Witness Name: Tamara Finkelstein
Statement No.: 1 of 1
Dated: April 2023

**UK COVID-19 INQUIRY**
**WITNESS EVIDENCE FOR THE COVID 19 INQUIRY MODULE 1**
**RESPONSE TO THE RULE 9 REQUEST TO THE DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (21 November 2022)**

---

**WITNESS STATEMENT OF TAMARA FINKELSTEIN**

---

**CONTENTS**

I, Tamara Finkelstein, Permanent Secretary of the Department for Environment, Food and Rural Affairs, Seacole Building 2 Marsham Street, London SW1P 4DF will say as follows:

**Introduction**

## Introduction

1. I make this statement in my capacity as the Permanent Secretary of the Department for Environment, Food and Rural Affairs ("Defra"). I am responsible for the overall management of Defra, and serve as its Principal Accounting Officer and as a member of the Defra Board. I was appointed to this position in an interim capacity in April 2018. This appointment was formalised in June 2019. Before my appointment as Permanent Secretary, I was responsible for Defra's work on EU Exit delivery. Prior to working in Defra, I led the Building Safety Programme at the Ministry of Housing, Communities and Local Government, which was established following the Grenfell Tower fire. I have also held a number of other senior roles across the Civil Service.[1]

2. I am making this statement to the Covid-19 Inquiry in response to the request for evidence, pursuant to rule 9 of the Inquiry Rules 2006, addressed to me and dated 21 November 2022 (reference M1/DEFRA/01) ("the Rule 9 Request"). I make this statement on behalf of Defra. Where the matters I refer to in this statement are within my personal knowledge, I say so explicitly in the statement. Otherwise, the matters I address in this statement should be understood to have been informed by information that has been gathered from across the department by its civil servants and provided to me.[2]

3. This statement seeks to provide a narrative account of the contribution made by Defra to the United Kingdom's planning, resilience and preparedness for the Covid-19 pandemic and for civil emergencies generally, with a focus on the period of June 2009 to January 2020, for those areas which fall within Defra's departmental responsibilities. The statement seeks to address the topics outlined in the Rule 9 Request and provides information that will assist the Inquiry, having regard to the six overarching issues raised in the Provisional Outline of Scope for Module 1. Defra's legal team was also assisted by a meeting on 1 December 2022 with the Inquiry legal team that clarified the focus of this witness statement. By way of an outline, it will examine in particular:
    - Defra's role with respect to animal health and welfare (focusing in particular on zoonotic diseases).
    - Defra's general role in large-scale emergencies which require response at national level (focusing in particular on flooding and recovery from chemical,

biological, radiological and nuclear release ("CBRN") for which Defra is the lead government department ("LGD")).

- Defra's role as LGD in the Critical National Infrastructure ("CNI") sectors of food and water supply security, and Defra's regular civil emergency and preparedness planning in these areas.
- Defra's role in Operation Yellowhammer, the cross-government civil contingency planning for the possibility of a no-deal EU Exit. For example, Defra looked at the impacts that a no-deal EU Exit would have on supply chain disruption (with a knock-on impact to food supply, supply of chemicals for water treatment and veterinary medicines).
- Defra's role in respect of the planning for pandemics, high consequence infectious/contagious diseases and epidemics.
- Defra's role in risk management, civil emergency planning, and forecasting.
- The specific structures and bodies relevant in relation to Defra's responsibility for planning, resilience and preparedness and having regard to risk management, working together and planning (animal and plant health, CBRN, floods and water and agri-food chain).
- Defra's approach to forward thinking and 'lessons learnt', particularly focussing on potential adjustments to the system and roles and responsibilities going forward that could be helpful in assisting in the planning and preparation for a future pandemic.[3]

4. Throughout this witness statement I use a number of abbreviations and acronyms in common usage within Defra and its arm's-length bodies ("ALBs"). To assist a glossary of abbreviations and acronyms is attached to this statement at Annex 1.[4]

5. I also refer throughout this statement to organograms and other diagrams which illustrate how Defra is structured and organised. These have been collected into a document which is attached to this statement at Annex 2.[5]

**Introduction to Defra**

6. Defra was created in 2001 as a result of the merger of the former Ministry of Agriculture, Fisheries and Food with parts of the then Department of the Environment, Transport and the Regions and parts of the Home Office.[6]

7. Defra's responsibilities include the environment, food, farming and fisheries, animal and plant health and rural communities. It is a ministerial department, led by the Secretary of State for Environment, Food and Rural Affairs ("the Secretary of State") who is in turn supported by a ministerial team. The Secretary of State has overall responsibility for Defra and its strategy and policy. Ministers have portfolios based on departmental business areas. The scope of these portfolios has changed over time according to the Secretary of State's determination of the allocation of responsibilities between minsters.[7]

8. At the time of making this witness statement, Defra's ministerial team comprises:
   - The Rt Hon Thérèse Coffey MP: the Secretary of State
   - The Rt Hon Mark Spencer MP: Minister of State (Minister for Food, Farming and Fisheries)
   - The Rt Hon Lord Benyon: Minister of State (Minister for Biosecurity, Marine and Rural Affairs)
   - Trudy Harrison MP: Parliamentary Under Secretary of State (Minister for Natural Environment and Land Use)
   - Rebecca Pow MP: Parliamentary Under Secretary of State (Minister for Environmental Quality and Resilience)[8]

9. As Permanent Secretary, I am the senior civil servant within Defra and am responsible for its overall management. I am also Defra's "principal accounting officer", appointed by HM Treasury, and responsible for ensuring that resources authorised by Parliament and sums paid out of the Consolidated Fund to Defra are used for the purposes intended by Parliament. I am personally responsible and accountable to Parliament for the use of public money and stewardship of public assets.[9]

10. I am supported by a number of senior managers, most of whom are responsible for a distinct area of Defra's business; these divisions are referred to as Director General ("DG") groups. The make-up of DG groups, and the number of DGs, can vary according to the needs of Defra and has done so over the period covered by this witness statement.[10]

11. At the time of making this statement, Defra has the following DGs and Senior Managers:
    - Lucy Smith: DG Strategy.
    - David Hill: DG Environment.
    - David Kennedy: DG Food, Biosecurity and Trade.
    - Sarah Homer: DG Group Chief Operating Officer.
    - Professor Gideon Henderson, Chief Scientific Adviser and DG Science and Analysis.
    - Professor Christine Middlemiss: Chief Veterinary Officer.
    - Iain King, Chief Financial Officer.
    - Nicola Spence, Chief Plant Health Officer.[11]

12. Elsewhere in this witness statement, I have made reference to specific policy areas within Defra which have played a prominent role in supporting the department's response to the Covid-19 pandemic, in particular the work undertaken by the Agriculture-Food ("Agri-Food") Chain ("AFC") and Floods and Water directorates. To assist in developing a broader understanding I have set out a description of how these divisions have developed and are structured in my account of their work.[12]

13. There have been changes to Defra's leadership during periods in which different governments have held office. Throughout the period of time covered by this statement, Defra was led by the following Secretaries of State:
    - Hilary Benn (2007 – 2010).
    - Caroline Spelman (2010 – 2012).
    - Owen Paterson (2012 – 2014).
    - Liz Truss (2014 – 2016).
    - Andrea Leadsom (2016 – 2017).
    - Michael Gove (2017 – 2019).
    - Theresa Villiers (2019 – 2020).
    - George Eustice (2020 – 2022)[13].

14. The Permanent Secretaries in post during the same period are as follows:
    - Helen Ghosh (2005 – 2010).
    - Bronwyn Hill (2011 – 2015).
    - Clare Moriarty (2015 – 2019).

- Tamara Finkelstein (2019 – present).[14]

**Introduction to Defra's governance**

15. Elements of Defra's governance have evolved since its creation, and structures and responsibilities have been adjusted as its departmental objectives and needs have changed. Some features of Defra's governance have nonetheless remained consistent throughout the period of time covered by this witness statement.[15]

16. The Defra Board provides strategic, corporate leadership to the department and has particular responsibility for monitoring performance and delivery. The Board has always comprised, as a minimum, the Secretary of State, members of the ministerial team, the department's non-executive directors and the Permanent Secretary. At present the Board meets quarterly.[16]

17. An organogram illustrating Defra's structure and governance is in the Defa organizational chart [**TF/001/INQ000116383**].[17]

18. The Defra Board sits at the top of Defra's governance structure and delegates some of its responsibilities to its committees:
    - Executive Committee ("ExCo").
    - Delivery Committee.
    - Audit and Risk Assurance Committee ("ARAC").
    - Nominations Committee.[18]

19. The Secretary of State and the ministerial team are members of the Board. I, together with two DGs (Sarah Homer and Lucy Smith) and Defra's Financial Officer (Iain King) are the senior officials on the Board. There are also currently four non-executive members (one lead non-executive director and three non-executive directors) and the chairs of the Environment Agency and Natural England, who serve ex-officio.[19]

20. ARAC (previously known as the Audit and Risk Committee, or "ARC") provides support and advice to the Permanent Secretary and the Board on issues of risk, control, governance and other related matters. ARAC is chaired by a departmental

non-executive director, currently Colin Day, and meets at least four times per year. Each of Defra's ALBs which are established as non-departmental public bodies, executive agencies and non-ministerial departments have a body with equivalent responsibilities, and the chairs of those bodies meet periodically with the chair of ARAC.[20]

21. At a senior management level, Defra has also always had a body concerned with corporate strategic leadership of the department. In 2009 this was known as the Management Board, which in the mid-2010s became ExCo. ExCo is the senior decision-making body for Defra; it also oversees the strategic direction of Defra Group and seeks to promote integrated working across Group organisations. ExCo is chaired by the Permanent Secretary and is comprised of a combination of Defra DGs and other senior officials (for example, the Chief Scientific Advisor ("CSA") and Director of Finance).[21]

22. I have described the other Defra Board Committees at Annex 3.

**The Defra Group**

23. In the public sector context, Defra operates within a network of organisations , known as "the Defra Group". This comprises core Defra which holds overall responsibility for the 34 Public Bodies (of which 20 are ALBs), made up of: non-ministerial departments; executive agencies; executive non-departmental public bodies; advisory bodies and non-departmental public bodies; and other statutory bodies (including for example, the national park authorities).[22]

24. The Defra Group includes 4 "executive agencies", which are legally and constitutionally part of Defra, but treated as separate organisations for management and budgetary purposes. Leaders of executive agencies are accountable for service delivery, achieving assigned policy objectives and day-to-day activities to the Secretary of State and ministerial team, and to me, as Defra's Accounting Officer, for the responsible use of public funds. Ultimately, ministers and I (as accounting officer) are responsible for the oversight of Defra's executive agencies and are accountable for their performance.[23]

25. Defra's 4 executive agencies are:
    - The Animal and Plant Health Agency ("APHA"). APHA leads on delivering government policy on animal health and welfare in England. APHA investigates and responds to emerging animal disease outbreaks, as well as long-term research into animal diseases.
    - The Centre for Environment, Fisheries and Aquaculture Science ("CEFAS"). Cefas collects, manages and interprets data on the aquatic environment, biodiversity and fisheries.
    - The Rural Payments Agency ("RPA"). RPA administers payments to farmers, including by providing advice and a customer contact helpline.
    - The Veterinary Medicines Directorate ("VMD"). VMD leads on the policy development of veterinary medicines, as well as providing the assurance of safe veterinary medicines through licensing, enforcement and the provision of advice to those involved in animal health and welfare, which covers industry, vets and animal keepers.[24]

26. The Environment Agency ("EA"), a non-departmental public body, is also a member of the Defra Group. Defra works with the EA in the exercise of key preparedness and resilience functions. The EA is responsible for operational actions in flood response and is a Category 1 responder under the Civil Contingencies Act 2004 ("CCA 2004"). I have provided further information on Defra and the EA's roles as a designated "category 1" responder under the terms of the CCA 2004 in the Introduction to Defra's civil emergencies functions below.[25]

**Introduction to Defra's risk management and civil emergencies functions**

27. In this section of the witness statement, I provide a general introduction to the role of Defra and the Defra Group in responding to general or wholescale civil emergencies before describing in further detail Defra's approach to managing and forecasting risks, the structures and systems it has put in place to support these functions, and how this has evolved between 2009 and 2020.[26]

28. Most civil emergencies in the UK are handled at a local level, by local agencies, with no direct involvement by central government. However, where the scale or complexity of an emergency is such that some degree of central government co-

ordination or support becomes necessary, a designated LGD, or, where appropriate, a department of one of the devolved administrations ("DA"s), or the Civil Contingencies Unit ("CCU") based in the Cabinet Office, will be made responsible for the overall management of central government's response to the emergency. The assessment of whether the emergency is within the scope of the LGD, or whether support is needed and, if so, what degree of central co-ordination is required will be for the Head of Civil Contingencies Secretariat ("CCS") in close consultation with the LGD, the Head of Crisis Management in Defence and Overseas Secretariat ("ODSec"), the Security and Intelligence Co-ordinator and No 10.[27]

29. Where Defra is tasked with the role of LGD, in respect of an emergency on a large scale, its response will typically include both the activation of dedicated resources and the redeployment of other resources, such as staff from their usual role of policy development or delivery to activities which address the emergency.[28]

30. The Secretary of State is listed as a "Category 1 responder" under CCA 2004, "*in so far as their functions include responding to maritime, flooding and coastal emergencies (excluding the investigation of accidents)*". Please see the relevant sections of the CCA 2004 [**TF/002/INQ000116301**].[29]

31. The CCA 2004 imposes a series of duties in relation to an "emergency" (as defined). Under the CCA 2004 for an emergency to be declared it must pose a serious threat to the security, human welfare or environment of the United Kingdom. This may include events such as a war or attack by a foreign power, a terrorist attack, disruption of fuel supplies, contamination of land with a chemical matter or an epidemic. Under the CCA 2004, Category 1 responders have a duty to assess potential risks and make appropriate contingency planning. This includes making arrangements to warn, inform and advise members of the public where necessary. In the event of an emergency, Category 1 responders may also be required by a Minister of the Crown to take steps to prevent, reduce, control or mitigate the effects of an emergency as appropriate. Defra is the LGD responsible for responding to, and providing recovery from, a range of emergencies and a more detailed description of these responsibilities is given elsewhere in this statement. It follows that Defra is not responsible for the emergency response or recovery where it falls outside the scope of Defra's functions. However, Defra retains responsibility

for its policy areas (such as farming, environment and marine), which may be affected by an emergency (for example, a cyber attack), throughout both the response and recovery phases.[30]

32. Depending on the nature of an emergency, Defra may liaise with affected sectors and stakeholders to operate funding/compensation schemes; advise on the application of (and, potentially, on changes to) regulations in areas which Defra is responsible; provide leadership and direction for public communications (for example, in relation to drinking water safety and contamination of the environment); and engage with partners at international level e.g. trade or law issues.[31]

33. For instance, within the period covered by this witness statement Defra's emergency response functions have been exercised in relation to the decontamination of sites affected by the Salisbury/Amesbury Novichok poisoning incidents in 2018 (with the Home Office leading the incident response phase and Defra leading the recovery phase), outbreaks of Avian Influenza and resolving water supply incidents. Defra also regularly responds to flooding incidents, and emergency response structures are in place to address these. Defra is equipped with contingency plans for managing emergencies relating to food supply, water chemicals, animal health and welfare and veterinary medicines, as well as staff experienced in responding to emergencies as outlined later.[32]

*Risk management*

34. Defra's Board, ARAC and ExCo each fulfil key functions in relation to Defra's departmental risk management. Defra maintains a principal risk register in respect of those matters for which DEFRA is responsible, which is reviewed by Exco every quarter and which is also regularly reviewed by ARAC. The principal risk register comprises risks that are escalated upwards from directorate level through to the responsible DG. When the impact levels of these risks are deemed to be high, they are escalated upwards to ExCo, to explore in depth and then help manage and control the risk. They include in particular risks which require a cross-Defra response or have cross-cutting impacts. Departmental risks (published as part of Defra's Annual Report and Accounts) from recent years have included:

- Cybersecurity.

- Covid-19.
- Emissions targets.
- Legal risks.
- Concurrent risks (e.g. the impacts of concurrent emergencies such as winter risks and Covid-19).[33]

35. Each of Defra's ALBs has responsibility for effective risk management across their organisations, including making sure that relevant risks (e.g. those with cross-cutting impacts) are escalated to Defra through the ALB Chief Executives. This is particularly important where ALBs have a role in areas of high risk, such as flood response and animal health and welfare.[34]

36. Centrally, Defra is the LGD for 14 risks in the National Security Risk Assessment ("NSRA") (as of 2022). Defra is responsible for the management and mitigation of these risks, which include flooding, water supply, animal disease outbreak, plant disease and air quality. Defra is also the lead department for the recovery phase of 15 CBRN emergencies, which is work I refer to in more detail below. New risks are generally identified within Defra, initially, and then submitted to the NSRA annually.[35]

*Horizon scanning*

37. There have been varied levels of foresight capability at Defra, at a national and global level, since 2009. This capability has evolved over time, changing in size and structure. A general-threat horizon-scanning programme was initially established following the outbreak of Foot and Mouth Disease ("FMD") in the early 2000s, and subsequently mixed models of centralised and devolved horizon-scanning functions being held by individual policy teams. For example, horizon-scanning and risk assessment functions focused on animal health and plant health have continued throughout the period, embedded within specialist teams across the Defra group and across government. Alongside this, a unit sitting across Defra and APHA is dedicated to modelling emergent pathogens that may affect animal/plant health. Defra's current foresight capability includes mapping of global catastrophic risks and mapping and modelling based on live issues, which is fed into policy planning work

where relevant. Since 2019, horizon-scanning functions have been re-established centrally within Defra.[36]

*Emergency Operations Centres*

38. Defra teams have the capacity to establish Emergency Operations Centres ("EOC"s) when responding to emergencies such as flooding. EOCs are staffed by dedicated teams who assist in either managing the department's response (including cross-government coordination) or working with the LGD on an emergency where Defra is involved, but not leading the response.[37]

39. In summer 2020, an EOC, which had been established to respond to floods caused by Storms Ciara, Dennis and Jorge in February 2020, became the Covid-19 Policy Unit ("CPU"), a permanent team responsible for ongoing coordination of Defra's response to the Covid-19 pandemic. I discuss this further below.[38]

40. Emergency responses present dynamic and challenging situations. Defra operates from an EOC Concept of Operations ("ConOps") framework to escalate and scale our activities according to the nature and size of the incident. For many incidents, the standing policy, or emergency, team will carry out these activities, without escalation. However, in a larger or developing incident, escalation may be necessary to ensure that Defra provides the appropriate responses according to their severity.[39]

41. Where ministerial escalation is deemed necessary an immediate 'heads up' email will be sent to ministerial private offices, to share the current situation of a high scale or escalating incident. Depending upon the significance of the incident, this may also be followed with contact with Private Offices and the Incident Director.[40]

42. To ensure Ministers can respond to emergencies with comprehensive knowledge and awareness, a written briefing is usually prepared by the EOC ahead of Ministerial meetings. This is often accompanied by an in-person or verbal briefing by an EOC representative. Ministers may want a pre-brief meeting with officials before meeting with other government departments ("OGDs"), Cabinet or

stakeholders to discuss policy issues and understand likely questions/ criticisms. Alongside this, Ministers are provided with a daily Situation Report ("SitRep"), which exists to provide a common picture of the emerging/ongoing situation on the ground to all government departments involved in the response or recovery to an incident.[41]

43. Private Offices will often arrange individual issue-based meetings to talk ministers through a decision, advice or request during an emergency response period. At a departmental level, several internal and external ad-hoc forums have been created, and adapted during emergency response periods since 2009, to facilitate supporting and advising minsters during these periods.[42]

*Communications*

44. Defra has a central Communications Group, which also provides communication services for five of Defra's ALBs (APHA, EA, Forestry Commission, Natural England and the RPA). The Communications Group has been closely involved with contingency planning in recent years.[44]

45. The Communications Group developed several specific contingency measures in anticipation of EU Exit. These included, but are not limited to:
    - A communications strategy to respond to potential demand surges or supply issues in the food chain.
    - Testing a set of messages related to food supply with a number of focus groups representative of different ages, backgrounds and geographical locations across England. This included a set of overarching messaging to explain food supply and contingency planning, alongside specific messaging aimed at providing reassurance, offering advice in relation to shortages of specific products and sharing what government action was being taken.
    - Gathering a collection of behavioural insights through work with social researchers, in order to consider how consumer and business purchasing behaviours could manifest during supply chain uncertainty.
    - A message hierarchy for use in an EU exit no-deal situation (a living document to be adapted for use in specific situations), including messages the government

would activate dependent on whether certain scenarios arose (for example, in response to evidence that there was a shift in consumer purchasing behaviours but no evidence of major issues in-store; reports that businesses are having issues receiving goods; localised issues; and evidence of adverse consumer behaviour leading to widespread shortages of a particular product).[45]

**Co-operation across the Defra Group, the UK government and the DAs**

46. In this section of the witness statement, I describe how Defra cooperates with other parts of the UK government, how members of the Defra Group cooperate with one another in undertaking risk management and civil emergency planning functions, our approach to working with the DAs and finally the structures we have in place when working with local authorities and Local Resilience Forums ("LRF"s).[46]

*Defra's Cross-government Collaboration*

47. Defra actively participates in the cross-government Integrated Emergency Management process led by the Cabinet Office's CCS (now split into the Resilience Directorate and Cabinet Office Briefing Rooms ("COBR") Unit). This includes reporting on national security risks, particularly where Defra is the LGD for a risk, and government response capabilities. When a risk materialises and becomes an emergency (as defined in the CCA 2004) , there are three broad levels to which this can be escalated. They are as follows:
    - **Level 1** – The LGD minister runs the crisis response through an EOC from their premises using their own emergency facilities as appropriate. The CCS in the Cabinet Offices advises as and when necessary.
    - **Level 2** – The issue is co-ordinated from the COBR Unit by the LGD. For example, for a serious flood Defra (as the LGD for floods) would lead the response using the COBR mechanism, chairing COBR meetings as required.
    - **Level 3** – The prime minister or nominated Secretary of State leads in the event of a catastrophic incident requiring the involvement of central government from the outset to deliver an effective response, or where emergency powers are invoked. COBR and the CCS coordinate, rather than the LGD.

