



Department
for Environment
Food & Rural Affairs

The Mandatory Use of Closed Circuit Television in Slaughterhouses (England) Regulations 2018

Post Implementation Review

June 2023

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Contents

Introduction	4
Objectives of the Policy	5
Rationale	5
Implementation of the Regulations	8
Review scope and approach.....	11
Sources of Evidence	11
Have the 2018 Regulations met their objectives?.....	12
Objective 1: Improve animal welfare in slaughterhouses.....	12
Objective 2: Provide assurance that all slaughterhouses are operating to high welfare standards.....	15
Costs and Benefits.....	16
Costs and benefits going forward	18
What are the likely costs and benefits going forward?.....	18
How likely are unintended impacts in the future?	19
Is regulation still the best option for achieving these objectives?	19
Summary of proposals for improvement	19
Enforcement.....	19
90 Day Retention period.....	20
Widening the remit of the Regulations.....	20
Conclusions	22
Limitations of this review.....	23
Annex A: Letter to stakeholders.....	24
Annex B: Organisations that responded in writing to the letter	27
Annex C: Costs and Benefits.....	28

Introduction

1. In 2017 a Government manifesto commitment was made that Closed Circuit Television (CCTV) recording in slaughterhouses would become mandatory.
2. Prior to this there had been several cases of covert filming by animal welfare organisations of animal cruelty and abuse in slaughterhouses and widespread media coverage. As a result, there were many public and Parliamentary calls for the introduction of CCTV in all approved slaughterhouses.
3. Animal welfare organisations (e.g. Compassion in World Farming, World Horse Welfare and the RSPCA) and veterinary organisations, such as the British Veterinary Association, had all called for mandatory CCTV in slaughterhouses for animal welfare purposes.
4. Following a report from the Farm Animal Welfare Committee and a public consultation on proposals for mandatory CCTV in slaughterhouses, to which 99% of respondents were in favour, Government concluded that it should proceed with its manifesto commitment to introduce mandatory CCTV recording in slaughterhouses in England.
5. Under the Mandatory Use of Closed Circuit Television in Slaughterhouses (England) Regulations 2018¹ (the CCTV Regulations), all slaughterhouses in England are required to install and operate a CCTV system in all areas of the slaughterhouse where live animals are present, such as where they are unloaded, kept, handled, stunned and killed. The Regulations came into force on 4 May 2018 (for the purpose of Regulations 1 to 4 and 15) and 5 November 2018 (for all other purposes).
6. Regulation 15 of the CCTV Regulations set out a requirement to review the legislation, and to publish an initial report within a five-year period. The report must, in particular:
 - a. set out the objectives intended to be achieved by the regulatory provision;
 - b. assess the extent to which those objectives are achieved;
 - c. assess whether those objectives remain appropriate; and
 - d. if those objectives remain appropriate, assess the extent to which they could be achieved in another way which involves less onerous regulatory provision.
7. The Department for Environment, Food and Rural Affairs (Defra) has carried out the following review of the CCTV Regulations to assess the effectiveness of the current legislation, consider its impact and suggest refinements.

¹ <https://www.legislation.gov.uk/uksi/2018/556/made>

Objectives of the Policy

8. As set out in the Impact Assessment (IA)² which accompanied the consultation on the CCTV Regulations, the policy objectives of the legislation were i) to improve animal welfare and ii) to provide assurance that slaughterhouses are operating to high welfare standards. The Regulations' accompanying Explanatory Memorandum also set out additional benefits: *'Government also recognises the considerable benefits that can accrue to the industry from the structured use of CCTV in slaughterhouses, from in-house assessment of operations and effective staff training to increased public confidence.'*

Rationale

Farm Animal Welfare Committee

9. The Farm Animal Welfare Committee (FAWC) was commissioned by UK Governments to produce an independent assessment of the benefits of CCTV in slaughterhouses. The report³ was published in February 2015.
10. CCTV was identified as offering real benefits in slaughterhouses as an important complement to official physical observation and verification of slaughterhouse practices, and effectively recording animal welfare abuses. FAWC recommended that:
 - a) all approved slaughterhouse operators should install CCTV in all areas where live animals are kept and where animals are stunned and killed;
 - b) CCTV cameras should be installed so as to permit a clear and uninterrupted view of the processes being recorded at all times;
 - c) CCTV footage should be accessible to and viewed on a regular basis by Food Business Operators (FBO) staff, Animal Welfare Officers (AWOs) and Official Veterinarians (OVs) to ensure business compliance, particularly in those areas and for those processes where the risk of non-compliance is higher;
 - d) CCTV footage should be retained by the slaughterhouse for a period of at least three months and be made available to authorised officers beyond this time if there is an indication that it might be used as evidence in enforcement action; and

² https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/400796/Opinion_on_CCTV_in_slaughterhouses.pdf

- e) CCTV should not replace, reduce or be considered a substitute for current controls of slaughterhouse practice undertaken by OVs, AWOs, slaughter operators and others. FAWC recognised its additive value towards protecting animal welfare and benefiting the plant operator's business.
11. Drawing heavily on FAWC's recommendations, two industry bodies – the British Meat Processors Association and the Association of Independent Meat Suppliers – produced a protocol⁴ for the industry on the use of CCTV in slaughterhouses (November 2015). The Food Standards Agency (FSA) joined this agreement with industry, which formed a basis for access by OVs to existing CCTV footage prior to the introduction of the CCTV Regulations.
12. This voluntary protocol had its limitations as it did not commit slaughterhouse operators to provide access to OVs. It also only applied to premises that already had CCTV so did not impact rates of CCTV take-up.

Voluntary take up of CCTV

13. Prior to the introduction of the CCTV regulations, voluntary uptake of CCTV, which was largely prompted by major retailers' and assurance scheme requirements, was by no means universal nor comprehensive in providing for monitoring and verification of compliance with animal welfare requirements. Voluntary CCTV uptake appeared to have stalled with only around 50% of red meat slaughterhouses and around 70% of poultry slaughterhouses in England and Wales having adopted CCTV for animal welfare purposes by 2016⁵.
14. Slaughterhouses that voluntarily installed CCTV had not all done so in a comprehensive manner. For instance, many slaughterhouses did not have cameras in all areas where live animals are kept or where animal welfare could be compromised (see table below for details). This meant that even in slaughterhouses where CCTV was installed, key areas of welfare risk were not covered by cameras.

⁴ https://old.food.gov.uk/sites/default/files/cctv_official_access_protocol.pdf

⁵ <https://webarchive.nationalarchives.gov.uk/ukgwa/20171207170750/https://www.food.gov.uk/sites/default/files/cctv-survey-results-2016.pdf>

Table 1 CCTV Coverage by processing point ⁶

Processing Point	% of CCTV coverage in this area
Unloading	46%
Lairage	43%
Race and Restraint	37%
Stun area	37%
Bleed area	38%

15. Slaughterhouses that had not adopted CCTV were more likely to be small and micro businesses that were not supplying major retailers and not certified by high welfare quality assurance schemes, which usually required CCTV as part of their standards.
16. Given the large numbers of animals slaughtered per year, even small proportions of total throughput can involve very large numbers of animals. While the majority of animals were slaughtered in plants that had, to some extent, installed CCTV for animal welfare purposes, there were still significant numbers of animals that had no such protection. The table below illustrates the numbers of animals these small overall proportions can equate to.

Table 2: the percentage and quantities of animals killed in English and Welsh Slaughterhouses without CCTV ⁷

Species	% of animals killed without CCTV	Approximate Numbers of animals killed
Poultry	1%	10,000,000

⁶ Figures taken from: <https://old.food.gov.uk/sites/default/files/cctv-survey-results-2016.pdf>. These figures show the specific areas where cameras were found in slaughterhouses that already had CCTV coverage as of 2016.

⁷ <https://old.food.gov.uk/sites/default/files/cctv-survey-results-2016.pdf>

Cattle	9%	200,000
Pigs	3%	250,000
Sheep	14%	2,000,000

Enforcement

17. Before the CCTV regulations came into force, there had been problems with compliance and enforcement where FSA OV's were not present at the time when breaches had taken place. There had been cases of covert video footage which showed deliberate animal cruelty in slaughterhouses when the OV was not present, including in premises where there was already CCTV installed. The OV is responsible for monitoring the FBO's compliance with animal welfare, meat hygiene and other requirements but cannot be present at all parts of the process and at all times. Without access to CCTV, it proved a greater challenge to determine if a non-compliance had taken place and to gather evidence for it. Indeed, the Government commitment to introduce mandatory CCTV in slaughterhouses reflected widespread concern following several well publicised cases of animal abuse in slaughterhouses captured by covert filming.
18. In the 2016 FSA CCTV survey⁸, almost one fifth of abattoirs with CCTV said they would not allow unfettered access to CCTV footage for OV's of the FSA. Prior to 2018, OV's had the power to seize slaughterhouse operators' CCTV footage but only had if they had reasonable grounds for believing there has been a breach of the animal welfare regulations. Unfettered access was considered essential to allow OV's to determine what CCTV they should view, aiding them with monitoring and taking any necessary enforcement action.

