GENERAL REPORT OF
A SERIES OF MISSIONS CARRIED OUT IN 2006-2007
TO EVALUATE CONTROLS OF
ANIMAL WELFARE
AT THE TIME OF SLAUGHTER AND KILLING
The Food and Veterinary Office of the European Commission's Directorate General for Health and Consumer Protection carried out missions to Denmark, Czech Republic, The Netherlands, Slovenia, France, Spain and The United Kingdom between February 2006 and July 2007 to evaluate the controls of animal welfare at the time of slaughter and killing.

The objective of these missions was to evaluate the measures taken to implement the requirements for animal welfare at the time of slaughter and killing laid down in Council Directive 93/119/EC, and how checks had been integrated with the requirements for official controls laid down in Regulation (EC) No 882/2004 of the European Parliament and of the Council. The report presents an overview of the controls in this area and identifies aspects which influence the effectiveness of these controls.

Although there is no EU requirement for training slaughterhouse staff on animal welfare issues, this does take place in many Member States. It allows slaughterhouse workers to better understand the impact of their job on animal welfare and systems of licensing, which again go beyond EU requirements, provide further assurances that animal welfare will be respected at critical stages such as at stunning and slaughter.

The entry into force of Regulation (EC) No 882/2004 has led to more systematic animal welfare checks in slaughterhouses which have been increasingly based on more structured procedures. The increased responsibility for operators to carry out "own checks" means they have a better picture of animal welfare issues within their slaughterhouse and by assessing these records OVs can target specific areas where animal welfare may be at risk. Although it is a basic step in order to establish a functioning control system that officials have an adequate knowledge of animal welfare issues, those carrying out the day to day checks were not always sufficiently trained on the issues involved. Even where training has been sufficient the quality of checks was affected where OVs did not have sufficient time to check the areas of the slaughterhouse where live animals were handled.

Procedures for slaughterhouse approval required by EU legislation are mainly focused on public health and apart from the adequacy of the lairages, animal welfare aspects do not need to be considered. In the absence of prior approval of systems used for restraint and stunning, the OV must assess the suitability of the equipment and installations often with minimal involvement from the other levels of the CA. Where arrangements were in place for an outside body to assess stunning equipment, this provided valuable support to OVs. A disadvantage of such approval procedures was the increased bureaucracy involved, but the advantage was a better and more consistent assessment, although such an assessment is beyond what is required by EU legislation. Regarding religious slaughter, although the slaughtermen must operate under the responsibility of the OV in several cases the competence of these slaughtermen had not been verified by official controls and checks were only made as to whether or not they had been authorised by the relevant religious authority. Several CAs, together with the organisations concerned, have taken steps to refine methods of ritual slaughter, such as in relation to systems of restraint and incorporating stunning methods.

The effectiveness of supervision by the next level of the CA often depended on the extent to which animal welfare had been included in the OVs procedures and the extent to which the subsequent checks were documented. The effectiveness of this supervision was also limited by minimal use of on the spot verification. Animal welfare controls have been the subject of internal audits, a requirement introduced by Regulation (EC) No
882/2004, which are already showing that this more independent evaluation can be a good basis from which official controls can be subsequently improved.

Adequate enforcement can only take place when all other elements of control are in place and this has been greatly assisted where the CA have provided additional guidance and support on procedures for obtaining corrective actions and initiating sanctions.

Inspections of the killing of individual animals on farm are limited, but several CAs have provided guidance to the various livestock sectors to promote the use of suitable methods of killing. Most CAs have made adequate preparations for killing animals humanely during disease outbreak; however, although Directive 93/119/EC provides a certain degree of flexibility regarding the methods of killing, there are doubts regarding the impact on animal welfare of methods which are not listed either in Directive 93/119/EC or referred to in the relevant EFSA opinions or OIE guidelines.

Regarding fur animals, checks have been made more in relation to the methods of keeping the animals rather than killing. In relation to fish, although Directive 93/119/EC does not provide specific requirements, the CAs in several Member States have introduced requirements so that they are killed as quickly and painlessly as possible.