Internally, Defra has arrangements in place to support these cross-government processes. Sector-specific teams have plans to stand up an EOC where an emergency occurs. Staff receive training on how the COBR mechanism works. Outside of a crisis, various experts within policy teams support the wider Integrated Emergency Management process (e.g. risk assessment). For cross-cutting crises affecting multiple Defra teams, the Department can activate a Departmental Operations Centre ("DOC") to coordinate the overall response, as it was prepared to do in the event of a no-deal EU Exit. This flexibility allows Defra to collaborate across government as efficiently and effectively as possible, for challenges ranging from single-issue emergencies where Defra is the LGD (e.g. an animal health outbreak), to complex crises where it is one of a number of departments affected across a number of interests (e.g. EU Exit).[47]

*Defra's ALBs*

48. Defra's ALBs have the authority to manage risks within their own fields of activity (and I describe these arrangements further below). Each ALB has a business plan, and outcomes are measured against a set of key performance indicators. Each ALB should have a framework document in place which sets out arrangements for Defra to monitor and understand the ALB's strategy, performance and delivery and is used as a guide to govern the collaborative relationship between Defra and the ALB. Defra is currently carrying out a framework document refresh to ensure up to date documents are in place for all ALBs. Two Defra DGs act as senior sponsors, with responsibility for managing Defra's relationship with specific ALBs, and in some cases provide line management to certain ALB chief executives, holding them to account for delivering against their targets and taking a longer-term strategic view of the ALB's relationship with Defra.[48]

49. Further, the Defra Group has a collective emergency response capability. This is frequently deployed to anticipate, prepare, plan, respond and recover from risks and issues, both domestic and international. Defra's role is as the coordinator: all ALB leaders identify and act on those risks that affect Defra Group as a whole, and report to Defra to ensure that a strategic group-level response is prepared.[49]

## Co-operation across the Defra Group, the UK government and the DAs

50. Later sections of this witness statement describe Defra Group's capabilities in emergency planning and response in those areas for which it is Lead Responsible Department. However, overall, the Group's capabilities have developed and been enhanced over the relevant period. Risks such as EU Exit have been a catalyst for the development of enhanced capabilities across the Group. In addition, the relative frequency of flooding compared with other emergencies within Defra's areas of responsibility mean that particular expertise evolved in this area. This was then available as a resource to the wider Department.[51]

*Cooperation with the DAs*

51. The majority of Defra's policy portfolio constitutes matters which are devolved to the administrations in Scotland, Wales and Northern Ireland (such that Defra's powers (and those of the members of the Defra Group) for the most part extend to England only). Most areas that are not devolved matters are those that intersect with the UK's international relations and obligations. The precise arrangements, which differ by Administration, are set out in the Devolution Settlements. Defra and DAs have strong collaborative relationships.The Department also works directly with stakeholders, businesses and citizens across the whole of the UK to meet UK-wide objectives and ensure the UK fulfils its international obligations.[52]

52. Therefore, even if policy is devolved, there is often a need or benefit from working with one or more of the DAs to consider issues, such as those that emerge during the course of emergencies, successfully implement policy or deliver a service. Targeted collaboration with the DAs encourages more coherent rules and standards and can simplify government processes for businesses and citizens. This could be achieved by 4 separate policies, tailored to the needs of each nation but which have common themes and contribution to a shared outcome, or it could be achieved by a single joint policy.[53]

53. The highly devolved nature of Defra's policy portfolio extends to relevant emergency policy responses, for example in responding to animal disease outbreaks or flood crisis response. In some policy areas officials and ministers will work closely together to deliver an effective response (see paragraph 92). During preparations for a no-deal EU Exit, governance between Defra and the DAs was strengthened,

with officials from all four administrations participating in Defra's 'Operations Centre', which coordinated policy work across each of Defra's sectors, ensuring policy coherence across the UK where necessary.[54]

54. The UK Government has voluntarily agreed between the administrations governance arrangements in policy areas where action is needed to maintain a common approach and/or manage divergence across the UK or Great Britain. In Defra there are 14 environment, food and rural affairs ("EFRA") framework areas:
    - Plant health.
    - Animal health and welfare.
    - Zootechnics.
    - Plant seeds and propagating material.
    - Air quality.
    - Ozone depleting gases.
    - Best available techniques (i.e. the most economically and technically viable available techniques which are available for preventing or minimising emissions and impacts on the environment as a whole).
    - Resources and waste.
    - Chemicals and pesticides.
    - Fisheries management and support.
    - Agricultural support.
    - Fertiliser regulations.
    - Organic farming,
    - Food compositional standards.
    - Labelling.[55]

55. Further, there are a number of ministerial and official meetings which consider devolution issues from a Defra perspective.[56]

56. Since 2017 Inter-Ministerial Group for Environment, Food and Rural Affairs ("IMG EFRA") meetings have occurred on a regular basis (46 meetings have taken place during this period) with bilateral meetings/calls taking place when required. Meetings are hosted alternately by all four administrations, each contributing to the agenda.

This collaborative approach facilitates intergovernmental working between Defra and the DAs.[57]

57. The Senior Officials Programme Board meets monthly to identify high-level issues for Scotland, Wales and Northern Ireland and topics that require more detailed consideration. This forum feeds into the IMG EFRA ministerial meetings.[58]

58. There are additionally several areas (trade, for example), which span a number of broad Defra sectors, where Defra and DAs engage in policy and where officials work together to discuss technical and policy issues on a regular basis.[59]

59. Diagram 1, provided at Annex 2 page 129, illustrates the intergovernmental working structures as they apply to Defra. This structure was developed in 2016 and has broadly been in place since that time. The IMG EFRA provides central co-ordination and promotion of greater collaboration in areas of shared interest between the portfolio ministers leading on these issues within the UK Administrations. Its responsibilities include responding to any unforeseen matters, such as civil contingency issues arising from disease outbreak, where joint action is agreed as being beneficial and/or necessary. It does not replace or interrupt the responsibilities of each Administration nor other agencies who may be responding to civil contingency matters e.g. ALBs such as APHA.[60]

60. The development of common frameworks and their associated governance forums during the period of 2016 to the present date has meant that there has been an evolution of the relationships with additional policy and technical groups added enabling the rapid sharing of information where necessary. There has also been evolution in the overarching architecture into which the EFRA-focused arrangements fit; the Joint Ministerial Committee Plenary was superseded in 2022 by the Inter-ministerial Standing Committee which reports into the Prime Minister and Heads of Devolved Government Council.[61]

*Local authorities and LRFs*

61. I set out in the following sections covering APHW, CBRN and Flooding, the different approaches that are employed in respect of how and when we work with local

authorities and LRFs in the event of issues arising in those areas. The approach in each of these areas is tailored to the specific circumstances that are being considered. Additionally in the event of a different form of emergency e.g. when an EOC has been stood up we would anticipate engaging with the relevant LRFs to determine the best way in which to work with those forums. This may take the form of sending officials to attend and participate in meetings. It is also important to note that Department for Levelling Up, Housing and Communities ("DLUHC") are the relationship owners for LRFs and that we would have license to contact LRFs through DLUHC's satellite communications model.[62]

62. Under the terms of the CCA 2004, all LRFs are required to have emergency plans; they will generally be a mix of generic plans and plans designed to address specific risks, based on their community risk assessments.[64]

63. LRFs are not legal entities, nor do they have powers to direct their members. Nevertheless, the CCA 2004 and the Regulations provide that responders, through the LRF, have a collective responsibility to plan, prepare and communicate in a multiagency environment.[65]

64. Clearly not all engagement with local authorities and LRFs is undertaken under the duress of an incident. Defra regularly engages with these groups to enable us to develop and monitor Defra policies.[66]

**Introduction to Defra's specialist structures and bodies**

65. Having provided an overview of Defra and the Defra Group, in this section of witness statement I provide a description of those elements of the department and wider Defra Group which have functions and expertise in particular policy areas. In particular I describe the role of the scientific profession within Defra and Defra Group; the directorates tasked with dealing with issues relating to the AFC, flooding and water and CBRN; and APHA.[67]

*Defra's use of expert and scientific advice*

66. In this section of the witness statement, I describe the sources of scientific and expert advice available to Defra and the Defra Group. I begin this section by outlining the role of Defra's CSA. I then go on to describe how science is structured within the Defra Group. I end this section by describing how Defra engages with broader science networks.[68]

CSA

67. Defra appointed a CSA in 2002. The CSA is appointed for a fixed-term and recruited from among the leading scientists working in academia or industry. The CSA is expected to have relevant scientific expertise in the fields within which Defra operates, high standing in the science community and a strong network in the UK and internationally.[69]

68. Defra's current CSA is Professor Gideon Henderson, who has been in post since 2019. His predecessors are:
    - Professor Sir Ian Boyd (2012 – 2019).
    - Professor Sir Robert Watson (2007 – 2012).[70]

69. The CSA is also the DG Science and Analysis, part of Defra's senior management team. They have responsibility for ensuring that Defra has the science capability and the evidence required to realise the department's vision and put science at the heart of policy making and delivery. The CSA is responsible for ensuring that scientific advice to ministers and Defra Group's leadership team is sound, evidence-based and up-to-date. This role can involve directly supporting and informing ministers and senior officials on scientific issues, and to consider strategic science and evidence needs of the department, including horizon scanning for emerging trends and technologies.[71]

70. Defra's CSA meets weekly with the government's CSA and CSAs from other government departments to discuss cross-cutting scientific issues. Meetings are organised by the Government Office for Science and chaired by CSAs on a rota basis. The Government Office for Science maintains a forward plan of topics for discussion and CSAs are also invited to submit ideas for future topics. DG Science

and Analysis also interacts with the Government Office for Science and a network of departmental CSA offices through a range of other activities.[72]

71. Defra's CSA feeds into wider cross-government activity through a number of mechanisms. They can be called onto the Scientific Advisory Group for Emergencies ("SAGE"), where their expertise is relevant to the issue under consideration. For example, Defra's CSA was a member of SAGE for the potential breach of the Toddbrook reservoir (2019) and winter flooding (2013). Defra's CSA also chaired the Decontamination Science Advisory Group related to Salisbury (2018).[73]

72. Through the Government Office for Science and the Cabinet Office, the CSA takes part in exercises and scenario planning for future emergencies, e.g. for a chemical attack or a national power outage. Defra's CSA is also a member of a number of cross-government boards, sharing updates on research and development activity and championing Defra interests.[74]

*Science Within Defra*

73. The CSA has oversight of Defra's Science System and is Head of Profession for Science and Engineering specialists. The science and analytical professions each have their own Head of Profession who are responsible for ensuring that specialists have access to the right tools, skills and expertise to support them in their roles. The analytical Heads of Profession are overseen by Defra's Director of Analysis. They are further supported by the government science and engineering and government analysis function, which provides a network for all civil servants working in government science and analysis.[75]

74. The delivery of science in Defra Group is locally managed and prioritised, with central governance structures in place to provide strategic direction, tackle cross-cutting issues and quality assurance. Most of the scientists working in "core" Defra are embedded within directorates in the Food, Biosecurity and Trade ("FBT") and Environment DG groups. This includes scientists embedded in teams working on preparedness and resilience, for example in the CBRN, floods and animal health area. Integrating scientists and analysts within policy teams ensures that there is a

pathway between research and development and the science needed to inform policy-making.[76]

75. These scientists provide the specialist expertise required to inform policy making, and fulfil a critical function by bringing science and policy together. They are responsible, in their subject area, for interacting with external experts and advice structures, integrating the science relevant to their policy area with others across Defra and engaging with other funders and government departments to align their activities. The size and structure of these embedded teams has changed over time.[77]

76. Within the main policy-focused Director-General led groups (Environment and FBT), each directorate currently has a designated Lead Scientist. This Lead Scientist is the recognised point of contact on scientific issues for that directorate and is responsible for advising on the appropriate level of scientific expertise and evidence input into their area. The Lead Scientists now have a dotted reporting line to the CSA, who maintains an overview of the scientists and science capability across Defra. Each directorate also has a Lead Analyst linked into the Director of Analysis. Lead Analysts work alongside Lead Scientists and are responsible for advising on the appropriate level of analytical expertise and input in their directorate. The current model of Lead Scientists and Lead Analysts was introduced in 2020.[78]

77. Most of the scientists across Defra Group work in our ALBs. These scientists provide important expertise and capability across the breadth of policy areas, including preparedness and resilience, for example, within APHA and the EA. Defra also works with ALBs of other government departments, for example the Defence Science and Technology Laboratory, which is an executive agency of the Ministry of Defence ("MOD").[79]

78. Defra Group has an Evidence, Science and Analysis Committee ("GESAC"), which is the central coordinating committee for science and analysis across Defra Group, chaired by the CSA. GESAC was established in 2016, with other governance structures in place prior to this. GESAC brings together the Chief Scientists/Evidence Leads from the seven Defra Public Sector Research Establishments, VMD, Marine Management Organisation "(MMO") and the Welsh

Government, with evidence leads from Defra's directorates, the CSA and the Director of Analysis. These leads work closely with policy and delivery teams in their respective organisations to ensure that agendas are aligned.[80]

79. These structures provide the mechanisms for building and maintaining science capability across Defra; leading the science and analytical professions; keeping under review the scientific and analytical capabilities provided by the Defra Group or which the Defra Group is reliant on; identifying and managing science and analytical priorities and risks; identifying strategic partnerships; and overseeing the quality of science and analysis standards.[81]

*Science Networks*

80. Defra actively engages and augments its science capability with external science expertise, including through independent expert committees, institutional placements and direct engagement with scientific institutes.[82]

81. Defra has a Science Advisory Council ("SAC"), which is a non-departmental body which assists the CSA in assuring and challenging the evidence that Defra uses in its policy by providing independent and scientific support and advice, see the SAC Terms of Reference[**TF/003/INQ000101502**]. SAC's remit is broad, and focused primarily on the strategic direction of Defra's evidence. The Defra SAC was originally established in 2004. Following an independent review, the current model for SAC was implemented in 2011. All appointments to the SAC are made in accordance with the Code of Practice for Ministerial Appointments to Public Bodies. Membership of the SAC is regularly refreshed and reports summarising SAC activity are published periodically.[82A]

82. Defra also has expert groups which provide scientific and analytical advice specific to policy areas, comprising academic specialists and industry partners. These groups are periodically reviewed to ensure that they provide the expert external input required for Defra's present needs.[83]

83. Defra has well established relationships with a geographically diverse range of institutes, maintained through university networks and Research Councils, for example the Natural Environment Research Council and Biotechnology and Biological Sciences Research Council. These bodies are major funders of bioscience and other research in the UK and play a pivotal role in connecting institutions and building interdisciplinary collaborations. This allows Defra to access a wide range of scientific advice as needed, allows co-design of projects that benefit its objectives and provides information about innovation. Defra also actively seeks to bring in interns and fellows to policy and central teams to enhance the science-policy bridge.[84]

84. The CSA can also draw on these networks, across Defra Group and externally, to bring together experts to review the science in response to specific events or incidents. For example, the CSA convened an expert group to carry out a scientific investigation of the air quality incident at Birling Gap (2017) [**TF/004/INQ000101472**] and the tree health and plant biosecurity expert taskforce to review domestic and international risks presented from new and emerging tree and plant pathogens (2012) [**TF/005/INQ000101450**].[85]

85. The critical role of science in Defra is embedded in the policy teams and the ALBs who prepare for and respond to emergencies. The CSA is able to challenge as necessary. During the pandemic, Defra's CSA sat on SAGE and was able to provide appropriate advice on COVID transmission in the outdoor environment.[85A]

**Animal and Plant Health**

86. I begin this section by setting out Defra's responsibilities and the legislative framework that governs animal and plant health and welfare in this area as well as those of APHA. I then go on to describe processes of horizon scanning and threat identification that Defra has established or receives updates from. I end this section by setting out how Defra responds to disease outbreak, and touch upon the emergency response role of the VMD.[86]

87. As part of the UK Government's preparedness for civil emergencies, there is an established system of LGDs which are responsible for planning, response and

recovery for different types of emergencies. Defra is the LGD for "animal disease and welfare" working with delivery partners and the DAs. When a crisis occurs which could require a "One Health" response (i.e., one which covers human, animal and/or environmental health), Defra has responsibility for the environmental health and animal health elements of the response. It is therefore of paramount importance that Defra is involved in the threat identification and response for any large incident involving biological, radionuclide or chemical agents and the Department has a plethora of well-developed and rehearsed contingency plans.[87]

88. There is an extensive legislative and regulatory framework governing animal health. The Animal Health Act 1981 ("the 1981 Act") makes provision for a variety of matters concerning the eradication, prevention, and control of animal diseases. Part 1 confers powers and duties on Ministers for the purpose of eradication and prevention of disease. These include: (a) an obligation on the Secretary of State to prepare guidance on biosecurity measures to be taken in relation to certain specified diseases (s.6A); (b) an obligation on owners and occupiers of premises on which animals are kept to comply with biosecurity guidance (s.6B); (c) powers to make orders concerning cleansing and disinfection of places used for holding animals (s.7); and powers to make orders governing importation of animals for purpose of preventing the introduction or spreading disease (s.10).[88]

89. Part II confers a range of powers and obligations in relation to the outbreaks, infections, and risk to human health from zoonoses. These include emergency powers to respond to the outbreak of diseases and risk to human health through control of zoonoses. Diseases of significance are made notifiable under section 15 of the 1981 Act, supported by Orders providing rules and enforcement powers for specific diseases. A power under section 29 confers specific powers for controlling zoonoses. The legislative framework governing specific animal and zoonotic disease reflects policy developed through decades of research and development by APHA (and its predecessor organisations). There are a vast number of statutory instruments made under the 1981 Act which deal with diseases that pose a zoonotic disease risk, including Covid-19. These include:

- The Zoonoses Order 1989 (England) is one such legislative instrument made under the 1981 Act and is applied in relation to the designated organisms,

such as Brucella sp., Salmonella and covers poultry, livestock, and pets with a view to reducing the risk to human health from those organisms. It includes the powers of entry, movement restrictions, slaughter and culling and seizing of goods.

- The Official Controls Regulation 2017/625 ("the OCR") addresses controls governing imports, ensuring that they adhere to the strict health and welfare standards required for entry into the EU. The OCR is retained EU law and continues to apply to govern imports into the UK following the UK's exit from the EU. The Trade in Animals and Related Products Regulations 2011 ("TARP") works in parallel to the OCR, implementing EU Directives on the intra EU movement of live animals and animal products and contains enforcement powers to ensure that live animals and products of animal origin entering England from other countries meet the required import conditions set out in the OCR. APHA Official Veterinarians, together with local authorities, are responsible for inspections of imported animals, germplasm, animal by-products and products of animal origin for human consumption at UK Border Control Posts.
- The Aquatic Animal Health (England and Wales) Regulations 2009 set out animal health requirements for aquaculture. Parallel legislation is in place in Scotland and Northern Ireland.[89]

90. The legislative and regulatory framework is overseen and implemented by a number of public authorities and agencies, including Defra, Public Health England ("PHE"), the Health and Safety Executive ("HSE"), APHA, the Food Standards Agency ("FSA"), the National Animal Health and Welfare Panel ("NAHWP"), the Association of Chief Trading Standards Officers ("ACTSO"), and local authorities.[90]

*The Animal & Plant Health and Welfare directorate*

91. The Animal & Plant Health and Welfare ("APHW") directorate is a core-Defra director-led unit, responsible for developing and implementing relevant policies, with a mix of policy, science, veterinary and analytical capabilities, as per the policy paper[**TF/006/INQ000101514**]. APHW's objectives include:
    - The long-term eradication of bovine Tuberculosis ("bTB");

- Improving the health and welfare of farmed and companion animals, including on-farm biosecurity;
- Preparing for and responding to animal and plant pest and disease outbreaks;
- Livestock traceability; and,
- Developing policies and standards for trade into and out of the UK in order to protect biosecurity.[91]

92. In support of its objectives, APHW sources input and advice from a number of expert committees, including the Animal Health and Welfare Board for England [**TF/007/INQ000101517**] and the Bovine Tuberculosis Partnership. The Defra Board provides strategic, corporate leadership to the department and has particular responsibility for monitoring performance and delivery.[92]

93. Diagram 5, provided at Annex 2 page 134 shows the hierarchy of senior managers in decision making for crisis events. 93]

*APHW - Working with other departments and DAs*

94. The Defra policy teams work closely with the science, technical, field and veterinary experts to ensure delivery. The Chief Veterinary Officer ("CVO"), Professor Christine Middlemiss, is also the CVO for the UK and head of the veterinary profession for government (prior to her taking up this role, the UK's CVO was Professor Nigel Gibbens from May 2008 to March 2018). She is responsible for international relations with regards to animal health and welfare, on behalf of the Secretary of State which includes responsibility for confirming notifiable disease outbreaks in England; the CVOs for Scotland, Wales and Northern Ireland will confirm disease in their territories but all four will work closely together in the event of a crisis. The 'Animal health and welfare: provisional common framework' sets out how the UK Government and devolved governments propose to work together in key areas of animal health and welfare law and policy [**TF/008/INQ000116380**].[94]

95. The CVOs of Defra and the DAs meet on a monthly basis to discuss issues pertaining to animal health and welfare, trade and the veterinary profession. Also present are the veterinary Directors of APHA and of the FSA. Regular items for

discussion include reports of the UK Surveillance Forum ("UKSF"), the International Disease Monitoring team and the VRG. These bodies are discussed below.[95]

96. There are regular meetings between the CVO and the Chief Medical Officer ("CMO"). The meetings, prior to the pandemic, took place once every six months to discuss issues of joint interest. However, they had no standard agenda and depended upon the personal relationships between the CMO and the CVO. The most common joint interest issues were around combating antimicrobial resistance ("AMR") and this, alongside pandemic preparedness and zoonotic disease, remains a priority focus.[96]

97. The Exotic Disease Control ("EDC") team within the APHW directorate has policy responsibility for a general disease contingency plan and specific control strategies for exotic notifiable animal diseases. These are diseases which are named in section 88 of the 1981 Act, or an Order made under that Act. The team will update and exercise the control strategies during periods where acute issues are not being tackled, while during a disease outbreak, the team is responsible for enacting the policy itself through the enforcement agencies and operational partners (in line with the National Exotic Disease Contingency Plan). There is more detail in the contingency plan and individual control strategies about the battle rhythm for actions and how the policy teams draw in stakeholders' views and expert advice for decision making.[97]

98. The EDC team frequently interacts with other government departments:
    - The chair of cross government Human Animal Infections and Risk Surveillance ("HAIRS") group sits in the APHW EDC team and regularly works with colleagues in UKHSA and the APHA One Health team to manage zoonotic disease threats and outbreaks.
    - EDC works with the GoS/SAGE secretariat towards the weekly production of the International Natural Hazard Forward Look (which is described in further detail below). The CSA would attend these meetings as and when required.
    - The EDC receives and responds to ad hoc enquiries from CCS regarding disease outbreaks.

- Defra also has input to the six-monthly risk reports which is coordinated by the Cabinet Office, and the COBR Unit Civil Contingencies Forward Look.
- The Science Advisory Council sub-committee for Exotic Disease ("SAC-ED") is an external sub-committee of Defra's SAC and has close links to the CVO and the EDC team, through a policy-science team member.[98]

*APHA*

99. APHA is an operational executive agency and a member of the Defra Group. It supports the delivery of Defra's strategy (as well as that of the Welsh and Scottish Governments) and is responsible for responding to biosecurity threats to the UK. Its remit includes identifying and controlling endemic and exotic diseases and pests in animals, plants, and bees; responding to on farm or companion animal incidents of zoonotic diseases; surveillance of livestock and plant pests and diseases, domestically and abroad; and scientific research into diseases and vaccines. The CVO sits on the APHA board, and the CEO for APHA attends the monthly CVO meetings [**TF/009/INQ000116308**]. APHA is funded through both a direct HM Treasury fund as well as through bespoke research programmes from Defra and external research fund providers (see the 2021 to 2026 strategy) [**TF/010/INQ000101495**]. APHA's relationship with Defra and the framework in which it operates is described in a formal Framework Document [**TF/011/INQ000116313**].[99]

100. APHA has evolved over the last twenty years, from two separate agencies (the State Veterinary Service ("SVS") and Veterinary Laboratories Agency). In 2007, the SVS became Animal Health. Animal Health was a UK Government executive agency primarily responsible for ensuring that farmed animals in Great Britain were healthy, disease-free and well looked after. It was merged with the Veterinary Laboratory Agency in 2011 to form the Animal Health and Veterinary Laboratories Agency ("AHVLA").[100]

101. APHA launched on 1 October 2014. APHA evolved from AHVLA joining with four functions of Fera (the Bee inspectorate, the Plants Health and Seeds Inspectorate, the Plant Variety and Seeds Group, and the GM Inspectorate). It brought together animal and plant health inspection functions in one place to enable joined up working

on plant and animal diseases and pests and increase our resilience and flexibility to respond to emergencies.[101]

102. Throughout the period of time covered by this statement, there have been changes in APHA's leadership as follows:
    - August 2012: Catherine Brown.
    - September 2012 - December 2012: Julie Pierce (Interim CEO).
    - January 2013 - June 2021: Chris Hadkiss.