Implementation of the Regulations

19. A six-week public consultation⁹ on proposals to require CCTV in all slaughterhouses in England closed in September 2017. We received nearly 4000 responses, from groups including industry, animal welfare bodies and the public. More than 99% of responses were in favour of mandatory CCTV recording in

⁸ <https://old.food.gov.uk/sites/default/files/cctv-survey-results-2016.pdf>

⁹ <https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/>

slaughterhouses. The summary of consultation responses and the government response¹⁰ were published together.

20. Government concluded that it would:

- a) proceed with its manifesto commitment to introduce mandatory CCTV recording in slaughterhouses;
- b) carefully consider all views and work with regulatory bodies to develop the policy;
- c) discuss the technical specifications further with regulatory bodies to understand how to implement the requirement to provide a clear and complete view of operations and include this in guidance;
- d) require a 90-day retention period of CCTV recordings by the FBO;
- e) legislate for unfettered access to CCTV recordings for monitoring, verification and enforcement purposes by those who require it for these purposes;
- f) apply requirements for mandatory CCTV recording to all approved slaughterhouses so that all animals should be offered the same level of protection at the time of killing;
- g) allow a reasonable transition period from the coming into force of the legislation to help slaughterhouses to comply with requirements for mandatory CCTV recording; and
- h) consider with other regulatory bodies what guidance can be provided on technical specifications and data protection to enable slaughterhouse operators to comply with their legislative responsibilities.

Legislation and guidance

21. Legislation was drafted to take account of the Government's policy objectives and the results of the consultation exercise. A six-month transition period was built into the legislation to allow for slaughterhouses to install or improve their CCTV systems.

22. In advance of the legislation coming into force in May 2018, Defra and FSA embarked on a communication and engagement programme aimed at ensuring that the industry was fully aware of the requirements on it to install and operate a CCTV system in the slaughterhouse, but also that the detailed requirements were explored and understood.

23. In addition to formal guidance¹¹ on GOV.UK on how slaughterhouse operators should implement the CCTV Regulations, FSA officials undertook a series of visits

¹⁰ <https://www.gov.uk/government/consultations/animal-welfare-cctv-in-slaughterhouses>

¹¹ [CCTV in slaughterhouses: rules for operators - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/animal-welfare-cctv-in-slaughterhouses)

to all approved slaughterhouses to engage on implementation timelines and issues. Defra and FSA officials also held workshops with slaughter industry representative bodies and companies during the transition period to understand and answer concerns with the CCTV Regulation and its implementation. A Q&A document was developed to deal with the various issues raised and to communicate the answers to industry. Presentations were also given at FSA and Humane Slaughter Association conferences during this period.

24. Where significant issues were raised, for example whether CCTV cameras should be placed in gas stunning systems for pigs and poultry, officials made visits to slaughter premises to see the particular difficulties for themselves and discuss with industry representatives. Decisions on all issues were communicated to the industry direct and via the live Q&A document. Other issues which were resolved during the implementation period included:
- where cameras should be placed for visibility of electrical waterbath systems;
 - how birds in modular transport systems might be visible in the lairage;
 - whether movement sensitive cameras would be acceptable in different areas of the slaughterhouse;
 - whether particular lenses (such as fisheye lenses) would be acceptable; and
 - what should be the minimum frame rate for video capture and recording.
25. Compliance with the requirements to have an operational CCTV system in place by 5 November 2018 were carefully monitored and managed in line with the FSA enforcement hierarchy. Verbal advice was given during the transition period with visits made to all slaughterhouses. Any slaughterhouse not in compliance on 5 November 2018 was issued a written warning and were required to confirm a date when CCTV installation and commissioning works would be completed. This approach recognised a shortage of CCTV contractors in some areas that had made compliance difficult for some. It also recognised a late decision made on cameras in gas systems, giving more time for installation. Any plants missing these completion dates were issued with Enforcement Notices with final completion dates beyond which slaughterhouse operations could be slowed or stopped for non-compliance. 100% compliance was achieved early in 2019.

Review scope and approach

26. Regulation 15 of the Regulations sets out that a post implementation review must assess:
- the extent to which the 2015 Regulations have achieved their objectives, as set out in the IA¹²;
 - whether the objectives are still appropriate and/or if they could be achieved in a way that involves less onerous regulatory provision.
27. The level of evidence gathering and analysis undertaken for a post-implementation review should be proportionate to the impact of the regulations. According to the original IA, the Annual Net Direct Cost to Business of these reforms was expected to be relatively low (£0.3 million)¹³ which would indicate that a lighter-touch approach to data collection and stakeholder engagement would be appropriate.

Sources of Evidence

28. This review draws on several sources of evidence. Key stakeholders were invited to submit comments in writing. Defra's letter of 24 November 2022, which is included in Annex A, requested comments (with evidence, if relevant) on the extent to which the 2018 Regulations have achieved their objectives. We received written responses from ten organisations. A list of these organisations is in Annex C.
29. We also met with a group of industry representatives on 31 January 2023 and a group of representatives from animal welfare charities and veterinary bodies on 2 February 2023. We discussed the submitted written responses and posed follow up questions to further assess the effectiveness of the Regulations.
30. We have consulted regularly with the FSA when drafting this review and used several of their published papers to inform our analysis.

¹² https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf

Have the 2018 Regulations met their objectives?

31. As set out in the accompanying IA¹⁴, the objectives of the CCTV Regulations were to maintain and improve animal welfare standards in all approved slaughterhouses and provide assurance that all slaughterhouses are operating at high welfare standards. A related goal was to ensure that FSA OVs could operate as effectively and as efficiently as possible, by providing them in the best way with the information they needed to do their jobs.

Objective 1: Improve animal welfare in slaughterhouses

Assessing animal welfare improvements

32. Our assessment of the CCTV Regulation's objectives took account of the challenge of identifying direct links between the CCTV Regulations and improved animal welfare standards in slaughterhouses. Firstly, CCTV was already in place in a number of slaughterhouses before the introduction of the CCTV Regulations, so measuring the impact of the Regulations specifically is difficult. However, stakeholders have highlighted that the CCTV Regulations offer consistency across slaughterhouses and ensure that all operate at high standards.

33. Secondly, while CCTV is likely to cause an overall reduction in the number of incidents of poor animal welfare, due to the usefulness of this tool in enforcement, monitoring of mandatory CCTV could actually trigger an uptick in the number of non-compliance incidents recorded. We have therefore identified a range of success measures for these Regulations, beyond relying on any change in the number of welfare incidents recorded.

Deterrent effect

34. In the original IA, it was anticipated that as a result of more comprehensive and more accessible CCTV coverage, there would be behavioural change on the part of slaughterhouse staff because of CCTV cameras serving as a deterrent to animal welfare malpractice. Stakeholders presented mixed views about the effectiveness of CCTV as a deterrent. Some stakeholders have indicated that the deterrent effect is felt more keenly by some than others, while other stakeholders suggested that the deterrent effect of CCTV diminished over time and highlighted that there were high standards of animal welfare in slaughterhouses before the CCTV Regulations

¹⁴ [CCTV internal IA final.pdf \(defra.gov.uk\)](#)

came into force. Signage in slaughterhouses informing employees that CCTV is in operation and introduction and training of new staff on an ongoing basis could prolong the deterrent effect.

35. Despite the difficulty of relying on non-compliance data when assessing these Regulations, there have been indications that the number of welfare incidents has decreased. The analysis of non-compliance data indicates that there was a 30% reduction in the number of major and critical animal welfare non-compliances in 2020/21 compared to the previous year¹⁵. The 2019/20 data contained a significant number (98) of non-compliances specifically related to the implementation of the CCTV Regulations and Annex II of 1099/2009, following these regulations coming into force in that period. Removing those from the dataset shows a more realistic decrease of 11%¹⁶.
36. A plausible contributory factor for this reduction in welfare non-compliance incidents is the introduction of the CCTV Regulations. While recognising that the deterrent effect may vary across circumstances and over time, this would suggest that there is some degree of deterrent effect from CCTV and related enforcement.

