

Consultation on the authorisation process, guidance and associated documents for the use of alternative systems for the disinfection of tools in Slaughterhouses, Cutting Plants and Approved Game Handling Establishments.

SUMMARY REPORT OF RESPONSES TO CONSULTATION FROM STAKEHOLDERS

The consultation exercise on the authorisation process, guidance and associated documents for the use of alternative systems for the disinfection of tools in Slaughterhouses, Cutting Plants and Approved Game Handling Establishments (AGHE) was issued in England, Scotland, Wales and Northern Ireland on 8th December 2017 and closed on 31st January 2018.

Annex III of Regulation (EC) No 853/2004 lays down specific hygiene rules for food of animal origin. It requires that Slaughterhouses and Cutting Plants processing meat of domestic ungulates and poultry, and AGHE, *“have facilities for disinfecting tools with hot water supplied at not less than 82°C, or an alternative system having an equivalent effect.”*

Slaughterhouses and AGHEs use a variety of tools including knives, cleavers, and saws that require cleaning and subsequent disinfection. In addition, Cutting Plants not only use the same cutting tools but also use automatic cutting equipment such as slicers, filleting machines and dicers.

One of the difficulties faced by the competent authority is considering a request for an alternative system of disinfection that has an equivalent effect to the use of water at a temperature of not less than 82°C. The purpose of the guidance and associated documents that was provided as part of the consultation was to clarify the procedure for the submission of an application by a FBO and to provide some guidance on what will be needed by authorised officers to enable them to determine if an alternative system of disinfection of knives and other tools in Slaughterhouses, Cutting Plants and AGHEs is equivalent to the use of water at 82°C.

The FSA is responsible for the approval of Slaughterhouses, AGHEs and Cutting plants as well as any procedure that requires authorisation, and in this particular case, it has a duty to ensure that any alternative system of disinfection has an equivalent effect to the use of water at a temperature of not less than 82°C.

In setting out the evidence for equivalence, it is essential that the environment in which the alternative method will be used is assessed, as some environments will have higher risks associated with contamination than others. Consequently, the



guidance reflects the different risks in Slaughterhouses, AGHEs and Cutting Plants with the process of proving equivalence separated.

Whilst slaughterhouses and AGHEs do require a more thorough authorisation process, cutting plants can implement alternative sanitation systems more simply, provided certain basic criteria are met.

The FSA is grateful to those stakeholders who responded and the table below sets out the responses that were given.

They key proposals on which the consultation sought views on were:

Evidence from industry was needed on the impact that the proposed authorisation process will have in order for the FSA to make an assessment. We asked industry for input on the impacts of this measure, in particular:

- How likely are you to take advantage of the proposed authorisation process for authorising an alternative system of disinfection?
- What benefit do you perceive from introducing an alternative system of disinfection?
- Do you perceive any significant burdens from the proposed authorisation process for introducing an alternative system of disinfection?

Summary of Responses

A total of 8 responses were received to the consultation in GB

Responses:

Association of Independent Meat Suppliers / Paul Anderson - UV Safe Ltd
Ian Rigley – Loscoe Chilled Foods
Holchem Laboratories Ltd.
Food Hygiene Expert Panel Wales
Deaglan Hall – Palfrey & Hall
Fiona Steiger – British Meat Industry
Vikki Halliday – HallMark Veterinary & Compliance Services (queries)
David Stewart DBS Projects - Abattoir Association Members

NFU informed us that they will not be providing a response and they do not represent members directly affected by the proposal.



There was some agreement on issues from the respondents;

- 3 respondents have said that they do not agree that the alternative systems have to be approved by the FSA. There is nothing in Annex II of (EC)853/2004 that says this is the case.
- 2 respondents believe that using water at >82c is both a waste of resources and harmful to the environment.

The next table details all the comments that have been received for the consultation along with the FSA's response and feedback.

SUMMARY OF SUBSTANTIVE COMMENTS TO THE FSA CONSULTATION – DISINFECTION OF TOOLS

Respondent	Method of Response	Comment	Response
AIMS/UV Safe Limited	Email	<p>How likely are you to take advantage of the proposed authorisation process for authorising an alternative system of disinfection?</p> <p>AC1: The authorisation process as detailed in the annex is extremely onerous, and goes way beyond the requirement of the legislation from both the competent authority's perspective as well as the FBOs. There is nothing in Annex II of (EC)853/2004 that says that alternative systems have to be approved by the FSA. The fact that a 28 page document has been developed for this purpose seems to be gold plating in the extreme.</p>	<p>AR1: The FSA acknowledges that the use of the terms "authorisation" and "approval" may have led to confusion in the documents. It was intended to explain that the FSA is not responsible for "authorisation" of chemicals or technical disinfection systems.</p> <p>However, when a slaughterhouse is approved to operate the use of 82°C water as a disinfection system forms part of that approval process. If the method is changed, the FSA as competent authority, is required to assess that the food businesses are using methods that are equivalent to the use of water at 82°C. We will update the wording in the guidance to remove the confusion.</p> <p>We appreciate the guidance document is 28 pages long however this is because we grouped slaughterhouses, AGHEs and cutting plants together in the same guidance to demonstrate to businesses that the FSA is implementing the process consistently across the board. We also added a number of examples, tables and charts, we believed would help industry and officials with the implementation process. Preliminary feedback from FBOs implementing the system and officials assessing it have found this document very useful, illustrative and easy to use. We will nevertheless consider pros and cons and whether the guidance should be split and examples removed and offer shorter guidance notes.</p>
		<p>What benefit do you perceive from introducing an alternative system of disinfection?</p> <p>AC2: Existing hot water based systems are expensive to operate, are unreliable and outdated, and often conflict directly with other systems such as air chilling units, creating warm damp environments perfect for bacterial growth. Heating water and then disposing of it means not only high energy usage but also a negative environmental impact.</p>	<p>AR2: Response noted</p>
		<p>Do you perceive any significant burdens from the proposed authorisation process for introducing an alternative system of disinfection?</p>	