*Horizon scanning and risk identification*

103. The UK's approach to biosecurity is to deliver the highest standards of protection from pests, disease and invasive non-native species. This begins with the vital process of horizon scanning to detect potential risks, and it includes robust measures to prevent and detect incursions as well as a capacity to respond effectively to contain or eradicate outbreaks that may occur.[102]

104. A robust animal health surveillance system underpins not only the UK's credibility with trading partners, supporting £20.2 billion worth of food, feed and drink exports in 2021, but also supports the rural economy, underpins food security, protects public health, and is one of the pillars needed to maintain the UK's recognised status as a world leader in animal health and welfare. Effective surveillance is also linked to areas such as enforcement and gathering actionable intelligence about industry practices and trends. In practice, APHA is responsible for endemic and exotic disease monitoring and surveillance in livestock, wildlife and companion animals, veterinary field services and laboratory services in England, Scotland and Wales [**TF/012/INQ000101511**]. The Department of Agriculture, Environment and Rural Affairs ("DAERA") provides equivalent services in Northern Ireland. APHA produces monthly surveillance reports which are published in the Veterinary Record and are available online [**TF/013/INQ000116393**].[103]

105. It is essential the UK government remains vigilant to the global pest and disease picture to understand the current and prospective impact of these risks. The assessment of risk drives the UK's approach to biosecurity as it enables us to effectively identify, detect and respond to threats. Defra and its devolved

counterparts have a network of scientific risk analysts for both terrestrial and aquatic animal and plant health and evidence-based decision making is key to protecting the UK from biosecurity risks. Continuous monitoring and assessment of the risks we face through early warning surveillance (including horizon scanning, international disease monitoring and veterinary surveillance) is critical to our ability to assess the risks we face and contributes to the planning, implementation, and evaluation of risk mitigation actions.[104]

106. "Surveillance" is defined by APHA as the systematic, continuous or repeated, measurement, collection, collation, analysis, interpretation and timely dissemination of animal health and welfare related data from defined populations. These data are then used to describe health hazard occurrence and to contribute to the planning, implementation, and evaluation of risk mitigation actions. There are many different types of surveillance, including all elements of early warning surveillance (such as international disease monitoring and veterinary scanning surveillance), risk-based targeted ("active") or event based ("passive") surveillance and surveillance to prove farm level or regional level disease freedom. All these outcomes are delivered through a programme of surveillance activities [**TF/014/INQ000101491**].[105]

*How risks are monitored and assessed in APHW*

107. The main risk pathways for animal pathogens to arrive to the UK border are through imports of live animals, germinal products and products of animal origin, vectors or migratory wild birds, illegal imports (passenger luggage) or contaminated equipment / bedding / feed / vehicles.[107]

108. The UK is a country partner of the World Animal Health Organisation and as such implements the recommendations for safe trade in animals and related products of animal origin, using defined methodology for Import Risk Assessments [**TF/015/INQ000101463**].[108]

109. Since 2005, Defra has undertaken daily horizon scanning for disease outbreaks in trade partners and neighbouring countries and produced risk assessments [**TF/016/INQ000116401**]. In 2009, we developed a generic risk assessment tool

which provides a semi-quantitative assessment of all the risk pathways and pathogens to allow us to prioritise the most likely risks [**TF/017/INQ000101430**]. The tool is reviewed on a quarterly basis and an ad hoc basis (if horizon scanning suggests it is necessary) and is the basis for our risk register of notifiable and emerging pathogens, including zoonotic disease.[109]

110. Through its network of laboratories and veterinary investigation centres APHA carries out both active surveillance (such as targeted surveillance for specific pathogens based on risk analysis) and scanning surveillance for new and emerging threats (such as to identify when a risk changes, through sampling and testing in response to reports from inspectors, vets and farmers) on behalf of Defra's APHW Directorate. The outcome of the surveillance is published on the APHA website, as quarterly and monthly reports for each species group [**TF/013/INQ000116393**].[110]

111. The range of pathogens which are monitored cover multiple pathways – direct and indirect transmission, vector borne diseases, food borne pathogens and from a range of animal sources. Where pathogens with zoonotic potential are identified, the communication routes to risk managers in the public health sector are vital to informing the incident management teams. The risk assessment for these potential zoonotic pathogens will be carried out by the group and the outcome of that discussion will inform further actions for risk managers and risk communicators [**TF/018/INQ000101466**].[111]

112. The VRG (see below) meets on a monthly basis to consider all domestic threats to both kept and wild animals in the UK, be it from imports, lack of enforcement, changes in farming practices, environmental drivers or emerging threats. Defra is the chair of the HAIRS group, which horizon scans and assesses risks at the human-animal interface. Collaboration through groups such as UKSF provides us with a comprehensive and coordinated picture of surveillance across the UK, which underpins our approach to biosecurity and trade.[112]

*International Disease Monitoring*

113. The Defra Group has monitored notifiable and emerging disease outbreaks since 2005, producing regular risk assessments and horizon scanning reports to inform

the trade teams, border control posts and veterinary operations about the disease risk resulting from the imports of live animal, products of animal origin or the movement of fomites, wildlife, vectors and illegal traffic [**TF/016/INQ000116401**]. These reports are then translated into risk management actions for APHA and local authorities when there is a significant increase in the acceptable level of risk. For example, tracing cattle imports which have tested positive for Bluetongue virus, restricting the animals and re-testing to ensure no virus spreads into the local population has been undertaken several times between 2016 and 2017 after disease was reported widely in France. The post import testing requirement was put in place through emergency actions in the APHA Ops Manual [**TF/019/INQ000116326**].[113]

*Advisory Committee on Dangerous Pathogens*

114. The Advisory Committee on Dangerous Pathogens provides independent scientific advice to HSE and to ministers through the Department of Health & Social Care ("DHSC"), Defra, and their counterparts in Scotland, Wales and Northern Ireland, on all aspects of hazards and risks to workers and others from exposure to pathogens [**TF/020/INQ000101507**].[114]

*UK Zoonoses, Animal Diseases and Infections*

115. The UK Zoonoses, Animal Diseases and Infections ("UKZADI") Group is an independent committee comprising experts from across the agricultural and public health departments [**TF/021/INQ000101498**]. It advises, as appropriate, the CMO and CVO, Department of Health ("DH") in England, Welsh Government, Scottish Government, Department for Agricultural and Rural Development Northern Ireland ("DARDNI") and FSA on important trends and observations which impact on animal and public health, including where necessary preventative and remedial action. UKZADI also provides a strategic overview to ensure overall co-ordination of public health action at the UK, national and local level with regard to existing and emerging zoonotic infections and trends in AMR.[115]

*UKSF*

116. The UKSF is the key forum for coordination and oversight of surveillance systems across each of the administrations in the UK. It provides a structure and direction to develop a single view of the UK's animal health status, the evidence to assure this and our approach to the identification of new and emerging threats and provide evidence on their health status. Membership consists of the CVOs, their deputies ("DCVO"s) and key surveillance and trade policy leads from England, Scotland, Wales and Northern Ireland. The UKSF meets every month to discuss recent outputs of the surveillance programmes, issues arising and future programmes [**TF/022/INQ000101478**].[116]

*Defra's Veterinary Risk Group*

117. Early reporting and a rapid reporting channel to raise an alert are required to effectively manage new and emerging threats, as recognised by the 2007 FMD review, which concluded that identification and management of animal related risks within the UK could be an inconsistent and lengthy process. In response, the Veterinary Risk Group ("VRG") was established in 2009 in Defra (now the secretariat sits within APHA) to monitor and rank emerging animal related threats and vulnerabilities and advise on action [**TF/023/INQ000116355**]. The group consists of risk identification and risk management leads across all four DAs in animal health and food safety. It meets on a monthly basis and reports up to the CVO Four Administrations meeting.[117]

118. The VRG uses a multi-criteria decision analysis tool (named "ETHIR") to help assess the threats. This tool was developed in association with experts at the London School of Economics and has been successful in managing a range of threats for the last 12 years [**TF/024/INQ000101468**].[118]

119. A recent government Internal Audit Agency report on the capability of the VRG to detect and assess a new emerging disease was undertaken. It was a very positive report, with no recommendations made or concerns raised [**TF/025/INQ000101512**].[119]

*HAIRS*

120. The HAIRS group is a multi-agency cross-government horizon scanning and risk assessment group. It aims to identify and risk assess emerging and potentially zoonotic infections which may pose a threat to UK public health. Since its establishment in early 2004, there has been a steady evolution and development of the risk assessment processes used by the group. The group has continued to discuss zoonotic disease threats every month, since its inception, regardless of whether a crisis is occurring. HAIRS is internationally recognised as a model for one health operationalisation and pragmatic, harmonised risk assessment.[120]

121. Members of the HAIRS group identify potential hazards (either zoonotic agents, syndromes or emerging infections). These undergo an initial review whereby a brief overview of all currently available information on the identified hazard is compiled and provided to HAIRS members to determine further actions. These include logging a hazard for awareness and ongoing monitoring, producing a risk review statement (where insufficient information is available for a formal risk assessment or a comprehensive risk assessment is not deemed necessary), or performing a formal risk assessment using existing zoonotic potential or emerging infections probability and impact algorithms [**TF/026/INQ000101508**].[121]

122. The group routinely reviews and updates HAIRS risk assessments and statements [**TF/026/INQ000101508**]. It meets monthly and reports upwards to each administration's CMOs and CVOs and to the Advisory Committee on Dangerous Pathogens and to UKZADI.[122]

*International Natural Hazards Forward Look*

123. The International Natural Hazards Forward Look ("INHFL") provides information on global weather, volcanic, human and animal health events and their likely impacts [**TF/027/INQ000116353**]. It reports on new, emerging or deteriorating situations; therefore, ongoing events that are considered to be unchanged may not feature.[123]

124. The aim of the INHFL is to improve situational awareness of decision makers across government, thus allowing the UK government to be more anticipatory in its response to natural hazards and to reduce the impacts of future disasters. The document is produced by a multi-hazard partnership consisting of UK Government Science Agencies and public sector organisations who hold expertise in their respective fields. This includes APHA, British Geological Survey, Met Office and the UK Health Security Agency ("UKHSA").[124]

125. Due to the unpredictable nature of some hazards, some rapid-onset events may occur between the weekly reporting period, in which case ad hoc reports may be made if these are high impact threats. The INHFL predominantly reports on current events, as well as those weather events that might take place over the next 7 days. In addition, every fourth edition of the document contains seasonal weather forecasts and any other seasonal hazard information. The terms of reference and examples of outputs have been attached within this report in a previous section.[125]

*Prioritising Animal Health Pathogens*

126. The prioritisation of pathogens is undertaken by international organisations such as World Organisation for Animal Health ("WOAH") and World Health Organisation ("WHO"). It is generally accepted that for new and emerging pathogens of humans, prioritisation is based on the International Health Regulations ("IHR") [**TF/028/INQ000101419**] where member states are obliged to report a notifiable event to WHO, notifiable being specific diseases (e.g. smallpox, wildtype polio, a new subtype of human influenza or SARS) or any other event which meets 2 of 4 criteria, namely:
    - Is the public health impact of the event serious?
    - Is the event unusual or unexpected?
    - Is there a significant risk of international spread?
    - Is there a significant risk of international travel or trade restrictions?[126]

127. For animal health, there is a similar set of characteristics defined by WOAH and used by Defra:

- International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven.
- At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals.
- Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations.
- One of:
  - Natural transmission to humans has been proven, and human infection is associated with severe consequences.
  - The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality.
  - The disease has been shown to have, or scientific evidence indicates that it would have a significant impact on the health of wildlife, taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population.[127]

128. Through the application of approved methods set out in HM Treasury's Green Book, we have a process for populating a probability versus impact matrix for biological threats that Defra is responsible for. The Green Book is guidance issued by HM Treasury on how to appraise policies, programmes and projects. It also provides guidance on the design and use of monitoring and evaluation before, during and after implementation. In line with this framework, Defra's approach draws on formal processes of expert elicitation and monetisation of expected impacts over 10 years of a serious (Reasonable Worst Case Scenario ("RWCS")) event.[128]

*Monthly Biosecurity Meeting*

129. Each month, a risk register of current and predicted risks and recommendations is presented to ministers through a risk tracker [**TF/029/INQ000116395**], which is underpinned by a risk matrix as mentioned above. Developed in 2014, this monthly

report provides a comparison of monetised impacts of a reasonable worst-case scenario for all natural hazards in Defra's portfolio.[129]

*Emergency plans and responses*

*Command and control during disease outbreaks*

130. In England, Defra is the LGD for responding to outbreaks of exotic animal disease and APHA is the primary delivery agent. The Department's Secretary of State and ministers have overall responsibility for and oversight of the outbreak response. The relevant Defra minister will be involved in strategic decision making, working closely with the UK CVO and senior officials. In principle, they are able to chair COBR meetings and provide briefing to the EFRA select committee. In practice, no COBR meetings have been held for an animal disease outbreak since 2007 (for FMD).[130]

131. In Wales, Scotland and Northern Ireland the respective Welsh Government, Scottish Government and DAERA (NI) would be leading, but each administration has the same basic contingency plan and 41 harmonized control strategies.[131]

132. In Defra, the command and control structure during an outbreak can be seen in Diagram 6, provided at Annex 2 page 135.[132]

133. Defra has contingency plans for responding to outbreaks of exotic disease in animals [**TF/030/INQ000101510**]. There is a statutory requirement to produce them, update them and present them annually to Parliament pursuant to Section 14A of the 1981 Act (as amended by Section 18 of the Animal Health Act 2002). The contingency plan describes how government and operational partners, prepare for and respond to an exotic notifiable disease outbreak or incident. It documents the structure for dealing with a disease outbreak at the National Disease Control Centre ("NDCC") and the Local Disease Control Centres ("LDCC"s) and Forward Operating Bases ("FOB"s). The daily pattern for the meeting of decision-making bodies and scientific expertise, including meetings of industry representatives is documented.[133]

134. Defra also maintains control strategies for a number of notifiable diseases including:
    - Notifiable avian disease ("NAD" – avian influenza and Newcastle disease) [**TF/031/INQ000101480**]
    - FMD [**TF/032/INQ000101434**].
    - African and Classical swine fever [**TF/033/INQ000101486**].
    - Bluetongue disease [**TF/034/INQ000101460**] [**TF/035/INQ000101481**].
    - Rabies [**TF/036/INQ000101479**].
    - African horse sickness [**TF/037/INQ000101451**]
    - Lumpy skin disease [**TF/038/INQ000101473**].[134]

135. There are well defined procedures for responding to and investigating suspicion of exotic notifiable disease in animals. The procedures are set out in the United Kingdom contingency plan for exotic notifiable diseases of animals (which must be reviewed annually, most recently in March 2021) [**TF/039/INQ000101494**]. This outlines the role of COBR, the NDCC, SAGE, the APHA International Disease Monitoring team, the Global Animal Health team and the CVO.[135]

136. In the event of an exotic notifiable disease outbreak in animals, there will be a coordinated approach to disease control and eradication, with close working between each country's administration, operational partners, and stakeholders. The EDC Team within Defra is responsible for overall coordination when an outbreak occurs and will liaise with PHE and the FSA.[136]

137. The CVO working alongside her counterparts in Scotland, Wales and Northern Ireland ensures a coordinated response across the UK. In addition to the close cooperation between the UK administrations, Northern Ireland works closely with Ireland on an all-island basis. They hold bilateral agreements which cover communications, preparedness and operational responses in the event of suspicion or the detection of specific pests or diseases. This is essential, given the shared land border, and recognises the island of Ireland as a single epidemiological unit.[137]

138. In terms of risk to human health from human contact with animals, zoonoses are subject to the Control of Substances Hazardous to Health Regulations 2002

("COSHH Regulations"). The HSE, the body responsible for enforcing the requirements of the COSHH Regulations, has issued guidance for agricultural workers on zoonoses which outlines the duties under the regulations.[138]

*National Emergency Epidemiology Group*

139. APHA coordinates the Government response to any disease outbreak affecting animals in the UK by mobilising an incident management team called the National Emergency Epidemiology Group ("NEEG"). The actions of this group are vitally important to ensure livestock, wildlife and more recently pets [**TF/040/INQ000101501**] are protected from any escalating disease situations. This is necessary to manage the disease by limiting its spread through biosecurity actions and minimising the impacts on associated industries and the economy.[139]

*Emergency disease response*

140. The NEEG is an APHA emergency group which is rapidly formed in response to disease incidents which have the potential for high impact on animal or public health, and rapid spread. These notifiable animal diseases must be reported to APHA. Typically, the NEEG is mobilised once a notifiable disease has been identified by the diagnostic team and confirmed at a disease confirmation teleconference led by the UK's CVO or the CVO for Wales, Scotland or Northern Ireland (depending on the where the outbreak is). One of the strengths of the NEEG is that it can also be mobilised before disease is confirmed, if there is a strong suspicion of a notifiable disease. This significantly increases the speed of the disease investigation, especially the gathering of potential source and spread tracings, which are key to disease control.[140]

141. The NEEG's structure and incident management approach is also used within APHA for other disease threats, such bTB or investigations of imported disease cases (such as Bluetongue virus in cattle or Equine Infectious Anaemia in horses).[141]

*Providing expert epidemiological opinion*

142. The NEEG is a multi-disciplinary team, bringing together many people from across APHA: the NEEG executive, a team of epidemiologists that work 'on the ground' where disease and animals are found, a team of epidemiologists that analyse the data available from their desks, modellers, data specialists, wildlife experts, disease experts, laboratory teams that conduct the testing for diseases plus a business management and scientific project management team. Each team plays a different role, bringing different skillsets to the virtual team across the UK with the overarching goal being the successful and timely response to the outbreak.[142]

143. The group's purpose is to provide the UK CVOs and both Defra and devolved administration policy teams with expert epidemiological opinion relevant to government policies designed to protect the UK from disease threats.[143]

144. During an outbreak, the NEEG leads epidemiological investigations on farms and smallholdings to establish the facts about the outbreak and analyse how the disease may have spread. The NEEG also delivers mathematical modelling to understand how an outbreak might develop and look at ways of controlling it. Disease surveillance and tracing plans are prepared to investigate the possible source and spread of the disease which feed into the development of control strategies to prevent further spread.[144]

145. The NEEG also leads on, and provides information and expertise that contributes to:
    - National veterinary risk assessments.
    - Final outbreak epidemiology reports (for example, high pathogenicity avian influenza H5N8 and H5N1 outbreaks in Great Britain).
    - Guidance on GOV.UK.
    - Feedback to the WOAH (OIE).
    - Feedback to industry, for example a series of webinars on improving biosecurity have been delivered as part of the response to avian influenza.[145]

146. The virtual, multi-disciplinary NEEG relies heavily on key relationships with a range of experts, for example research and diagnostic scientists; disease experts; risk analysts; species experts; teams that trace movements of infected animals and people (at Cardiff Customer Service Centre); and international trade and disease

monitoring. Inter-relationships between the science and policy groups during a disease outbreak are key to a successful response, and therefore many groups and committees meet and work collaboratively together to control and eradicate the disease during the outbreak. For this reason, a series of daily and weekly meetings are always established at the start of an outbreak to coordinate all activities, participants and events.[146]

*Preparing for an outbreak of disease*

147. In between outbreaks, capability, expertise and relationships are maintained via specialised training and simulation exercises. The NEEG Management Team meet monthly to ensure all aspects of the ongoing outbreak preparedness development programme are up-to-date and still fit for purpose.[147]

148. The NEEG leads regular training for veterinary, technical, and scientific staff. This includes training APHA vets on how to perform the duty epidemiologist role, how to draft epidemiological reports and briefs for the UK CVOs and how to conduct veterinary risk assessments.[148]

149. The NEEG also provides expert input to national and local animal disease exercises. These simulations demonstrate the agency's emergency preparedness capability to deal effectively with outbreaks of exotic notifiable diseases of animals. Each field team takes part in at least one full-scale simulation exercise per year involving many of our partners and stakeholders. Exercise assessment and the lessons learned from them is then used to highlight and promote best practice and to review and update contingency plans.[149]

*VMD*

150. The VMD is an executive agency of Defra. It regulates how veterinary medicines are marketed, manufactured, supplied and used. The VMD's primary role in emergency response is to maximise the availability of veterinary medicines, acting on intelligence received concerning supply chain disruptions. Recognising that veterinary medicines availability is essential for management of animal health and welfare, the VMD's emergency response includes liaison with wider Defra teams,

such as the APHW team, to alert colleagues to availability issues that may impact disease control measures (and vice versa).[149A]

151. Routine veterinary medicine availability issues are common and are dealt with by the VMD. The Veterinary Medicine Availability & Disease Emergency Response ("VADER") is the VMD's response plan for dealing with emergencies and is tested annually. The VADER response plan will be triggered should there be major disruption (or potential disruption) to the availability of one or more veterinary medicines (due to a shortage in supply or sudden increases in demand, for example as a result of disease outbreak).[150]

152. Once VADER is triggered, a command and control structure is set up. The Chief Executive Officer (or another Director) will be the VADER Team Leader and ultimate decision-maker. There will be a VADER coordinator who will coordinate activity within the VMD (including the communications team) and liaison with core Defra and other Government departments (if necessary). The Supply Team Leader will engage with wholesale dealers (to obtain real-time data on stock levels) and subject matter experts across the VMD (to consider whether alternative medicines can be used). The VADER plan sets out when the CVO (and the CVOs in the DAs) and APHA should be engaged. The VADER Team Leader, VADER coordinator and Supply Team Leader will meet daily until the situation is resolved.[151]

153. VADER was not required over the course of Covid-19 as the industry continued to function throughout the pandemic.[151A]

154. The VMD was involved in Operation Yellowhammer contingency planning for dealing with potential shortages of veterinary medicines due to border issues (due to the high percentage of veterinary medicines that are manufactured abroad and imported via the short straits). As part of this work, the VMD engaged with industry to better understand the supply routes of veterinary medicines imported into the UK. This work enhanced the VMD's understanding of the volumes imported and the likely routes of importation.[152]

155. One of the Yellowhammer mitigations was the Department for Transport-led Government Secured Freight Capacity ("GSFC"). The GSFC allowed for guaranteed

space on ferries for critical goods imported from the European mainland. The VMD worked closely with the Cabinet Office and the Department for Transport ("DfT") to ensure that veterinary medicines were classified as a 'Category 1 good' and therefore had access to the GSFC if required.[153]

156. Another Yellowhammer mitigation was for industry to bring forward stocks of medicines to increase the volume of medicines stored in the UK ahead of key EU Exit dates (in the event of no deal being reached with the EU). The increase in the volume of medicines stored in the UK ahead of the end of the Transition Period (in December 2020) was a factor in the veterinary medicines industry continuing to function throughout the Covid period.[154]

157. The VMD also developed closer links with wholesale dealers in the run-up to the end of the Transition Period, to be able to obtain real-time data on stock levels. This was utilised throughout the pandemic to monitor the availability of veterinary medicines.[155]

158. In addition to monitoring the availability of veterinary medicines, the VMD leads on and coordinates policy across the Defra group on AMR and shares the overall policy lead on AMR with DHSC. Defra and DHSC are co-signatories of the UK's 5-year Action Plan for AMR [**TF/041/INQ000116333**] and 20-year vision for containing and controlling AMR [**TF/042/INQ000116334**], both published in 2019.[156]

