used. This RIA therefore assumes that the average cost purchasing two means of identification is £1 per animal (based on one conventional eartag (approx £0.15), and one electronic tag (approx £0.85p)).

5.1.3 Previous studies have shown that it takes around 92.4 seconds to apply a conventional and EID tag to a single animal. This falls broadly in line with results from the Scottish Electronic research pilot which indicates that it can take two people one minute to indentify an animal. This RIA therefore assumes that it take on average one person 100 seconds to identify an animal with the two means of identification (36 animals per hour). Similarly previous studies have shown it takes on average 33 seconds to apply a single tag (109 animals per hour).

5.1.4 Labour costs associated across the livestock sector are averaged at £7.97 per person per hour (figures from Scottish Government Economists on costing of Land Management Options 2009).

Option one – Do nothing.

5.2.1 The costs associated to this option can be linked to those produced in the RIA for Scotland on the implementation of double tagging for ovine and caprine animals under Council Regulation (EC) 21/2004 that was produced in December 2007. Since that document was produced several factors have changed that slightly alter figure given at this point – i) the ration of animals slaughtered under 12 months of age or not has changed for 60:40 to 70:30. The labour costs have also slightly decreased and the costs of eartags have reduced.

5.2.2 Under this option 70% of all newborn lambs would require a single batch tag with the remaining 30% requiring two eartags. The cost of purchasing identification therefore estimated to cost **£720,000** (2.6 million lambs X £0.15 + 1.1 million lambs X £0.30).

5.2.3 Using a labour rate of £7.97, the labour cost associated with identifying all new born lambs under this option is estimated to be **£278,510** (70% of all lambs/ 109 (number of

animals single tagged per hour) X £7.97 + 30% of all lambs/55 (number of animals double tagged in per hour) X £7.97).

5.2.4 Replacement tags are estimated to be 5% of the flock. It is assumed that the vast majority of keepers would not replace a lost identifier with an identical identifier and would instead replace with new identifiers. On this basis costs for replacement tags for animals born after 01 January 2010 is estimated to be **£36,000** (5% of 2.6 million X £0.15 + 5% of 1.1 million X £0.30).

5.2.5 The total cost for identifying animals under this option is there estimated to be **£1,105,510**

Option two – Full EID implementation

5.3.1 Under this option 2 all newborn lambs would have to be identified with two means of identification, one which must be electronic. The cost of purchasing the means of identification is therefore estimated to be **£3,700,000** (3.7 million lambs x £1).

5.3.2 Using the labour rate of £7.97 per hour, the labour costs associated with identifying the 3.7 million lambs is therefore estimated to be **£819,139 (**3.7 million lambs / 36 (animals identified per hour) x £7.97).

5.3.3 Replacement tags are estimated to be 5% of the flock. It is assumed that the vast majority of keepers would not replace a lost identifier with an identical identifier and would instead replace with new identifiers. On this basis costs for replacement tags for animals born after 01 January 2010 is therefore estimated to be **£185,000** (5% of 3.7 million lambs x £1.00).

5.3.4 The total cost of identifying animals under option two is therefore estimated to be **£4,704,139**

5.3.5 The total additional cost of identifying animals as a result of option two is therefore estimated to be £**3,598,629**

Option 3 - Restricted slaughter derogation

5.4.1 Under this option all lambs not sent direct to slaughter would have to be identified with two means of identification, one of which must be electronic. Animals that are sent direct to slaughter would only require a single plastic eartag. Therefore the costs of purchasing means of identification under this option is estimated to be **£2,599,250** (direct to slaughter 35% of 3,700,000 x £0.15 = £194,250 + not direct to slaughter 65% of 3,700,000 x £1= £2,405,000).

5.4.2 Using the labour rate of £7.97 per hour, the labour costs associated with identifying the 3.7 million lambs under this option is estimated to be **£627,129** (direct to slaughter 35% of 3,700,000 / 109 (animals identified per hour) X £7.97 = £94,689 + not direct to slaughter 65% of 3,700,000 / 36 (animals identified per hour) x £7.97 = £532,440).

5.4.3 Replacement tags are estimated to be 5% of the flock. It is assumed that the vast majority of keepers would not replace a lost identifier with an identical identifier and would

instead replace with new identifiers. On this basis costs for replacement tags for animals born after 01 January 2010 under this option is estimated to be **£129,962** (5% of 35% of all lambs (direct to slaughter) x £0.15 = £9,712 + 5% of 65% of all lambs (not direct to slaughter) x £1 = £120,250).

5.4.4 The total cost of identifying animals under option three is therefore estimated to be £**3,261,652**

5.4.5 The total additional cost of identifying animals as a result of option three is therefore estimated to be **£2,156,142**

Option 4 – Full slaughter derogation

5.5.1 Under this option all lambs intended for slaughter within 12 months of age only require a single plastic tag. All other animals would have to be identified with two means of identification, one which must be electronic. Therefore the costs of purchasing means of identification under this option is estimated to be **£1,498,500** (intended for slaughter 70% of all lambs x £0.15 = £388,500 + not intended for slaughter 30% of all lambs x £1 = £1,110,000).