<p>AC3: We cannot see why the FSA needs to approve an alternative method on each site. We would have thought this would have been part of the site HACCP that is audited by the FSA at regular intervals, as well as daily OV checks. The FSA is appearing to approach the matter as a CCP, yet you do not insist meat establishments validate and verify their other prerequisites out with the process and other micro criteria in (EC)2073/2005.</p> <p>Knife hygiene as well as most hygiene issues are dealt with under the prerequisites programmes also laid out in the HACCP.</p> <p>If an alternative method can be proven to work and be backed up by scientific evidence surely that only requires validating INTERNALLY by the FBO.</p> <p>For the FSA to require a detailed report for every abattoir/cutting plant seems quite ridiculous. It should be up to the FBO and OV to make these decisions.</p>	<p>AR3: The guidance has been trialled on a number of slaughterhouses and cutting plants prior to consultation. This has demonstrated that some proposed alternative methods have not been as effective as 82°C water. This has been caused by a range of issues as the use of alternative methods can have technological processes that do not exist with the simple use of 82°C water and each site has different procedures and protocols. As a result, the FSA is assessing each site to assure itself that the method is equivalent to the use of hot water and can be implemented by personnel in the design and setting it is intended to be used. Once this is done, HACCP will be used to ensure continued compliance with the operating procedures. As noted in page 11 of the guidance, in future it is envisaged that if a specific alternative system has already been accepted for use in a number of different establishments on different slaughter lines the processed may be streamlined.</p>
<p>AC4: If an alternative method is actually proven to outperform the traditional hot water method and again backed up by scientific evidence, would the position of the FSA be to recommend it as a primary method? To not do this would surely fly in the face of food safety, and also establish the FSA as a luddite organisation not prepared to embrace new technologies, and rather refer to a 17 year old report from EFSA which actually predates the introduction of the Hygiene Regs.</p>	<p>AR4: The FSA acknowledges that alternative methods can benefit FBOs and this is why the FSA have created guidance so that industry are aware of what should be done if they wish to install alternative systems. Contamination on knives had been shown to be one of the main pathways for cross-contamination and as such the FSA must assess the efficacy of any proposed new method to minimise the impact of this pathway for the safety of the consumer. The primary method of 82°C water is set out in legislation. The use of an alternative method is a commercial decision for the FBO to make.</p>
<p>Further comments</p> <p>AC5: We will cross reference the paragraphs in your approval document.</p> <p>Para 7. FSA does not need to ensure that any alternative technique is equivalent, that is for the FBO to do. You have never needed to assure yourselves that 82°C water is effective.</p>	<p>AR5: Response noted. Please see previous comments.</p>
<p>AC6: Para 8. You concede that it is not for you to approve chemicals or disinfection systems, for which we assume you mean generally. But you seek evidence that they are effective equivalents before their use. You do not do this for cleaning and disinfection of</p>	<p>AR6: During approval and audit processes the chemicals used by FBO's are assessed to ensure these are fit for purpose and applied as per the manufacturer instructions.</p>