159. The VMD has a contingency plan to respond to new or unusual resistant organisms and/or resistance genes detected in animals, their environment, or food of animal origin [**TF/043/INQ000116377**]. The contingency plan triggers a cross-governmental response, including experts from human and animal health, food safety, and the environment from across the UK, and is coordinated by the VMD. This system incorporates formalised steps for risk assessment, risk management, and risk communication, and a range of interventions from increased surveillance through to restriction of the prescription and supply of antimicrobials. Monitoring for novel AMR patterns is essential as without effective antibiotics, our ability to treat and control bacterial infections in animals and humans is impaired, accelerating the risk of disease emergence and spread.[157]

160. Throughout the period of time covered by this statement, there have been changes in VMD's leadership as follows:
    - Steve Dean until 29 July 2011,
    - Peter Borriello 5 September 2011 and retired on 10 September 2021, and
    - Abigail Seager started on 10 September 2021 and is still currently the CEO for VMD.[157A]

*History of preparedness and planning*

161. In this section, I set out how Defra's preparedness for disease outbreak has developed over the years. I describe how this process has involved learning from the disease incidents that have arisen as well as exercises that Defra has undertaken.[158]

162. The background level of disease risk for the UK has changed over the last thirty years and the risks are more likely, diverse and intersect in more complex ways, with increasing outbreaks. The UK is currently experiencing a large, prolonged epizootic of avian influenza, driven by unusual disease events in wildlife. A range of global factors are driving this shift, including changes in climate and land use, trade and tourism, biodiversity loss and human encroachment into new habitats (introducing previously unencountered threats). As biosecurity threats do not respect administrative or geographic boundaries, there is close cooperation between all the UK administrations who work towards the common aim of safeguarding our plants and animals.[159]

163. There have been events which have been of such high impact, they have changed our strategy for dealing with them, namely the BSE crisis in 1998 and the Foot & Mouth disease outbreak of 2001. In both cases, resulting inquiries led to changes in government and veterinary service behaviour and structures to allow us to deal with such events in a more efficient manner.[160]

164. The timeline shows when events of importance occurred and corresponding animal disease exercises and the key milestones that indicate where changes have been made in how we monitor and assess new and emerging threats [**TF/044/INQ000116402**]. Through our varied disease contingency plans, we lay out

the strategy and control measures for exotic disease outbreaks, including the use of movement controls, culling, track and trace and vaccination. Exercises are undertaken annually, except in years when there are outbreaks of exotic notifiable disease, provided our contingency plan has been enacted. Some equine diseases would fall outside the remit of the contingency plan, as they are industry-led, low impact responses.[161]

*History of preparedness and planning for animal health threats*

165. Emergency preparedness for disease outbreaks is an important issue that Defra and APHA are the main operational partners for. It is fully understood to be a core function, promoting our food security, animal welfare and global reputation goals. Preparedness is given significant attention, high level of resources and is regularly assessed. It has also been tested by real disease outbreaks. Our preparedness is also part of the audit conducted by international partners, including the European Commission Sante F and trade partners and demonstrating our ability to detect and respond swiftly to outbreaks is paramount to our trade status. Several changes have occurred over the last 25 years which have resulted in significant improvements in our ability to respond to a disease outbreak.[162]

166. I have listed below an account of how Defra's planning and resilience functions have developed in response to a variety of incidents which occurred prior to and during the period covered by this statement. The events which are described prior to 2009 are included in my account because of their relevance to the issue of Defra's zoonotic disease response and its development.[163]

167. **1998: Bovine Spongiform Encephalopathy ("BSE").** The BSE outbreak brought in a great deal of change to zoonotic disease response. In 1998, the BSE Inquiry took place, and a report was published in 2000, highlighting the importance of zoonotic diseases [**TF/045/INQ000101417**]. For several years, the veterinary advice was that this was not a public health risk and British beef was safe to eat. The Inquiry recommended that the two branches of public and veterinary health should work together on all communications and should respect one another's expertise. As a result, the HAIRS group was set up in 2004 to bring together the risk identification

and risk assessment process for non-food-borne zoonoses. In 2002, the UK Government published a full response to the Inquiry's findings, setting out a range of commitments on risk communication, governance, science and legislation [**TF/046/INQ000116296**]. [64]

168. **2001: FMD outbreak.** In June 2002, the National Audit Office submitted a report to Parliament on the handling of the 2001 foot and mouth outbreak. The FMD 2001 report set out lessons learned and made a series of recommendations aimed at improving preparedness for a future outbreak. It changed the way all high-income countries dealt with large exotic disease outbreaks. The outbreak highlighted that there was a clear need for improvements in rapid detection of disease, movement controls, standstills and tracing which meant that control plans were developed across governments and at international level by organisations such as the WOAH, the European Commission and the Food and Agriculture Organisation of the UN. The Inquiry report was published in 2002 [**TF/047/INQ000101418**]. The findings included the following points which were acted upon over the following years:
    - The need to make contingency plans based on the reasonable worst-case scenario and not the most likely scenario.
    - There were still gaps in the readiness of the competent authority to deal with outbreaks of exotic notifiable diseases, including foot and mouth.
    - Tackling a serious outbreak of animal disease requires effective co-operation with other government departments and agencies and those affected should be consulted in preparing contingency plans and involved in simulation exercises as part of local contingency planning.[165]

169. **2005-06: The Emergence Readiness Management Assurance Scheme.** This was set up to provide an assessment of the preparedness of Animal Health (APHA's predecessor) to respond to an outbreak of an exotic animal disease, mostly to ensure that local teams can move seamlessly from 'business as usual' to outbreak response at the Local Disease Control Centre. This process was continued post 2007 with the Outbreak Readiness Board ("ORB") who provide strategic oversight of operational preparedness for outbreaks of exotic notifiable diseases of animals in the UK [**TF/048/INQ000116388**].[166]

170. **2005: "The Cellardyke Swan" incident.** The first finding of the Asian strain of Highly Pathogenic Avian Influenza ("HPAI") H5N1 in a dead swan on the Scottish coast caused considerable concern for public and animal health authorities and the FSA. Many members of the general public lost confidence in eating poultry meat and expressed concerns about exposure to wild birds and about the effectiveness of the seasonal influenza vaccination. The disease contingency plans for avian influenza included the need to join with public health colleagues in a coordinated response. During 2006, HPAI H5N1 caused outbreaks and wild bird incidents across Europe and the single case in a wild migratory swan in the UK was the first event in what is now a regular occurrence of detecting strains of HPAI in the poultry sector.[167]

171. **2007: FMD outbreak.** In August 2007, suspicion of FMD was raised in cattle close to the Pirbright Institute in Surrey, where there was also a vaccination facility for the FMD vaccine. Rapid detection and control resulted in just seven infected premises over two small regions in South East England. Disease freedom was attained the following February. While FMD was happening, England was also dealing with the first outbreaks of Bluetongue virus and with HPAI H5N1 in poultry (for the first time) and wild birds (both migratory and resident).[168]

172. The Anderson Review was published following the 2007 FMD outbreak [**TF/049/INQ000101428**]. According to the report, Defra was much better prepared for an FMD outbreak in 2007 than it was in 2001, having published a detailed annual contingency plan called the Framework Response Plan for Exotic Animal Diseases. This has now evolved into our Contingency Plan for Exotic Diseases which is updated every year and laid before Parliament. There are still some recognised gaps in our testing capability, where the development of new technology cannot easily be transferred to a field environment, as legislation requires all testing for notifiable disease to be undertaken at the national reference laboratory with a forensic audit chain of sample collection and submission.[169]

173. The Anderson Review recommendations also led to the establishment of the Veterinary Risk Group in 2009. This was set up by the DCVO to identify any new emerging risks which do not have a dedicated policy team. The formal Government

response to the FMD 2007 review was published in February 2009 [**TF/050/INQ000116300**].[170]

174. **2009: Influenza A (H1N1)**. During this outbreak, conversations between the DHSC, the Health Protection Agency, the HSE, Defra and Animal Health took place about the reverse zoonosis threat and the need for guidance for farmers and animal keepers. Reverse zoonosis is where humans are the source of a disease which they transmit to animals; it was and is a threat from Covid-19. The Combating Swine Influenza ("COSI") research programme was established to look at the potential for reverse zoonosis [**TF/051/INQ000101426**]. This joint Defra/UKRI/Welcome funded consortium was a new way of increasing the value of our research funding. Since this project, we have jointly funded several wide research proposals for example on avian influenza [**TF/052/INQ000101504**] and on Covid-19 [**TF/053/INQ000101500**].[171]

175. **2012: Schmallenberg virus ("SBV").** Early warning systems in Germany and the Netherlands alerted horizon scanning in APHA to a new emerging disease of animals which caused abortion and still births in humans. An unknown public health risk which was assessed by the HAIRS group when they next met after the outbreak assessment was produced. As a result, guidance and testing was developed for any pregnant women exposed to livestock. The guidance does not stay live in the long-term. Instead, notices would be sent out at the time, to the relevant health protection teams, to ensure testing could be provided if necessary. Consortium-based research funding into SBV was developed with the European Commission and Member States, which successfully answered research gaps around the source of infection the role played by vectors, the role of germinal products and other risk pathways for transmission [**TF/054/INQ000101506**].[172]

176. **2013: Middle East Respiratory Syndrome ("MERS") coronavirus**. Defra only had a small role to play in the MERS outbreak, providing advice to PHE about imports of animals or animal products to the UK as a risk pathway for introduction. There was no involvement in the human cases.[173]

177. **2014: Avian Influenza outbreak (HPAI H5N8) in a single commercial duck premises**. This new strain of avian influenza caused just a handful of infected

premises across North West Europe including one in the UK. No wild bird cases were detected until well after the event, therefore predicting the start of the season was difficult.[174]

178. **2014: Ebola crisis in West Africa.** This outbreak led to the start of the INHFL production, a weekly report of major natural hazard events occurring worldwide. This programme is led by the SAGE secretariat in the Government Office for Science and represents part of the UK's response to the Sendai Disaster Reduction Framework [**TF/055/INQ000116354**] through which a cross-department weekly report is provided on current status of natural hazard threats. The report is produced by APHA, UKHSA, Defra, British Geological Survey and Met Office each week and is distributed by SAGE. The report was first produced in response to the COBR(M) meeting in 2014 when Ebola was being reported widely in West Africa. It was recognised that while several agencies undertook daily horizon scanning there was no central mechanism to distribute the results. The Government CSA, Sir Mark Walport, instigated the work. A User Guide was produced and, with the exception of Christmas and the new year, the report has been produced every week since May 2015. While the reports are held by SAGE, an example of the latest User Guide and weekly report is provided [**TF/056/INQ000116317**].[175]

179. In 2015, the reports flagged the emerging Zika virus epidemic (see below), which enabled Government to be on the front foot to respond. However, the reports also look at smaller issues, such as the risk of flooding associated with unseasonal rains and associated risk to animals, to the potential for volcanoes to cause respiratory problems for people living in their vicinity, or the seasonal rise in vector-borne diseases.[176]

180. **2016: Zika virus in Brazil.** New congenital complications associated with Zika virus infection in pregnant women were identified by the INHFL. A COBR(O) meeting took place to discuss and consider the risk management of people by the UKHSA and the DHSC, but also from Defra. An assessment of risk pathways for mosquitos to be imported (embedded) and further work on the cross government invasive mosquito control plan was carried out with UKHSA colleagues [**TF/057/INQ000101487**].[177]

181. **2016-2017: Avian Influenza outbreak – HPAI H5N8.** The same strain which was seen in 2014 had not been detected in the interim in Europe but was causing a lot of outbreaks and wild bird cases in Asia and had been gradually moving across Central Asia and into Eastern Europe. This allowed us to predict the arrival in the UK and increase comms around our risk levels. During the season, the UK reported 14 infected establishments, approximately half commercial and half small holdings/backyard premises. A housing order was put in place from December to March to protect the flocks from wild bird contact and improve the message around biosecurity. We continue to apply a similar control measure in seasonal flu outbreaks and the evidence is accumulating in terms of the effectiveness. It is particularly difficult to assess given the relatively low numbers of outbreaks most years. The 2021-2023 epizootic may yield more evidence, but we do not conduct case control studies on these measures.[178]

182. **2017-2018: Avian Influenza cases in wild birds (HPAI H5N6).** A large number of wild birds were detected with a new strain, H5N6, which was a re-combination of H5N8 and a European HxN6 virus. There were no cases identified in commercial or backyard poultry. The pattern of wild bird infection suggested the virus was present not only in migratory wild waterfowl but also our resident waterfowl species and continued to be identified into late spring. In January 2018, Defra introduced an AI prevention zone across the whole of England including a legal requirement on all bird keepers to follow strict biosecurity procedures. There were no poultry outbreaks as a consequence of the virus circulating in wildlife, so no further actions were taken beyond reminding poultry keepers of their responsibility to report suspected disease and maintain biosecurity on farms.[179]

*Exercises*

183. EU Directive (2003/85/EC) on Community measures for the control of foot-and-mouth disease (29 September 2003) is retained EU law and requires animal health focussed exercises of contingency plans to be undertaken every five years at a cross-department, cross-devolved administration national level and annually, or every few years at lower regional or limited national levels [**TF/058/INQ000116385**]. Major exercises are conducted over a period of months and include field exercises, table-top exercises, and strategic response meetings, leading to real-time (live)

national exercises. They are large-scale and involve hundreds of representatives from government and industry. After each exercise, a lessons identified/lessons learned report is completed, as required by Government [**TF/059/INQ000101422**].[180]

184. The CCS has responsibility for overall government exercise policy at the national level, including identifying the lessons learned. Exercises for the most significant scenarios, in terms of both nature and scale, fall under the responsibility of the appropriate LGD in accordance with the principles set out in Central Government Arrangements for Responding to an Emergency – Concept of Operations. Each individual department and agency participating in an exercise has responsibility for defined areas of policy, plans and procedures falling within their area of work, including the maintenance, review and revision of these in response to lessons identified. The CCS operates a system for collating any strategic or cross-cutting lessons identified by individual LGDs and for sharing these as widely as possible across government. In this section I describe Defra group's involvement only in relation to those exercises where Defra was the LGD, or where we played a significant role as part of a wider, cross-departmental response.[181]

185. The outcome of these successive exercises has meant we can apply movement restrictions, track and trace, vaccination control measures and other controls to prevent the spread and impact of transmissible animal diseases. Certain actions and programmes (such as the development of HAIRS, the VRG and the INHFL) mean that the Department also works more closely with colleagues across public health and food safety.[182]

186. The following are the list of national exercises led by APHA or Defra since 2003, when the legal requirement for animal disease exercises was introduced. It is of note that when a serious outbreak of an exotic notifiable animal disease (as defined in the 1981 Act and the Zoonoses Order 1989) occurs during the year, the need to carry out an exercise is often delayed.[183]

187. **2004: Hornbeam.** This consisted of a series of linked exercises testing Defra's contingency plan for an outbreak of FMD [**TF/032/INQ000101434**]. Tabletop tasks

focusing on particular stages of disease progression were carried out prior to a real-time, two-day national event that considered decisions to be taken at days seven and eight of an outbreak. The final exercise built on decisions taken earlier which had looked at the initial phases of disease suspicion, confirmation and regional spread. More than 500 staff were involved.[184]

188. The following learning points were identified and acted upon:
    - the roles and responsibilities at senior levels needed to be clearer, including the purpose and structure of the NDCC and 'Birdtable' meetings[1];
    - the clarity and presentation of contingency plans and operational instructions needed to be improved;
    - policy readiness – for example, in identifying in advance trigger points for policy decisions during an outbreak – was critical;
    - communications, both in terms of systems and procedures, needed to be improved;
    - information collection, sharing and dissemination needed to be improved.[185]

189. **2007: Winter Willow.** This took place over three days in January and February 2007 and was a full-scale, Tier 1 exercise testing all levels of the planned UK response to an influenza pandemic. Over 5,000 people from a wide variety of UK organisations representing national and regional government, industry and the voluntary sector participated. This followed on from Exercise Shared Goal in June 2006, an exercise led by DHSC that involved a COBR simulation and which aimed to practise and validate response policies and the decision-making process at WHO Phase 5.[186]

190. **2010: Silver Birch.** This was a national exercise on FMD. A field element, tabletop exercise, and multiple strategic response meetings (focussing on particular stages of disease progression between day -1 and day 6) were held prior to a two-day live national exercise. The live exercise rehearsed the Government's response at days 7 and 8 of the simulated outbreak. Over 600 participants took part in Exercise Silver

[1] These are stand up, round the table briefings at certain fixed points in the day, where the relevant persons get together and exchange information. These meetings are a mechanism to ensure exchange of information and briefing. These meetings are held during any crisis management and contingency planning. They are held at headquarters at fixed points each day, such as first thing in the morning, the middle of the day and the end of the day.

Birch, including ministers, Defra Board, CVOs and senior officials from the UK administrations, the Animal Health Agency and key operational partners. In March 2011, the Government published an evaluation of Silver Birch and a report on lessons identified [**TF/060/INQ000101429**].[187]

191. The lessons identified and taken forward included the need for training of field and operational staff and local offices on the Operations Manual; to review and communicate the culling and disposal plans; to include Defra procurement into the NDCC; to consider veterinary resource for vaccination; to consider how IT can be improved after the disease control system is decommissioned (into Sam, APHA's IT system used to manage bTB testing [**TF/061/INQ000116360**]) and better tracing systems; to determine how to deal with multiple LDCC and FOBs; to improve communication between all players; to develop a strategy for using on farm portable diagnostic techniques. These lessons were embedded in Defra's revised Contingency Plan for Exotic Notifiable Diseases of Animals in 2011 as a critical part of our future operations and infrastructure [**TF/062/INQ000116302**].[188]

192. **2013: Walnut.** This was a national exercise on Classical Swine Fever [**TF/063/INQ000101457**]. The exercise consisted of a 2-day live exercise which was preceded by strategic response meetings and two tabletop exercises that focused on key stages of disease progression. The live exercise rehearsed the responses of the four administrations at days 4 and 5 of a simulated outbreak.[189]

193. The main lessons learned were that there was a lack of veterinary capacity to bleed pigs, there were some legislative gaps; improvements in data and tracings and improved instructions for culling and disposal were among them [**TF/064/INQ000101461**]. While most issues were addressed, a capability gap for bleeding pigs within APHA veterinary staff was identified. This has been overcome by having contracted private veterinary staff who can be deployed under a Veterinary Delivery Partnership to undertake official activities since 2015 [**TF/065/INQ000116315**].[190]

194. **2014: Ebola Exercise.** DHSC and PHE led a national exercise for responding to two scenarios where Ebola infected patients were managed. During the process, the issue of a companion animal in the household was brought up (following issues

in Spain and the USA in managing pets in very different ways) and the CVO was tasked with planning for a response.[191]

195. This led to Defra and APHA developing risk assessments and risk management guidance for companion animals in contact with a patient with haemorrhagic viruses. This same guidance was used at the start of the Covid-19 pandemic when human cases were still being treated as Highly Contagious Infectious Disease ("HCID") cases and hospitalised. However, no pets were identified as being at risk in households of the first few cases.[192]

196. **2015: Petal.** This exercise tested the ability of APHA to move a pet from a household with people infected by Ebola to the secure facility in Weybridge and considered how to keep the pet(s) and manage them in biosafety level 4 ("BSL4") laboratories which are designed and built so that researchers can safely work with highly dangerous pathogens. It was agreed this process could be applied to any high consequence infectious disease or public health emergency of international concern in the future, where animals are indicated as reservoir species. However, maintaining a BSL4 facility for such an event is not possible as to do so would be very costly and a poor use of public funds given that such a facility would largely be empty.[193]

197. **2016: Cygnus.** A Tier 1 (national level) pandemic influenza exercise run by PHE which took place from 18 - 20 October 2016, to test the response to a pandemic influenza (A H5N2) outbreak. Over 950 representatives from the DAs, DHSC along with 12 other government departments, NHS Wales, NHS England, PHE, eight LRFs and six prisons took part in the exercise. During the exercise, participants considered their capacity and capability to operate at the peak of a pandemic affecting up to 50% of the UK's population and which could cause between 200-400,000 excess deaths in the UK. Defra was represented by the CVO. No lessons were identified for Defra beyond considering DHSC departmental pandemic plans, but no actions were taken forward.[194]

198. **2017: PHE/DHSC & APHA/Defra Workshop.** This involved members of the APHA contingency planning team, Defra EDC team and APHA laboratory experts. The day long workshop was led by PHE and took place at PHE Colindale (now UKHSA

Colindale). The groups involved looked at the roles and responsibilities for the two agencies and departments in leading and responding to an avian influenza outbreak in poultry with public health consequences. Documents relating to the exercise were held by PHE as the lead agency. No specific actions were identified for Defra/APHA.[195]

199. **2018: Blackthorn.** National FMD Exercise (Tier 2) [**TF/066/INQ000101488**]. The purpose of Exercise Blackthorn was to test the four UK governments' contingency plans for a UK-wide, medium to large outbreak of FMD. It tested the new APHA outbreak model, response structures, disease confirmation and control processes, internal communications, cross-government collaboration, engagement with stakeholders, and outbreak recovery. A number of field exercises, two tabletop exercises and multiple strategic response meetings were held prior to a two-day real-time (live) national exercise. The live exercise rehearsed the Governments' response at days 7 and 8 of the simulated outbreak. The exercise concluded with a final tabletop exercise focusing on the recovery arrangements. Over 400 people took part during the two days of live exercises and the preparatory work. The lessons identified and enacted in project plans going forward included:
    - Training staff at the field and operations side (APHA responsibility).
    - Data collection particularly around sheep traceability and IT/mobile network improvements (APHA IT and Defra Livestock ID program responsibility)
    - How to use portable lateral flow kits for field testing for notifiable diseases (Pirbright and APHA project)
    - Peace time development of surveillance and sampling plans, scenario development and use of models (APHA Epi Risk team)
    - Working better with operation partners and resilience direct (Defra EDC team).[196]

*Lessons learned*

200. Since 2007, Defra has continued to implement the lessons identified and to improve its preparedness through exercises and regular meetings with disease experts to consider vaccination and appropriate vaccine banks. Defra has also undertaken an assessment on unusual disease pathways through the Risk Pathways and Countermeasures project, a short-term project which identified certain pathways,

such as importing laboratory pathogens or using the postal services for imports, for further policy work [**TF/049/INQ000101428**].[197]

201. Since 2003, a six-monthly report, the Cabinet Office CCS Forward Look, has been produced, detailing priority threats with direction of concern over the coming months. Many of the animal disease threats are seasonal – vector borne disease, avian influenza – and are impacted by the situation in Europe and other trade partners. The EDC team provide the CCS with expert advice on the threats.[198]

202. The first publication of the National Security Risk Assessment occurred in 2015 as summarised in the National Strategic Defence and Security Review [**TF/068/INQ000116319**]. The report highlighted a major human health crisis (such as pandemic influenza) as one of the most significant civil emergency risks facing the UK (a Tier One risk) and that an animal or plant disease has wide reaching consequences as well as a greater likelihood of occurring.[199]

203. Following the outcome of the 2015 National Security Risk Assessment, the UK Biological Security Strategy was published in 2018 [**TF/069/INQ000101474**].[200]

204. The Strategy drew together for the first time the wide range of work that takes place across Government to protect the UK and its interests from significant biological risks, whether these occur naturally, such as pandemic influenza or emerging infectious diseases, or in the less likely event of a disease being caused by an accidental release from scientific or industrial facilities, or as the result of a deliberate biological attack. It reflects on the evolving landscape and sets out how we will build on our existing activity to further improve our ability to reduce and respond to risks, and to exploit opportunities. By considering the substantial investment from government to address biological risks, it was recognised that it was important to ensure that this investment is well coordinated across Government and that the public is getting the best possible value for money. The Strategy explains how we are working to coordinate activity more strongly and to take a truly comprehensive approach to meet evolving risks and opportunities, including closer work between departments.[200A]