5.5.2 Using the labour rate of £7.97 per hour, the labour costs associated with identifying the 3.7 million lambs under this option is estimated to be **£435,121** (intended for slaughter 70% of all lambs / 109 (animals identified per hour) x £7.97 = £189,379) + not intended for slaughter 30% of all lambs / 36 (animals identified per hour) x £7.97 = £245,742).

5.5.3 Replacement tags are estimated to be 5% of the flock. It is assumed that the vast majority of keepers would not replace a lost identifier with an identical identifier and would instead replace with new identifiers. On this basis costs for replacement tags for animals born after 01 January 2010 under this option is estimated to be **£74,925** (5% of 70% of all lambs intended for slaughter x £0.15 = £19,425 + 5% of 30% of all lambs not intended for slaughter) x £1 = £74,925).

5.5.4 The total cost of identifying animals under option four is therefore estimated to be £**2,008,546**

5.5.5 The total additional cost of identifying animals as a result of option four is therefore estimated to be £**903,036**

Option 5 – Electronic slaughter tag derogation

5.6.1 Under this option all lambs intended for slaughter within 12 months of age could be identified by a single electronic tag. All other animals would have to be identified with two means of identification, one which must be electronic. Therefore the costs of purchasing means of identification under this option is estimated to be **£3,311,500 (**intended for slaughter 70% of all lambs x £0.85 = £2,201,500 + not intended for slaughter 30% of all lambs x £1 = £1,110,000).

5.6.2 Using the labour rate of £7.97 per hour, the labour costs associated with identifying the 3.7 million lambs under this option is estimated to be **£435,121** (intended for slaughter

70% of all lambs / 109 (animals identified per hour) x £7.97 = £189,379) + not intended for slaughter 30% of all lambs / 36 (animals identified per hour) x £7.97 = £245,742).

5.6.3 Replacement tags are estimated to be 5% of the flock. It is assumed that the vast majority of keepers would not replace a lost identifier with an identical identifier and would instead replace with new identifiers. On this basis costs for replacement tags for animals born after 01 January 2010 under this option is estimated to be **£165,575 (**5% of 70% of all lambs intended for slaughter x £0.85 = £110,075 + 5% of 30% of all lambs not intended for slaughter) x £1 = £74,925).

5.6.4 The total cost of identifying animals under option five is therefore estimated to be **£3,922,196**

5.6.5 The total additional cost of identifying animals as a result of this option is therefore estimated to be **£2,816.686**

Table one – summary costs for identification

Options	Cost of purchasing id	Labour costs	Replacement costs	Total costs	Total additional cost
Option 1	£720,000	£278,510	£36,000	£1,105,510	**£0**
Option 2	£3,700,000	£819,139	£185,000	£4,704,139	**£3,598,629**
Option 3	£2,599,250	£627,129	£129,962	£3,261,652	**£2,156,142**
Option 4	£1498,500	£435,121	£74,925	£2,008,546	**£903,036**
Option 5	£3,311,500	£435,121	£165,575	£3,922,196	**£2,816,686**

5.7 Movement Documents and Critical Control Points

5.7.1 Information from the Scottish Animal Movement System (SAMS – the current competent authority database) shows that there are approximately 320,000 batch movements covering over 7,500,000 animals. This equates to 23.5 animals per batch.

5.7.2 In line with 5.1.1 (percentage split of the national flock) this RIA assumes that of the 320,000 batch movements, 51% will be animals from the new lamb crop, and 49% from the older population.

5.7.3 Information for the Scottish Animal Movement System (SAMS) and those from EPIC which were used to underpin the Scudamore review of FMD 2007 suggest that 30% of all moves are moves from farm to farm, 40% are moves from farms to markets (and then on a farm or abattoir) and 30% of moves are from farm to abattoir.

5.7.4 Labour costs associated across the livestock sector are averaged at £7.97 per person per hour (figures from Scottish Government Economists on costing of Land Management Options 2009).

5.7.5 Results from the Scottish Government electronic research pilot shows that it takes on average around 6 seconds per animal for on farm hand held EID reading, whilst faxed panel

readers takes around 3 seconds. Manual reading and recording by comparison takes around 2 minutes per sheep.

5.7.6 Results from the Scottish Government electronic research pilot shows that it takes around 5 minutes to upload data captured by a hand held device, regardless of the number of animals. Timing is automatic by fixed panel readers. Manual recording onto paper documents (and holding registers) takes around 2 minutes per animal.

5.7.7 EID reading and recording equipment will vary in specification and cost but figures of £600 for hand help equipment and £10,000 for fixed panels at markets and £5,000 at abattoirs are indicative of the equipment available and therefore used for the purpose of this RIA. This RIA uses the figure of 20 markets in Scotland and 30 abattoirs.

5.7.8 There are approx 15,000 sheep holdings and keepers in Scotland (Scottish Government data). Of these approximately 50% have flock sizes of less than 100 animals (Scottish Government Economic Report on Scottish Agriculture 2009 edition). Results from the Scottish Government Electronic research pilot suggests that EID reading equipment would not be required for flocks of less than 100 animals.

Option 1 – Allow the use of CCP's

5.8.1 Installation of fixed panel readers at CCP's is estimated to cost **£350,000 (**20 markets X £10,000 + 30 abattoirs X £5,000).