<p>establishments both during processing or after, so why start this process just because you feel the need to have some control over the approval? New cleaning chemicals are made available every year, and whilst efficacy and COSHH data is available, it is rarely asked for, and the surface micro is only asked of at audit.</p>	
<p>AC7: Para 10. The assumption here is that pathogenic bacterial contamination comes as a result of cross contamination, ie, using the same knife on two separate carcasses, but surely the highest risk during skinning and EV is to that carcass and the failure to use GHP whilst undertaking the task.</p>	<p>AR7: The FSA recognises that there are a number of processes that can cause cross contamination within the slaughterhouse. It is important that no single intervention method is responsible for food safety and all interventions are applied to ensure risks are kept to an absolute minimum. FSA has performed research that has highlighted knives as main source of cross-contamination.</p>
<p>AC8: Para 11. FBOs are more than capable of assessing the most appropriate position for alternative disinfection methods, for example, we do not anticipate them being used in the sticking area for example.</p>	<p>AR8: Trials for alternative methods have already been run in areas that are at high risk of contamination, these include areas where sticking is performed.</p>
<p>AC9: Para 12. You do not ask for hot water effectiveness based on line speed. We use knife rotation and other pre-requisites to cover this. Similarly, you never ask for the temperature of water in sterilisers to be monitored on a real time basis.</p>	<p>AR9: Water at 82°C is not novel and knowledge of its effectiveness on knives is well established. Disinfection occurs quickly whereas novel disinfection techniques can take considerably longer. As described in the guidance, the effectiveness of the alternative methods is comparative which introduces fairness to the assessment, i.e. water will be assessed for its effectiveness in the same conditions (line speed might be one of those conditions) as the alternative method.</p>
<p>AC10: Para 13. You do not ask for this in hot water steriliser systems.</p>	<p>AR10: Alternatives are required if hot water disinfection systems fail.</p>
<p>AC11: Para 16. Industry is working with AHDB regarding third country equivalence on these new methods.</p>	<p>AR11: Response noted.</p>
<p>AC12: Para 19. What experience does the Approvals team have in assessing training methods, COSHH, maintenance and scientific data on previous performance results of any other technique? Furthermore, Meat Hygiene Policy Team have already requested data submitted to them to be simplified as they did not understand it.</p>	<p>AR12: The FSA has responsibility to ensure that the health and safety of its staff are protected and that assessments have been performed.</p> <p>The Meat Hygiene policy team will be contacted for advice, if needed. Any points that are not clear, could be misinterpreted or look like data entry issues will be clarified with the applicant to ensure that the correct decision is made and the FBO not unduly affected.</p>
<p>AC13: Para 22. If we have to back up with hot water</p>	<p>AR13: The trial date is agreed prior to proceeding so that the everyone on</p>

	anyway, why does the date of a trial have to be agreed?	site is aware of what is happening and is prepared for the trial.
	AC14: Para 23. Saws, clippers, croppers and the like are unlikely to be used with alternative disinfection techniques. This is predominantly about knives.	AR14: Applications for trials have been received by the FSA and reviewed for the use of saws and clippers.
	AC15: Para 28. Health and Safety of FBO staff is NOT within the FSA's remit.	AR15: Response noted: Para 24 notes that this is the responsibility of the HSE. The FSA must however, ensure the safety of its inspectors in any establishment.
	AC16: Para 31. This is, once again, excessive for a trial, as the trial will be closely monitored. If the system is not "approved" then why do the SOPs need to have been altered in advance? We would draft SOPs and train operatives as needed prior to the trial, but this paragraph reads like the whole of our SOPs need amending in full prior to the trial.	AR16: The trial tests the alternative system in the "live" situation. As part of this an SOP needs to be developed so everyone in the plant understands how the alternative system will be applied in the given environment. This is also done to support the FBO in proving equivalence. If results from using an alternative method are shown not to be equivalent then the SOP should help to identify which process may have caused the result and amendments made. Such issues include inadequate cleaning before disinfection.
	AC17: Para 34. Why is an FVL needed, can they see the bacterial load and the disinfection equivalence by standing and watching?	AR17: The FVL is required as they have an overview and experience of the whole process in a wide variety of establishments and their experience adds positively to the process. Their involvement and ability to see methods used in many different establishments will lead to consistency and streamlining of the approach in the future.
	AC18: Para 35. Back to panel approvals again?	AR18: Response noted
	AC19: Para 36. There is no legal basis for this. The only approvals that need reassessment if any changes are made in depth are major structural changes, or religious stunning box changes. You never ask for FVL approval if we change our HACCP.	AR19: Response noted: Please see previous comments
	AC20: Para 38. Please detail appeals procedure, including independent scientific advice on both parties' sides.	AR20: The FSA has an appeals procedure in place. Information can be found on the FSA website. https://www.food.gov.uk/contact/businesses/services/make-an-appeal
	AC21: Paras 40-42 – we do this anyway for hot water. Further comment on slaughterhouse/AGHE approvals – will you permit MHIs to use the equipment/method?	AR21: As described in the guidance, procedures will be monitored by the OV, not used by them.
	AC22: Table 1 – Authorisation Panel – this is new and doesn't currently exist.	AR22: As previously noted, terminology will be reviewed. The assessment panel is not intended to be used for every application, it is there, if required, to ensure a fair approach and bring in additional expertise for more technical or novel approaches.



Respondent	Method of Response	Comment	Response
Loscoe Chilled Foods	Email	<p>Having read through the guidance; (Ref: Annex III of Regulation (EC) No 853/2004 lays down specific hygiene rules for food of animal origin. It requires that Slaughterhouses and Cutting Plants processing meat of domestic ungulates and poultry, and AGHE, <i>"have facilities for disinfecting tools with hot water supplied at not less than 82°C, or an alternative system having an equivalent effect."</i>)</p>	
		<p>BC 2: I cannot see why the FSA needs to approve an alternative method on each site. I would have thought this would have been part of the site HACCP that is audited by the FSA on an annual basis. The FSA appears to approach the matter as a CCP, I have not come across 1 abattoir/cutting plant that takes this approach.</p> <p>Knife hygiene as well as most hygiene issues are dealt with under the prerequisites programmes also laid out in the HACCP. If an alternative method can be proven to work and be backed up by scientific evidence surely that only requires validating by the FBO. BC7: For the FSA to require a detailed report for every abattoir/cutting plant seems quite ridiculous. Again I'm not aware of any procedure that requires this approach.</p>	Question raised by AIMS/UV Safe Limited. See Question AC3 and Response AR3.
		<p>BC3: If an alternative method is actually proven to outperform the traditional hot water method and again backed up by scientific evidence, would the position of the FSA be to recommend it as a primary method. To not do this would surely fly in the face of food safety. The role of the FSA is one of food safety and legality, I would be interested as will many of my colleagues within the industry on how the FSA will view this after the consultation period.</p>	Question raised by AIMS/UV Safe Limited. See Question AC4 and Response AR4.
		<p>BC4: After viewing and trying out new technologies it seems to me that using water >82c is both a waste of resources and also harmful to the environment. This is an issue that the FSA can lead the rest of the world in making a positive change.</p>	BR4: Response noted.