205. The Strategy describes the four pillars of our response to biological risks, underpinned by scientific capability and capacity:
    - **Understand** the biological risks we face today and could face in the future.
    - **Prevent** biological risks from emerging (where possible) or from threatening the UK and UK interests.
    - **Detect**, characterise and report biological risks when they do emerge as early and reliably as possible.
    - **Respond** to biological risks that have reached the UK or UK interests to lessen their impact and to enable a rapid return to business as usual.[201]

206. The Strategy highlights the need for an all-hazards approach to human, animal and plant health, natural, accidental and deliberate threats. It highlights that Defra has responsibility for safeguarding the natural environment against animal and plant diseases, flooding and other hazards, supporting the world-leading food and farming industry in England, and sustaining its thriving rural economy.[202]

207. The CCS is part of the National Security Secretariat within the Cabinet Office. CCS coordinates civil emergency planning and response, including ensuring that the Government is ready to respond to, and recover from, a variety of challenges and is able to provide effective and coordinated crisis management. For deliberate animal and plant disease threats Defra and the DAs are responsible for coordinating the national recovery effort.[202A]

208. Progress in meeting the commitments outlined in the Strategy (as well as any new work or identified gaps that emerge when work on biological risks is being coordinated) is owned by a cross-Government director-level governance board, made up of representatives from key departments, including Defra. At the time that the Strategy was published this governance board reported to the Threats, Hazards, Resilience and Contingencies Subcommittee of the National Security Council, through the Security Minister, to ensure that a forum at the highest level of Government held departments to account. The Government CSA also maintains an oversight of developments under the Strategy. The Strategy is currently undergoing a refresh by all government departments, including Defra, which is being led by Cabinet Office.[202B]

209. The Invasive Mosquito plan [**TF/057/INQ000101487**], jointly written by Defra, UKHSA and APHA, was published in 2020. This plan is the first in a series of control plans for vector borne diseases. It catalogues the actions of all government agencies at different stages of identifying, assessing, surveying and controlling an invasive mosquito species. The plan joins up actions from public health, animal health and environmental health agencies to deal with an important vector of zoonotic diseases.[203]

210. The National Risk Register published in 2020 designated an animal disease outbreak as a serious threat to security [**TF/070/INQ000101489**]. It found that there is a high likelihood for a minor outbreak of exotic notifiable disease to occur regularly and a lower likelihood for a reasonable worst-case scenario of high impact. The likelihood is estimated at 1-5 per 500 events, and the economic impact of between £100 million and £1 billion. Although the FMD 2001 outbreak had far higher costs (estimated anywhere between £4 and £9 billion depending on whether indirect costs are included), our disease control strategy and contingency plans have been substantially upgraded over the years since 2001, to ensure such an event would be identified and dealt with more rapidly.[204]

## CBRN

*Overview: why and how is DEFRA responsible for CBRN*

211. In this section, I set out the roles, responsibilities and structures within Defra to deal with incidents arising from deliberate or accidental exposure to chemical, biological, radiological or nuclear material. Such incidents can potentially lead to significant harm, including major loss of life, nonfatal health impacts, contamination of the built and open environment, disruption of society and consequential damage to the economy. Defra's CBRN team deals with CBRN incidents relating to the following risks:
    - The malicious use of CBRN materials such as chemical weapons (nerve agents, blister agents etc.), biological weapons (anthrax etc.), hazardous materials (such as toxic industrial chemicals), radiological or nuclear materials.

- The accidental release of hazardous materials (such as toxic industrial chemicals).
- Civil nuclear accidents where the resulting radiological material is beyond nuclear site boundaries.[205]

212. The biological element of CBRN in this context does not refer to outbreaks of animal or plant diseases. Those risks are the responsibility of APHW and APHA and are dealt with above in the relevant section of this statement.[206]

213. The NSRA and National Risk Register includes 15 identified CBRN risks. CBRN events can vary widely in terms of scale, duration and complexity. The more serious CBRN incidents are typically lower in terms of likelihood, but higher in terms of impacts, than for other risks for which Defra is responsible, such as flooding and water supply disruption. Therefore, it is important that plans are in place to minimise the effects of such an event and to secure a recovery of the affected area(s).[207]

214. Given the significant variation in terms of scale, duration and complexity of CBRN incidents, there is not a 'one size fits all' list of interests that is relevant to each CBRN risk. Throughout the response and recovery phases of a CBRN incident, several Defra policy areas may be directly affected depending on the nature and scale of the incident, the type of contaminant, and the geographical location(s). For example, a CBRN incident that took place in the open environment may lead to pollution of air, water, land and sea. The nature of the contaminant may pose a risk to drinking water, animal welfare, food production and trade, or the rural economy, and would thus have implications for how the management of contaminated waste is handled.[208]

215. The response to most civil emergencies, is led at a local level by the emergency services and by the appropriate local authorities as part of a multi-agency response in accordance with the Integrated Emergency Management and CCA regimes (discussed above under the Cross-government Collaboration) [**TF/071/INQ000101449**]. The immediate emergency response to an incident will be coordinated by the LRF through a Strategic Co-ordinating Group ("SCG") set up to take strategic decisions in relation to the response to the incident, to provide

information to the public and media, and to engage with central government as necessary. The SCG is usually chaired by the police. Following completion of the response stage, there is a handover to the recovery phase. The local authorities in England, Wales and Scotland will normally be responsible for co-ordinating the recovery phase (usually as chair of the Recovery Co-ordinating Group ("RCG")). Local authority planning is carried out in close co-operation with the emergency services, utilities, other industrial and commercial organisations, government departments and agencies.[209]

216. However, for major CBRN incidents, such as the 2006 Polonium-210 and 2018 Novichok incidents, which have the potential to overwhelm local arrangements, and on occasions where the scale or complexity requires central government co-ordination or support, the initial central response will come from a pre-nominated LGD.[210]

217. In such cases, the LGD responsible for the initial response phase of incidents involving CBRN materials varies according to the incident and will be the Government department that owns the relevant risk. For example, the Home Office is the LGD for all terrorist incidents; Department for Business, Energy & Industrial Strategy ("BEIS") for civil nuclear accidents; MOD for nuclear accidents; and Department of Transport for transport accidents.[211]

218. Potentially, several Defra agencies, including, for instance the EA, APHA, the Drinking Water Inspectorate, could be involved in the initial response phase. The CBRN team would become involved from the outset in order to start preparing for the recovery phase. Defra ministers may play an active role in emergency response COBR meetings, particularly where immediate Defra issues are raised and/or it is clear that recovery will be complex. However, given that the Cabinet Office have an established list of LGDs, Defra is very unlikely to have LGD status in the response phase. Rather, as explained above, the LGD for the response phase will be with the Government department that owns the risk, e.g. the Home Office, the MOD, or BEIS.[212]

219. Defra would always be the LGD for the recovery phase (i.e. after the point at which a CBRN incident has been brought under control by emergency responders) in England, as set out in the UK Central Government Response Concept of Operations (ConOps) [**TF/071/INQ000101449**]. Defra ministers would lead on co-ordinating national-level input into the recovery phase, for example by chairing the Ministerial Recovery Group. Additionally, the CBRN Emergencies team, which was an Executive Agency known as the UK Government Decontamination Service ("GDS") until April 2018, provides advice and guidance for recovery, and where necessary also provides access to capability (e.g. planning and arranging for decontamination operations to be available to the responsible authorities) for recovery from a CBRN incident.[213]

220. The decision on when the incident moves from the response phase to the recovery phase and when Defra takes on the LGD role is taken at a Ministerial level.[214]

*Key readiness/preparedness and resilience functions for CBRN incidents (only to the extent that DEFRA is responsible/involved):*

Defra's role and responsibilities in relation to CBRN incidents

221. Defra's Deputy Director-led Flood, Water & CBRN Emergencies division (Emergencies Division) is within the Floods & Water directorate, which is discussed in greater detail below. In brief, the Emergencies Division has responsibility in England for the:
    - Department's preparation for, and response to, flooding (flood recovery is led separately by DLUHC).
    - Preparation, response and recovery for water supply.
    - Recovery from CBRN incidents.

222. The preparation and response phases relating to CBRN incidents are led by local authorities (for smaller incidents) or other LGDs (for major or significant incidents), as explained above.[215]

223. Response to and recovery from CBRN incidents are generally devolved matters. As such, Defra is LGD for the recovery phase in England, whilst recovery in Scotland,

Wales and Northern Ireland would be led by the DAs. However, Defra is responsible for facilitating access to an assured remediation and decontamination capability for the whole of the UK (including DAs) for buildings, the environment and infrastructure in respect of incidents which overwhelm local capabilities [**TF/072/INQ000116304**].[216]

224. In relation to CBRN specifically, Defra has a range of responsibilities as follows:
    - To maintain a contact point to provide advice, guidance and support to organisations responsible for the preparation and response phases of CBRN incidents. Example organisations which may request Defra's support include but are not limited to local authorities, other government departments, police, health authorities and infrastructure operators. This service operates on an on-call 24/7, 365 days a year basis. The CBRN team has a duty phone number, referred to as the Emergencies Duty Officer, and a rota of individuals who undertake the duty officer roles.
    - To maintain an assured framework of private-sector specialist companies (the Decontamination Services Framework) to undertake decontamination and waste management in the event of a CBRN incident and ensure that local authorities and DAs and others have access to these services.
    - To advise central government on national capability for the decontamination of buildings, infrastructure and open environment, outside of, and during, incidents and emergencies.
    - To build the evidence base to develop policy and operational delivery options to use during the recovery phase of a CBRN incident. Among other things, this involves working closely and sharing knowledge with partner nations.
    - To implement lessons learned from incidents and exercises, and to develop practices to bolster UK resilience and ensure robustness in incident response.[217]

225. Whilst other government departments lead on the preparation and response phases of CBRN incidents, Defra's CBRN team has a role to engage with them and provide any necessary advice and guidance to advance relevant recovery interests and remediation considerations in the preparation and response phases. This helps to

avoid unnecessary damage to the environment or a more protracted or costly recovery process. This is facilitated in a number of ways, including the following:

- Supporting the preparation effort to develop more robust plans (e.g. advising on decontamination issues arising from operations, such as the use of facilities).
- Influencing other departments (i.e. the LGD acting as response owner) to ensure a smooth and timely transfer from response to recovery at a national level.
- On request, during incidents, attending the SCG, RCG, and meetings of relevant scientific and technical advisors and experts (Science and Technical Advisory Cell ("STAC") at the local level, and SAGE at the national level).
- Managing expectations at national and local levels to be realistic about decontamination through work with the response partner and being part of the Chemical Biological Radiological Incident Cell ("CBRIC") such that Defra is part of conversations on decontamination and can manage expectations through STAC, the SCG, and the nominated LGD.
- Being accountable to Parliament and preparing for possible debates around who will pay for recovery costs (e.g. decontamination, compensation and remediation). The Defra Parliamentary and Cabinet Business Team provide assistance with any questions on parliamentary handling/ debates. Written and oral Parliamentary Questions are handled by the Ministerial Contact Unit with the exception of Lords Oral Parliamentary Questions that are handled solely by Private Office. The Ministerial Contact Unit, via drafting teams or the Parliamentary Questions Team, contact the relevant Defra team when a response is required to be drafted, along with a request for any relevant background information or briefing required.
- Coordinating national level communications to the public and media on recovery issues.[218]

*Emergency plans and response to incidents and emergencies*

Command and Control for CBRN incidents

226. Defra has contingency plans in place to deal with internal staffing, rapid development of situational awareness, which involves gathering of reports and information to build

an understanding of what is happening, and clear decision-making mechanisms when emergency situations arise. These plans are adaptable to deal with a range of different emergency scenarios and dock into the central government emergency response arrangements led by the Cabinet Office.[219]

227. As with flooding events, the deployed EOC is the primary response structure used within Defra to coordinate Defra's work in relation to CBRN incidents. The EOC will be scaled and used flexibly to meet the needs of the response at the time.[220]

228. The internal Defra command and control structure in relation to a CBRN incident is the same as it is for floods as per Diagram 8, provided at Annex 2 page 137. The EOC ConOps has been provided as an exhibit [**TF/073/INQ000116392**]. Defra maintains a small CBRN Recovery Policy and Operations Team. This team would be expanded if an incident occurs, drawing in staff from the wider Floods, Water and CBRN Emergencies Team and volunteers from across Defra. This team is supported by other Defra Civil Servants who act as Duty Officers, both 'in hours' and 'out of hours' to act as a first point of contact for calls to the duty phone number.[221]

Emergency plans and responses

229. Response encompasses the actions taken to deal with the immediate effects of the emergency. As described above, CBRN incidents can vary greatly in terms of scale, duration, and complexity – including in terms of the nature of the contaminant that has been released. Unlike flooding events, which occur more frequently and whose impacts are more predictable and therefore understood, major incidents involving CBRN materials are infrequent and unpredictable and therefore are more difficult to plan for than other events such as flooding.[222]

230. In all scenarios, the response phase requires rapid implementation of arrangements for collaboration, co-ordination and communication.[223]

231. The CBRN team has developed Standard Operating Procedures and Plans which provide guidance as to how to deliver recovery outcomes for CBRN incidents but which are also relevant for the preparation and response phase planning by OGDs. Defra feeds into the relevant plans and activities of OGDs and agencies. This

includes recovery partners (e.g. EA, FSA, UKHSA) and government departments that lead on the response phase, to ensure the development of integrated government emergency response and recovery plans.[224]

Recovery

232. After the initial emergency response phase to a CBRN incident, the follow-up phase is decontamination, remediation and recovery, which is the process of rebuilding, restoring and rehabilitating the community following the emergency. Recovery is a complex and long-running process.[225]

233. Typically, recovery involves many more agencies than the response phase and Defra ministers would lead on coordinating national-level input into the recovery phase, for example by chairing the Ministerial Recovery Group, which includes ministers from relevant departments such as the DLUHC, DfT, and BEIS. At the local level, bodies such as the RCG and STAC would deal with more technical matters and members of the CBRN Emergencies Team would attend on request.[226]

234. Defra gives advice to the public, local authorities and other relevant stakeholders in relation to the recovery phase of CBRN incidents. On behalf of the UK Government (The Cabinet Office, Department for Communities and Local Government, Defra, the Home Office, the Northern Ireland Executive, the Scottish and Welsh Governments), the UK GDS (as it was then known) produced the Strategic National Guidance (5th Edition, published March 2017 [**TF/074/INQ000116324**] on the decontamination of buildings, infrastructure and open environment exposed to chemical, biological, radiological substances or nuclear materials. This guidance was produced for those in the public and private sector responsible for contingency planning. It covers key elements in the decontamination process following a CBRN incident, from developing the initial recovery strategy through to managing waste and returning things to normal (i.e. remediation).[227]

235. The Defra/ EA Decontamination Services Framework is central to Defra's role as LGD for the recovery phase of CBRN incidents. The Framework was established to simplify and speed up the award of contracts for decontamination and related services following a CBRN/Hazard Materials incident and facilitates the co-

ordination of remediation capability. It is essentially a procurement arrangement, which establishes a commercial relationship with specialist commercial providers that supply decontamination and related services for CBRN incidents. The Framework allows providers to be called upon to supply services when necessary [**TF/075/INQ000116312**]. Using the Framework removes the need for a contracting authority to conduct any further procurement under the Public Contracts Regulations 2015. Private sector suppliers accept contracts on a voluntary basis and their decision to do so will be balanced with their business and statutory commitments, as well as their legal liabilities.[228]

236. In situations where decontamination is the best option, the UK is capable of dealing with many types of small-scale incidents involving CBRN materials (such as the Litvinenko incident in 2006), particularly if the contamination is in a contained space. Such incidents will still present complex technical and logistics problems, but the current arrangements have successfully delivered in several small-scale incidents.[229]

237. Where decontamination is not practical, feasible or affordable, other remediation options include restricting access to a site; moving people away from an area; introducing barriers or shielding to minimise exposure; or giving out public information to help manage risks.[230]

*Horizon scanning and risk identification/assessment (prevention)*

National Security Risk Assessment (NSRA)

238. The NSRA is intended to identify and assess significant national security risks through articulation of an RWCS for each risk. This assessment of risks via a RWCS considers their impacts in multiple dimensions (e.g. harm to the public, economic harm, environmental harm etc.) and provides evidence to enable central and local government to undertake contingency planning. This includes highlighting the common consequences arising from a range of risks, both domestic and international.[231]

CBRN

239. Defra's Emergencies Division has responsibilities for flooding and water risks, and for CBRN risks. This involves working closely with the risk-owning departments, both to ensure that recovery considerations form part of their risk assessment and response planning, and to provide input on recovery, remediation and decontamination requirements as part of the scenario.[233]

240. The Emergencies Division leads on the updating and return of the recovery elements of these risk assessments to Cabinet Office but, unlike other risks such as those relating to flooding or water, the CBRN risk assessments are submitted via the relevant OGDs who own the risks.[234]

*History of preparedness and planning for CBRN incidents/ emergencies*

241. I list below an account of how Defra's CBRN functions have developed during the period covered by this statement. As CBRN incidents are relatively rare, most of the incidents, with the exception of the Novichok incidents, relate to the period when GDS had responsibility for recovery in relation to CBRN incidents.[235]

GDS

242. In 2005, the UK Government established the GDS as an executive agency of Defra in order to provide additional capability to assist with CBRN decontamination work as part of the cross-Government work to ensure that the UK was prepared for a range of emergencies. GDS was developed under the CBRN resilience programme led by the Home Office and was set up with three principal functions as follows [**TF/076/INQ000116297**]:

- To provide advice and guidance to responsible authorities during their contingency planning for CBRN incidents, and regularly help test the arrangements that are in place. This was to build on the strategic national guidance for the built and open environment which the Office of the Deputy Prime Minister and DEFRA (respectively) issued in 2004.
- To rigorously assess the ability of companies in the private sector to carry out decontamination operations and ensure that responsible authorities have access to those services if necessary. If required, the agency would also help coordinate decontamination operations.

- To advise central Government on the national capability for the decontamination of buildings and the environment in the event of a major release of chemical, biological or radioactive materials.[236]

243. According to the 2008 Written Ministerial Statement, the GDS had a dual role of:
    - preparing for a crisis, and
    - responding to a crisis and supporting Departments and responsible authorities during the clean-up or recovery phase.[237]

244. GDS' core functions in terms of preparing for a crisis were similar to the responsibilities of the CBRN team as outlined above and included the maintenance of a duty phone number; the development and maintenance of a framework of contractors; and the provision of advice and briefing on framework capability and capacity, and written guidance on associated remediation/decontamination issues to Departments, DAs, and responsible authorities, see [**TF/077/INQ000116299**].[238]

245. In respect of the recovery phase, again GDS' role was similar to the current responsibilities of the CBRN team and included acting as expert advisors on the capability and capacity of the GDS framework; providing expert/scientific advice as necessary to relevant groups, including the STAC and RCG, on the consequences of the decontamination techniques used by the framework contractors; helping the lead responsible authority (or "Agent") access the most appropriate framework services to ensure efficient, effective and timely decontamination/remediation work, and providing, where required, appropriate briefing and assistance to central Government (including direct to the relevant Minister through the LGD) on decontamination-related matters.[239]

<u>The Scottish Anthrax Incident</u>

246. In August 2006, GDS were approached by the Scottish Executive in relation to an incident which involved the death of a man in Scotland from pulmonary anthrax [**TF/078/INQ000116311**]. GDS were involved in this incident until the decontamination of the properties involved was completed in February 2007. GDS' roles were as follows:

- assigning a case officer, who was dispatched to the Scottish Borders to work and establish liaison with Health Protection Scotland and NHS Borders;
- offering and facilitating full use of GDS resources, including links with experts in the USA and the GDS Specialist Supplier Framework;
- facilitating the use of the Specialist Supplier Framework to choose a method and supplier to decontaminate the affected properties;
- forming part of the decision-making committee to sign off the properties as cleared, following fumigation by Chlorine Dioxide gas.[240]

Polonium (Litvinenko) Incident

247. In November 2006, GDS was requested via emergency contact procedures to attend the COBRs to participate in a meeting of the Civil Contingencies Committee. It had been established that Alexander Litvinenko had died as a result of ingesting a radioactive isotope identified as Polonium 210. Police forensic investigation established a number of venues across London had been contaminated. GDS opened its EOC, from where GDS involvement was coordinated. During the response phase of the incident GDS specialist suppliers were deployed to London, at the request of the then Health Protection Agency ("HPA") (which became PHE and is now UKHSA), to provide assistance with monitoring for health protection purposes.[241]

248. GDS responded to the notification of the Polonium 210 case by:

- Providing advice, guidance and access to the GDS framework of specialist suppliers to the Metropolitan Police Gold Command, and subsequently at the Recovery Working Group, chaired by Westminster City Council's Chief Executive Officer; and
- Working closely with partners from Westminster City Council, HSE, EA, Department of Transport and the then HPA, on a remediation strategy to deal with the radioactive contamination arising from circumstances surrounding the death of Alexander Litvinenko. Decontamination work was carried out, by framework specialist suppliers, at 9 venues.[242]

The Novichok Incidents

249. In 2018, Defra led work to decontaminate a site which had been identified as requiring specialist decontamination activity following the use of the Novichok nerve agent in Wiltshire. This work was led by Defra with specialist advice from partners including PHE (now UKHSA), the Home Office, MoD and Wiltshire Council.[242A]

*Exercises*

250. The CCA 2004 requires all Category 1 responders to regularly exercise their plans and procedures in collaboration with other agencies. Defra's experience is that CBRN exercises have mainly centered on the response phase of a CBRN incident, e.g. the activities that the emergency services need to undertake at the scene of a contamination incident of deliberate or uncertain cause, for saving life or to secure a crime scene for investigative purposes. Such emphasis has meant there are limited real opportunities to test longer-term recovery from CBRN incidents. Where recovery has been considered as an objective of the exercises, Defra's CBRN Emergencies team, and previously GDS, has sought to participate as follows:
    - raising awareness of Defra's role in recovery;
    - familiarising Defra emergencies staff with the structures, processes and protocols involved in the response to a CBRN incident;
    - discussing the transition from the initial response and recovery to remediation;
    - assessing the process for the development and implementation of remediation strategies.[243]
251. The following are examples of the types of exercises in which Defra has participated during the relevant period:[244]

*LINUS 1*

252. Performed in February 2015, this exercise was a run up for a Regional Gold Command recovery Exercise. The aim was for the Silver group to gain experience of running an RCG before attending the Gold Command Exercise. The scenario was that a terrorist chemical device has been initiated in a shopping complex. The RCG then forms and has to manage the recovery. Exercise participants found the exercise to be extremely useful in cementing multi-agency working relationships,

testing the Silver (Tactical level) recovery phase of incident response and developing knowledge and awareness of GDS, the GDS Decontamination Services Framework and the supplier capabilities on it.[245]

*Exercise New Salesman*

253. The annual New Salesman series of exercises in 2017 were Tabletop Exercises, designed to familiarise multi-agency operational, tactical and strategic commanders and local authority emergency planning staff with the type of issues they may face during exercise Saxon Resolve, a Command Post Exercise which was to take place in November 2017. GDS personnel attended the tabletop exercises and briefed participants on the GDS Decontamination Services Framework, the importance of early recovery planning and what support GDS could offer in the event of an emergency.[246]

*Interactions/cooperation with other government departments and DAs*

*Cross-government engagement*

254. Defra's CBRN policy team is part of a CBR Fusion working group, which brings together the cross-government CBRN community at a working level to share projects. Accordingly, the CBRN team leads a number of on-going workstreams/projects to improve preparedness. Defra CBRN Emergencies is engaged in many workstreams to prepare for incidents involving CBRN materials, working with the Cabinet Office, Home Office and others in government. For example:
    - Defra, in partnership with the EA, set up the Nuclear and Radiological Emergencies – Recovery Working Group ("NRE-RWG") in 2018 to address the recommendations from a 2016 PHE Report "Review of National Nuclear Emergency Recovery Capabilities". The review was completed and CBRN guidance was subsequently issued, the results of which have now been formed into several developing workstreams under the NRE-RWG [**TF/079/INQ000144798**].
    - A review of the capacity, management and disposal of hazardous waste material following a CBRN incident. This review is in the scoping phase.