In considering the conclusions of this report, the relevant services of the Commission's DG Health and Consumers will follow-up the situation in each of the Member States as necessary. In the context of the proposal to revise Directive 93/119/EC, consideration will be given to develop a better legal framework which will require a greater knowledge of animal welfare at slaughter for both slaughterhouse staff and officials carrying out controls; also better consideration of animal welfare when equipment is developed by manufacturers and subsequently installed by food business operators and competent authorities to better assess the impact on animal welfare of all aspects involved in killing animals for disease control purposes.
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1. **INTRODUCTION**

The Food and Veterinary Office (FVO) carried out missions to seven Member States (MS) between February 2006 and July 2007 to evaluate the controls of animal welfare at the time of slaughter and killing. The objective of these missions was to evaluate the measures taken to ensure the implementation of the requirements for animal welfare at the time of slaughter and killing laid down in Council Directive 93/119/EC, and how checks had been integrated with the requirements for official controls laid down in Regulation (EC) No 882/2004 of the European Parliament and of the Council. The relevant legislation is indicated in Annex I to this report and the missions on which the report is based are indicated in Annex II.

This report presents an overview of the implementation of EU requirements in this area and identifies aspects which influence the effectiveness of controls. The individual reports are available under their reference number on the website of the European Commission's Directorate General for Health and Consumers. The actions taken or planned by the Central Competent Authorities (CCA) in response to the recommendations in these reports have also been published on the same site: [http://ec.europa.eu/food/fvo/index_en.htm](http://ec.europa.eu/food/fvo/index_en.htm).

2. **BACKGROUND**


This report concluded that there was a better level of compliance in those countries where there was supervision and/or auditing of the work of the slaughterhouse veterinarians and although at this time there were no EU requirements to record or report the results of animal welfare checks within slaughterhouses, where such procedures had been implemented this enabled the CA to better monitor compliance, identify where knowledge was insufficient and take appropriate measures.

The entry into force of Regulation (EC) No 882/2004 from 1.1.2006 and the so-called "hygiene package", which includes Regulations (EC) No 852/2004, 853/2004 and 854/2004, has had major implications for animal welfare checks. These are now subject to the general requirements applicable to other official controls and entail that adequate training is provided to officials, that checks are based on documented procedures and that these are subsequently verified and audited.

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1 Legal acts quoted in this report refer, where applicable, to the last amended version. Full references to the acts quoted in this report are given in Annex I.
In the light of technical developments in this area and the scientific data, including two opinions and reports on welfare aspects of stunning and killing from the European Food Safety Authority, the relevant Commission Services in the Directorate General for Health and Consumers are considering revising Directive 93/119/EC.

3. **OVERVIEW OF THE MAIN FINDINGS AND CONCLUSIONS OF THE SERIES**

3.1. **Knowledge and skill of slaughterhouse staff**

Several different approaches were seen to meet the requirements of Article 7 of Directive 93/119/EC, which indicates that no person shall engage in the movement, lairaging, restraint, slaughter or killing of animals unless they have the knowledge and skill necessary to perform the tasks humanely and efficiently:

- Supervision of slaughterhouse staff by an official veterinarian (OV) was critical to ensure that those handling or carrying out procedures on animals did so appropriately. Particular emphasis was given to procedures at the time of restraint and stunning; however, where time spent by the OV observing the activities in the lairages was limited, poor handling was more likely to be seen. This was particularly the case in poultry slaughterhouses where activities, such as cleaning operations, were sometimes carried out in the vicinity of live poultry waiting to be slaughtered and giving rise to unnecessary distress of the birds. Certain CAs are in the process of better targeting inspections on the basis of a risk analysis, which might improve the level of supervision and in turn improve compliance with requirements for handling animals.

- Licensing of slaughtermen who carry out the actual slaughter is not a specific requirement of EU legislation but is a requirement in the UK, which helped the CA to ensure that competent staff carried out this critical task. The CA have already identified persons with useful skills who could be involved when it is necessary to kill animals on farms for disease control purposes.