Respondent	Method of Response	Comment	Response
Holchem Laboratories Ltd.	Email	<p>General comments Prior to specific comments, it may be worth considering the three principles of hot water disinfection.</p> <p>CC1: Firstly, the basis of government advice on pasteurisation (MAFF and then the FSA) has been the concept of a temperature/time combination of 70oC for 2 min to give a 6 log reduction of food pathogens. Given a z value for pathogens of approximately 6oC, an equivalent 6 log reduction process would be approximately 76°C for 12 sec or 82°C for 1.2 sec. So if a food pathogen was present on a knife surface and it was immersed into hot water at 82°C, it would need to be at this temperature for a very short time (a few seconds) to effect a pasteurisation treatment. The very short time needed for such pasteurisation is ideally suited to e.g. the fast disinfection of knives between carcasses on a production line.</p>	<p>CR1: Response noted: The FSA agrees that use of 82°C water is an effective disinfection method.</p>
		<p>CC2: Secondly, and the major assumption here, is that there is a relationship between the volume of water at 82oC and the size or mass of the item to be disinfected. A knife blade has, relatively, a small mass for the volume of hot water in a typical knife steriliser to heat it quickly to 82°C. Only when the knife surface reaches 82°C would the fast disinfection time be apparent. Hot water is thus ideal for the disinfection of small pieces of equipment. It is not practical to use hot water to disinfect large masses, e.g. a machine, as the volume of hot water needed (and the associated costs and health and safety aspects of its application) to bring the machine to 82°C would be enormous.</p>	<p>CR2: Response noted: However, it is important to acknowledge that we are considering the heat obtained from the water by the pathogen on the cleaned surface, not the heat obtained from the tool. Heat transfer to the pathogen will differ to that of the tool, however we do acknowledge that larger tools will influence transfer but we have no evidence to suggest that this makes the use of 82°C water ineffective.</p>
		<p>CC3: Thirdly, rapid heating of small objects such as knives, precludes the need to clean them first. There may be some rinsing effect of dipping knives into a hot water sterilisation unit, but essentially, if you can bring the knife surface to 82°C, irrespective of whether it is clean or not, a pasteurisation treatment will be ensured. Essentially, therefore, hot water at 82°C is an effective disinfection process for small items that can be quickly brought to 82°C. It is not appropriate for large pieces of machinery or open process</p>	<p>CR3: Response noted, however it is important to make clear that effective cleaning must be performed prior to disinfection, this is to ensure that the disinfection stage will be effective.</p> <p>Build up of organic matter on the knife or in the water in the steriliser is likely to have an impact disinfection process.</p>

surfaces.	
CC4: The hygiene rule in (EC) no. 853/2004 requiring hot water at 82°C for disinfecting tools is thus perfectly acceptable when 'tools' are viewed as relatively small objects and when disinfected in a volume of water that can bring the food contact surface rapidly to the target temperature (82°C).	CR4: Response noted.
CC5: It also has to be noted that (EC) no. 853/2004 (and the original vertical meat directives that preceded it) is poorly written. There is no contact time stated for the 82°C temperature (a thermal treatment should always have a temperature/time combination to determine a microbiological reduction) and there is no mention of what such a temperature (and time?) is trying to achieve. It is thus impossible to say as a generalisation what an 'equivalent effect' is because we do not know what 82°C is intended to achieve.	CR5: We acknowledge that there is no contact time set in legislation, however FBO's are still bound by HACCP principles and as part of this will have ensured that any alternative procedure guarantees that contact time is appropriate to disinfect the type of cutting tool.
CC6: It is thus only possible to undertake 'equivalence' on a case by case basis where hot water is currently being used. So if knives or cutting tools are currently being used in a slaughter house, it is possible to determine the microbiological reduction that such treatments are achieving <i>in situ</i> and thus what an alternative treatment would have to achieve.	CR6: This is what the FSA proposal aims to ensure. It ensures that the alternative treatment achieves the equivalence in the same environment and not in laboratory conditions. This is the basic principle of any validation process under the HACCP principles.
Specific comments Clause 3 CC7: Cutting equipment such as slicers, filleting machines and dicers are not 'tools' with respect to hot water disinfection. They cannot be quickly and safely brought to a surface temperature of 82°C. If they could be brought to this temperature, how long would they take to cool before they could be then safely re-used? This guidance should thus only apply to knives and 'small' cutting tools that can be rapidly heated (and cooled) and where disinfection is required on a rapid basis, e.g. between carcasses.	CR7: Legislation requires water at 82°C, not the tool. However, it is acknowledged effective disinfection will lead to hot tools. The use of 82°C is not new and the FBO will have procedures in place to ensure the safe operation of equipment relevant to the environment they are used. It remains a legislative requirement to disinfect tools at 82°C, however, the legislation does allow an FBO to use an alternative equivalent system. We have produced this guidance to help FBOs achieve this equivalence and have already reviewed plants using a range of cutting tools.
Clause 21 CC8: This is a critical clause and certainly on initial trials, cutting tools should be disinfected with hot water after	CR8: The described comparative method has been used already in testing equivalence and we appreciate your support on this.