5.8.2 All 320,000 batch movements require an accompanying movement document. Approximately 70% of batches (224,000) go through markets and abattoirs – possible critical control points. Reading and recording of animals at CCP's would be automatic and therefore there would be negligible costs in doing so (on the assumption that animals do not require to be re-read). Therefore a nil cost is used for this RIA.

5.8.3 96,000 batch moves may not go through a CCP's (i.e. farm to farm moves) Using the same proportionate figure as paragraph 5.8.2 (70-30% split) this could equate to 4,500 holdings (30% of all keepers). In line with point 5.7.8 it can be assumed that 50% of these holdings (2250) will require EID reading equipment at some point and therefore the cost of for reading equipment on farm is estimated to be would be **£1,350,000** (2250 holdings x £600).

5.8.4 On assumption that all animals will require to be individually identified (i.e. no slaughter derogation) then labour costs for reading and recording the 96,000 batch movements by use of hand held equipment is estimated to be **£346,535** based on 50% of the batches being recorded by EID equipment and 50% manual (48,000 batches x 23.5 animals / 600 x £7.97) + 48000 / 12 batches per hour x £7.97 = £46,863 + 48,000 batches X 23.5 animals / 30 x £7.97 = £299.672).

5.8.4 Therefore the total additional costs associated with the reading and recording movement documents with the use CCP's is estimated to be **£2,046,535**

Option 2 – do not use CCP's

5.9.1 It is assumed that high throughput premises (i.e. markets and abattoirs) will require EID reading equipment to fulfil their regulatory requirements, regardless if CCP's are used or not. Therefore equipment costs for markets and abattoirs are estimated to be **£350,000** in line with point 5.8.1.

5.9.2 On the basis that 50% of all holdings will require EID reading equipment at some point the costs for reading equipment on farm is estimated to be **£4,500,000** (7500 holdings X £600 reading equipment).

5.9.3 On the assumption that all animals will require to be individually identified (i.e. no slaughter derogation) then labour costs for reading and recording 160,000 batch movements (50% of the total batch movements) by use of hand held equipment is estimated to be **£156,211** (160,000 batches x 23.5 animals) / 600 x £7.97) + (160,000 /12 batches per hour) x £7.97).

5.9.4 Following on from point 5.9.3 it can be assumed that 50% of all batch movements will require to be manually recorded. The labour costs associated with manually reading and recording is therefore estimated to be **£998,906** (160,000 batches x 23.5 animals) / 30 x £7.97)

Therefore the total additional costs associated reading and recording movement documents with no use of CCP's is estimated to be **£6,005,117**

Table 2 - Summary of costs associated with the use and non use of CCP's

Options	Cost of reading equipments at possible CCP's	On farm reading equipment cost	On farm reading and recording costs	Total costs
Option 1	£350,000	£1,350,000	£346,535	**£2, 046,535**
Option 2	£350,000	£4,500,000	£1,155,117	**£6,005,117**

5.10 Holding Registers

5.10.1 As mentioned in the main consultation there is no change to the recording requirements for animals born before 31 December 2010. For those that are born after this date then the following information is required; individual identity of animal; the year of birth and date the animal was identified, the month and year of death; and the breed and genotype (if known). If any animal is identified under the slaughter derogation at the batch level then information would be recorded at a batch level.

5.10.2 It is assumed that births will be entered in runs of consecutive numbers and therefore there will be minimal time and effort required to record this information (i.e. entry need only say 50 animals (numbers 1-50) born in 2010, identified on 01 March 2010. Therefore no cost is associated to this activity.

5.10.3 Animals that die on farm prior to being identified (i.e. any animal still on the holding of birth that has not been identified within 9 months) will not require their death details to be recorded.

5.10.4 On farm deaths for identified animals is approximately 5% of the flock (2-3% found on lowland farms and 5-7% of upland farms – therefore 5% is average. From Scottish Electronic Research Pilot information) In line with point 5.7.6 it takes 2 mins per animals to manually read and record an animal. The costs therefore associated with completing the holding register with death details is **£49,148** (2% of all lambs / 30 animals per hour x £7.97).

5.10.5 The requirement to record individual animal's movements onto a holding register will be in line with the requirement of the movement documents as outlined in sections 5.7 to 5.9. However, as the information in movement documents can be used for the purpose of the holding registers then no extra costs will be associated to populate the holding register.

5.10.6 Therefore the costs associated with the extra requirements of the holding register will be **£49,148.**

5.11 Central Database

5.11.1 There are no new provisions for a central database to hold individual animal information under the Regulations, however, benefits could be realised if one exists. Costs below are therefore kept in general terms, with more detailed work being required if an individual database is deemed appropriate.

5.11.2 If a central database is required it will incur both start up costs and running costs. In the absence of working examples elsewhere to draw upon, the magnitude of such costs is difficult to gauge. However assessments in Spain and the Netherlands suggest running costs in the order of £0.1 per sheep and £0.8 per ewe which equates to around £0.7m to £2.5 in Scotland, with **£1.6m** as an average.