- There is also a voluntary scheme in the UK where a member of the slaughterhouse staff is nominated as an Animal Welfare Officer (AWO). After additional training the AWO is subsequently responsible for monitoring compliance on a day to day basis within the slaughterhouse and reports directly to slaughterhouse management. AWOs had drafted procedures for "own checks" within the slaughterhouse and as these were adapted to the practices in each individual establishment they were useful in ensuring compliance.

- Mandatory training of all slaughterhouse staff on animal welfare, again not a specific requirement of EU legislation, was seen in some Member States and promoted an awareness of the concept of animal welfare and the legal requirements. However the subject matter provided in much of this training was

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very general and not sufficiently adapted to the arrangements within different slaughterhouses.

In conclusion, training of slaughterhouse staff allows them to better understand the impact of their job on animal welfare and systems of licensing provide further assurances particularly for critical stages such as the stunning and slaughter. As the CAs have been able to provide a limited level of supervision of these workers; OVs spend most of their time on food hygiene issues within the establishment, there is a need to find arrangements to ensure that once trained slaughterhouse staff act in an appropriate manner.

3.2. Approval procedures in slaughterhouses

Article 31(2) of Regulation (EC) No 882/2004 lays down the framework for the approval of food business establishments, including slaughterhouses. This Article indicates that the approval shall be given only if the food business operator has demonstrated that the establishment complies with the food law.

There are limited specific animal welfare requirements in the food law which have to be considered by the CA granting the approval. Annex III, Section I, Chapter II, point 1 of Regulation (EC) No 853/2004 indicates that there must be adequate lairages or waiting pens which are equipped for watering the animals, and that the size of the lairage facilities must ensure that the welfare of the animals is respected; however, other requirements of Directive 93/119/EC are not included as part of the approval. It was noted that:

- As required, the capacity and design of the lairages for red meat species had generally been adequately assessed in the slaughterhouses visited. However, in a few slaughterhouses visited there was no equipment for watering animals even though, in addition to the requirements of Directive 93/119/EC, this is a requirement for approval of the establishment. Inadequate watering of animals waiting for slaughter was also highlighted in the last general report (DG SANCO/98506/2004 – GR).

- When the CA approves slaughterhouses for non red meat species, such as poultry, there are no specific EU requirements on animal welfare which need to be considered.

Article 6.1 of Directive 93/119/EC requires instruments, restraint and other equipment and installations used for stunning or killing to be designed, constructed, maintained and used in such a way as to achieve rapid and effective stunning or killing in accordance with the provisions of this Directive.

- As an approval procedure is not mandatory for such equipment and installations, most CAs relied on the OV to independently assess that requirements were respected during the day to day operations; however, in France, the CA had set up a Committee for approving the equipment used. When the local CA became aware of methods not on the approved list, they informed this Committee who then carried out a visit. Such a system provided valuable support to OVs when new technologies were installed such as controlled atmosphere stunning/killing of poultry or systems of mechanical restraint. However this system was changed in 2005 when, as part of a general simplification of procedures throughout the French civil service, this Committee was replaced by a working group of industry representatives who now determine the suitability of such equipment.
This change had been too recent to assess its impact on the value of the additional assessment.

- Directive 93/119/EC Annex C, point II, 3, B, 1 requires the CA to establish the strength and duration of the current used for stunning poultry. Many CAs had established the parameters for low frequency currents but had not revised this in relation to the high frequency systems which have become more prevalent. It was also common that parameters for other species or categories of poultry had been overlooked (e.g. ducks). Certain CAs indicated that they had difficulties in defining the parameters for every situation they encountered as there was a scarcity of scientific data and there was already a wide variation between the parameters applied in different slaughterhouses.

- Regarding the design of waterbath stunners, most CAs had taken steps, such as insulated ramps, to ensure that birds did not come into contact with electrified water on the entry ramp of the bath, as required by Directive 93/119/EC Annex C, point II, 3, B, 4. However cases were still seen where birds experienced pre-stun shocks prior to submersion of their head in the bath.

In conclusion, as there are relatively few requirements in relation to equipment and facilities which must be considered in approving slaughterhouses, the impact of equipment and facilities on animal welfare is currently only assessed when they are being used in an operating slaughterhouse.