- A review of UK Government Laboratory Chemical and Biological Analysis Capability: Defra is leading a cross-government review to assess laboratory analysis requirements and capability available in the UK during the recovery phase following chemical and biological incidents to address capability gaps and suggest possible solutions. This work has been commissioned by the Government Chief Scientific and National Security Advisers and was fed into the Spending Review 2020. This has led on to a new piece of work as part of the National Technical Advisory Group for CBR Recovery ("NTAG-R"), a partnership between Defence Science and Technology Laboratory and Defra, which is exploring (amongst other things) lab capability for both chemical and biological analysis.[247]

*DAs*

255. As explained above, Defra is responsible for the provision of remediation capability to the DAs, Crown Dependencies & British Overseas Territories.[248]

256. Developing closer working relationships with these countries allows Defra to understand provisions already in place, and to develop Memorandum of Understandings and plans where required.[249]

*Local authorities/ industry planning for CBRN incidents*

257. The immediate multi-agency response to the response or emergency phase of an incident will be coordinated by LRF, through an SCG set up to take strategic decisions in relation to the response to the incident and to provide information to the public and media, and engagement with central government. During the response phase, the RCG should be set up to report to the SCG, so that recovery issues can be considered in detail. The RCG can set priorities for the recovery phase and for the decontamination work, and/or coordinate the work of specialist contractors. The STAC will provide strategic scientific and technical advice, co-ordination and assessment of health, and scientific and environmental protection to support the SCG and RCG. The chairs of the RCG and STAC would normally attend, advise and report back to the SCG.[250]

258. Following completion of the response stage, there is a handover to the recovery phase. The local authorities in England, Wales and Scotland will normally be responsible for co-ordinating the recovery phase (usually as chair of the RCG). Local authority planning is carried out in close co-operation with the emergency services, utilities, other industrial and commercial organisations, government departments and agencies. On request, the Defra CBRN Emergencies team will attend the RCG, STAC and SCG.[251]

259. Local responders are required to have emergency response plans: The duty to prepare general emergency plans rests with Category 1 responders such as local authorities. The primary requirement of the CCA 2004 is that plans are maintained to ensure that, if an emergency occurs (or is likely to occur), each Category 1 responder can deliver its functions so far as necessary for the purpose of preventing the emergency; reducing, controlling, or mitigating its effects, or taking other action as appropriate. Some local areas have specific CBRN response plans, particularly if there is an elevated local risk, for example areas near any site working with ionising radiation have well-exercised response plans; major cities have advanced resilience arrangements; and all counties' emergency services are required to have arrangements in place to distribute information to the public in the event of a radiation emergency, under the Radiation (Emergency Preparedness and Public Information) Regulations 2019 ("REPPIR").[252]

260. In addition, under the terms of the CCA 2004, all LRFs are required to have emergency plans. They will generally be a mix of generic plans and plans designed to address specific risks, based on their community risk assessments. A LRF is not a legal entity of itself, nor does it have powers to direct its members. Nevertheless, the CCA 2004 and the Regulations provide that responders, through the LRF, have a collective responsibility to plan, prepare and communicate in a multiagency environment.[253]

261. It is not realistic to expect each local area to maintain a high level of CBRN technical expertise. In an incident, local arrangements would be bolstered by national

expertise (depending on the incident these may come from within Defra, the EA, the UKHSA (formerly PHE), and MOD scientists) and private sector capability.[254]

262. Defra's Strategic National Guidance gives information to local authorities on the decontamination and remediation that may be required following a deliberate CBRN incident or major hazardous materials release in the UK. The Strategic National Guidance also describes the current legal powers available to local authorities in the event of such an incident.[255]

263. There are various additional guidance materials for local authorities and local responders, such as the National Recovery Guidance produced by the National Recovery Working Group ("NRWG") in line with the CCA, see [**TF/080/INQ000116306**].[256]

*Private organisations providing public services*

264. The Decontamination Services Framework is described in detail above. All contractors, whether drawn from the Decontamination Services Framework or engaged independently, will work as required within the command-and-control arrangements established for the incident.[257]

*Planning for the Future and Lessons Leaned*

265. CBRN incidents are infrequent but potentially significant events. There has tended to be relatively limited focus on and allocation of resources to the recovery phase in relation to CBRN incidents as compared to the emergency response phase. However, as explained above, it is important that there is adequate focus on recovery for CBRN incidents at an early stage in order to deal with the CBRN risk effectively, to minimise the impact of the CBRN incident, and to ensure that the recovery phase is not unnecessarily protracted or costly.[259]

266. Additionally, as CBRN incidents are not frequent, there has been limited opportunity to test preparedness for recovery. Therefore, it is important that the systems in place for recovery are adequately tested in appropriate exercises with a focus on recovery. Defra continues to work to enhance its decontamination arrangement, and integrate

these with the CBRN community, but this remains a technically compex area due to the range of potential incidents and their varying scale.[260]

**Floods and Water Directorate**

267. In this section, I set out the emergency response and coordination structures that have been developed by the Floods and Water Directorate which were later used as a model for Defra's EOC for the Covid-19 pandemic response.[261]

268. Defra is the LGD for the response to flooding, disruption to water supply as set out in the UK Central Government Response Concept of Operations (ConOps) [**TF/081/INQ000101496**].[262]

*Structure of the directorate*

269. The EA, one of the non-departmental public body members of the Defra group, is responsible for operational actions in fluvial (main rivers) and coastal flood response and has the role of a Category 1 responder. It was created by the Environment Act 1995 and came into existence on 1 April 1996, replacing the National Rivers Authority, Her Majesty's Inspectorate of Pollution, and waste regulation authorities[263]

270. Diagram 9, provided at Annex 2 page 138, shows the hierarchy of senior managers in decision making for crisis events.[265]

*Interaction with other government departments and DAs*

271. Flooding and water supply disruption are devolved matters and as such Defra's responsibilities extend to England only. Defra maintains working relationships with the Scottish and Welsh Governments to enable collaborative responses when required.[266]

272. Defra works across government and with CNI sectors to ensure proportionate and sufficient planning (for example, in considering likelihood, impact, range and costs

of mitigation) is undertaken to minimise the impact of flood water supply disruption and CBRN recovery risks in a range of scenarios.[267]

273. A range of partners are involved in planning for and dealing with flooding and water supply disruption incidents at national and local levels. At a national level, Defra is the LGD for planning and responding to these incidents in England. The DLUHC is the LGD for flood recovery in England – this split in responsibilities is designated by the Cabinet Office. When potentially significant flooding is forecast, using information from the Flood Forecasting Centre ("FFC") (this is discussed in further detail below), Defra coordinates with other government departments to ensure they are prepared to respond to potential flooding. This will include commissioning updates from other government departments to produce a single document, a Situation Report, capturing the key information and risks.[268]

274. At the same time, responder organisations in LRFs such as the police and local authorities will meet to discuss any flood plans, prepare, and identify issues for escalation to national government. The purpose of the LRFs is to ensure effective delivery of duties under the CCA 2004 that need to be developed in a multi-agency environment and individually as a Category 1 and Category 2 responders [**TF/082/INQ000116307**]. For floods, Category 2 responders would generally attend SCGs.[269]

275. In a complex and wide area flooding event, Defra ensures that local responders have access to national resources as required, for example, the national flood rescue assets (consisting of teams trained in flood rescue and relevant equipment) and Military Aid to the Civil Authorities ("MACA"). Depending on the scale of the event, the government response can be escalated as required, initially managed within Defra through its EOC. For significant flood events, the National Flood Response Centre ("NFRC") may be opened, with all relevant government departments and agencies working from the same location. The NFRC's Operating Procedure (2021) has been provided as an exhibit [**TF/083/INQ000116389**]. The previous (2021) version has also been provided [**TF/084/INQ000116367**].[270]

276. More severe incidents can be further escalated with central coordination, within COBR meetings, by the COBR Unit (part of Cabinet Office). Other government departments feed in on their own policy areas during a COBR-led flooding incident, which commonly includes the DHSC, the DfT, and BEIS. Defra and other government departments will attend COBR meetings (at ministerial and officials' level) and contribute updates to the COBR Unit-owned Commonly Recognised Information Picture (CRIP). This is a product similar to Defra's cross-government Situation Reports.[271]

277. The EA has a strategic overview of all sources of flooding and coastal erosion (as defined in the Flood and Water Management Act 2010) [**TF/085/INQ000116400**]. The EA is responsible for the operational aspects of the response to fluvial (main rivers) and coastal flooding including forecasting, warning and informing the public, operating flood assets, installing temporary defences/pumps and more. The EA's work on flooding is funded through grant-in-aid from Defra.[273]

278. Lead Local Flood Authorities (Unitary Authorities and County Councils) are responsible for the operational aspects of the response to fluvial (ordinary rivers) surface water, and groundwater flooding.[273]

279. Main rivers are designated primarily upon the scale of their impact upon flooding in the catchment i.e. contributing to widespread flooding or directly flooding significant numbers of properties. All other rivers and streams are deemed ordinary rivers, as per the Designation of Main Rivers guidance [**TF/086/INQ000116328**].

280. Surface water flooding occurs when heavy rainfall overwhelms local drainage systems.

281. Groundwater flooding occurs when the level of water within the rock or soil of the land surface rises due to heavy rainfall.

282. Military aid may be sought by local responders to support the operational response through the MACA request process [**TF/087/INQ000144796**]. In flooding events, Defra's Permanent Secretary approves requests with Ministerial support.[274]

*Horizon scanning and risk identification/assessment*

NSRA

283. The NSRA is intended to identify and assess future security risks, generate actions, and offer evidence to enable central and local government to undertake contingency planning. This includes highlighting the common consequences arising from a range of risks, both domestic and international. Three flooding risks are included in the NSRA (fluvial, coastal, and surface water) and the Emergencies Division leads on the updating and return of the risk assessments to Cabinet Office, working with partners in the Met Office, FFC, and the EA. Defra's Emergencies Division also owns three water supply risks (drought, chemical attack on water supply and major water infrastructure failure). It also has responsibilities for the recovery aspects of 15 CBRN risks, as discussed above.[280]

284. For flooding, the risk assessments are updated every two or three years. They set out the reasonable worst-case scenario for catastrophic flooding events over the next five years.[281]

FFC

285. The FFC was set up in 2009, following recommendations made in the Pitt Review (see below), to better understand how rainfall impacts river catchments and flash flooding. It is a working partnership between the EA and the Met Office, working as a dedicated team in one national centre in Exeter (co-located with the Met Office). It provides data, forecasts, and information to the EA and Category 1 and 2 responders to plan for flood response originating from all sources: rivers, surface water, groundwater, and the sea. It regularly reviews and updates their products to meet the needs of their users.[282]

286. The daily Flood Guidance Statement ("FGS"), first issued in 2009, provides a summary of flood risk for the next five days and the Emergencies Division circulates this across Defra and central government daily. It is used to inform the Emergencies Division's decisions around immediate resource needs, escalation to EOC's

response structures, and coordination of central government response to flooding.[283]

287. The Flood Outlook provides a picture of the flood likelihood for the coming month and is used by the Emergencies Division to plan resource needs.[284]

Emergencies Division

288. The Emergencies Division monitors the number and location of flood alerts/warnings to identify emerging risks of widespread flooding. Should any flood assets owned/managed by the EA, or by 3rd parties who notify the EA, need repair at times of increased flood risk they will notify the Emergencies Division who will plan for any Defra resource and response needs.[286]

Met Office

289. The Met Office is the UK's national weather service and is responsible for providing weather forecasts and weather warnings to the Armed Forces, government departments, the public and more. The Emergencies Division monitors the number, severity, and location of weather warnings to identify emerging risks linked to flooding or other impacts that could compound flooding impacts e.g. severe low temperatures.[287]

*Emergency plans and responses*

Command and control during flooding response

290. Defra has contingency plans in place to deal with internal staffing, rapid development of situational awareness, which involves gathering of reports and information to build an understanding of what is happening, and clear decision-making mechanisms when emergency situations arise. These plans are adaptable to deal with a range of different emergency scenarios and dock into the central government emergency response arrangements led by the Cabinet Office.[275]

291. The EOC is the primary response structure used to coordinate Defra's, and central government's, response to flooding and will be scaled and used flexibly to meet the needs of the response at the time.[276]

292. The command-and-control structure during a flooding response is set out in the Diagram 10, provided at Annex 2 page 139. The EOC ConOps has been provided as an exhibit [**TF/073/INQ000116392**].[277]

NFRC

293. In particularly significant flooding responses, the NFRC will be activated. The NFRC is a partnership between Defra and COBR Unit and will be activated with the agreement of both departments, allowing physical co-location between Defra, COBR Unit, and other key departments/partners in London. This co-location enhances the sharing of situational awareness across central government and allows for greater coordination at pace. Defra will remain the LGD throughout the response and the command-and-control structures set out above will remain, although leadership of the NFRC will be supplemented by a COBR Unit Chief of Staff.[278]

294. The first activation of the NFRC was in November 2019 in response to significant flooding in Yorkshire and the Midlands. The triggers for activation include significant flooding impacts across a wide area, severe impacts in a small area, impacts on an area of vulnerability or sensitivity due to previous flood or a national event, and the event occurring during a time when the response might be less effective than normal due to decreased resilience or impairment to response capability.[279]

*History of preparedness and planning for flooding response*

295. I have listed below an account of how Defra's flood planning and resilience functions have developed in response to a variety of incidents which occurred during the period covered by this statement.[288]

296. **2012: Government response to the Pitt Review.** The report of Sir Michael Pitt's review into the floods of summer 2007, which significantly impacted the Midlands,

Yorkshire, and Thames Valley, was published in June 2008 and produced 92 recommendations for a variety of organisations covering more than 20 topics [**TF/088/INQ000101425**].[289]

297. The government's final progress report was published in February 2012. It set out the work Defra was undertaking to better understand and improve the response to flooding across all areas i.e., forecasting, reducing risk, flood rescue. The key actions in response to the Pitt Review included:
    - The Flood and Water Management Act 2010 provided for more comprehensive management of flood risk for people, homes, and businesses.
    - The National Flood and Coastal Erosion Risk Management Strategy, published in July 2011, set out a statutory framework for working together to reduce flood and coastal erosion risk. This was updated in July 2020 [**TF/089/INQ000116357**].
    - The National Flood Emergency Framework as published in July 2010, providing guidance and advice for councils, government departments and others to plan for, and respond to, flooding [**TF/090/INQ000144795**].
    - The National Flood Advisory Service ("NFAS") was established in 2009 to bring together key government stakeholders via teleconference in the initial stages of forecasted flood risk.
    - The FFC was established in 2009 to better understand how rainfall impacts river catchments and flash flooding.
    - A wide-ranging test was conducted of our emergency response to severe flood events that would engage the public (see Exercise Watermark below).[290]

298. **2012: Summer flooding.** Spring 2012 saw record rainfall across England and thunderstorms in late June/early July. There was significant flash flooding across the country. Between March and December, more than 8,000 properties were flooded.[291]

299. **2013-14: Winter flooding.** From December 2013 through to February 2014, the south of England experienced heavy rainfall from numerous storms, resulting in widespread, significant flooding. Infrastructure including electricity networks, roads and rail were disrupted and more than 13,000 properties were flooded. The Somerset Levels were significantly impacted by flooding with some communities cut

off for extended periods. The main line to Cornwall and west Devon was closed due to damage at Dawlish for weeks [**TF/091/INQ000101458**].[292]

300. **2015: December flooding.** Storm Desmond hit England in early December and caused widespread, significant flooding in Cumbria and Lancashire. A new UK 24-hour rainfall record (341.4mm rain) was set in Cumbria and infrastructure such as roads and electricity sub-stations was impacted. Storm Eva hit England in late December and caused further flooding in Cumbria. Further heavy rainfall caused significant flooding on Christmas Day and into Boxing Day across Lancashire and Yorkshire. Infrastructure such as gas mains, electricity sub-stations, roads, and rail was impacted. Approximately 16,000 properties were flooded across the country [**TF/092/INQ000101465**].[293]

301. **2016: National Flood Resilience Review.** The National Flood Resilience Review was set up in January 2016 following the flooding and extreme weather experienced during December 2015 and published its report in September 2016 [**TF/093/INQ000101467**]. It was chaired by the Chancellor of the Duchy of Lancaster and members included Defra, the EA, the Met Office, and other government departments. The report included recommendations (which have now been actioned) on emergency response and recovery including:
    - Investment to increase the EA's stock of temporary flood defences and other incident response equipment;
    - Investment in nationally deployable flood rescue teams and the creation of a single register of national flood response assets;
    - Establishment of an operations centre to bring together relevant organisations to improve situational awareness and the timely deployment of national assets. This was completed in the formation of the NFRC – see above.[294]

302. **2019: EU Exit preparations.** In 2019, the Emergencies Division supported Operation Yellowhammer (the government's contingency planning for its response to the most severe anticipated short-term disruption under a no-deal European Union exit). Operation Yellowhammer covered twelve key areas of risk, including food and water supplies, healthcare services, trade in goods and transport systems. The water supply Yellowhammer communications plan has been provided as an exhibit [**TF/094/INQ000116351**]. Details of a workshop held to discuss

Yellowhammer water sector no-deal planning and preparedness, including risks to chemical suppliers have also been provided [**TF/095/INQ000116331**].[295]

303. **2019: November floods.** In November 2019, Yorkshire and the Midlands experienced widespread, significant flooding due to heavy rainfall. It had a significant impact on infrastructure including rail and roads, more than 1000 properties were flooded, nearly 2000 people were evacuated, and several MACA requests were made and met to support the response in Doncaster. Flood rescue teams, which are part of Defra's National Asset Register, carried out over 200 rescues. The NFRC was activated for the first time [**TF/096/INQ000101485**].[296]

304. **2020: Storms Ciara, Dennis, and Jorge.** In February 2020, Storms Ciara, Dennis, and Jorge caused flooding in the UK. The Emergencies Division was responsible for coordinating the cross-government response, including through the relevant COBR meetings.

305. At the same time, officials-level COBR meetings were established to coordinate the government's response to the emerging threat of Covid-19, which the Emergencies Division attended for Defra due to their experience of crisis management. By the middle of February 2020, it became clear that the frequency of these meetings, and the seriousness of the potential impacts of Covid-19, required additional staff and resources within Defra, which were sourced from internal teams.[297]

306. Defra subsequently established a Defra-wide EOC, managed by what is now termed the Contingencies, Planning and Monitoring Team ("CPMT"), to build on the work of the Emergencies Division on Covid-19 and separate the work from flood response.[298]

*Exercises*

307. I have listed below an account of a number of exercises undertaken by Defra to test and develop its flood planning and resilience during the period covered by this statement.[299]

308. **2011: Exercise Watermark.** Exercise Watermark was run in March 2011 and the final report published in October 2011. At the time, it was the largest and most successful civil defence preparedness event ever held in England and it is the most recent tier 1 exercise of flooding response. The exercise was delivered in response to the Pitt Review; the Government's response was published in July 2012 [**TF/097/INQ000101435**]. The key actions in response to the Exercise Watermark final report [**TF/098/INQ000101433**] included the following:

    - Defra sponsored the establishment of the East Coast Flood Group which brings together planners from coastal LRFs, the EA, Met Office, FFC, utilities, the Voluntary Sector, and government departments including Defra, DLUHC, MOD, DfT and Cabinet Office, to collaborate on efforts to prepare for the risk of a major east coast flood;
    - Situation reporting requirements were updated and outlined within Defra emergency plans for flooding;
    - Funding of flood rescue advisors to support local responders;
    - The EA improved their flood visualisation capability with river and sea levels, historic flood extents, and improvements to mapping software.[300]

309. The Emergencies Division led and participated in small to medium scale flood response exercises throughout the period covering a variety of aspects of Defra response including EOC response, NFRC response and EA operational capability [**TF/099/INQ000101420**][**TF/100/INQ000116350**][**TF/101/INQ000116318**]. These helped to refine Defra's response to flooding over the period through subsequent updates to ways of working and the building of confidence and experience for response staff.[301]

*Lessons learned*

310. The Emergencies Division routinely conducts review processes after operational responses. The review process has varied and evolved over the years but has been based around best practice "hot" (immediately after, or in the following days) and "cold" debriefs (a few days/weeks after) using verbal and written methods to capture lessons. It was led by various teams within the Emergencies Division over the time

period and participants normally included Defra staff and staff from other government departments/partners involved in the response.[302]

311. Written reports with clearly identified actions and action owners would be produced and the Emergencies Division would progress and monitor actions under the leadership of the Deputy Director for the Emergencies Division.[303]

312. Some very significant flooding events have triggered reviews or reports (see the Pitt Review and National Flood Resilience Review above) which have resulted in recommendations for Defra and others to consider. Defra has accepted and acted upon these recommendations as appropriate.[304]

313. The Emergencies Division used its expertise in emergency response to support the design of Defra's EOC, for the Covid-19 pandemic response. This expertise was built on the knowledge and experience of members of the division who had/have a strong background in resilience, emergency response and central government emergency response best practice, including digital ways of working. The model worked well: it was useful to fall back on an existing structure which did not need an entire redesign in the early days of the crisis.