Monitoring, enforcement and improvement

37. While CCTV was not expected to replace direct oversight by slaughterhouse staff, AWOs and OVs, it was anticipated to be a useful tool in improving the efficiency of monitoring and enforcement activity with associated animal welfare benefits.
38. CCTV can provide OVs with the information they need to monitor compliance with regulations more readily and more conveniently, record individual events and support audits. OVs cannot always be present at all parts of the slaughter process and CCTV allows for retrospective identification and investigation of welfare incidents. OVs are also able to better observe live animals in high welfare risk areas on a more regular basis as well as in areas that are inaccessible or dangerous to observers. Inspection of animals via CCTV can also detect unguarded behaviours that might be hidden from present human observers, for example lameness in sheep.
39. The benefit of CCTV footage is that it can have authenticity and transparency as evidence and can be retained for long periods. FSA enforcement data for 2020/21 indicates that at least 10% of slaughterhouse non-compliances are identified either by live or retrospective CCTV viewing and that CCTV is routinely used as evidence

¹⁵<https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

¹⁶ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

to support enforcement action. Analysis of non-compliance data shows a gradual increase in the number of instances where CCTV was used in incident reports.

40. Since the CCTV Regulations came into force on 5 November 2018, CCTV recordings are routinely collected in most instances to support suspensions or revocations of Certificate of Competence (CoC), issuing of Welfare Enforcement Notices and in most instances of investigations and prosecutions. There were 39 CoCs suspended or revoked in 2020/21 of which 13 utilised CCTV to support determination of the outcome; this equates to 33% of all suspensions and revocations.¹⁷ CCTV can also provide valuable evidence to support the actions of CoC holders where uncertainty over performance existed¹⁸. This has supported FBOs and OVs with the option to resolve issues and identify potential training needs without necessarily suspending the CoC.
41. This increased monitoring and enforcement capability allows for continuous improvement of welfare standards. Increased identification of non-compliances provides increased opportunity to instigate retraining of staff following an incident. Stakeholders have indicated that CCTV footage can be used to identify incidences of good and bad welfare standards and utilised to demonstrate best practice. They described how some plants have excellent footage which identifies exemplary skills of individuals which can be shared in training. CCTV can also help identify the root cause when there has been an incident and the best way to move forward and prevent re-occurring issues. These opportunities for continuous feedback and improvement help promote better welfare standards in the future.
42. As indicated by stakeholders through consultation, mandatory CCTV is not a panacea for preventing poor animal welfare standards, but nonetheless it is a useful tool for industry and regulators to use in pursuing high welfare standards in slaughterhouses. Increased identification of incidences and appropriate enforcement action supports continuous improvements of animal welfare standards, as it provides an opportunity to highlight inappropriate behaviours, instigates further training and ensures that those who are unfit for the role are removed from it.

Covid-19 Pandemic

43. There is evidence to suggest that CCTV has improved animal welfare by enabling welfare monitoring, particularly during the Covid-19 pandemic. According to the FSA, throughout the pandemic, CCTV was utilised in slaughterhouses for routine welfare monitoring where social distancing would have created difficulties for in-

¹⁷ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

¹⁸ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

person observations. Non-compliance data analysis from this period indicates that there was no significant difference compared to the previous year, showing that FSA monitoring remained effective.¹⁹

Objective 2: Provide assurance that all slaughterhouses are operating to high welfare standards

44. In reviewing the evidence and discussing with stakeholders, it is clear that mandatory CCTV plays an important role in providing assurance that slaughterhouses are operating at high welfare standards.

Assurance to competent authorities

45. FSA staff are required to monitor both live and historical CCTV footage on a regular basis every operational day. Protocols are in place to allocate viewing responsibility to members of the inspection team, with at least 15 minutes of footage to be viewed and the time and period of footage viewed recorded.²⁰ Mandatory CCTV has proved integral to the monitoring activities of the FSA, allowing for verification of compliance with legislation. CCTV has allowed for retrospective monitoring, when the OV is not present at the site of an incident. Between 2019 and 2022, the FSA recorded 117 instances where retrospective CCTV was used as evidence to support enforcement action, and there has been at least one successful prosecution as a result of retrospective viewing.

Protection against unfounded allegations

46. Stakeholders have highlighted that while CCTV can provide useful evidence in instances of poor welfare, it also can provide assurance to the slaughterhouse operators and their customers in the event of an unfounded complaint. When consulting with stakeholders for this review, stakeholders indicated that there have been circumstances where CCTV has been able to refute unfounded allegations.

Retailer and consumer confidence

47. Industry stakeholders have also highlighted that the CCTV Regulations have been useful when speaking to the media or members of the public, as the existence of mandatory CCTV provides a further layer of assurance that there are high animal welfare standards in slaughterhouses. One stakeholder said that 'it could be argued

¹⁹ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

²⁰ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

that mandating the installation and operation of CCTV has enhanced the reputation of, and positively impacted on, English food and produce.’ CCTV can be a tool in reassuring the public and protecting the reputation of slaughterhouses and the meat industry.

48. We have analysed media attention on animal welfare in slaughterhouses before and after the introduction of the Regulations. Before the legislation was introduced, there were a number of media reports of animal cruelty and abuse that were picked up by activists carrying out covert filming in slaughterhouses. Since the legislation was introduced in 2018, the mainstream media focus has shifted, in general, with a reduction in covert filming. The articles that have been published about filming in slaughterhouses have been more focused on prosecutions and enforcement once animal welfare breaches have been identified, rather than focusing mainly on the animal cruelty and abuse.
49. Stakeholders also highlighted that the CCTV Regulations give assurance to retailers and assurance scheme providers who carry out regular audits at slaughterhouses. The confidence of the retailers in turn support improved consumer confidence that welfare standards are being delivered.

Summary:

50. The evidence suggests that mandatory CCTV in slaughterhouses alone cannot entirely prevent incidents of poor animal welfare in slaughterhouses. However, it does appear to have enabled improvements in animal welfare, through encouraging behavioural changes and allowing for increased identification of incidents and enforcement. CCTV has also proved to be an important tool for providing assurance that slaughterhouses are operating at high welfare standards to competent authorities, operators and their customers and consumers and retailers.
51. Stakeholders have not identified a less onerous means of meeting these objectives than regulations requiring mandatory use of CCTV in slaughterhouses. Voluntary uptake of CCTV for animal welfare purposes was clearly not going to deliver adequately against these objectives.

Costs and Benefits

52. This section summarises the realised costs and benefits of the CCTV Regulations based on the evidence gathered from stakeholders and compares them with the estimates in the original IA. A full explanation of the costs and benefits can be found in Annex D.
53. Stakeholder evidence suggests a higher Net Present Value (NPV) than originally estimated. This reflects the higher cost impacts of the CCTV Regulations as well as lower monetised benefits. Evidence indicates however that policy will continue to provide benefits improving animal welfare and providing assurances that there are high standards of animal welfare in slaughterhouses.
54. In estimating costs, we have taken a conservative approach by taking the lower end of any ranges industry have provided. The costs provided covered a wide range and we have reflected this in the sensitivity analysis discussed in Annex D. The

main reasons for identifying a higher cost to industry and Government compared with the original IA include:

- Transitional costs incurred by industry and Government when the policy was introduced to meet the new requirements have been higher than anticipated in the original IA. These include costs such as installation of CCTV systems.
- Evidence suggests that the lifespan of CCTV cameras is around 5 years instead of 10 years as was estimated in the original IA. Replacement costs are therefore higher than originally estimated.
- We discovered that enforcement cost to industry has been incurred which was not included in the original IA calculation. This cost includes industry covering a proportion of the staff and monitoring costs or time taken to review CCTV footage by OV's with Government covering the rest.

55. The table below summarises the costs and benefits of the policy. The original IA estimated the net present value of the policy over a 10-year period as £2.6 million (the cost was estimated to be £2.6m, and no benefits were monetised). The net cost to business per year was estimated to be £0.3m²¹. Our revised calculations show that the net present value of the policy over the 10-year period is estimated to cost £9.7m. This represents an increase of around £7.1m over the 10-year period when compared with original IA. It has not been possible to quantify all costs and benefits.