There are national procedures in certain Member States for assessing and approving equipment and installations in relation to animal welfare which do help to ensure that inadequate facilities and equipment are not brought into use. Such procedures provide a useful support to the OV’s, who are increasingly faced with the use of highly technical methods of stunning. Such procedures can however be bureaucratic to implement. Although it is too early in its implementation to conclude on a national arrangement for a network of specialists on controls in slaughterhouses, such an arrangement should allow animal welfare issues to be better integrated with other controls within establishments.

### 3.3. Training of CA staff

Article 6(a) of Regulation (EC) No 882/2004 requires staff performing official controls to receive, for their area of competence, appropriate training enabling them to undertake their duties competently and to carry out official controls in a consistent manner. In addition, newly recruited OVs have to demonstrate they possess the specific knowledge before being appointed, as laid down in paragraph A of Annex I, Section III, Chapter IV of Regulation (EC) No 854/2004, and official auxiliaries working in slaughterhouses are required to undertake very wide ranging training to comply with paragraph B of Annex I, Section III, Chapter IV of Regulation (EC) No 854/2004. This includes animal welfare. It was noted that:

- Prior to the entry into force of Regulation (EC) No 882/2004, most Member States had included aspects of animal welfare within OV training. Although a veterinary degree and professional experience are a useful basis for persons performing checks in slaughterhouses certain CAs relied on the professional competence of their veterinarians rather than providing any further training on animal welfare issues.
The priority for several CAs was to implement the training arrangements for newly recruited OVs and auxiliaries, with the result that, as there was formally no legal requirement, OVs who had been in post for several years may never have received any training on animal welfare issues.

Training on animal welfare tended to focus on red meat species and there was sometimes little information provided on the very different arrangements in the poultry sector in relation to transport, lairaging and slaughter.

Several CAs operated a cascade system where the central level provided training to trainers at regional level. However, the crucial step of relaying this information to the local level was sometimes ineffective.

The French CA were developing a network of slaughterhouse specialists, who are based at local level and whose tasks include animal welfare. Such specialists act as a link between central level and the OVs in slaughterhouses in relation to information, training and controls of animal welfare at slaughter. This development was taking place at the time of the mission and therefore no conclusions can be drawn on its impact on the subsequent quality of checks.

In conclusion, adequate knowledge is a basic step in establishing a functioning control system but information is not always getting to the local level who carry out the day to day checks, the knowledge of OVs is quite often insufficient regarding the more technically complicated methods of stunning and killing and different sectors of the industry were not always adequately covered in training.

3.4. Examination of food business operators "own checks"

Article 10 (2) (a) of Regulation (EC) No 882/2004 requires official controls to include an examination of any control system that feed and food business operators have put in place. Although it is generally well established for the CA to carry out checks of operators’ "own checks", there was a wide variation in the extent to which animal welfare has been included in such auto-controls and there is further variation in the extent to which OVs have used this information. Records of "own checks" were used by OVs to monitor:

- The training of slaughterhouse staff.

- The stocking densities during transport (Regulation (EC) No 1/2005, Annex I, Chapter VII) where the maximum numbers of animals for typical deliveries of animals had been established by the operator and regularly checked and recorded.

- The stocking densities in lairages. Certain CAs had clarified the requirement for a sufficient number of pens in the lairage (Directive 93/119/EC Annex A, II, 6) by providing figures to the operator which could then be implemented and monitored.

- The effectiveness of stunning and the maintenance of stunning equipment (Article 6 (1) of Directive 93/119/EC). However, the parameters used for the electrical stunning of animals were sometimes at odds with those in CA
instructions, especially where the CA had not sufficiently examined operator records.

In conclusion, the increased responsibility for operators from Regulation 882/2004 has led to them developing more detailed procedures and to have a better picture of animal welfare issues within their slaughterhouse. It has also allowed OVs to assess the records of "own checks" and to use the data for their official controls; verifying the results of "own checks" and using them to target specific areas where animal welfare may be at risk.