*Programme of flood and coastal erosion risk management ("FCERM") schemes*

314. Over the period covered by this statement, two major flood defence investment programmes were delivered by Defra through the EA. Improving the nation's resilience and protection from flooding was a key part of Defra's response to the increasing flood risk and the significant flood responses that were seen over the time period. An investment programme between 2010-2015 of £1.7 billion saw 230,000 homes better protected from flooding and £2.6 billion was spent between April 2015 and March 2021 to better protect 314,000 homes from flood risk.[305]

**Agri-Food Chain Directorate**

*Introduction to the directorate*

315. In this section of the statement, I will set out how the AFC directorate considers readiness for food supply disruptions, using learning derived from its participation in

exercises and contingency planning. This includes a description of risk assessment and goes on to explain the real time engagement with industry to triage issues and the development of mitigations to help maintain adequate food supply to the country.[306]

316. Defra and the FSA have joint responsibility for food, insofar as it forms part of the CNI sector, and for planning for and responding to emergencies disrupting supply in England. Defra has responsibility for food supply and the FSA for food safety and crime (the term "food crime" refers to any serious and intentional dishonest act that impacts on the safety or authenticity of food, drink or animal feed). Food supply is a devolved issue.[307]

317. The AFC directorate works collaboratively with industry and across government to monitor and oversee the effective functioning of the food supply chain. The directorate was established as a standalone directorate within Defra following EU Exit; a separate Future Farming and Countryside Programme directorate was also established to take on functions relating to farming.[308]

318. AFC is a policy directorate, not an emergency response team, and it is not configured to have the operational capabilities required to act as part of an emergency response. In steady-state times, there are typically fewer than 5 dedicated staff leading and coordinating on crisis preparedness and contingency planning. Most of the work in relation to supply chain disruption is managed through standing policy teams who hold the relationships with industry, as part of their wider remits that go much beyond crisis preparedness and response.[309]

319. Contingency planning does not focus on food in isolation. Food is considered as part of the CNI (which also includes water and energy supplies, for example) and responsible departments work closely together. The CNI programme of work is managed by the COBR Unit based in the Cabinet Office. Defra's responsibilities for food as part of the CNI sector are mainly concerned with planning and engagement. This planning is usually part of broader cross-government contingency planning work coordinated by the Cabinet Office, such as the NSRA, Sector Security Resilience Plans ("SSRP"), or cross-government planning exercises led by other

government departments such as Operation Black Start (relating to power outages).[310]

320. AFC is also involved in international engagement on civil resilience through the NATO Food and Agriculture Planning Group.[311]

*Working with other government departments and the DAs*

321. In contingency planning and when responding to live events, the impacts on food supply cannot be considered in isolation from other issues. Defra works closely with other government departments to develop a collaborative response.[312]

322. Defra's work with other government departments expanded between Operation Yellowhammer [**TF/102/INQ000116352**] in 2019 and the D20 [**TF/103/INQ000116381**] contingency planning for December 2020, as relationships and Defra's understanding of the interdependencies in the supply chain developed.[313]

323. The D20 contingency plan of December 2020 was a cross-government project preparing for EU exit in January 2021. It was considered to be a useful blueprint for engagement once the Covid-19 pandemic commenced. This plan identified a number of other government departments as having a role in relation to particular aspects of food supply planning:
    - Food as a CNI sector: the FSA*
    - For Overseas Territories: the Foreign, Commonwealth and Development Office*
    - For Crown Dependencies: Ministry of Justice ("MoJ")*
    - For Transport and Borders workstreams: the DfT; the Borders and Protocol Delivery Group; and Home Office/Border Force
    - For food supply in the public sector: Department for Health and Social Care*; Department for Education*; MoJ*; and MOD*
    - For vulnerable groups: HM Treasury*; Department for Work and Pensions*; Ministry of Housing, Communities and Local Government*; and the Office for Civil Society in the Department for Digital, Culture, Media and Sport*
    - For the hospitality Sector: the BEIS

- The Scottish Government, Welsh Government and Northern Ireland Executive.

(*: The other government departments that formed part of the Operation Yellowhammer contingency planning are marked with an asterisk.)[314]

324. Some examples of Defra working with other organisations in the public and scientific sectors are provided under the heading "Emergency plans and responses", below.[315]

*Working with industry*

325. The food industry itself has the capability, influence and expertise to respond to food supply disruption. Defra's role, working with other government departments, is to support an industry-led response, taking action where appropriate to enable the supply chain to respond effectively to periods of significant disruption. Such action might include working with other government departments to put in place appropriate easements (e.g. to labelling or drivers' hours regulations).[316]

326. Defra's participation in Operation Yellowhammer and D20 planning, along with the Covid-19 response, have strengthened its relationships with industry and its understanding of how to collaborate effectively during periods of disruption. Defra has also developed a better understanding of the limited levers that are held within government and how these may complement industry's response.[317]

327. For instance, engagement between government and the food industry has taken place through a number of forums. Examples of those established prior to 2020 include:
    - The Food Chain Emergency Liaison Group ("FCELG") was set up around 2010 and facilitated information sharing between government and industry trade associations. This group provided a forum for Defra and industry to discuss risk and contingency planning, in line with CNI workstreams. FCELG would meet more frequently as required during incidents affecting food supply.[2]

[2] During periods of supply disruption associated with the Covid-19 pandemic, FCELG was replaced by the Food Resilience Industry Forum ("FRIF"), which comprised a wider membership than FCELG. FCELG was reinstated in 2021 and rebranded as the Food Supply Resilience Planning Group. This group has not met since 2021, as the FRIF has continued to meet as the need has arisen.

- The Food 4 ("F4") was set up in 2018 to manage the impacts of EU Exit. It comprises the British Retail Consortium, Food and Drink Federation, National Farmers Union, and UK Hospitality. F4 facilitates open and candid two-way conversations between industry and government and has been used by Defra to test early policy thinking and planning assumptions relating, for example, to shifts in EU Exit scenarios and to test inadvertent impacts of Defra policy on aspects of the food chain.
- Farming sector and trade "roundtables" were established in 2017 to discuss issues arising from EU Exit and the UK's new international trading arrangements. Specific groups were established to consider market monitoring, arable, horticulture and livestock.
- The Retailer Forum provides the opportunity for Defra to have regular contact with lead organisations in the food retail sector, with the aim of working in partnership to make industry aware of government policy, engage early on policy development opportunities and receive industry views on issues affecting the sector. The Retailer Forum meets on a monthly basis; however, if a particular issue arises there may be more frequent, ad-hoc meetings during certain periods. Meetings are chaired by the Defra's Deputy Director for Food Supply and Resilience. Membership of the Retailer Forum is drawn from the leading UK supermarkets, the British Retail Consortium and the Association of Convenience Stores. Government is represented by Defra's senior team in food policy and the DAs are also represented.[318]

328. Defra's contingency planning work with industry to identify and mitigate food supply risks has included:
    - Stakeholder engagement to inform contingency planning by the food industry to ensure that it was able to respond to any disruption to food supply resulting from identified risks.
    - Working closely with the food sector to ensure that the food supply chain can adopt measures to mitigate the spread of communicable diseases and inputting into cross-government work to ensure that mitigation measures do not have a negative impact on overall food supply.
    - Assessing business readiness across the sector.
    - Supporting LGDs to develop contingency plans to ensure the resilience of food supply in the public sector (for example, in schools, hospitals, social care

settings, the military and prisons), and to encourage departments to have plans in place to accommodate potential supplier price rises. This involved communication and collaboration by Defra with public sector food providers, but the work was largely led by the LGDs for each sector.

- Working across government, and in particular with DWP, to consider the cumulative impact of food supply issues on low-income groups, and potential mitigations.
- Developing a communications strategy, informed by experience from the response to Covid-19 and consumer behaviour research. This relied on close engagement with the industry, who act as "trusted voices" in communication with the public on food supply disruption.
- Exploring how economic shocks could impact food supply (for example, among key public sector food suppliers) to inform the Government's response, and working with HM Treasury on addressing economic fragility caused by Covid-19 across the UK supply chain.
- Working proactively across Government to mitigate concurrent risks, such as seasonal flu, severe weather impacts and animal disease.[320]

*Risk assessment, forecasting and management; horizon scanning*

329. As part of the contingency planning carried out for Operation Yellowhammer, Defra carried out an extensive assessment of the risks to food supply. The assessment of these risks remains largely the same today, but Defra has since been able to build on that work and develop its approach to monitoring and taking action in response to these risks.[321]

330. The D20 contingency planning set in place a robust system to monitor and assess the ongoing and future risks to UK food supply. Risk assessment was, and continues to be, based on intelligence obtained from working closely with the food industry, and through data gathered via monitoring and engagement with Defra's Policy Response Unit ("PRU"), its CBRN Emergencies team and other government departments. Processes and structures have been established to feed information into the DOCs acting as a central coordination point, to ensure that Defra can contribute to the cross-government emergency response. In the main, the function of these teams was to develop an accurate assessment of impacts; act as a conduit

between Government and industry; liaise effectively with the DAs; and inform Government action/response.[322]

331. The D20 contingency planning was premised on what was considered to be a RWCS comprising the joint impacts of Covid-19, the UK's departure from the EU and other concurrent risks, such as winter flooding. This was owned by the CCS.[323]

332. In the D20 scenario, Defra assessed the RWCS from a food supply perspective. The following is a headline level summary of the assessment:

> *"Circumstances occurring concurrently at the end of the year will cause disruption to global and UK food supply chains. This will lead to a tightening of supply and an increase in demand for certain agri-food products but will not cause an overall food shortage. The effect of this disruption is likely to be reduced supply availability, especially of certain fresh products; reduced supply of some critical dependencies for the food supply chain (e.g. key ingredients, chemicals and packaging); and an increase in food prices, which would have the greatest impact on economically vulnerable groups. The Government will not be able to fully anticipate or mitigate all potential impacts to the agri-food supply chain."*[324]

333. As regards risk monitoring, risks to the food supply chain are monitored by the AFC Portfolio Management Office, using a risk and issue management framework that aligns to the Defra Integrated Assurance and Approvals Strategy. The risk framework is updated frequently by liaising with associated risk owners to assess and monitor the risk's RAG ("Red – Amber – Green") status, the current mitigations, the understanding of whether the risk is improving or worsening and the impact of the risk.[325]

334. To provide assurance and oversight, portfolio level risks are shared with senior leaders. A quarterly risk register is shared with the FBT team (formerly known as Food, Farming and Biosecurity, or "FFaB") that shares the high-level risks affecting AFC achieving its objectives, including maintaining a stable food supply chain.[326]

335. There is also a high-level overview of the portfolio RAIDD ("Risks Assumptions, Issues, Dependencies, Decisions") log shared with the AFC Portfolio Board each month, with new or worsening risks highlighted and an explanation provided of the risk and mitigations. This governance route also provides opportunity for decisions to be made about highlighted risks.[327]

336. Risks that go beyond the tolerance of the AFC directorate can be escalated up for awareness and/or decisions to the FBT team or ExCo. If the risk is considered to cut across directorates it can go onto the FBT risk register, or the ExCo risk register, which is then reviewed by the relevant board.[328]

337. A decision to trigger and deploy a mitigation to an identified risk is informed by information from all available sources and would be done on a case-by-case basis. For example, the data collated is often used as the intelligence for planning for specific scenarios e.g. producing a monthly food supply dashboard to track specific food item availability for Christmas.[329]

*Emergency plans and responses*

SSRP

338. Defra completes an annual Food SSRP to report the vulnerabilities and risks facing the sector to ministers. SSRPs have become an established part of the Government's approach to resilience and are used to inform an annual review of resilience. Departmental commitments are tracked at meetings of the Infrastructure Resilience Sector Working Group ("IRSWG"), the Cabinet Office forum established to manage resilience work cross-Government.[330]

339. The Food SSRP (summarised in the Public Summary of Sector Security Resilience Plans published by the Cabinet Office in 2018 at page 17 [**TF/104/INQ000101484**]) considers potential threats to the food sector and threats in other sectors which may have knock-on implications to the food sector. It considers those risks which could have the largest impact on the food sector, which in the past have included cyber security, disruption to energy supply, EU Exit, and pandemic influenza. In preparing

the Food SSRP, account is also taken of recent incidents of disruption and the lessons learnt from them.[331]

Security of Food Supply Research

340. Defra has managed a varied research portfolio during the period covered by this statement, to support the strengthening of food supply chains and its civil emergency response capability. The portfolio is a blend of research projects/activities directly commissioned by Defra to address specific evidence needs and collaborative multi-partner research programmes. In the period covered by this statement, Defra engaged with leading academics and research institutions to deliver 20 activities addressing a range of food security-related issues, investing approximately £1.2 million, grouped under four broad themes: climate change and weather, food chain infrastructure, food pricing and consumer attitudes, and food supply security.[332]

341. The research portfolio included two pieces of work in collaboration with the FSA: to update on the British Standards Institutes's 'PAS [Publically Available Specification] 96' Guide to Protecting and Defending Food and Drink from Deliberate Attack and the development of a Horizon Scan product (in 2020) into potential food authenticity risks arising from Covid-19 disruptions.[333]

342. Defra has a partnership with the Met Office's Hadley Centre, which provides climate modelling services to government. Defra provided funds to the centre to apply its research, forecasting and modelling capabilities to some of Defra's policy priorities, including productivity and climate resilience; climate-related wheat yield shocks and variability (in order to provide a basis for identifying and interpreting the climate influence on wheat production and contributing to a national-scale food security risk assessment); understanding climate impacts on grain quality; and large-scale climate drivers.[334]

343. Defra has also established Genetic Improvement Networks on wheat, oilseed rape, pulses and vegetable crops with the aim of improving these main UK crops by identifying genetic traits to improve their productivity, sustainability, resilience and nutritional quality. Working through these networks, Defra has identified genetic traits that have improved resilience to climate change and common pests and

diseases, and is working with breeders to incorporate these traits into elite UK crop varieties.[335]

344. To counter the heightened risk of food fraud when supply chains are disrupted, Defra has a long-established Food Authenticity research programme developing analytical methods to support food law enforcement and industry to protect consumers from food fraud. The programme supports delivery of the government response to the Elliott Review of 2014 by supporting a resilient network of food analytical laboratories.[336]

345. Defra has also provided financial support to the Food Authenticity Network ("FAN"), established in 2015 by the Laboratory of the Government Chemist ("LGC") to provide a source of food authenticity methods and food fraud mitigation information. During 2020, Defra designed and developed an exercise to stress test the response of the Centres in the event of a major food fraud incident.[337]

346. In 2017, working with the LGC, the FSA and Food Standards Scotland ("FSS"), Defra supported and provided funding for the establishment of the Joint Knowledge Transfer programme. The programme is a strategic suite of scientific knowledge transfer activities to develop UK analytical laboratory capability in food testing. The programme upskills laboratories on new detection methodologies, and provides tools and know-how in their application. Defra has also worked with FSA and FSS to align sampling, surveillance and research activities through the FSA's coordinated sampling programme established in 2019. As part of this sampling activity, in 2019 Defra undertook a specific survey of processed white fish and meat products to check for species not declared on the label.[338]

347. Defra has developed national and international partnerships over the period covered by this statement to deliver food security research. Defra has been an active member of the UK Research and Innovation-led Global Food Security programme, a forum that coordinates Agri-Food research and innovation activities across major public sector funders. Working internationally, Defra funds the UK co-chair of the Codex working group established to draft specific guidance on food fraud. This guidance will improve risk management activities and the exchange of information between competent authorities and other relevant government agencies related to

the prevention of food fraud. Between 2014 and 2018, Defra also contributed over £120,000 to the Food Integrity project, an EU Commission funded five-year interdisciplinary project on food fraud. The initiative comprised over 60 partner organisations from Europe, South America and China, and delivered new networks and improved tools, methods and systems for addressing food fraud.[339]

348. Over the period 2018-2019, the AFC Food Chain Analysis Team ("FCAT") spent the majority of its time working on developing, collating and analysing evidence relating to supply chain shocks, such as temporary disruption to individual commodities. Most of this work was carried out in-house. This work became relevant in 2020 and helped to inform Defra's response to the Covid-19 pandemic.[340]

349. Examples of the work undertaken include:
    - FO0454 East Coast Ports and Food supply: this work was originally carried out in 2015 to model a tidal surge scenario. A subset of this work allocating food and drink trade to UK ports was recommissioned and completed in early 2020, and further developed in two stages over 2020.
    - Food Chain Site Surveys – this work involved developing a dataset of food chain site location data, with information on flows of products through manufacturing sites, and also information on business continuity arrangements in place. This was collected for CNI emergency preparedness. The dataset was updated every two years and last completed in 2018.
    - Defra worked with Campden Brewing Research International from August 2019 to winter 2020 on a multi-phase project to model and assess the vulnerability of critical dependencies to supply chain disruption. The focus was on assessing the consequences of a "No deal" EU Exit and subsequently the impacts of the end of the transition period.[341]

350. Examples of some of the relevant data gathering activities and products that have been carried out in FCAT include:
    - Retailer supply chain data – agreement was reached with the major supermarkets during 2019 to provide regular data on supply chain performance and product availability in the event of disruption resulting from the UK leaving the EU. The agreement was activated in March 2020 when it was clear that Covid-19 was resulting in significant supply chain disruption and no other real

time data sources were available. Data was collected for nearly 2 years and became the key quantitative metric in Defra and Cabinet Office Situation Centre monitoring.

- 'Yellowhammer dashboard' – an interactive tool was developed to collate a wide range of public and open data relating to the supply chain, including but not limited to retail prices, shipping movements, Dover port delays and strategic road network delays.
- Economic shocks dashboard – an interactive tool was developed to collate indicators relating to major food businesses and the wider economy, including but not limited to share prices, Producer Price Inflation and market intelligence data and more.
- Scenario Tool Exeter Food Inflation ("STEFI") food price model – an established model that is used to analyse potential price impacts of market shocks.
- Social research work on the drivers of consumer purchasing and empirical evidence on consumer purchasing patterns in times of disruption.
- Agricultural labour market analysis.
- Analysis of influence of imported goods on UK food supplies and overall food security.
- Development of industry contacts/relationships/data collection that enabled Defra to gather evidence supply chain risks/impacts during the Covid-19 pandemic.[342]

*Preparations for a "No deal" EU Exit*

351. Planning formed part of the thorough preparations made by Defra for EU Exit (including in a potential "No deal" scenario under Operation Yellowhammer). These plans were used as the template for Defra's response to the Covid-19 pandemic and work was conducted to ensure lessons were taken forward to inform future responses.[343]

352. The D20 contingency planning exercise involved extensive mitigation and contingency planning work to consider Covid-19 impacts on international food supply chains and the knock-on impacts for the UK. When working to identify some mitigations, Defra worked with, and were dependent upon, other government

departments (such as BEIS, HMT, MHCLG, DfT, DHSC) to proactively address cross-cutting risks.[344]

353. Food supply was considered a 'tier one' policy area within Defra, meaning it was a critical policy area anticipating potentially significant impacts in a "No deal" scenario.[345]

354. In a "No deal" scenario, the objectives of the Food Supply team (a term which applies to the team which drafted the plan and to all the various AFC food supply teams that would be responding to this work) were:
    - Build an ongoing and robust assessment of impacts.
    - Provide a conduit between Government and industry, to share information and intelligence about risks and assumptions to enable contingency planning and effective response.
    - Liaise and collaborate with other government departments and the DAs to enable contingency planning and to build situational awareness (which would also inform the assessment of impacts).
    - Ensure public communications are clear, consistent and factual (working through trusted partners, as necessary).
    - Provide ministerial support and advice on the government's response.
    - Activate 'hard levers' of action as a last resort option, in conjunction with other government departments, in the unlikely event they become necessary.[346]

355. The Diagram 3, provided at Annex 2 page 131, sets out the functions and key activities Defra planned to deliver to meet its objectives. These are explained more fully in the next section.[347]

*Examples of plans, simulations and exercises*

356. The timeline below highlights some of the key civil emergency planning exercises undertaken by AFC during the period covered by this statement:
    - 2009: AFC participated in the preparations for the Mexican Swine Flu pandemic, coordinated by Institute of Grocery Distribution.
    - 2009: Defra published the UK Food Security Assessment, analysing the risks and challenges to UK food supplies and considering UK food security in a global

context. (The UK Food Security Assessment has been superseded by the UK Food Security Report, the first version of which was published in December 2021. The Food Security Report fulfils a duty imposed by the Agriculture Act 2020 to present a report to Parliament on food security at least once every three years.)

- 2010: Defra publishes updated Food Security Assessment, a summary of which has been provided as an exhibit [**TF/105/INQ000101427**]
- 2011: Severe winter weather snow and ice briefly isolated some remote communities. Notwithstanding the limited food supply impact, the AFC directorate's Food Science team commissioned a research project on food supply in remote communities – the Food Resilience Communities Project – from the Plunkett Foundation [**TF/106/INQ000101432**].
- 2012: Industrial action by fuel tanker drivers led to incidents of panic buying of fuel. Fuel shortages did not impact food supply, but the events led to organisations in industry keeping more 'bunkered' supplies of fuel.
- 2012-2014: the AFC Directorate's Food Science team commissioned the University of Warwick to undertake research into food supply energy dependency, see [**TF/107/INQ000116303**].
- 2012-2015: the AFC directorate's Food Science team commissioned research projects undertaken by Peter Baker of PRB Associates Ltd and Andrew Morgan Global 78 Ltd into the dependency of food supply on seaports. The outcomes of this research (a final report and series of annexes published in September 2012 were revisited extensively in 2019 for Operation Yellowhammer [**TF/108/INQ000101437**).
- 2015-2016: Significant ferry disruption caused by industrial action by French trade unions, exacerbated by significant numbers of migrants seeking to cross into the UK via the English Channel. There was no overall effect on food supply, but the incident went on to influence Defra's planning for anticipated border disruption following EU Exit.
- 2016: As part of Operation Cygnus (the pandemic influenza exercise which I refer to elsewhere at paragraph 197), Defra was asked to input information from the food industry on impacts of a range of employee absentee scenarios (e.g. what the impact of absentee rates would be on business). The exercise was led by DHSC and Cabinet Office.