<p>the alternative treatment. However, there are two aspects of tool disinfection – short term and long term. Short term disinfection is concerned with the disinfection of the tool at a given time. Long term disinfection is concerned with whether there is a build-up of microbial contamination on the tool during the production period – i.e. is disinfection more challenging on tools toward the end of production.</p> <p>For initial trials in which the performance of an alternative disinfectant and hot water are compared, microbiological swabbing could be undertaken post hot water treatment and post alternative treatment, with an additional hot water step for the alternative disinfectant. This gives an indication of the comparative performance of the two techniques at a given time.</p> <p>However, as the tools receiving the alternative treatment are effectively getting two disinfectant treatments, any potential build-up of contamination on the tools throughout the day, that could present a tougher challenge for the alternative treatment, may be masked.</p> <p>Following initial trials therefore, secondary trials should be undertaken comparing hot water at 82°C with the alternative treatment alone, in which there is no subsequent disinfection of the tools subjected to the alternative disinfectant with hot water at 82°C. Following this protocol would assess whether there was any differential build-up of microbial loading on the tools, following either disinfectant treatment, throughout the production period. Any such differential microbial build-up, particularly on tools receiving the alternative treatment, could then affect the disinfection efficacy of the alternative treatment at later stages of the production day.</p> <p>There may need to be prior approval from the FSA to conduct secondary trials – i.e. secondary trials could only be undertaken following successful initial trials. This may have an implication to the process for requesting the use of an alternative method as detailed in Table 1.</p>	<p>The current tests do allow for potential microbiological build-up during the day as the operational procedures are not significantly altered due to the installation of the alternative sanitation system.</p> <p>Taking this proportionate approach also removes a disproportionate burden on industry. If an FBO were to trial an alternative disinfection technique during the day and only use 82°C water at the end of the day, carcasses/meat would not comply with legislation.</p> <p>This is done as part of the verification under the HACCP principles. The SOPs/protocols require FBOs to provide the FSA with the way they intend to ensure the system is effective once implemented, by carrying out some verification swabs, as part of their cleaning and disinfection verification programme.</p>
<p>Clause 25 This clause should be removed for two key reasons CC9: 1. The actual requirement for 82oC in terms of a log</p>	<p>CR9: The tests are comparative not absolute and therefore a figure is not</p>

<p>reduction of microorganisms is not defined. Therefore, there is no target for what should be achieved by alternative disinfection systems.</p> <p>CC10: There is no evidence, for both thermal or chemical disinfection, that specific pathogens e.g. Salmonella or <i>E. coli</i> have any significant differences in terms of thermal or chemical tolerance to other vegetative microorganisms.</p> <p>Practical trials in slaughter houses with TVC or a general indicator such as Enterobacteriaceae should be sufficient.</p>	<p>required. The tests compare the alternative method against the use of 82°C water in the same establishment.</p> <p>CR10: Novel treatments (not just chemical) can be more effective on some pathogens than others. Therefore, as contamination is monitored under the micro criteria regulations we have to be certain that any novel method is as effective as water for those pathogens so potential sources of cross contaminations are kept to an absolute minimum.</p>
<p>Clause 29</p> <p>CC11: This clause is confusing. Tools are not effectively cleaned prior to hot water disinfection during production. Any alternative disinfection system must be able to cope with the level of soiling on such tools in a continuous production scenario. Tools after production are effectively cleaned and then disinfected according to documented cleaning instruction cards. What is meant in this clause?</p>	<p>CR11: Legislation requires that tools are cleaned before disinfection, i.e. before hot water disinfection. Cleaning must remove visible contamination so that the disinfection stage is effective.</p>
<p>Clause 30</p> <p>CC12: Chemical alternatives must also meet the requirements of the Biocidal Products Regulation (EU) 528/2012)</p>	<p>CR12: Response noted. We are not listing requirements for all possible alternative methods as it is for the FBO to ensure that they are compliant with the relevant legislation.</p>
<p>Clause 44</p> <p>CC13: The whole section on Cutting Plants should be deleted. Hot water at 82oC was never intended for the disinfection of machines and large open surface areas (e.g. as expressed in point 6 of Table 4). Therefore, there is no 'equivalence' that can be demonstrated. In addition, there is no concept in (EC) no. 853/2004 as to what water at 82oC is trying to achieve – so there are no parameters to which alternative treatments can be judged against.</p>	<p>CR13: Response noted. Please see previous answers on comparative tests.</p>
<p>Clause 51</p> <p>CC14: In relation to Clause 44, it notes in Clause 51 that cutting tools might only be required to be disinfected at break times and at the end of the production day. If this was the case, routine chemical cleaning and disinfection has proven to be more than adequate over many years.</p>	<p>CR14: We have acknowledged in the guidance that cutting plants provide a lower risk than slaughterhouses and the authorisation process has been simplified accordingly.</p> <p>The FSA must still assure itself that procedures within a cutting plant are compliant with legislative requirements and the use of an</p>