3.5. Documented procedures for official controls in slaughterhouses

Article 8(1) of Regulation (EC) No 882/2004 requires that official controls are carried out in accordance with documented procedures. Prior to this, there were no specific EU requirements for the CA to provide guidance on how checks of animal welfare at slaughter should be carried out. It was noted that:

- Where controls in slaughterhouses were carried out by a body other than the CA normally responsible for animal welfare issues, there was a wide variation in the level of effectiveness of the checks. There was either an elaborate system of procedures so that the CCA could ensure that these tasks had been delivered or, if the CA responsible for animal welfare had provided only minimal instructions and the system of reporting involved several different Ministries, the controls were mostly unsatisfactory.

- Prior to the entry into force of Regulation (EC) No 882/2004 the majority of CAs had provided at least some form of guidance for inspections; mostly checklists. The mandatory requirement for more substantial procedures has given rise to an increase in the detection of deficiencies, even to the extent where certain gross deficiencies, which had persisted for years, have been recorded and acknowledged for the first time.

- Where the CCA had produced one set of guidance covering animal welfare at slaughter for all species, many of the points on unloading and lairaging were not relevant for poultry slaughterhouses. As a result, there were situations where unloading of poultry was largely ignored as part of inspection procedures and contingency arrangements for dealing with problems such as a breakdown in the slaughter-line had not been considered and major problems had not been addressed.

- Protocols for daily checks by OVs usually included a point on animal welfare. Although there were certainly advantages in having checks of animal welfare integrated with other daily tasks, it was often left up to the OV to decide what to check. Where there was no further clarification from the CCA, controls often did not extend beyond certain long established practices such as Ante Mortem inspections. The quality of checks was improved if guidance had been provided clearly indicating what to check and providing more technical background for certain requirements.

- Some limitations of the quality of checks were seen where distinct control points had been designated. This was the case where inspections on the efficacy of stunning were carried out at two fixed points in a poultry slaughter-line; at the exit of the stunner and at the entry to the scald tank. As the OV had not assessed
the entire bleeding process and the birds recovered several seconds after bleeding had commenced, but were dead by the time they reached the scald tank, the problem of temporary recovery during bleeding had not been detected.

In conclusion, animal welfare checks in slaughterhouses have improved as a result of the more structured procedures that have been introduced with Regulation (EC) No 882/2004. However, guidance and checklists have not always been sufficiently adapted for the different livestock/meat sectors or have been insufficiently detailed to ensure that meaningful checks take place. CCA guidance was particularly useful where references to the legal basis were provided and was developed in conjunction with training on implementing practical aspects.

3.6. Religious slaughter

Directive 93/119/EC Article 2(8) requires the religious authority to be competent for the application and monitoring of those provisions which apply to religious slaughter. Within the slaughterhouse such authorities operate under the responsibility of the OV. It was noted that:

- In several Member States, OVs had been informed that their responsibilities included verification of the approval by the different religious authorities of persons carrying out ritual slaughter. One CA indicated that regarding the Islamic rite, it was difficult to identify a unique religious authority to provide such approvals.

- The mechanical restraint of bovine animals is obligatory during ritual slaughter (Point 1 of Annex B to Directive 93/119/EC); however there were differences between Member States in how this restraint was practised with animals always turned on their back in several Member States, whereas in Denmark, in order to avoid animals being distressed due to this method of restraint, cattle had to be maintained in an upright position at the time of slaughter.

- Article 5.2 of Directive 93/119/EC allows an exemption from stunning before slaughter according to religious rites. In Denmark, France and the UK the religious authorities had accepted the use of electrified waterbaths prior to slaughter of poultry. In Denmark cattle slaughtered according to the *halal* method all received prior stunning. The French CCA were working to further define the reversibility of stunning in order to promote the integration of stunning methods into methods of religious slaughter.

- Although not an EU requirement, the Dutch CA had introduced a system whereby slaughter without stunning was performed after the Islamic or Jewish organisations provided a “declaration of need”, which included the species and numbers of animals required. This was discontinued due to difficulties with its implementation. Several CAs pointed out that animals could be slaughtered without stunning and the meat subsequently marketed with no indication that it had been derived from animals which had not been previously stunned.