5.11.3 Within this estimate, the treatment of incomplete data could be an important cost component – reconciliation. If an error rate of 2.5% was witnessed on an individual animal identity this would equate to 92,500 reconciliations. If these reconciliations could be achieved automatically then the costs would be minimal. However if, as with reconciliations associated with the British Cattle Movement Service (BCMS), labour input was required then costs would increase. Using the approximate figure of £5 per reconciliation as witnessed by the BCMS then costs would be **£462,500**

5.11.4 The total initial costs therefore associated with an individual database would cost in the region of **£2,062,500** (discussions on funding of any such database would be required before any commitment).

5.11.5 The Scottish Government believes that should the full intended slaughter derogation be introduced as the only system then it would not make sense to have a centralised individual database given that 70% of the animals would not be individually indentified. A centralised database, however, could be utilised for any of the other options.

5.12 Analysis of the Impacts of the EID regulation on Farm businesses using farm accounts survey (FAS) data

5.12.1 The additional costs associated with the different options for the implementation of the European EID regulation in Scotland are calculated above and this analysis takes these figures and applies them at a farm business level (on a cost per animal basis). This allows for the relative impacts on different farm types to be examined, using FAS data to estimate the expected changes to farm business costs and therefore net profitability. The analysis allows for indicative profitability and farm business cost figures to be estimated by farm type.

5.12.2 The analysis considers each of the four options for implementation in turn (it assumes that the impact of option one – do nothing is zero). It also looks at the marginal effect of the decisions around critical control points, by examining all four options under the assumption that critical control points are approved as part of the EID implementation, and then examining the most and least costly options (full EID implementation and implementation with the full slaughter derogation) under the assumption that critical control points (CCP's) would not be used.

5.12.3 The final element of the analysis is that the FAS dataset allows the examination of the increased costs due to EID on the top 25% of the most profitable farms, as well as the bottom 25%, which can show how more and less profitable businesses would be affected. However, some caution should be taken here, as the sample size of the farm accounts survey means that for certain farm types any results split by profitability quartile would be based on restricted sample sizes which limits the extent to which the results can be applied to the whole of Scottish agriculture. To this end all that can be said is that it is likely that the most profitable farms would face smaller costs than the least profitable farms, which in general are less able to control their input costs.

5.12.4 The following results tables show firstly, the average cost increase, secondly, the cost increase as a percentage of the total farm business costs, and finally the cost increase as a percentage of the total profits. Unless it is stated otherwise, the results are calculated for each option, assuming that critical control points are allowed. It should be noted that the cost shown is an average cost, and so there is likely to be some variation in the actual costs that are faced by producers.

Table 3 – Average cost increase per farm for policy options (with CCPs)

Average cost increase per farm	Option 2 - Full EID implementation	Option 3 - Restricted slaughter derogation	Option 4 - Full Slaughter derogation	Option 5 - Electronic slaughter tag derogation
Specialist cereals	£65	£48	£33	£56
General Cropping	£54	£40	£27	£46
Dairy	£67	£49	£34	£57
LFA Specialist Sheep	£714	£527	£364	£612
LFA Specialist Beef	£269	£198	£137	£230
LFA Cattle and sheep	£867	£639	£441	£744
Lowground Cattle and Sheep	£315	£232	£160	£270
Mixed	£225	£166	£115	£193
All Farm types	£326	£240	£166	£279

5.12.5 In terms of the absolute increase in average costs per farm, the farm types that are most affected by this regulation are LFA specialist sheep and LFA cattle and sheep farms. The exact increase in costs is determined by the option. As has been shown previously, full

EID implementation (option 2) is the most costly option for industry, and the types of farm that will be affected the most are those which keep sheep, and have low profitability. Under this option LFA cattle & sheep farmers would see an increase in their business costs of about £867 on average, whilst the average LFA specialist sheep would see an increase of around £714. Lowground Cattle and sheep farmers would only see an increase of £315 on average and the increase in costs across all farm types would be £326 on average under this option.

5.12.6 The option which would have the smallest effect on industry is the full slaughter derogation (option 4); this would meant that an average LFA cattle & sheep farm would experience a £441 increase in costs, whilst the average LFA specialist sheep producer would see an increase of around £364 on average. The average farm under all farm types would experience an increase of £166 under this option.

5.12.7 The estimates of additional costs incurred as a result of the regulation are more useful when set in the context of the business costs prior to the regulation. Table 4 shows the costs as a percentage of total farm business costs for 2008.

Table 4 – Additional costs as a percentage of total farm business costs

Cost transferred as % of average total farm business costs	Option 2 - Full EID implementation	Option 3 - Restricted slaughter derogation	Option 4 - Full Slaughter derogation	Option 5 - Electronic slaughter tag derogation
Specialist cereals	0.05%	0.04%	0.03%	0.05%
General Cropping	0.03%	0.02%	0.02%	0.03%
Dairy	0.03%	0.02%	0.02%	0.03%
LFA Specialist Sheep	1.75%	1.29%	0.89%	1.50%
LFA Specialist Beef	0.32%	0.23%	0.16%	0.27%
LFA Cattle and sheep	0.90%	0.66%	0.46%	0.77%
Lowground Cattle and Sheep	0.36%	0.27%	0.18%	0.31%
Mixed	0.19%	0.14%	0.10%	0.16%
All Farm types	0.29%	0.22%	0.15%	0.25%

5.12.8 Once again, table 4 shows that the largest impact on producers would be under full implementation, and the smallest impact would be under the full slaughter derogation, however the results also show that LFA specialist sheep would be the worst hit (as a proportion of their total farm business costs) under any option, with the average producer facing between a 1.75% and 0.89% increase in its total farm business costs. LFA cattle and sheep would be the next worst hit, whilst LFA beef and lowground cattle and sheep farms would both be affected more than the average over all farm types.