Table 3 Summary of costs and benefits

	Original IA	Revised calculations	Difference
Cost of installing new CCTV	280,000	1,130,000	(+) 850,000
Cost of installing additional cameras	370,000	410,000	(+) 40,000
Oversight cost	1,800,000	2,290,000	(+) 490,000
Maintenance cost (small abattoirs)	300,000	300,000	(+) 700,000
Maintenance cost (medium and large abattoirs)		700,000	

²¹ EANDCB in 2014 prices (outlined in original IA)

Storage cost	100,000	100,000	-
Electricity cost	100,000	100,000	-
Replacement cost	N/A	1,720,000	(+) 1,720,600
Enforcement cost to industry	N/A	2,680,000	(+) 2,680,000
On-going cost to Government	N/A	1,740,000	(+) 1,740,000
Implementation cost to Government	N/A	40,000	(+) 40,000
NPV (Real terms)	2,950,000	11,210,000	(+) 8,260,000
NPV (Discounted)	2,630,000	9,680,000	(+) 7,050,000

Costs and benefits going forward

What are the likely costs and benefits going forward?

56. Introducing mandatory CCTV systems has led to an increased cost to slaughterhouses to comply with the regulation and increased enforcement cost for industry and Government. This cost is higher than initially anticipated. The cost of replacing CCTV cameras after 5 years and the enforcement cost has been the main drivers to the higher cost. We envisage that technical advances in data storage may reduce storage and electricity costs, and production of better-quality cameras could increase the lifespan of CCTV systems.
57. Evidence indicates that the legislation will continue to provide benefits going forward, thus fulfilling the objectives of the Regulations to improve animal welfare in slaughterhouses and provide assurance that there are high standards of animal welfare in slaughterhouses. In addition, CCTV will serve as a tool for quality assurance, demonstrating the appropriate handling of livestock to concerned parties and helping to identify and implement other business improvements. If there are incidents of poor animal welfare, CCTV will enhance the ability of the FSA to take enforcement action
58. Although this review suggests that the cost of the policy was higher than expected, we expect the benefits to animal welfare, slaughterhouses and FSA to continue to be significant.

How likely are unintended impacts in the future?

59. The revised estimates have taken on board the range of evidence and feedback from industry. As technology advances, the costs of CCTV may change with storage for CCTV footage likely to become cheaper as businesses move to Cloud systems and cheaper, better-quality equipment comes into the market. However, this hasn't been captured in the analysis.

Is regulation still the best option for achieving these objectives?

60. Evidence collated for this review has clearly demonstrated that the CCTV Regulations are an important and necessary means to achieve the desired policy objectives.
61. There is a large body of evidence (see paragraphs 31-51 and Annex C) which suggests that the introduction of the CCTV Regulations has led to benefits for animal welfare and enforcement bodies as well as additional benefits to industry and others.

Summary of proposals for improvement

62. During the evidence gathering process for this review, stakeholders suggested a number of potential improvements to the Regulations. We have considered these issues to understand if they are proportionate, beneficial and within the scope of this review.

Enforcement

- While most stakeholders were supportive of the CCTV Regulations, it was suggested that there should be stronger overall monitoring in slaughterhouses and stronger enforcement of the legal requirement for CCTV. Particularly, some stakeholders highlighted issues that OVs have faced when attempting to obtain CCTV footage that has been formally requested. These include delays in the sharing of recordings, and the loss of recordings before they can be shared.
- As a result, we received a number of recommendations including;
 - a) that CCTV be kept under constant observation and for recordings of non-compliances to be made publicly available for scrutiny and increased industry transparency,
 - b) that the requirement to retain and provide footage on request be tightened,
 - c) that both pre-planned and unannounced checks and inspections be utilised more.

- When developing the Regulations to introduce mandatory CCTV in slaughterhouses, it was decided that any enforcement action should be firm but proportionate. It was integral to balance the necessity of enforcing these Regulations with the costs associated with any extra resource required. Given the evidence we have gathered on the usefulness of CCTV as an enforcement tool and the already significant costs associated with monitoring CCTV footage, we consider that this balance has still been met. Defra will keep the effectiveness of current enforcement action under review and work to understand if there can be any improvements to the ways we enforce these Regulations without creating further burdens for industry and the FSA.

90 Day Retention period

- FAWC recommended that Food Business Operators retain CCTV footage for three months, longer if required for investigation, and make it available to authorised officers.
- Regulation 4 of the CCTV Regulations creates an obligation on the business operator to make arrangements for the retention and storage of any images and information obtained by a CCTV system for 90 days.
- During our analysis of the Regulations, stakeholders presented varied views on the 90-day retention period. One stakeholder suggest that six months would be preferable whereas another stakeholder recommended that consideration should be given to a 30 or 60 day storage requirement to reduce the cost impact.
- The 90-day time limit was discussed during the original consultation before introducing the CCTV Regulations, and it was considered that this time period struck the right balance between ensuring footage could be used to support enforcement action and any costs associated with storage. Some stakeholders estimated storage costs to be as high as £1,200 per site. Increasing the period of retention could mean significant cost increases, with limited increase in animal welfare benefit. The FSA have also reported the benefit of the 90-day period in allowing sufficient time for issues to be attended to. After having considered views, this remains our position.

Widening the remit of the Regulations

- While stakeholders generally supported the policy, several suggested that the requirement for mandatory CCTV should be extended to other parts of an animal's life. They have argued that the slaughterhouse represents only a small proportion of an animal's life, and there are animal welfare concerns at prior stages. In particular, there are concerns during loading and transport, which were indicated as being areas of potential poor practice and common non-compliances.
- Stakeholders also questioned why farmed fish were not included in the CCTV Regulations. Farmed fish in England are generally slaughtered in small, on-farm facilities. Requiring mandatory CCTV in these facilities would be beyond the scope

of the current CCTV Regulations as the definition of slaughterhouse used does not apply to them.

- These issues are outside the scope of this PIR but can be considered as part of future policy making processes.

63. There were a number of issues raised by stakeholders and regulators that Defra intends to consider, working alongside our key partners. We will make sure to balance the benefits of any future proposals with the costs associated to industry and Government. These include:

- a) **Inclusion of audio:** Stakeholders have indicated that Defra should assess whether a requirement for audio on CCTV could result in improved animal welfare standards. We discussed this recommendation with stakeholders, some of whom agreed that audio would add a further, useful element to monitoring in slaughterhouses. Others noted that it would often be difficult to identify individual sounds from the footage in what is a generally very noisy environment. Further work is required to understand any costs associated with including audio and the extent of the value it could bring to improving animal welfare in slaughterhouses.
- b) **The use of Artificial Intelligence:** Several stakeholders highlighted the benefits of Artificial Intelligence in enabling CCTV to monitor animal welfare in slaughterhouses. While work in this area appears to be in the early stages, Defra is monitoring the ongoing research and we will keep the use of Artificial Intelligence in CCTV under review.
- c) **Extended access to authorised officers:** Regulation 5 of the CCTV Regulations sets out the rights of OV's and FSA staff to inspect a CCTV system, seize or take a copy of images and information, and seize equipment for the purposes of copying images and information. Some stakeholders have suggested that the Regulations be amended to allow authorised officers from Local Authorities access to CCTV for evidential purposes relating to wider animal welfare legislation (such as issues originating on-farm and during transport but first identified at the slaughterhouse).
- d) **Losses of CCTV footage:** The FSA have indicated that there have been numerous incidences of losses of CCTV data when it has been requested for potential enforcement. There may be scope for further legislative provisions to be introduced to address this. We will work with the FSA to understand this issue further and identify any possible measures to strengthen our enforcement mechanisms.