In conclusion, although it was sometimes the case that the CAs had not adequately verified the technical competence of persons carrying out ritual slaughter, several CAs, together with the religious organisations concerned, have taken steps to refine methods of ritual slaughter in order to minimise the distress of the animals involved.
3.7. Verification of the effectiveness of checks and internal audits

In addition to ensuring that OVs have sufficient knowledge and have received sufficient instructions for carrying out their work, the CA are required to have a system in place to verify the effectiveness of controls carried out (Article 8(3)(a) of Regulation (EC) No 882/2004). It was noted that:

- Supervisory visits made by the next level of the CA generally assessed whether documented procedures were followed or not. However, as these procedures often simply asked for animal welfare to be assessed without providing sufficient specifics on what to check, the checks themselves and their subsequent verification were often limited. Where guidance had been provided, sufficient clarification given on the requirements of Directive 93/119/EC, and checks verified, major deficiencies were less likely to go undetected or ignored.

- In several Member States, the programmes for internal audits, as required by Regulation (EC) No 882/2004 Article 4(6), have included animal welfare at slaughter and are showing promising results. An advantage of these audits over the usual system of supervising laid down in Article 8(3) of Regulation (EC) No 882/2004 is that the persons involved are not part of the hierarchy for implementing inspections and are therefore able to take a fresh look at the controls in place. As a result, in addition to assessing whether procedures have been followed or not, they are more likely to conclude on whether such procedures facilitate an adequate assessment of the legal requirements. However, in some Member States there have been difficulties in finding a suitable expert for such audit teams who is both familiar with the technical requirements of Directive 93/119/EC and is sufficiently independent from the chain of command implementing controls.

In conclusion, the usefulness of the verification of checks is limited by the extent to which the checks themselves, and the subsequent records produced, cover the different stages prior to and including slaughter. Relying solely on records of official controls without some element of on the spot verification has also led to deficiencies going undetected. Internal audits by a team, which is independent from the hierarchy responsible for controls, are showing better results in evaluating the effectiveness of checks carried out.

3.8. Enforcement Measures

Article 9.3 of Regulation (EC) No 882/2004 requires the CA to provide a copy of the inspection report to the operator at least in cases of non-compliance, Article 54 requires the CA to ensure that deficiencies are remedied and Article 55 that sanctions are proportionate and dissuasive.

- It has been the established practice for most OVs to inform slaughterhouse management of problems orally and written notifications were reserved for the most serious issues or where problems were proving difficult to resolve. This approach has been effective in getting problems resolved, but this was usually the case where the CAs also followed more stringent procedures if their first approaches had been unsuccessful.

- Several CAs had provided the OVs with a model letter for referring cases to another state body responsible for enforcement action and indicated the main
points which should be included. This assisted in making the system of imposing sanctions more efficient as documentation was well prepared and was presented to the enforcement body in a consistent format.

In conclusion, adequate enforcement can only take place when all the other elements of control are in place and is greatly assisted where additional guidance and support have been provided by the higher levels of the CA.

3.9. Reporting of checks

Although Directive 93/119/EC requires checks to be carried out, it does not require the outcome of these inspections to be recorded. Regulation (EC) No 854/2004 Annex I, Section II, Chapter I, point 1 requires the OV to record and to evaluate the results of inspection activities and point 3 of this Chapter indicates that the results of inspections should be included in relevant databases. Each CA is also required by Article 44 of Regulation (EC) No 882/2004 to submit an annual report, for the first time in 2008, on the results of controls and audits carried out. It was noted that:

- In many Member States although animal welfare checks were being carried out, they were not being systematically recorded in all slaughterhouses.

- Some CAs collate only general information on official controls carried out, in certain cases only the number of animal welfare checks were recorded. Such data provides the CA with a limited basis to evaluate animal welfare inspections. Certain CAs were working on a database to facilitate the recording and evaluation of the results of checks.

In conclusion, although the reporting of the results of official controls and their subsequent evaluation is required by Regulation (EC) No 882/2004, this has sometimes been implemented by the CA in a way which does not enable them to evaluate particular inspection activities such as checks of animal welfare.

3.10. Slaughter and Killing outside Slaughterhouses

Article 12 of Directive 93/119/EC requires that injured or diseased animals must be slaughtered or killed on the spot, although the CA may authorise their transport for the purpose of slaughter or killing provided that such transport does not entail further suffering for the animals. This requirement has been strengthened by Chapter I of Annex I to Regulation (EC) No 1/2005, which further specifies certain conditions when animals should not be considered fit for transport.