5.12.9 As the results above show, some farms will be hit proportionally more than others, and this would lead to relatively small increases in costs causing significant percentage increases in farm business costs. The following results table shows how these increased costs affect overall net profit.

Table 5 – Additional costs as a percentage of farm net profit

Cost transferred as % of net profit	Option 2 - Full EID implementation	Option 3 - Restricted slaughter derogation	Option 4 - Full Slaughter derogation	Option 5 - Electronic slaughter tag derogation
Specialist cereals	0.10%	0.07%	0.05%	0.08%

General Cropping	0.08%	0.06%	0.04%	0.06%
Dairy	0.08%	0.06%	0.04%	0.07%
LFA Specialist Sheep	3.96%	2.92%	2.01%	3.39%
LFA Specialist Beef	1.02%	0.75%	0.52%	0.87%
LFA Cattle and sheep	3.17%	2.33%	1.61%	2.71%
Lowground Cattle and Sheep	1.06%	0.78%	0.54%	0.91%
Mixed	0.60%	0.44%	0.30%	0.51%
All Farm types	0.76%	0.56%	0.39%	0.65%

5.12.10 The above table shows the size of the average additional costs relative to the net profit of the average business. It shows that under full EID implementation the additional costs to an average LFA sheep farm would be equal to 3.96% of net profit, and 3.17% of the average net profit for LFA cattle and sheep farms. LFA specialist beef and lowground cattle and sheep both see increases in their farm business costs equivalent to over 1% of their net profit, and the average farm over all farm types would see an increase equal to 0.76% of its net profits.

5.12.11 These increases would fall depending on the different options, and under the cheapest, where a full slaughter derogation is imposed (option 4) then the LFA specialist sheep farm would see an increase in costs equal to just over 2% of net profit, with LFA Cattle and sheep seeing an increase of 1.61% of net profits. On average across all farm types, farms would see an increase in costs equivalent to 0.39% of net profit.

5.12.12 These results show that under every option, farms that are LFA specialist sheep have the largest increase in costs as a proportion of their total farm business costs and net profits, but LFA cattle and sheep farms are likely to see the largest absolute increase in costs.

5.12.13 The previous results were estimated under the assumption that critical control points would be adopted, the following now considers the changes that would occur if critical control points were not adopted as part of the policy.

5.12.14 The non-adoption of critical control points would increase the costs of the implementation of the EID regulation quite considerably. By comparing the figures of the impacts on farm business costs both with and without critical control points, the marginal effect that this decision has on farm businesses can be shown. Table 4 below shows the average cost increase under option 2 and option 4, the other options will have costs somewhere in between these two extremes.

Table 6 – Average increase in farm business costs by farm type

Average cost increase per farm	Option 2- Full EID implementation without CCPs	Option 4 - Full Slaughter derogation without CCPs
Specialist cereals	£134	£102
General Cropping	£111	£85
Dairy	£138	£105
LFA Specialist Sheep	£1,477	£1,127
LFA Specialist Beef	£556	£424
LFA Cattle and sheep	£1,793	£1,368
Lowground Cattle and	£651	£496

Sheep		
Mixed	£466	£356
All Farm types	£673	£514

5.12.15 Table 6 shows that without critical control points under option 2 the average LFA cattle and sheep producer would see an extra £926 added to his costs, and the average LFA specialist sheep farm would be £763 worse off relative to option 2 where CCPs were implemented as part of the regulation. Under option 4 this increase is slightly lower, but still high; LFA Cattle and sheep farms would face an extra £728 on average on top of the costs of option 4 without CCPs, and the average LFA specialist sheep farm would also see £600 in additional costs because of the non adoption of CCPs under this option. Table 5 shows these costs in the context of total farm business costs by farm type.

Table 7 – Average increase in farm business costs by farm type

Cost transferred as % of average total farm business costs	Option 2- Full EID implementation without CCPs	Option 4 - Full Slaughter derogation without CCPs
Specialist cereals	0.11%	0.09%
General Cropping	0.07%	0.05%
Dairy	0.07%	0.05%
LFA Specialist Sheep	3.61%	2.76%
LFA Specialist Beef	0.66%	0.50%
LFA Cattle and sheep	1.85%	1.41%
Lowground Cattle and Sheep	0.75%	0.57%
Mixed	0.39%	0.30%
All Farm types	0.61%	0.46%

5.12.16 Table 7 illustrates the increase in costs as a result of the non adoption of CCPs, as a proportion of total farm business costs the cost under these options is much higher than under the same options where CCPs are implemented. Under option 2 LFA sheep farmers see an average additional cost from the regulation of 3.61% of total farm business costs, compared with 1.75% in the case where CCPs were to be allowed. Under option 4 without CCPs the average cost increase for LFA sheep farmers would be equal to 2.76% of total farm business costs, but with CCPs it would be only 0.89%.