Conclusions

64. In conclusion, this review has shown that the introduction of the mandatory CCTV regulations has resulted in benefits to animal welfare and in assurance of high welfare standards. While mandatory CCTV in slaughterhouses is not a panacea for preventing poor animal welfare standards, there is evidence to suggest it has improved animal welfare by allowing for increased identification of incidences and enforcement. This provides an opportunity to highlight inappropriate behaviours, instigate further training or ensure that those who are unfit for their role can be, where necessary, removed from it. Similarly, while the potency of the deterrent effect of mandatory CCTV may decrease over time, there has been a clear reduction in welfare non-compliance incidents since the introduction of the CCTV Regulations.
65. In relation to assurance of high welfare standards, there is evidence that mandatory CCTV plays an important role. Mandatory CCTV has proved integral to the FSA's monitoring activities by allowing for verification of compliance with legislation. Stakeholders agreed that CCTV provides a further layer of assurance to consumers, retailers and farm assurance providers that there are high animal welfare standards in slaughterhouses. CCTV recordings can also provide assurance to operators and their customers in the event of a complaint.
66. Introducing mandatory CCTV systems has led to increased costs to slaughterhouses and Government, largely driven by the need to replace some CCTV cameras after 5 years and the enforcement costs. These costs are higher than initially anticipated. Nonetheless, evidence indicates that the legislation will continue to provide significant benefits going forward both in terms of animal welfare and assurance of high welfare standards. Not least, it will continue to support verification of compliance with animal welfare at slaughter standards, enhancing the ability of the FSA to take enforcement action. There will also be wider benefits, for instance CCTV can serve as a tool for quality assurance, demonstrating the appropriate handling of livestock to concerned parties and helping to identify and implement other business improvements.
67. Overall, it is our assessment that, although the cost of the policy was higher than expected, this is outweighed by the benefits to animal welfare and in assurance of high welfare standards. We expect the benefits to animal welfare, slaughterhouses and FSA to continue to be significant.
68. Some of the recommendations made by stakeholders fall outside the scope of this review, touching on areas relating to wider Government policy. We have considered other suggestions made for improvements and will keep these issues under review as we continue to develop policy in this area. For example, extending access to CCTV to other authorised officers may bring further benefits at no extra cost.

Limitations of this review

69. Only a limited number of stakeholders responded to our letter. In total, 10 responses were received.

Annex A: Letter to stakeholders



Department
for Environment
Food & Rural Affairs

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United Kingdom

T: 03459 335577

helpline@defra.gov.uk

www.gov.uk/defra

Date: 24/11/2022

Dear Sir/ Madam

We are currently undertaking a review of [The Mandatory Use of Closed Circuit Television in Slaughterhouses \(England\) Regulations 2018²²](#) and we would like to ensure that the views of our key stakeholders are considered in this process. We are inviting your organisation to provide views on the implementation of the regulations.

Review Objectives

The Mandatory Use of Closed Circuit Television in Slaughterhouses (England) Regulations 2018 came into force on 4 May 2018 (for the purpose of regulations 1 to 4 and 15) and 5 November 2018 (for all other purposes). The regulations aimed to improve animal welfare and provide assurance that slaughterhouses are operating to high welfare standards by making it compulsory for all slaughterhouses in England to have installed an

²² <https://www.legislation.gov.uk/uksi/2018/556/regulation/15/made>

operational closed circuit television (CCTV) system in all areas of the slaughterhouse where live animals are present.

We are currently undertaking a post-implementation review to assess the effectiveness of the regulations and the extent to which the policy objectives have been achieved. Utilising evidence from various sources and the views of stakeholders, we will assess whether the regulations have met their objectives, identify opportunities for reducing burden on business and propose refinements if required. We would welcome your comments on any aspect of the regulations.

How you can help

It would be particularly helpful to receive comments on the following:

- The extent to which the regulations have achieved their objectives, as set out in the original IA²³
- Whether costs and benefits associated with the regulations were as expected and if not, how much they diverged from the estimates in the original IA
- Any unexpected consequences, positive or negative, that your organisation has perceived.
- Refinements that could be made to enhance benefits, reduce burden on business, reduce costs and/or improve compliance.

This includes but not limited to:

- Has requiring CCTV in all slaughterhouses led to benefits in animal welfare?
- Has requiring CCTV in all slaughterhouses helped provide assurance that all slaughterhouses are operating to high welfare standards?
- Has there been a reduction in animal welfare issues since introducing mandatory CCTV in all slaughterhouses?
- What benefits have been experienced from the introduction of CCTV systems in slaughterhouses?
- Have there been other costs or benefits of introducing CCTV cameras that weren't considered in the in the original IA ([CCTV internal IA final.pdf \(defra.gov.uk\)](https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf))?
- Have slaughterhouse operators experienced a financial impact (positive or negative) from the introduction of the CCTV legislation?
- What were the range of costs for installing CCTV systems?
- Did slaughterhouse operators need to fit all new systems or augment existing ones?
- How much time did it take to install CCTV systems and train workers?
- What are the range of costs to maintain CCTV systems each year?

²³ https://consult.defra.gov.uk/farm-animal-welfare/cctv-in-slaughterhouses/supporting_documents/CCTV%20internal%20impact%20assessment%20%20final.pdf

- How much has it cost to store the recordings each year?
- Have elements of the CCTV system needed to be replaced since they were installed? If so, how much has the cost varied from initial installation.
- Has a change in electricity costs been observed since the introduction of CCTV? If so by how much and has that varied year to year?
- Was a behavioural change noticed in staff after installation or a reduction in the number of animal welfare incidents since CCTV systems were introduced?
- Is CCTV used as a training tool?

We are aware that not all the above questions will be relevant to your organisation. Please do not feel limited to the questions above, we would be really grateful to rec any comments on the Mandatory Use of Closed Circuit Television in Slaughterhouses (England) Regulations 2018 from the perspective of your organisation.

We would like to invite you to input any comments, including any information or evidence if appropriate. Please send responses to **aw.slaughter@defra.gov.uk** by **18 January 2023**.

In Annex A of this letter, we have included a list of all the organisations we are consulting through this letter. Please let us know if there is any other organisation that you believe we should consult with.

Yours sincerely,

Annex B: Organisations that responded in writing to the letter

RSPCA

Halal Certification Organisation

Animal Equality

Morrisons

Animal Aid

British Veterinary Association

Shechita UK

British Poultry Council

Compassion in World Farming

Red Tractor Assurance

Annex C: Costs and Benefits

This annex considers in detail the actual costs and benefits of the CCTV Regulations based on the evidence gathered from stakeholders and compares them with the estimates in the original IA.

FSA data shows that since the CCTV Regulations were introduced, there has been an overall reduction in the number of major and critical animal welfare non-compliances. While this reduction is likely partially down to general improvement in welfare practices, it is likely to be attributable to the new CCTV Regulations and subsequent deterrent effects.

Evidence also suggests that both the direct and indirect costs of the Regulations were underestimated in the original IA.

A full economic assessment of the actual costs and benefits of the CCTV Regulations is not in scope of this review. However, the costs and benefits outlined in the original IA, and the revised cost calculation are presented below, with relevant evidence derived from stakeholders and the FSA.

Monetised costs and benefits

The original IA estimated the net present value of the policy over a 10-year period as £2.6 million (the cost was estimated to be £2.6m, and no benefits were monetised). The net cost to business per year was estimated to be £0.3m²⁴. A breakdown of the monetary costs and benefits is outlined below.

Costs

Transitional costs:

Transitional costs are incurred at the start of the policy to meet the new requirements.

Cost to Slaughterhouses

The transitional cost to slaughterhouses in the original IA was estimated at a total of around £650,000 across the sector over a 10-year period. This included capital cost of installing new CCTV to slaughterhouses with no CCTV totalling around £280,000. Slaughterhouses with partial CCTV coverage at the time regulation came into effect had to install additional CCTV cameras to cover all areas where there was handling of live animals, totalling around £370,000. The cost for partial CCTV coverage is higher than the cost to implement new systems as around 60% of slaughterhouses had CCTV already in

²⁴ EANDCB in 2014 prices (outlined in original IA)

place. These were mainly large slaughterhouses who needed additional cameras to cover areas where previously there was no coverage. In total there were 112 slaughterhouses with no CCTV, and 746 additional areas in slaughterhouses with no CCTV coverage, where CCTV installation would be required under the new legislation.

Engagement with stakeholders revealed the transitional costs anticipated in the original IA were an underestimate of the actual transition costs incurred by industry. The cost was largely dependent on factors such as size and location of the slaughterhouse, the CCTV contractor, quality of the system chosen, and when the system was installed. Using the cost ranges provided by industry, a revised cost to install a new CCTV system was estimated, using £6,500 for small abattoirs and £17,500 for medium and large abattoirs. This considers different costs for different sized slaughterhouses. Using annual throughput as a proxy, 42% of slaughterhouses in England were identified as small²⁵ and 58% as medium to large abattoirs²⁶.

We have not retrieved data on costs of installing additional CCTV cameras in this review so cannot determine whether the estimated costs were incurred. However, industry have highlighted that costs were higher than those estimated in the original IA. Given the limited evidence, we have assumed a 10% increase in the aggregate cost of installing additional cameras outlined in the original IA (£370,000) resulting in a cost of £410,300.