<p>If there is any reason for assessing the use of alternative systems to hot water at 82oC in cutting plants, it can only be for simple, small cutting tools in which rapid disinfection is required between batches of meat processed.</p>	<p>alternative system is part of this.</p>
<p>Clause 52 CC15: The concept of ensuring that tools are cleaned prior to disinfection is correct in this clause (but not in Clause 29) if the tools are going to be cleaned and disinfected using traditional chemical techniques. It again mitigates against the need for the section on Cutting Plants.</p>	<p>CR15: Response noted. Please see previous comments.</p>
<p>Clause 60 (and elsewhere) CC16: SOP is an American term and is not routinely used in the UK. The usual term would be CIC or cleaning instruction card.</p>	<p>CR16: The term Standard Operating Procedure (SOP) is used as a more general term than CIC and is understood by industry.</p> <p>Cleaning schedules or cleaning cards are also terms used by industry. Provided the FBO understands the meaning of the principles the FSA is willing to accept the use of different terminology.</p>
<p>Table 3 Table 3 contains some useful information. CC17: Information should be provided on the disinfectant (or novel alternative) as to its efficacy and its in-use requirements of concentration and contact time. The cleaning and disinfection requirements for all equipment in the cutting room should be documented on CICs. CC18: Evidence should be provided of effective cleaning, which may include microbiological testing. However, other hygiene assessment techniques such as rapid ATP and Protein tests can also be used and are preferable in that they can monitor cleaning performance in real time. Cleaning and disinfection records should be kept. Reputable cleaning and disinfectant suppliers can supply this information to the FBO and help them establish CICs and record systems. CC19: However, the first process step suggested, <i>Supporting Evidence for Equivalence</i>, is impossible to undertake as there is no definition of what equivalence is. Hence the section on Cutting Rooms should be deleted.</p>	<p>CR17: Response noted. We will consider adding the criteria suggested to those already in table 3 to aid understanding.</p> <p>CR18: Acknowledged and agreed that alternative verification techniques are possible.</p> <p>CR19: The validation of equivalence as such in a Cutting Plant is not required, provided the FBO has documented procedures in place to demonstrate the system they want to implement or is in use, has an equivalent effect. What is required is a verification that the system is effective.</p>

	<p>Table 4 CC20: There is currently no such thing as a 'food grade detergent' – i.e. no organisation to my knowledge defines what this should be. There are, however, detergents suitable for use in food process plants following an appropriate risk assessment. Similarly, there is currently no such thing as a 'food grade disinfectant', although the BPR will go some way to defining this. There are, however, disinfectants suitable for use in food process plants following an appropriate risk assessment. All disinfectants have an odour. I think what is meant is that disinfectants for food use should not have added 'perfumes'.</p>	<p>CR20: These terms were used as they have (along with "food grade chemicals") been used in literature to describe detergents that a producer declares fit for food preparation and meat cutting surfaces. To remove potential confusion, we will reword the description to explain what is required.</p>
	<p>CC21: Page 27 – chemicals demonstrated as equivalent. Inspexx 210 is a product supplied by Ecolab, not Holchem Laboratories Ltd.</p>	<p>CR21: Response noted. This section will be removed</p>
	<p>Impact Assessment CC22: The concept for alternative treatments in slaughterhouses is well made and clear, primarily because the definition of a cutting tool and the need to disinfect at real line speeds is well understood. A formal application for authorisation of the use of alternative systems is helpful and provides a framework for consistent authorisation. The concept for alternative treatments in cutting rooms is, however, unclear and probably not warranted. If this is proposed, the FSA would need to define:- 1. What is the purpose of disinfecting tools? Does the requirements only cover the disinfection between carcasses or batches of meat that may be contaminated? Does the disinfection requirements also cover the routine disinfection of tools during line breaks or at the end of production, where speed of disinfection is not relevant?</p>	<p>CR22: Response noted. This has not been defined in the guidance as different slaughterhouses will have different requirements. These points would be discussed and clarified during the application stage.</p> <p>Cleaning and disinfection of cutting tools is different to that in slaughterhouses. The regulations require for these to take place "as often as necessary", or "when required".</p> <p>In Cutting Plants, there is no need for cleaning and disinfection regularly, and this is done normally at breaks or at specific intervals (e.g. every 30 minutes or 1 hour). It varies depending on the circumstances of every establishment. This is why the cleaning and disinfection in cutting plants is less prescriptive.</p>
	<p>CC23: 2. What is a tool? Clearly a knife is a tool, but not a complex piece of processing machinery that was never designed to be disinfected with copious volumes of hot water.</p>	<p>CR23: Tool is an implement that is used in the dressing/processing of and coming into contact with a carcass/meat.</p> <p>This guidance is not intended to change current cleaning and disinfection for complex equipment in Cutting Plants, but to establish a standard procedure to assess the effectiveness of the systems in</p>