Table 8 – Cost transferred as a percentage of net profit

Cost transferred as % of net profit	Option 2- Full EID implementation without CCPs	Option 4 - Full Slaughter derogation without CCPs
Specialist cereals	0.20%	0.16%
General Cropping	0.16%	0.12%
Dairy	0.17%	0.13%
LFA Specialist Sheep	8.18%	6.24%
LFA Specialist Beef	2.11%	1.61%
LFA Cattle and sheep	6.55%	4.99%

Lowground Cattle and Sheep	2.18%	1.67%
Mixed	1.24%	0.94%
All Farm types	1.57%	1.20%

5.12.17 Table 8 shows these costs as a percentage of net profit, and the figures are striking in their size comparative to those where CCPs are implemented. The average LFA specialist sheep farm would face a cost equal to 8.18% of its net profit under option 2 with no CCPs, and the average LFA cattle and sheep farm would see costs equal to 6.55% of net profit also. This compared to a respective 3.96% and 3.17% of net profit under option with CCPs allowed.

5.12.18 Under option 4 the costs are still large as a proportion of the farm's net profits. The average LFA specialist sheep farm would face a cost equal to 6.24% of net profit, and LFA cattle and sheep farms would see a cost on average just under 5% of net profits. This can be compared to the scenario where CCPs are implemented, LFA sheep would see costs in that case of only 2.01% on average, and LFA cattle and sheep only 1.61% on average.

5.12.19 It is clear that the critical control points account for the majority of the costs under these two options, comparing them to the same EID implementation option shows that by adopting critical control points the impact on farm business costs is more than halved, although even with CCPs the impact is still significant.

5.12.20 The impact on the profitability of farms has been shown to be variable depending on the option for implementation that is used. The negative effect on profitability that this regulation entails might mean that some farms may see reduced profitability. The following table shows the increase in the percentage of farms with negative net profits as a result of the implementation of this policy.

Table 9 – Increase in farms with negative net profitability

Policy implementation option	Increase in the total number of farms (all farm types) with negative net profit
Option 1	0.00%
Option 2	0.90%
Option 3	0.68%
Option 4	0.68%
Option 5	0.90%
Option 2 without CCPs	1.35%
Option 4 without CCPs	0.90%

5.12.21 The above table shows that although there will be some increase in farms operating with negative net profits as a result of the regulation, especially if Critical control points are not adopted, any increase is likely to be small.

5.13 Goats

5.13.1 There are around 661 holdings with goats and kids in Scotland which keep 4,182 animals (Scottish Government Economic Report on Scottish Agriculture 2009). As there are less than 160000 goats in the UK there is no need to compulsory EID the new herd, but there is the requirement to individually record the animals in holding registers and movement documents.

5.13.2 It is estimated that approximately 1900 kids are born each year and a similar number of deaths to maintain a stable population. Of the kids it is estimated that almost all male kids (98%) and 60% of females will be slaughtered in the first year i.e. approximately 1500 kids, leaving about 400 for breeding purposes.

5.13.3 This RIA uses the same figure for identifying goats and sheep with conventional tags as £0.15 per tag (£0.30 for two).

5.13.4 This RIA assumes that it takes a similar time to identify a goat and a sheep and therefore uses the figure of 33 seconds to apply a single tag (109 animals per hour) and 66 seconds to apply two conventional tags (54 animals per hour).

5.13.5 This RIA assumes that it takes a similar time to manually read and record an individual goat and sheep and therefore uses the figure of 2 minutes per animals (30 animals per hour).

5.13.6 On the basic assumption that there are 3 animals per holding, this RIA assumes that individual animal identities would always be recorded on movement documents and holding registers.

Option 1

Identification

5.14.1 Under this option the identification costs are estimated to be will be **£345** ((1500 x £0.15 = £225) + (400 x £0.30 = £120) = £345.

5.14.2 Using a replacement rate of 5%, and on the basis that a non identical means of identification would be fitted, costs are estimated to be **£17** (5% of 1500 x £0.15 + 5% of 400 x £0.30)

5.14.3 Labour rates associated with identification is estimated to be **£169** (1500 /109 x £7.97) + 400 / 54 x £7.97).

5.14.3 Therefore the total cost for identifying goats under this option is estimated to be **£724**

5.14.4 There are no additional costs associated with identifying animals under this option from the current rules.

Individual Recording

5.14.4 400 animals will require to be recorded on an individual level, but it is assumed all 1900 would be. Therefore the costs associated with individual recording of all goats be manual means is estimated to be an additional **£504** (1900 individual animals at 30 per hour x £7.97 labour = £504).

5.14.5 Therefore the total cost of option one is estimated to be £**1228.**

5.14.6 The total additional costs associated with identifying animals under this option are estimated to be **£504.**

Option 2

5.15.1 This option would see all goats double identified (no slaughter derogation) and individually recorded.

Identification

5.15.2 Under this option the identification costs is estimated to be will be **£570** (1900 x £0.30). This is an additional £225.

5.15.3 Using a replacement rate of 5%, and on the basis that non identical means of identification would be used replacement costs are estimated to be **£29** (5% of 1900 x £0.30). This is an additional £12.