Overall, the above revisions on the cost of installing new CCTV systems and additional cameras suggest that the total transitional cost to slaughterhouses has been £890,000 more than the £650,000²⁷ estimated in the original IA. The cost of installing new CCTV systems and additional cameras increased by £850,000 and £40,000 respectively. The revised calculations are listed in Table 1.

Cost to Government

Transitional costs to Government were not captured in the original IA. However, Government did incur £38,337 of costs for additional visits to slaughterhouses and industry workshops in the first year of the policy.

²⁵ Throughput (Livestock units) less than 5,000 ([An economic analysis of the role and viability of small abattoirs in the red meat supply chain. \(princescountrysidedefund.org.uk\)](https://princescountrysidedefund.org.uk)). This method has been used as throughput that slaughterhouse is identified as small varies by species, and therefore 5,000 units have been used to cover all species.

²⁶ Throughput (Livestock units) less than 5,000 ([An economic analysis of the role and viability of small abattoirs in the red meat supply chain. \(princescountrysidedefund.org.uk\)](https://princescountrysidedefund.org.uk)). This method has been used as throughput that slaughterhouse is identified as small varies by species, and therefore 5,000 units have been used to cover all species.

²⁷ Both costs have been calculated using 2018 cost figures.

Recurring costs:

Recurring costs are those which we will continue to see each year as slaughterhouses continue to comply with the policy.

Cost to Slaughterhouses

In the original IA recurring direct costs of mandatory CCTV regulation was estimated at £260,000 across the 10-year appraisal period. These reoccurring costs comprised of daily oversight and maintenance costs of CCTV estimated to be around £210,000, annual maintenance costs estimated at £30,000, annual storage costs estimated at £10,000, and annual electricity costs estimated at £10,000.

Industry highlighted that some of the recurring costs were underestimated in the previous assessment. Maintenance costs were estimated as a percentage of the initial capital, with a 5% estimate used in the original analysis. Industry have highlighted that maintenance costs equals 10% of the initial capital cost per annum, 5% higher than what was outlined in the original IA. Using the recalculated initial capital cost²⁸, the revised maintenance costs is estimated to be around £100,000²⁹ per annum over the 10-year period.

We have not received sufficient evidence on the exact level of other recurring costs, namely storage, electricity and oversight, and so cannot determine whether the estimated costs were incurred. Technical advances in data storage may also have reduced costs. Discussions with stakeholders suggest these costs did occur but evidence on the scale of the cost was very limited.

Multiple stakeholders highlighted the cost that comes with storing CCTV footage for 90 days and have made requests for this to be reduced to a shorter time period to alleviate some of the cost burden that the regulation has placed on industry. One stakeholder highlighted that the majority of the increases they face in electricity costs are as a result of the powerful servers needed to hold the CCTV footage, and estimated costs around £12,000 per site. Given the limited evidence provided on storage costs, this has been considered in the sensitivity analysis.

A key assumption in the original IA, was that CCTV equipment had a 10-year life span. Engagements with industry revealed that this was an overestimate, and a 5-year life span

²⁸ Using the cost ranges provided by industry, a revised cost to install a new CCTV system was established, using £6,500 for small abattoirs and £17,500 for medium and large abattoirs.

²⁹ This figure is the total per annum for Maintenance costs for small abattoirs (£30,000) and medium to large abattoirs (£70,000). The maintenance cost is 10% of the initial capital cost, which we have broken down according to size to reflect the difference in cost. The initial capital cost is calculated using the cost of installing CCTV (for small and then medium to large abattoirs) multiplied by the annual service charge of the initial capital value, multiplied by the number of abattoirs.

would be more appropriate. This was supported by the FSA who highlighted that over the last 18 months they have observed a significant increase in the number of non-compliances related to wear and tear, such as camera malfunctions and breakdowns in slaughterhouses. Industry also highlighted that the lifespan of CCTV cameras themselves are dependent on the environment in which they are kept. For example, cameras kept in pig and poultry gas stunning systems or areas which are pressure washed often may not reach the full 5-year lifespan and have had to be replaced each year. One stakeholder highlighted that replacing cameras in gas stunning systems has cost £1,000 per year whilst another stakeholder suggested that cameras could cost between £50 to £1,000 plus installation depending on the quality of the camera. Given the limited evidence, we have used this evidence in the sensitivity analysis, and have assumed that replacing cameras in gas stunning systems would cost £500³⁰ in the central scenario and £100 in the low scenario.

Based on this evidence, we estimate an additional replacement cost per year for cameras in gas stunning systems and every 5 years for cameras breaking down due to wear and tear. We estimate that it would cost around £13,500 to replace cameras in pig and poultry slaughterhouses each year. This is based on data from FSA which suggests that of those slaughterhouses that slaughter pigs, only 10 premises use gas stunning systems, and of those slaughterhouses for poultry³¹, only 17 premises use gas stunning systems³².

We estimate that it would cost around £670,000 to replace some cameras every 5 years due to wear and tear. Evidence on the number of cameras needed to be replaced was not available. Therefore, we have assumed around 5 cameras³³ will need to be replaced in each slaughterhouse every 5 years (a higher and lower estimate is considered in the sensitivity analysis), at a cost of £500³⁴ per camera. It is important to note that the cost per camera is likely to have fallen in the last 5 years due to technological advancements however we do not have any evidence of this and thus has not been captured in the analysis. Industry have however highlighted that advancement in technology has also

³⁰ Cost of CCTV cameras used in the original IA

³¹ This figure is taken from the 2022 FSA survey results, and is for ALL poultry, including meat chickens, and spent hens. This figure is also a combination of slaughter via CO₂ gassing and other gas mixtures.

³²https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1096782/Results-of-the-2022-FSA-Slaughter-Sector-Survey-in-England-and-Wales.pdf

³³ This was estimated based using the number of areas at the start of the policy that did not have CCTV cameras (746) divided by the number of slaughterhouses with CCTV (142).

³⁴ This was the cost of CCTV cameras for areas without CCTV used in the original IA. This has not been revised but desk base research indicates the cost do vary with cheaper CCTV available. We have assumed businesses with purchase commercial CCTV cameras and therefore have assumed cost is still £500 per camera.

resulted in improvements in image, quality and motion detection features being added which has affected the price in addition to electronic component shortages.

In addition, there has been an enforcement cost to industry which was not fully explored in the original IA. FSA costs are covered largely by industry charges however the details of the cost and how much industry would be charged was not available at the time of the original IA. In the last 5 years, industry have covered a proportion of the staff and monitoring cost for the time taken to review CCTV footage by OVs, with government covering the rest. This has resulted in a cost to industry of around £1.2m in the last 5 years. Given the uncertainty of the future costs, we have assumed similar costs would be incurred for the rest of the appraisal period.

Overall, this suggests that the recurring cost to slaughterhouses has been £5.6m more than the £2.3m estimated in the original IA. The revised calculations are listed in Table 1.

Costs to government

In the original IA, it was anticipated that the Regulations would not result in any additional cost to Government. This was based on the assumption that CCTV would facilitate and improve the efficiency of inspection and enforcement, and therefore the same level of OV resource would be required but that OVs may be engaged in different activities. It was also assumed that FSA will be engaging in the same level of enforcement activity once the CCTV regulations came into effect.

However, Government has incurred a staff and monitoring costs for the time taken to review CCTV footage by OVs of around £800,000 over the last 5 years with industry covering the rest.

Given the uncertainty of the future costs, we have assumed similar cost would incur for the rest of the appraisal period.

Non-monetised costs

No significant non-monetised costs were identified in the original IA, and it was assumed that the cost to Government would remain cost neutral. However, stakeholders did highlight additional costs including cost of downtime from halted production activities due to issues with CCTV equipment. We have not obtained sufficient information to quantify this.

Slaughterhouses

Business operations may be impacted as a result of increased enforcement measures being taken, such as suspending or revoking CoCs. Engagements with stakeholders did not reveal that there had been any cost with regards to recruitment or stopping operations as a result of enforcement.

Stakeholders have also highlighted that downtime required when cameras are broken and need repairing has resulted in an additional cost to businesses and had the potential to

cause animal welfare problems. However, further evidence on scale of cost was not provided.

Reduction in costs:

Stakeholders highlighted that the existing CCTV enabled slaughterhouses to comply with future legislation in a more cost-effective way: cameras have been used in some slaughterhouses to record parameters for electrical stun boxes as part of legislative requirements, negating the need to purchase expensive new electrical stunning equipment (approx. £5,000 each).