- Useful guidance documents had been developed in the UK, and in France a "traffic light" classification system with examples and photographs for both the bovine and porcine sector was under development. Such guidance provides practical support to veterinarians and farmers when faced with the decision whether or not to transport injured live animals to a slaughterhouse.

- The majority of CAs had initiated sanctions when severely injured large animals had been transported and this has led to a reduction in the number of such cases. Chapter VI of Section I of Annex III to Regulation (EC) No 853/2004 provides the circumstances for allowing the carcases of such animals, after they have been killed on farm, to go for human consumption.
Where meat was produced on farm premises, either on tourist farms or for own consumption, there were controls to assess whether stunning was being used and by a person competent to carry this out. Captive bolt pistols were used by farmers operating large intensive pig rearing systems in several Member States so that sick or injured animals could be disposed of humanely and efficiently.

In both the UK and Denmark, the killing of end-of-lay laying hens on farm had come in for particular attention. In the UK there were detailed provisions for killing birds outside slaughterhouses with gas. In Denmark the OV monitors the number of birds dead on arrival at the slaughterhouse, and those with broken wings or legs to verify whether the birds had been fit for transport. In order to facilitate the laying hen sector to dispose of birds which would not be considered fit for transport, certain parts of the industry in Denmark had developed a mobile plant for killing the birds on farm and transforming the carcases into a pulp for feeding to mink.

In conclusion, although inspections of the killing of animals on farm are limited, several CAs have provided guidance to the various livestock sectors in order to promote the use of suitable methods of killing. Where the CA has taken effective enforcement action in relation to the transport of unfit animals, this has led to a reduction in the number of such animals being transported for slaughter.

3.11. Killing of animals in disease outbreaks

Generally there was a high degree of preparedness for dealing with epizootic diseases, especially in the poultry sector. The appropriateness of the killing method, as required by Article 10 (1) and Annex E of Directive 93/119/EC, is usually decided at a high level within the CA or by a designated national control centre set up to deal with an outbreak. The basis for the decision usually includes the species, number of animals and assessment of farm. It was noted that:

Simulation exercises which included thorough assessments of the practicalities and advantages/disadvantages of the different killing methods were more likely to be carried out where the CAs had already extensive experience in dealing with large scale outbreaks. Exercises which were as realistic as possible, allowed the CA to realise the importance of the role of external partners and the need for sufficient personnel for both handling and killing animals. It also allowed the CA to assess the appropriateness of the different methods of killing and the rate at which animals could be humanely destroyed.

Access to equipment, materials and personnel was mostly ensured from within the CA's own resources or through contracts made with outside bodies. Certain CAs indicated that it was a heavy administrative burden to establish and maintain contractual arrangements with slaughtermen or companies supplying killing equipment as part of their preparedness for dealing with disease outbreaks.

When CO\(_2\) is used as a method of killing, Directive 93/119/EC Annex C, III, 3 requires the CA to lay down the concentration and time of exposure. The concentration for use in containers for killing poultry varied between Member States (50%, 60% or 70%) and one CA indicated that birds would be exposed to 50% for two minutes while another indicated 60% for one minute. One CA had also indicated that these containers would be used for killing piglets of less than
20 kg, using a slide to facilitate their entry into the container and a concentration of 90% CO₂.

- For larger poultry farms sealing the building and pumping in the gas was the preferred option of the majority of CAs. According to one, it was necessary to achieve a concentration of 40% CO₂ and allow at least 20 minutes of exposure to the gas, but not all the CAs had worked out how they would achieve their target concentration (kg of CO₂ needed for each 1000 m³ of air in the building). CAs experienced with this method outlined certain welfare problems including birds panicking due to the noise of the introduction of gas, birds coming into contact with freezing gas and its limitation to buildings where the birds were kept at heights of less than 1.5m.