		place and the equivalence, where possible, to that of hot water at 82°C.
	CC24: 3. What is an 82oC hot water wash equivalent to? I.e. what standard must other alternatives aim to achieve? If these three concepts are not defined, every cutting operation will question their cleaning and disinfection processes, both in terms of their adequacy (are they meeting any, as yet, undefined standard) or their application (where and when can they be used).	CR24 Response noted, please see previous comments.

Respondent	Method of Response	Comment	Response
Food Hygiene Expert Panel Wales	Email	<p>We would like to make the following observations:</p> <p>DC1: 1. The document fails to reference premises approved by local authorities where alternative methods to heat disinfection may be proposed to meet the requirements of 853/2004.</p>	<p>DR1: The FSA accepts this. This guidance is for premises the FSA approves which cover the greatest amount of UK production. The guidance on cutting plants is long standing and procedures used across lead authorities are in line with this. This document just formalises the procedures already in use. The FSA will ensure that LA's are aware of this guidance.</p>
		<p>DC2: 2. A premise may initially fall under the relevant local authority for enforcement prior to requiring approval by FSA Ops this needs to be considered within the guidance.</p>	<p>DR2: Response noted. Please see previous response.</p>
		<p>DC3: 3. Premises currently enforced by local authorities are required to comply with the E. coli guidance. The guidance would need to be reviewed to include any alternative methods of disinfection.</p>	<p>DR3: The E. coli guidance covering raw and ready to eat foods is for a wide cross-section of stakeholders including manufacturers, processors, retailers, caterers and carers, not just cutting plants. Local Authorities take the lead on such premises. The guidance on alternative methods is aimed only at slaughterhouses and cutting plants approved by the FSA.</p>
		<p>DC4: 4. To measure the efficacy of alternative disinfection methods the proposed protocol indicates the need to swab equipment. It is recommended that a method and standard be agreed for such tests to be evaluated against as currently there is none in existence.</p>	<p>DR4: Tests are comparative and not absolute, this removes the necessity of a strict standard that would be required if assessing contamination against a target figure. The trial plan submitted by the FBO would set out the testing procedure which will be reviewed by the FSA before proceeding.</p>
		<p>DC5: 5. The following needs to be included in the guidance document – "When FSA Ops approve a particular alternative method of disinfection they should share this information with local authorities".</p>	<p>DR5: The term Approval has caused some confusion in the guidance and this will be amended. The FSA cannot approve an alternative method, but will assess whether it demonstrates equivalence to 82°C water in the environment it is to be used.</p>



Respondent	Method of Response	Comment	Response
Palfrey & Hall	Email	<p>We currently use chemical disinfection at our cutting plant Palfrey and Hall.</p> <p>EC1: We find this very effective. We test the knives every 6-8 months to make sure the procedures and chemicals are working effectively. One point to look at is that It does require proper cleaning procedures to be followed closely to maintain a high level of cleanliness on the knives/slicers etc, before sanitizing.</p>	<p>ER1: Response noted. We agree that a high level of cleaning is still required before the use of a disinfectant. Alternative methods are not a substitute for cleaning.</p>
		<p>EC2: This benefits us as it means we don't need a water sanitiser. This avoids more electricity costs, avoids having a heat and moisture source constantly in the cutting room. Reduces damage and dulling to knives and blades and is cheaper than a UV sterilizer.</p>	<p>ER2: Response noted.</p>

Respondent	Method of Response	Comment	Response
British Meat Industry – Fiona Steiger	Email	<p>Having read the consultation and the proposed procedure for the authorisations of alternative systems of disinfection of cutting tools we have the following comments:</p> <p>FC1: It is a thorough and well laid out process that is very clear and easy to understand. But without wishing to imply an FBO needs its hands holding, would it be possible to produce a example of a trial protocol as a guidance document?</p>	<p>FR1: We agree this would be beneficial however, we need to balance the amount of information in the document in light of other responses. The FSA will consider producing a trial protocol that could be used if requested from an FBO.</p>
		<p>FC2: We would like to see a commitment, or at least a timetable, for how quickly the FSA will cover its part of the procedure to ensure FBOs are not left hanging.</p>	<p>FR2: Response noted. The FSA will review the stages where we assess information and will develop appropriate timelines. Once agreed, the guidance will be updated.</p>
		<p>FC3: There is no indication that I spotted as to how long a trial should last – are 10 knives sufficient, 100, 2 days' worth?</p>	<p>FR3: As all plants are different and will have different internal procedures, it is for the FBO to decide the trial length and what the points of sampling should be. However, repeatability (in day/over days) is important and the FSA acknowledges the guidance should be clear on this.</p>
		<p>FC4: We do wonder if in places the process is slightly more complex than it needs to be, particularly for plants applying for use of a system already in operation in another plant – if their operation is largely similar is it really necessary for them to follow this process again or at least provide evidence that 'validates and verifies this'? Why does the FVL need to be part of the monitoring of the compliance with the test protocol – does this really add any more than the OV?</p>	<p>FR4: The FSA agrees that methods may be simplified if there is evidence to suggest this can be done; this is noted on page 11 of the guidance. Currently however, the guidance has been trialled on a number of slaughterhouses and cutting plants which has demonstrated that some alternative methods have not been as effective as 82°C water. Considerable variations have been observed in some plants, caused by a range of issues including site specific.</p> <p>The FVL is required as they have an overview and experience of the whole process in a wide variety of establishments and their experience adds positively to the process. Their involvement and ability to see methods used in many different establishments will lead to consistency and streamlining of the approach in the future.</p>