Benefits

Benefits to the public

Mandatory use of CCTV was expected to improve compliance with animal welfare at slaughter requirements, resulting from the deterrent effect of CCTV combined with the enhanced ability of the FSA to take enforcement action. The original IA highlighted that the public believe farm animal welfare is important. However, no attempt was made to monetise the benefit to the public due to limited evidence on the public's willingness to pay for improved animal welfare. Evidence from stakeholders has highlighted that CCTV has played an important role in providing assurance that slaughterhouses are operating at high welfare standards.

Benefits to slaughterhouses

The original IA highlighted business efficiency improvements associated with improved compliance, including greater assurance through the supply chain around the slaughter process. Engagement with both industry representatives and animal welfare organisations have supported our original assumptions regarding assurance. Both groups claimed that CCTV has served as a tool for quality assurance and demonstrating the appropriate handling of livestock to concerned parties, such as retailers, farmers, media and the general public.

Engagements with stakeholders also revealed that the Regulations have helped raise the baseline for industry performance and improve the overall reputation of the English food producing sector.

Another non-monetised benefit highlighted in the original IA was the use of CCTV as a tool to help identify and implement other business improvements. For instance, FAWC suggested that CCTV could provide a number of benefits to food business operators which included: contributing to reviews of effectiveness of operations and enable the food business operator to make improvements to processes and operating instructions; providing a valuable training tool for slaughterhouse staff; encouraging collective responsibility in slaughterhouse staff; and enabling disputes to be resolved more easily. Industry highlighted that CCTV has been beneficial for managing incidents, used as a training tool and to question breaches when they are raised. Stakeholders did raise that as

CCTV was in place in many slaughterhouses prior to the regulation, many slaughterhouses were using CCTV for training beforehand.

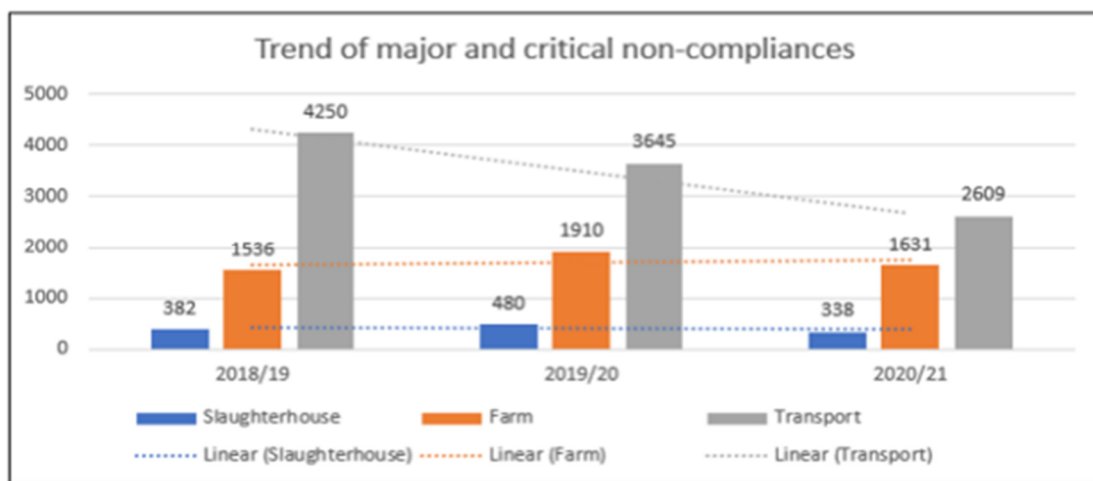
Evidence from FSA suggests that the availability of CCTV recordings in England has supported improvements to the identification of non-compliances, provision of evidence to support welfare training, and where required, the taking of enforcement activity.

Benefits to FSA

Non-monetised benefits identified in the original IA included a series of benefits for inspection and enforcement. These included observing and recording real-time slaughterhouse processes, recording individual events, contributing information to the auditing of animal welfare and enabling the OV to observe live animals in high welfare risk areas as well as those that are inaccessible or dangerous to people.

Analysis by FSA (see Figure 1 below) indicates that there has been an 11% reduction in major and non-critical compliances in the slaughterhouses from 2018/19 and a 30% reduction from 2019/20³⁵.

Figure 1: Major and critical non-compliances by year



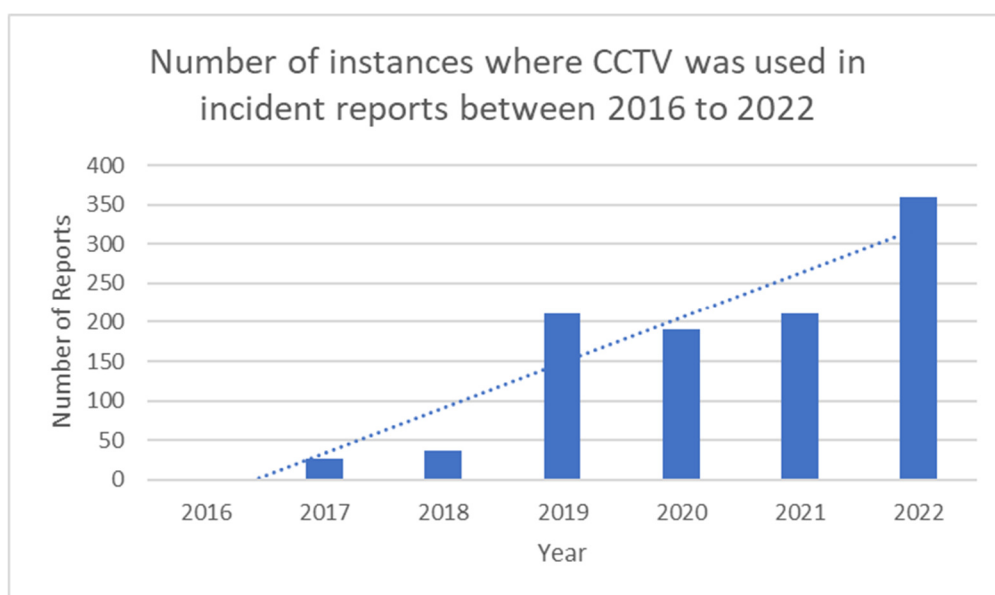
In addition, FSA have highlighted that CCTV play an important role to aid assurance of animal welfare. Enforcement data indicates that at least 10% of slaughterhouse non-compliances are identified either by live or retrospective CCTV viewing.

The original IA also identified non-monetised benefits in the form of CCTV facilitating more comprehensive inspection and enabling breaches to be detected more easily. Since the

³⁵ <https://www.food.gov.uk/sites/default/files/media/document/fsa-21-09-15-animal-welfare.pdf>

Regulations came into force in November 2018, CCTV has been used for routine monitoring and enforcement. It has supported suspensions and revocations of CoCs and been used predominantly in investigations as evidence of the absence or presence of malpractice. The analysis of non-compliance data (see figure 2 below) indicates that after the spike in 2019, which was anticipated in the original IA, there has been a gradual increase in the number of instances where CCTV was used in incident reports. Although the majority of incidents did not result in prosecutions, between 2019 and 2022 there were 117 instances where CCTV was used as evidence to support enforcement action, 19 of which led to enforcement action being taken.

Figure 2 Number of instances where CCTV was used in incident reports



FSA Exception reports (England) 2016-2022)

Another assumed benefit for FSA was that having more comprehensive and accessible CCTV coverage would make it quicker and easier to issue enforcement notices and/or to support prosecutions. As we have already established, CCTV footage did benefit prosecutions by being utilised as evidence. However, there has currently not been a significant increase in the number of prosecutions since the introduction of the CCTV Regulations.

Data on prosecutions from the FSA reveal the number of animal welfare prosecutions in slaughterhouses from prior to the CCTV Regulations to the present. Between 2016 and 2018 there were 4 cases leading to prosecutions in each year. The table below summarises the number of welfare investigations and prosecutions involving CCTV since 2018. Eleven successful prosecutions have resulted from the WATOK referrals using CCTV evidence since 2018/19. A further 20 investigations or prosecutions are ongoing. Although not quantified, CCTV has benefited the FSA by reducing the resourcing costs associated with providing the evidential basis for a successful prosecution.