A number of methods which have been used or which are proposed in contingency plans are either not listed in Directive 93/119/EC or referred to in the relevant EFSA opinions or OIE guidelines. In relation to these methods it was noted that:

- In relation to killing pigs, an electrocution machine has been used in several Member States. The pigs are driven onto a conveyor belt which leads to electrified chains. This has been used to kill a large number of animals during outbreaks of epizootic disease; however apart from limiting its use to pigs more than 30kg, as smaller pigs are more likely to turn around prior to coming in contact with the electrified chains, the CAs who had authorised its use had only carried out visual assessments on how such equipment operated and had no scientific assessment on whether pain or suffering were experienced prior to death.

- The use of alphachloralose in feed followed by asphyxiation of the birds in bags was a method held in reserve by one CA. The shutdown of the ventilation system in poultry houses had been approved by one CA. This had not yet been used and was to be considered only in very limited circumstances when all other methods were unavailable and it was necessary to safeguard human safety in dealing with a highly pathogenic and dangerous disease. The CA indicated that apart from it being a method of last resort, supplementary heat to provoke hyperthermia would also be provided and that each occasion this method would be used it would require authorisation from a high level Government Minister.

Although largely unpopular with the majority of CAs due to its risks for human safety, the use of hydrogen cyanide was still included in some contingency plans although it causes respiratory difficulties in all animals before the onset of unconsciousness³. There was ongoing research work in a number of Member States to further assess methods of mass killing during disease outbreaks.

In conclusion, most CAs have made adequate preparations for killing animals humanely during disease outbreaks. Directive 93/119/EC does provide a certain degree of flexibility regarding the methods of killing; however, certain methods, particularly those which are not listed either in Directive 93/119/EC or referred to in the relevant EFSA opinions or OIE guidelines, should be more fully investigated by a CA before adopting them for use.

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³ EFSA report "Welfare aspects of animal stunning and killing methods," 13.4.7 adopted on 15 June 2004
3.12. Fur animals

Fur farming takes place in six out of the seven Member States visited; however there were limited checks on the implementation of the requirements of Annex F of Directive 93/119/EC by the CAs in these countries. The CAs were aware of the main methods used, which were those listed in this Annex; however, where checks had been made these were usually of farm conditions and had not been targeted for the time of year when killing is carried out.

3.13. Fish

Directive 93/119/EC does not provide any specific requirements for the killing of fish. Nevertheless in Denmark legislation contains a requirement that anyone killing animals, including fish, must ensure that the animal is killed as quickly and painlessly as possible and checks carried out by OVs are included in the programme for food hygiene in fish cutting plants. In the Czech Republic, legislation previously contained a provision for mandatory stunning of fish before slaughtering; however, recent changes in their Animal Welfare Act abolished this provision. The CAs in the several other MSs were involved in evaluating methods which were under development for stunning fish.

4. Action by Commission Services

Arising from this General Report the relevant Commission Services in DG Health and Consumers propose to take the following action:

4.1. To follow-up the situation in relation to each of the Member States identified in the individual reports as not having properly implemented EU legislation, and to consider the possibility of further appropriate action where areas of non-compliance have not been satisfactorily addressed.

4.2. To consider the conclusions of this overview report in the context of the proposal to revise Directive 93/119/EC. In particular to require:

- A greater knowledge of animal welfare at slaughter both for slaughterhouse staff and officials carrying out controls.
- Animal welfare to be better considered when equipment is developed by manufacturers and subsequently installed by food business operators.
- Competent authorities to better assess the impact on animal welfare of all aspects involved in killing animals for disease control purposes.
ANNEX I – LEGAL BASIS FOR MISSIONS AND OTHER RELEVANT LEGISLATION

The missions were carried out under the general provision of Community legislation and, in particular:

- Article 14 of Directive 93/119/EC;
- Article 45 of Regulation (EC) No 882/2004;
- Commission Decision 98/139/EC.

Full references to the acts quoted in this report are given in the following table:

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## ANNEX II - INDIVIDUAL MISSIONS

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<td>Czech Republic</td>
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All reports can be found by entering the mission number in the search engine of the SANCO web page: [http://ec.europa.eu/food/fvo/ir_search_en.cfm](http://ec.europa.eu/food/fvo/ir_search_en.cfm)