5.15.4. Labour rates associated with identification would be **£280** (1900 / 54 x £7.97). This is an additional £111.

5.15.5 Therefore the total cost for identifying goats under this option is **£879.**

Individual Recording

5.15.6 1900 animals will be recorded on an individual level and therefore the costs associated with individual recording of all goats by manual means would be £**504** (1900 individual animals at 30 per hour x £7.97 labour = £504).

5.15.7 Therefore the total cost of option two would be **£1383.**

5.15.8 The total additional costs associated to this option is therefore estimated to be **£852**

6 Small/Micro Firms impact Test

6.1 Almost all of the sheep and goat farms in Scotland are small businesses, as are most of the markets and abattoirs. The Regulation is directly applicable to all of these and the cost of complying with the Regulation is significant and various according to the type and scale of

business. The Scottish Government has worked closely with Industry and the EU Commission in order to indentify the best solution for implementation and to where burdens could be possibly reduced.

6.2 The cost of compliance will be greater for those businesses that trade a lot of animals and have many movements on and off their holdings. Therefore markets, abattoirs and finishers will be disproportionately affected. Breeders, where the majority of animals are born on their holding will be least affected, but this is dependant on whether or not a slaughter derogation is adopted, and what type. Headage costs should be broadly similar for all size of units although those with less than 100 animals may not require purchasing on farm reading equipment.

7 Legal Aid Impact Assessment

7.1 This proposal does not create new criminal sanctions or civil penalties and is not expected to have any implications on an individual's right to access legal aid.

8 Test run of Business Forms

8.1 No business forms will be involved with the implementation of the proposed legislation.

9 Competition Assessment

9.1 The Regulation is directly applicable in all Member States. It aim is to improve on existing requirements with regards to the identification and traceability of sheep and goats. Given that this Regulation is taken into account for cross compliance for payment under CAP, it is crucial that Scottish farmers are able to comply with the chosen routes for implementation, otherwise they face disallowance.

9.2 The office of Fair Trading (OFT) Competition Filter was carried out using the following questions:

1) Directly limit the number of suppliers?
2) Indirectly limit the range of suppliers?
3) Limit the ability of suppliers to compete?
4) Reduce the supplier's incentive to compete vigorously?

The answer to questions 1, 2 and 4 is negative. However for question 3 the effect the Regulation will have on supplier's ability to compete may depend upon how the Regulation is implemented and the size and nature of the business concerned.

9.3 Where competition could be distorted is if the full or restricted slaughter derogations are adopted. This may encourage keepers, who are able to finish their lambs, to move animals directly to slaughter. However the impact on this is thought to be low as the majority of upland producers would not be able to do so and therefore they may have no option but to electronically identify animals if markets demand this. Cross border competition would also be affected if Scottish implementation is different to English and Welsh implementation.

9.4 Higher costs of production as a result of the Regulation may result in some changes to the number of holdings. However, it should not lead to significant changes in the structure of competition within the market.

9.5 Markets and abattoirs will be affected by the Regulation, irrespective of the means of identification, as they will have to change their practices and or infrastructure to incorporate individual recording. The scale of the business will determine how they do this, but the introduction of EID is not thought to be a barrier to competition.

10 Enforcement, Sanctions and Monitoring

10.1 The Regulation will be enforced by domestic legislation, which in Scotland will replace The Sheep and Goats (Identification and Traceability) (Scotland) Regulations 2006, as amended.

10.2 Local Authorities enforce the current legislation on farm, transport and in markets. The Meat Hygiene Service enforces in abattoirs. The Scottish Government carries out official on farm inspections. It is proposed that responsibility for enforcing the new legislation will remain as is.

11 Monitoring and Review

11.1 Feedback will be provided by the Scottish Industry and by the enforcement bodies involved.

12 Consultation

Within Government

12.1 Colleagues within the Scottish Government and other UK administration have been and will continue to be involved with the implementation of this Regulation.

Public Consultation

12.2 The main industry bodies will be invited to provide their views on the various options. Every effort will be made to ensure that the final package of measures is practical and workable for the Scottish industry.

12.3 This RIA provides estimates on the basis of the best information available and will now be issued for formal consultation. Should the results of the consultation exercise indicate that changes to the RIA are required a further RIA will be submitted to the Committees for consideration.

13 Summary and Recommendations

13.1 Summary of all additional costs (in £millions)

Note – option refers to the means of identification (i.e. option 2 is full EID). The reference to A and B relates to the use of CCP's, A including the use of CCP's, B not. For example

Option 2A refers to full EID with the use of CCP's, Option 2B refers to full EID without the use of CCP's

	Option 1 (Do nothing	Option 2A (Full EID)	Option 2B (Full EID)	Option 3A (Restricted slaughter)	Option 3B (Restricted slaughter)	Option 4A (Full slaughter)	Option 4B (Full slaughter)	Option 5A (Electronic slaughter)	Option 5B (Electronic slaughter)
Means of Id.	£0	£3.6	£3.6	£2.2	£2.2	£0.9	£0.9	£2.8	£2.8
Holding Register	£0	£0.005	£0.005	£0.005	£0.005	£0.005	£0.005	£0.005	£0.005
Use of CCP's		£2		£2		£2		£2	
Non use of CCP's			£6.0		£6.0		£6.0		£6.0
Total costs	**£0**	**£5.6**	**£9.6**	**£4.2**	**£8.2**	**£2.9**	**£6.9**	**£4.8**	**£8.8**
Database cost	£0	£2.0	£2.0	£2.0	£2.0	No data base	No data base	£2.0	£2.0