Respondent	Method of Response	Comment	Response
HallMark Veterinary & Compliance Services	Email	<p>A couple of points I would like to raise.</p> <p>In the guidance: 10: " The risk of cross contamination is higher than in a Cutting Plant as the carcass has already passed post mortem inspection (PMI) and is considered clean and free from external contamination such as fleece/hair, faecal matter, cysts and abscesses – the latter being related to pathological conditions and potentially containing significant bacterial load. " SAC1: In my opinion faecal matter contains as many potentially harmful pathogens as abscesses, albeit lower numbers. I would not like to make a food safety distinction between the two here.</p>	<p>SAR1: It is not the intention of this text to make a distinction between different pathways for pathogens. It highlights that all these are of concern but will have been addressed by PMI at a slaughterhouse.</p>
		<p>13: Failure in an alternative disinfection system in a Slaughterhouse could have serious implications as finding a quick replacement which complies with legislation might be challenging. This may result in line stoppage and have implications for food safety. SAC 2: and animal welfare?</p>	<p>SAR2: Response noted. Text will be added.</p>
		<p>17: Before any formal request to use an alternative method, the FBO wishing to install such a system is advised to discuss this with their Official Veterinarian (OV) or Veterinary Manager (VM) SAC 3: Perhaps clarify here FSS VM as this is mentioned in the process flow. Is there any way the graphics on the cleaner could be FSS, not FSA?</p>	<p>SAR3: Response noted. The consultation document was UK wide to ensure any changes as a result would be consistent for the whole of the UK. Once changes are confirmed, the document will be altered to make the language consistent with each country within the UK.</p>
		<p>Application form: SAC 4: I think this should include the approval number for clarity as names are similar in some cases.</p>	<p>SAR4: Response noted. The form will be amended.</p>

Respondent	Method of Response	Comment	Response
Abattoir Association Members	Email	<p>SBC1: We fear it would be most unlikely that our plants would take advantage of using an alternative system for disinfection of tools. Reasons are as follows:</p> <p>Sterilisers are strategically located along both sheep, cattle lines and also in the cutting room. With this present system, slaughtermen only have to take one step off the line to sterilise their knives and any other hand tools.</p> <p>All Sterilisers are temperature checked as part of the pre-daily operation inspection, ensuring they are all over 82°</p> <p>All Slaughtermen are familiar with the instructions laid down in both HACCP and Plant SOPs in respect of sterilisation of hand tools.</p> <p>At the end of each day all surfaces and equipment are liberally power washed with super foam in accordance with the manufacturer's instructions before finally begin power washed with clean hot water. All knives, hand tools including the scabbards are submerged in the steriliser bath.</p>	<p>SBR1: Responses noted. The FSA/FSS recognises that the introduction of alternative methods can introduce a number of technical and logistical challenges. The guidance has been developed for those wishing to take this step and highlight these challenges.</p>
		<p>SBC2: With the present process in place we see no reason to introduce an alternative system of disinfection.</p> <p>There is also concern regarding the increased cost of the additional requirement of the chemicals for the cleansing.</p> <p>I do hope these observations are useful.</p>	<p>SBR2: Responses noted. Alternative disinfection procedures are a commercial decision for an FBO. Water at 82°C remains the primary disinfection method.</p>

SUMMARY OF CHANGES MADE:**ACTIONS TO BE IMPLEMENTED**

1. Review the document for terms that may suggest that the FSA is authorising a particular disinfection product to avoid confusion/misunderstanding.
2. Consider the advantages and disadvantages of the length of the guidance to identify areas where information/detail may not be needed and the possibly of separating the guidance for cutting plants and slaughterhouses.
3. Add more information on what documentation should be supplied to the FSA to support an application and to consider adding a draft “trial protocol” as a guide.
4. Add clarity on what is expected in terms of duration and repeatability of the trial to determine equivalence.
5. Amend the text describing the safety of chemicals to be used on tools which come into contact with carcasses/meat.
6. Removal of section listing chemicals used by establishments applying the flexibility.
7. Add target times for the FSA responses to applications.
8. Add comment that line stoppage does not only have implications for food safety but also animal welfare.
9. Add a section to the application form so that the FBO Approval number can be inserted.
10. Ensure that LA’s are aware of the FSA guidance on FSA approved Cutting Plants.