Table 4 Investigations and convictions resulting from WATOK referrals using CCTV evidence

Year	Number of investigation referrals under WATOK	Number of referrals using CCTV evidence	Outcomes of investigations using CCTV evidence
2018/19	19	7	2 Successful Prosecutions 1 Warning Letter 4 Not Prosecuted
2019/20	26	13	2 Successful Prosecutions 4 Warning Letters 7 Not Prosecuted
2020/21	13	8	4 Successful Prosecutions 3 Warning Letters 1 Not Prosecuted
2021/22	26	20	3 Successful Prosecutions 11 Ongoing Prosecutions 1 Warning Letter 2 Ongoing Investigations 3 Not Prosecuted
2022/23	9	7	1 Ongoing Prosecution 6 Ongoing Investigations

FSA as of 27 April 2023

Unexpected benefits

Stakeholders identified a number of unexpected benefits resulting from the introduction of mandatory CCTV. These include:

- the ability to monitor activity routinely through CCTV footage during the Covid-19 pandemic, when restrictions created limitations in the OV's ability to monitor in person;
- providing insight into the conditions of animals at arrival; and
- enhancing security for property and personnel.

A number of stakeholders also highlighted the value of CCTV as a training tool in slaughterhouses. For instance, it can be used on site or remotely to demonstrate appropriate handling of livestock, and one stakeholder highlighted reports that certain slaughterhouses would choose to keep their CCTV system operational for this purpose even if legislative requirements changed.

Stakeholders confirmed that CCTV can be used as a quality assurance tool to help investigate product quality issues. For example, if an issue concerning meat quality arises, such as haemorrhaging or bruising, then CCTV footage can be used to help identify the part of the process where this may have occurred, allowing for swift and effective remedial action to be taken.

Summary of cost and benefits

The table below summarises the monetised costs discussed. As explained above, we have not been able to quantify all costs and benefits. Our recalculations for both transition and recurring costs bring the new total Net Present Value (NPV) of the regulation to £9.7m, which is a £7.1m increase from the original IA.

Table 5 Summary of costs and benefits

	Original IA	Revised calculations	Difference
Cost of installing new CCTV	280,000	1,130,000	(+) 850,000
Cost of installing additional cameras	370,000	410,000	(+) 40,000
Oversight cost	1,800,000	2,290,000	(+) 490,000
Maintenance cost (small abattoirs)	300,000	300,000	(+) 700,000
Maintenance cost (medium and large abattoirs)		700,000	
Storage cost	100,000	100,000	-
Electricity cost	100,000	100,000	-
Replacement cost	N/A	1,720,000	(+) 1,720,600
Enforcement cost to industry	N/A	2,680,000	(+) 2,680,000

On-going cost to Government	N/A	1,740,000	(+) 1,740,000
Implementation cost to Government	N/A	40,000	(+) 40,000
NPV (Real terms)	2,950,000	11,210,000	(+) 8,260,000
NPV (Discounted)	2,630,000	9,680,000	(+) 7,050,000

Impacts on small and micro businesses

Our engagement with stakeholders suggests that as a proportion of their business activities, CCTV Regulations have had a larger impact for small slaughterhouses compared to larger premises as many small slaughterhouses did not have CCTV in place previously compared to larger premises.

The original IA indicated that 50% to 75% of slaughterhouses are small or micro businesses and the vast majority of covert filming prior to the Regulations was taken in smaller abattoirs. Exempting these businesses from the Regulations would therefore undermine the effectiveness of the policy. Looking at the activity of different slaughterhouse facilities, and using throughput as a proxy for size, there is a distinction between small, often local abattoirs, and larger producers, often part of integrated systems. For example, the largest cattle slaughterhouse processed around 93,000 cows in 2021, but approximately 44% of cattle slaughterhouses had throughputs of less than 1,000³⁶. Therefore, the impact of these regulations would be different across the sector.

Stakeholders have highlighted low profit margins across the industry regardless of the size of business. However, larger slaughterhouses benefit from larger profit margins due to economies of scale. Meanwhile, small and medium sized slaughterhouses have higher unit costs and must rely on other means to remain economically viable, such as their ability to provide a premium product or local service.

Furthermore, large premises were likely to already have CCTV systems. The majority of large slaughterhouses had to install additional cameras, rather than an entire system, which resulted in lower capital transitional cost. However smaller premises who were less likely to already have CCTV in place were required to install a new CCTV system.

³⁶ AHDB and FSA throughput data for 2021

Engagement with stakeholders revealed anecdotal evidence that smaller slaughterhouses struggled to comply with the Regulations due to the large initial cost. The FSA, alongside other stakeholders acknowledged the difficulty smaller slaughterhouses faced due to the increased cost burden but highlighted that smaller slaughterhouses needed to purchase proportionally less extensive CCTV systems and were thus able to keep costs down.

Sensitivity Analysis

A variety of evidence was submitted by stakeholders on the cost of implementing the policy. Given the wide range of this evidence, an additional sensitivity analysis has been conducted to capture this (outlined in figure 3 below).

The sensitivity analysis tests the sensitivity of the model using high-end and low-end assumptions based on outlier responses from stakeholders. The central scenario analysis is considered the best estimate of the cost impacts resulting from the policy changes.

Table 6: Sensitivity analysis for revised calculations

Revised calculations	Low	Central	High
Cost of installing new CCTV	790,000	1,130,000	1,770,000
Cost of installing additional cameras	70,000	410,000	450,000
Oversight cost	2,290,000	2,290,000	2,290,000
Maintenance cost (small abattoirs)	100,000	300,000	500,000
Maintenance cost (medium and large abattoirs)	300,000	700,000	1,300,000
Storage cost	100,000	100,000	2,690,000
Electricity cost	100,000	100,000	8,830,000
Replacement cost	290,000	1,720,000	3,410,000
Enforcement cost to industry	2,680,000	2,680,000	2,680,000
On-going cost to Government	1,740,000	1,740,000	1,740,000

Implementation cost to Government	40,000	40,000	40,000
NPV (Real terms)	8,500,000	11,210,000	25,700,000
NPV (Discounted)	7,340,000	9,680,000	22,090,000

The key costs adjusted in the sensitivity analysis include:

Cost of installing new CCTV: Stakeholders provided a range of costs and we have assumed that installing a new CCTV system would cost £3,000 for small slaughterhouses and £10,000 for medium and large slaughterhouses in the low-cost scenario. In the high-cost scenario, we have estimated it could cost £10,000 for small slaughterhouses and £25,000 for medium and large slaughterhouses.

Cost of installing additional cameras: Evidence on the cost of additional cameras was limited. One stakeholder suggested that cameras could cost between £50 to £1,000 plus installation depending on the quality of the camera. Therefore, in the low-cost scenario we have assumed cameras could cost £100 each but have assumed a 20% increase in the high-cost scenario.

Maintenance cost: This was estimated as a percentage of the initial capital. 10% has been used in the central- and high-cost scenario based on evidence from stakeholders. However, the 5% assumption from the original IA has been used in the low-cost scenario. Furthermore, in our calculation we have differentiated between the cost to small abattoirs and medium to large abattoirs.

Storage cost: Data on storage cost was limited but one stakeholder did suggest that this could cost larger slaughterhouses £1,200 per year, however this included storing recordings for the whole site security system. Given this was the only evidence submitted, and it's unclear whether all slaughterhouses faced a similar cost and whether all this cost can be attributed to this regulation, we have captured this in the high-cost scenario for larger slaughterhouses only.

Electricity cost: Data on electricity cost was limited but one stakeholder did suggest that it could cost larger slaughterhouses between £5,000 and £6,000 per year. Given this was the only evidence submitted, we have captured it in the high-cost scenario for larger slaughterhouses, as cost is likely to vary across sites and it's unclear whether all this cost can be attributed to this regulation. Stakeholders highlighted that the cost is largely driven by servers holding footage. Technical advances in data storage may reduce these costs going forward.

Replacement cost: One stakeholder suggested that it would cost £1,000 to replace cameras in pig and poultry gas stunning systems each year whilst another stakeholder suggested that cameras could cost between £50 to £1,000 plus installation depending on the quality of the camera. Given this was the only evidence submitted, and it is unclear whether all slaughterhouses with gassing chambers faced a similar cost, we have

assumed that replacing cameras in gas stunning systems would cost £1,000 in the high-cost scenario. For the low-cost scenario, we have £100. Regarding the cost to replace some cameras every 5 years due to wear and tear, we have assumed 11 cameras would need to be replaced in the high-cost scenario³⁷, and 5 in the low-cost scenario³⁸.

³⁷ Costing £500 per camera

³⁸ £100 per camera