13.2 Benefits are as outlined in section 4.

13.3 The Regulation requires all Member States to introduce individual animal recording and compulsory EID for populations over a certain number. Various concessions and derogations have been achieved from the Commission over the years which mean there are various options available to each Member State on how to introduce the Regulation. The main options centre on the means of identification to be used, an in particular what type of, if any, slaughter derogation should be used. The Regulations also permit the use of 3rd parties to act as critical control point which can significantly reduce the cost and administrative burden on much of the Industry. Finally the Regulations also permit the use of an individually animal central database which, if in place, can remove some of the paper based burdens at the individual farm level.

13.4 There are various options available on the way to identify animals. Option one, whilst considerably the cheapest option on account of not having to purchase electronic identification and reading equipment or record individual numbers, is ruled out due to the huge risk of infraction and disallowance. Option two provides for full EID of the national flock and would be the most expensive option, however this would be the simplest system to operate as all animals would be identified the same way. Option 3 and 4 allows for the use of slaughter derogations, with the full slaughter derogation (option 4) being the cheapest option. However the issue of mixed batches further down this line makes this option very difficult, if not impossible for large throughput premises (i.e. market and abattoirs) to operate. Option 3

does however remove some of the issue of mixed batch recording by limiting the slaughter derogation to only animals that move direct to slaughter, however this option could somewhat limit options available to this animal later in life. Option 5 looks to address the issue of mixed batch within a batch by introducing an electronic slaughter tag. This means that the full intended slaughter derogation could be introduced in a way that is acceptable for large throughput operators.

13.5 Each option will impact differently on the various Industry sectors and the Scottish Government therefore wishes to implement the Regulations in the most flexible manner possible to cater for individual business needs. As such the Scottish Government will legislate for all options to be made available to producers which will allow Industry and businesses to determine the option that suits them best. These decisions will have to made with consideration being given to the possible destinations of the animals.

13.6 With regards to the option of the use of CCP's, following the responses from the public consultation, the Scottish Government recommends that we make use of this provision in the Regulation and introduce them in Scotland – **option 1**. Cost analysis shows that the use of CCP's could reduce the cost associated with individual recording from over £6 million to £2 million, representing huge cost savings to the Industry. In addition to this CCP's will dramatically reduce the on farm burdens of gathering and recording animals by reading them at the CCP. Although the Scottish Government will provide for the use of CCP's it will be up to individuals to operate as a CCP. CCP's will be subject to set conditions to which they must operate to (minimum standards) but operators may add their own requirements. Where animals are moved outwith CCP premises individual recording will be required at the point of destination for those animals born after 01/01/2010 with individual identities.

13.7 The majority of respondents to the public consultation agreed that it would be sensible for the Scottish Government and its Industry work towards a centralised individual animal database as this would not only assist with animal disease control, but it would reduce the administrative burdens on those who wish to operate electronic systems. The Scottish Government therefore proposes that, in conjunction with the Scottish Electronic Research Pilot, the Scottish Government and Industry will continue to look at all the options available with the aim introducing such a database at some point in the future, but as soon as possible. Further costs and details will be looked at as part any such scoping exercise which could see simple enhancements being made to the existing database or a possible new database.

13.8 The Scottish Government therefore proposes to allow all the various options for identifying animals, permits the use of CCP's and works with Industry on scoping a centralised individual database.

14 Regulatory Quality Declaration

I have read the RIA and I are satisfied that the costs and benefits are accurately captured and that the recommendations are the best one in these circumstances.

Signed:

Richard Lochhead
Cabinet Secretary for Rural Affairs and the Environment
24 November 2009

Data used in EID regulatory impact assessment

Numbers of livestock

- 7,100,000 sheep in Scotland(1)
- 3,700,000 lambs (1)
- 3,400,00 breeding and other sheep (1)
- 2,600,000 lambs intended for slaughter (2)
- 1,500,000 lambs retained for breeding (2)
- 5% tag loss rate (3)
- 5% on farm death rate (2-3% lowland farms, 5-7% upland farms),

[1] Figures from Economic Report on Scottish Agriculture
[2] Estimates from Industry
[3] Tag manufacturer estimates
4 Figures from the Scottish Electronic Research Pilot

Prices

Livestock Labour	£7.97 per hour [1]
Single eartags	£0.15 each [2]
Double eartags	£0.30 per pair [2]
Replacement eartags (non identical)	£0.15 each [2]
EID eartag	£0.85 each [2]
EID Hand held reader	£600 each[2]
Market fixed panel	£10,000 each[2]

Abattoir fixed panel	£5,000 each[2]

[1] Scottish Government Economists on costing Land Management Contracts 2009
[2] Figures from market research

Timings

- 6 seconds per animal to read with hand held
- 3 seconds per animals to read with fixed panel
- 120 seconds per animal to manually read and record
- 5 min to upload electronic batch
- 100 seconds to identify an animals with two means of id (one EID tag, one conventional tag)
- 33 seconds to apply a single tag

(all timings from the Scottish Electronic Research Pilot).