- 2020: D20 contingency planning for the risks to UK food supply in the event of no agreement with the EU at the end of the transition period, along with the concurrent risks of a peak in COVID-19, bad weather and seasonal flu. These plans built on the contingency planning carried out for Operation Yellowhammer and continue to be considered the starting point for planning for any future food supply emergencies. They were developed as part of wider contingency planning efforts by the COBR Unit. Defra worked across government to inform a RWCS planning assumption.
- During the pandemic, AFC Directorate initiated processes, structures and systems which help us deal with food supply chain emergencies more efficiently and effectively. I describe lessons learnt from the pandemic in elsewhere in the statement.[348]

*How the directorate was ready and prepared in practice*

357. AFC's Covid-19 response structure was closely related to the Operation Yellowhammer C3 structures and contingency plans. The work undertaken for Operation Yellowhammer contributed significantly to Defra's ability to respond to Covid-19, due to the extensive engagement that had taken place with the industry that held the appropriate levers to respond to disruption of food supply. For example, provisions such as Competition Law easements and the provisions contained in the Coronavirus Act 2020 had been considered during Operation Yellowhammer planning, and AFC teams held the relevant relationships and understanding to apply these mitigations at pace.[349]

358. Similarly, Defra's approach to horizon scanning and risk monitoring at the outset of the Covid-19 pandemic was based on the blueprint set in place by Operation Yellowhammer and D20. Intelligence was obtained from a variety of sources to inform Defra's horizon scanning, including industry forums; "one to one" meetings with industry representatives, other government departments (for example BEIS and DfT), cross-government CNI engagement and coordination (led by the Cabinet Office), and the NATO Food and Agriculture Planning Group.[350]

**The importance of EU Exit for DEFRA's future preparedness and resilience**

## The importance of EU Exit for DEFRA's future preparedness and resilience

359. In this section of the statement, I describe the measures taken by Defra specifically in anticipation of the UK's exit from the EU. Preparing for the UK's exit from the EU, given the extensive repatriation of powers from the EU, led to significant changes in Defra responsibilities and how it organised itself.[351]

360. This work had a material benefit for Defra ahead of the pandemic in 2020 as Defra needed to develop a much broader ability across the whole of Defra Group to respond to civil emergencies in the event that there was either, a 'No deal' exit or that significant disruption was faced by Defra sectors after the end of the Transition Period.[352]

361. As set out earlier in the statement Defra has always maintained a capability to respond to emergency events, such as flooding and outbreaks of animal disease. A "3Cs" structure ("Command - Control - Coordination") was in place and, as I mentioned above at paragraph 31, Secretary of State (together with the EA) is designated a "category 1" responder under the terms of the CCA 2004.[353]

362. This capability was mainly underpinned by the development of policy-specific plans that operated independently of one another. The decision to leave the EU led to a significant increase in the pace of evolution of Defra's emergency response capability. It was necessary that Defra develop a structure that was capable of dealing not only with isolated events, but also providing a coherent response to a series of challenges cutting across all of Defra's policy areas.[354]

363. Defra began to frame its response to the UK's exit from the EU in the weeks immediately following the EU referendum result in June 2016. For Defra, the implications of the UK's exit from the EU were significant. The UK's membership of, and relationship with, the EU had a bearing on about 80% of the department's work. About 25% of all EU legislation touched on policy areas that fell within Defra's responsibilities. The UK's exit from the EU was therefore treated as a huge administrative task which carried significant risks. Risks centred on the potential for creating significant uncertainty for businesses, challenges/opportunities arising from the possible divergence of UK and EU law after EU Exit, and the potential for knock-

on effects on matters such as imports and exports of food being held up at the border.[355]

*Defra's EU Exit Programme*

364. At the time, I was Director General for Defra's Europe, International and Constitution Group. I was responsible for driving the EU Exit delivery agenda and priorities within Defra, and in that role participated in the work going on across Whitehall.[356]

365. Defra established the EU Exit Delivery Group to coordinate its EU exit arrangements. The group had overall responsibility for Defra's EU Exit Programme and was charged with using its connections, expertise and insight to set direction and generate the best outcomes possible for the environment, food and farming, and rural communities. An organogram illustrating the structure of the EU Exit Delivery Group and its key personnel is provided at Diagram 2, Annex 2 page 130.[357]

366. Given the scale of the challenge to repatriate powers and functions from the EU, Defra established an EU Exit Programme office to drive the work programme forward including capturing a log of activities that needed to be addressed. A Risks, Assumptions, Issues and Dependencies ("RAID") Management Strategy was devised in June 2018 to support Defra staff to implement a successful RAID management approach within this portfolio area [**TF/109/INQ000116356**].[358]

367. To support Defra to deliver our EU Exit programme of work, Defra was able to second 200 civil servants from the Department for Education (and some other departments) through a "buddy" system set up to support departments with the biggest Brexit workloads. These staff were used to support Defra's policy teams and EOCs.[359]

368. A portfolio of 95 workstreams relating to policy areas affected by EU exit was identified. These were divided into categories as follows (with some projects covered by more than one category):

- 36 for delivery of legislative outcomes (these outcomes varied in scope and scale, from rewording existing EU guidance to establishing new domestic regulatory regimes).
- 28 for delivery of borders-related outcomes.
- 14 for IT services.
- 17 for delivery of other outcomes beyond these categories.[360]

369. The delivery of borders-related outcomes were crucial due to the high number of goods falling within Defra's overall responsibility regularly moving across the border. Many of these goods are controlled by sanitary and phytosanitary certificates, import licences or other restrictions which require enforcement at the border. In order to achieve borders-related outcomes, Defra worked alongside other UK government departments including HM Revenue & Customs, the Home Office, the DfT, the Border and Protocol Delivery Group ("BPDG") and Transition Task Force ("TTF"), with the latter two bodies being situated within the Cabinet Office.[361]

370. A number of high priority projects were identified internally. A chart illustrating the EU Exit projects and workstreams is provided at Diagram 7, Annex 2 page 136.[362]

371. Defra's then Permanent Secretary made the decision that separate arrangements were needed for EU Exit preparations in the event of a potential "No deal" outcome on 12 April (and then 31 October) 2019. Defra had carried out some analysis of the impact of a "No deal" EU Exit on rural areas and the rural economy, as illustrated by the document at [**TF/110/INQ000116348**].[363]

372. Defra developed an "Emergency Operating Model" ("EOM") to coordinate Defra's overall response to the acute impacts that might occur as a result of a "No deal" EU Exit. It was a key part of the wider cross-government structures and processes put in place and led by the Cabinet Office's CCS to support Operation Yellowhammer. Defra launched a recruitment campaign to recruit and train enough people to provide cover, for the first time, for emergency responses 7 days per week (on a shift basis).[364]

373. The EOM identified a number of "reasonable worst-case scenarios" of a "No deal" EU Exit, which included:
    - Risks of fresh food shortages.

- Issues with the movement of chemicals for water purification.
- Shortages of veterinary medicines.
- Clashes at sea and/or blockades (e.g. due to incursions by EU fleets into UK waters).
- Regulatory and financial barriers to UK fishermen and farmers trading in Europe.[365]

374. The direct consequence of this work saw Defra establish the EU Exit Emergency Centre ("EUXEC"), supported by Enhanced Policy Liaison units which we located in each of Defra's main directorates – and were staffed by those directorates. In an EU exit emergency, together with individual policy directorates, other ALBs in the Defra Group and other organisations with cross-cutting functions, also stood ready to:
    - Maintain and manage information relating to incidents.
    - Maintain situational awareness.
    - Provide regular reporting ("SitReps").
    - Provide briefing, including for ministerial meetings such as the Small Ministerial Group.[366]

*Operation Yellowhammer*

375. To test out the new emergency structures, Defra undertook internal Defra group exercises, which included the Secretary of State, to test readiness and capability of the EOM as well as taking part in a full "cross-Whitehall" exercise, called "Yellow Rehearse" which took place the week commencing 7 October 2019. Yellow Rehearse was a cross-government exercise which took place over a 48-hour period. It simulated information flows in the event of major disruption at the border and other impacts of EU Exit.[367]

376. Operation Yellowhammer was the cross-government civil contingency plan for a "No deal" EU Exit. It operated under the "C3" structure described above. Government departments led on issues in their sphere of responsibility, with issues that could not be managed by a single department being escalated to COBR.[368]

377. The impact of Operation Yellow Hammer on individual policy areas is set out in the relevant sections above (see VMD at paragraph 154, Floods at paragraph 302 , Food Supply at paragraph 329 and AFC at paragraph 364).

*Governance Structures*

378. Defra's DOC aligned and engaged with the cross-government structures. The Defra ConOps was built on the cross-government Command, Control and Coordination ("C3 ConOps") and set out high level arrangements and ways of working within Defra through the potential winter emergency scenarios. The overall aim was to ensure a coherent and effective response across a multi-faceted, fast-paced emergency situation. The Diagram 4, provided at Annex 2 page 133, illustrates how EUXEC was positioned in the department's emergency response structure.[369]

379. A ConOps at (describing the high-level arrangements for how the EUXEC would operate) was prepared ahead of an anticipated April 2019 "No deal" exit, and was revised to ensure lessons were captured, and processes improved ahead of the next anticipated "No deal" exit scenario in October 2019 [**TF/111/INQ000116382**].[370]

380. As a consequence of the extended period of planning and preparations to deliver the changes that were required to deliver a successful exit from the EU, Defra (both in a no-deal and deal exit) had reached a position where there had been detailed consideration of both the issues that could be faced during an all systems event or a pandemic as well as how Defra and the impacted Industry could work closely together to resolve a wide range of issues. Defra had also taken on a significant number of additional staff to deal with the workload which provided additional resilience.[371]

**Planning for Future Pandemics**

381. In this final section, I will summarise the evolution of Defra's emergency response, describe the reviews undertaken to develop lessons learnt exercises which Defra undertook into the department's response to the Covid-19 pandemic, and set out measures that the department has taken so far to improve its state of readiness in preparation for future pandemic / all system emergencies. I will also flag some additional plans and activities that have begun which will further develop Defra's state of readiness.[372]

382. I will end with some short reflections on the department's response to the Covid-19 pandemic and the contribution it made. I do not include material that explores in depth the department's policy response to Covid-19; this could be covered in a submission to module 2 of the Covid-19 Inquiry, in the event this was requested. I will reference key events and recognise the learning from those events and that this is being incorporated into current plans.[373]

383. Firstly, in the preceding sections of this witness statement I will show that during the period from 2009 to 2020, Defra has evolved its emergency and preparedness response function in response to a number of significant emergency and administrative events. The experience gained by the department in participating in the emergency response to those events and undertaking 'lessons learned' exercises have been invaluable and have informed improvements in how the department operates and adapts to deal with planning, preparedness and readiness. Improvements to Defra Group continue to date and the overarching governance, scientific oversight and specialist functions / policy areas working to review and manage the key risks will have been noted.[374]

384. This evolution continues to date and has been driven in part by the pandemic, but also by other events that have had consequences for the sectors for which Defra has responsibilities for.[375]

385. As I have described, at the start of the pandemic we put in place some new arrangements which took advantage of Defra's existing experience in risk management and crisis response, to provide the department with the ability to rapidly scale the departmental response to meet the challenges Covid-19 brought. This approach meant that Defra did not draw down and degrade the long-standing functions which exist to support the management and response to APHW, Floods, and CBRN-related incidents.[376]

386. Defra has undertaken a number of lessons learned reviews concerning how we responded to, and coordinated our response. I will describe the key points in due course.[377]

*The evolution of Defra's risk management and response capabilities in the period post 2020*

387. The EOC which Defra had set up to respond to floods caused by Storms Ciara, Dennis and Jorge provided an initial resource of staff and expertise in order to rapidly establish a free standing Covid-19 EOC. This EOC operated 7-days a week from March 2020 to July 2020 and coordinated the department-wide response to the pandemic. To increase this core function the department also drew upon the structures and experience that had been obtained through planning for EU Exit emergencies, which allowed us to introduce a department-wide network of cells to support the Covid-19 response, all reporting into the central EOC.[378]

388. The EOC could also call on specialist grant-making, outsourcing and procurement internal resources via the Defra Group Commercial ("DGC") and the Commercial Law Group ("CLG") (part of the Government Legal Department ("GLD")), as new contracts were put in place for Defra in preparing for EU Exit. Members of CLG and wider GLD are able to draw on cross-government legal expertise and knowledge.[378A]

389. During 2020, Defra developed a new, centralised response function for emergencies. Defra determined that converting the 'temporary' Covid-19 structure, created at the start of the pandemic, would provide additional benefits and prevent the degradation of the long-standing core functions which had been leveraged at the start of the pandemic. It was also important to make that separation as the impacts of the pandemic became clearer.[379]

390. Therefore, in the summer of 2020, a decision was taken that saw the Covid-19 EOC evolve into the CPU. This was a permanent team responsible for the ongoing coordination of Defra's response to the Covid-19 pandemic.[380]

391. In response to subsequent, concurrent events requiring emergency response from summer 2020 onwards (for example, the disruption to supply chains), Defra established a "winter response directorate" which incorporated the CPU alongside another team responsible for managing the impacts of transitioning out of the EU at

the end of 2020. These two teams have since been transitioned into a permanent resilience function for the department which is known as the PRU.[381]

392. This team is responsible for managing multiple issues that impact across Defra's sectors but where Defra is not the LGD. The PRU regularly engages with policy teams within Defra and those in other government departments to manage these issues, providing a central coordinating function. Bespoke capabilities, such as APHW, flooding and CBRN response, remain elsewhere within the department.[382]

393. Subsequent to the events described above, there have been a series of additional challenges that have presented Defra and Defra Group. For example, the invasion of Ukraine has directly contributed to a number of challenging issues such as inflationary pressures, impacts of energy costs on businesses and knock-on consequences on supply chains (caused, for example, by the decision to reduce the production of a particular product which impacts on the market and supply chain for derivative by-products). PRU has coordinated the departmental response.[383]

*Lessons learned*

394. In the summer of 2020, Defra undertook lessons learned exercises to review the events of the pandemic. Input was sought from across the department which informed a set of recommendations, the aim being to enhance the department's capability to respond to changing events, both singular in nature and wider [**TF/112/INQ000116378**]. This provided an opportunity to obtain critical reflections.[384]

395. In summary, the headline conclusions were; the Department had organised and set itself up well at the start of the pandemic; working well at all levels of the organisation; delivering value added outcomes; and stakeholders were positive about the collaboration and communications from Defra. The report also recognised that improvements needed to be made. This included how Defra resources its emergency arrangements including redeploying staff, use of specialist functions, monitoring priorities and taking decisions on what to deprioritise. A set of recommendations was developed, and owners allocated.[385]

396. A second period of reflection took place in in early 2021 [**TF/113/INQ000116363**]. Key learning items were gathered from across the department to develop another assessment of how the response to the Covid-19 pandemic had evolved and which lessons could be taken forward and incorporated into the Department's working in the future to improve planning, preparedness and readiness.[386]

397. In addition to the earlier points identified during the 2020 exercise, additional learning included the need to revisit how Defra commences, and sustains, policy responses over a prolonged period, a need to revisit how to surge resources during emergencies including onboarding and improving horizon scanning. This exercise also considered how other government departments were structured to deliver centralised functions.[387]

398. In addition to these central lessons learned exercises, Defra's DG groups undertook their own 'lessons learned' review exercises, I will now describe the most relevant.[387A]

*Additional lessons learned exercises*

399. In this section I describe learning from the policy teams within Defra who were involved in responding to the pandemic (or issues for which Defra is the LGD) and some of the broader steps being taken which will aid Defra to respond in the event of further pandemics or all systems events.[388]

<u>APHW</u>

400. During the pandemic, APHA initiated programmes to further understand the risk of coronavirus transmission to other animal hosts and established testing capabilities to allow for critical case management decisions on behalf of Defra. Defra has subsequently supported a successful case for an additional £1.4 billion long term investment in a new Science Capability in Animal Health programme at APHA Weybridge, protect against future zoonotic disease outbreaks, provide additional capabilities and bolster our role in fighting current and emerging animal and plant health diseases.[389]

401. In addition, Defra has continued to seek opportunities to identify partners with whom to conduct research into zoonoses. This includes a new global coronavirus research and innovation network which has been launched in 2021 to bring together researchers from animal and human coronavirus communities. The network has been funded by the Biotechnology and Biological Sciences Research Council and Defra. The network is to enhance our knowledge of this important virus family to inform preparedness and response strategies for future outbreaks.[391]

402. The UK International Coronavirus Network ("UK-ICN"), with £500,000 funding over four years, will provide and support global coordination for the delivery of collaborative scientific research and a sustained long term One Health approach. This is to enhance investigation and understanding of coronaviruses.[392]

Floods and Water Directorate

Wastewater Testing – Scientific developments

403. From May 2020, Defra supported DHSC and the UKHSA with the delivery of the Covid-19 wastewater monitoring programme. As the programme was operationalised, Defra commissioned the EA and CEFAS to establish the capabilities to support the national rollout of the monitoring. This included sample transportation, laboratory analysis and data processing.[393]

404. Since Wastewater monitoring is in its relative infancy though as a surveillance tool, Defra's CSA is directing to Defra utilise the skills and capabilities it developed through the Programme to progress research in this important area so its utility can be considered for future pandemic response situations. Defra is a partner in the FSA-led PATH-SAFE programme and is delivering projects exploring the utility of wastewater monitoring for food-borne pathogens and AMR. Furthermore, Defra is investigating other uses for the capabilities developed for wastewater monitoring, for example the use of pollution source tracking techniques for improved water quality management.[394]

405. These projects enable Defra to maintain the skills, capabilities and facilities needed to be able to respond to another national pandemic response through the application

of wastewater (or other environmental) monitoring. Defra also continues to collaborate with the UKHSA to ensure the continued development of this monitoring capability is relevant.[395]

AFC Directorate

406. Defra was responsible for Food Supply, which was a critical challenge during the pandemic. The AFC Directorate (the policy area that leads on Food Supply within Defra) undertook a number of informal "lessons learned" exercises, gathering feedback from staff in the Directorate, during the course of the Covid-19 pandemic. The headline findings of those exercises are summarised as follows with further detail provided in subsequent paragraphs describing how lessons are being implemented:

- **Working with others – engaging with industry:** feedback from industry has demonstrated it expected clear and joined up Government communications with messaging reflecting the experience of the consumer, to ensure relevance of messaging to any given scenario, and for messaging to be adaptive.
- **Commissions:** commissions (the term used by Defra to apply to requests for action or information) were on occasion unclear and lacked clarity, and there was an unclear division of responsibility between Defra teams for communication lines. It was felt that commissioning would have been clearer if templates were used.
- **Resourcing**: staff were not redeployed quickly enough into some policy areas, which led to slower response times for commissions. There were instances of "siloed" working and unclear responsibilities, which made it difficult to develop policy responses rapidly without duplication.
- **Processes and structure – consumer behaviour**: research on stockpiling and panic buying has shown that communications aimed at reducing these adverse behaviours have instead the potential to provoke them, thus exacerbating the issue. Research carried out by Defra's behavioural insights team shows that the Government voice can often be least trusted by consumers [**TF/114/INQ000116366**][**TF/115/INQ000116361**]. Research also showed consumers can respond more positively to trusted industry voices providing reassurances that food supply is secure. Defra is expanding its understanding

of consumer behaviour as a risk/impact, working across government to inform future risk planning and updated contingency plans.[396]

*The Value of Effective Relationships with Industry*

407. The work undertaken by Defra in the field of food supply ahead of the Covid-19 pandemic is founded on the view that the most effective response to food supply disruption will be industry-led. The reasoning was that the knowledge, capability, levers and expertise to mitigate supply chain disruption lie primarily with the food industry. An important lesson learned is that Government needs to support and enable that response and focus its work on minimising disruption to the industry-led responses, for example removing to contingent issues such as movement across borders and food transport.[397]

408. Defra relied on having a collaborative relationship with the industry in order to effectively respond to Covid-19 and deal with the challenges faced. In particular, Defra relied on information from industry which allowed it in turn to develop an overall assessment of the implications of the pandemic "on the ground". This overall assessment, bringing intelligence together from all sources, then informed the industry response as well as a proportionate and effective cross-government response.[398]

409. At the start of the pandemic the AFC Directorate had a number of well-established industry forums, and used the relationships with forum members to assess the impacts of the pandemic on food supply chains. This relationship provided real time intelligence on the impacts and risks posed to food supplies. The scale of the response to the pandemic meant that Defra learnt rapidly the pre-existing arrangements needed to be modified for the purposes of the pandemic. The process of evolution therefore began immediately.[399]

410. In March 2020, the FRIF was established by AFC to complement existing forums. FRIF's aim was to triage immediate food supply issues and focus the resources of the industry on their resolution and to plan ahead in order to anticipate further pinch points. The FRIF membership was drawn from operational executives from major food and drink companies and trade associations spanning the food supply chain

"from farm to fork". FRIF met via tele-call on a regular basis, up to 3 times per week.[400]

411. The FRIF membership worked in partnership with government on actions, regulatory easements and mitigations to maintain the resilience of the supply chain. This included dealing with aspects of consumer behaviour leading to empty shelves (such as panic buying) and shifts in demand away from hospitality to food retail see paragraph 406.[401]

412. FRIF was a valuable tool to identify live issues, develop solutions and communicate actions to prevent and resolve threats to food supply. FRIF has been retained and is included in Defra's ongoing arrangements. It has been used, for example in dealing with challenges to food supply caused by the war in Ukraine, workforce, energy and inflationary pressures.[402]

413. In addition to the overarching group a number of FRIF "Task and Finish Groups" or sub-groups were convened as needed in response to specific issues. These groups brought together specialist industry and government representatives and were able to be immediately responsive to the issues/risks as they developed. In much the same way that the overarching Group had value which we, and stakeholders, wished to continue to exploit, Defra has embedded the use of these tasks and finish groups, in response to issues such as the energy crisis.[403]

414. Another forum, the Manufacturing Roundtable, developed in March 2020, was created to support engagement between Defra, Secretary of State and the industry. This was continued from January 2021 to further strengthen the relationships with the sector and monitor industry priorities, through the Covid-19 pandemic. Complimenting this, Defra introduced monthly bilateral meetings with Strategic Relationship Management ("SRM") accounts (representing the major food and drink manufacturers), and other key stakeholders on a quarterly basis to maintain close links and channels. These forums now operate on a monthly basis and are invaluable in gathering data-specific evidence that stakeholders are uncomfortable providing in an environment with their competitors. Forums are chaired by more

junior officials except once a quarter when, subject to diaries, the Minister for Food chairs the meeting.[404]

*Cross Government Working to support the Food Chain – Lessons learned*

415. Another lesson from the pandemic is the importance of close co-operation across Government Departments to enable a more effective response. For example, a Defra-led cross-government task force (together with representatives from PHE, FSA, HSE and DHSC) met regularly to respond to outbreaks in food and meat processing plants, and to identify mitigations to enable processing to continue. Defra worked with PHE and other agencies to ensure that it had robust evidence of the transmission factors and pathways on these sites to understand how to manage outbreaks, protect staff and maintain food supply. This learning and how we applied the evidence to the food processing sectors to enable continued production has been retained and can be rapidly revisited in the event of a future pandemic.[405]

416. Additionally, Defra worked closely with BEIS (who were the lead department for the hospitality sector) and with hospitality industry representatives, to understand how recovery for the sector was progressing after the sector reopened. There were also regular discussions among a group of leading hospitality figures (including Henry Dimbleby, the lead non-executive director on the Defra Board), convened by BEIS and HM Treasury and supported by Defra. Again, Defra has retained knowledge as to how we undertook to support those sectors for which we are responsible and would be able to revisit those materials in the event of a future issue.[406]

417. This collaborative working then led to June 2020, when Defra and the Department for International Trade (“DIT”) jointly announced a "bounce back” plan for the food and drink export sector, to help support businesses impacted by Covid-19. The package was developed in close collaboration between Defra and DIT and in consultation with the sector, listening and acting on the views of the food and drink sector and sharing our pooled knowledge and resources to make a difference in overseas markets. Again, this material and approach has been retained to enable us to make rapid progress in developing options in the event of a further pandemic or system wide event.[407]

418. We have also captured the learning from decisions which were made to help farmers and the wider food chain to ensure they had the support they needed due to changes in consumer purchasing patterns such as the switching to different products and the closure of hospitality. These lessons included recognising employees in the farming sector as key workers; understanding on how to temporarily relax the normal rules on drivers' hours, enabling the industry to keep supply chains running (including deliveries from the "farm gate" to processors); setting up the Response Funds, such as that for the Dairy Sector, to assist where key industries were struggling to take products to market; and working with the horticulture sector to develop a recovery plan.[408]

*Providing Food to the Vulnerable*

419. In April 2020, Defra established a temporary directorate (which operated for approximately 12 months) to oversee food support for the vulnerable. Teams designed and implemented Defra-led mitigations and worked with counterparts across Government to deliver them. In addition, a Ministerial Taskforce ("Food to the Vulnerable") was established in spring 2020 to respond to some of the initial challenges of Covid-19, for a limited time and with a defined remit.[409]

420. The Taskforce was instrumental in putting support in place for the most vulnerable. This including £212 million funding for packages to support individuals defined as "Clinically Extremely Vulnerable" ("CEV") and food boxes. I have not sought to describe in detail the full range of support given that is the focus of module 2 of the Covid-19 Inquiry.[410]

421. Having well-aligned and experienced commercial and commercial legal teams available to Defra via DGC and CLG, enabled Defra to implement programmes at speed to deliver practical support.[411]

422. DGC and CLG could build on a body of work pre-Covid-19 (see paragraph 388329 above). Understanding Defra's key sectors and markets and the capacity they had to deliver during Covid-19, for example, the switch of catering supply chains from schools and restaurants into food boxes for the extremely vulnerable.[412]

*Lessons learned*

423. In late 2020/ 2021 Defra received some early reports on its time-critical procuring and contracting capacity to meet the demands of Covid-19. These are set out in the findings of the Boardman review into pandemic procurement [**TF/116/INQ000116375**]. Some of the headlines are:
    - Defra's existing knowledge and access allowed for quick mobilisation in the case of food parcels (mobilising the private sector to help crisis response, page 23).
    - Working across different programmes to deliver the food parcel programme required strong governance, Defra's industry knowledge combined with close ministerial insight worked well; (Governance and Regulation, page 28).
    - A key recommendation that Government should have emergency models able to be quickly convened at short notice utilising the civil service and external experts, for future situations (recommendation 23, page 28).[412A]

424. The National Audit Office also produced a report titled "Protecting and supporting the CEV during lockdown"[**TF/117/INQ000116362**]. This specifically examined the decisions on how food supplies were provided to the vulnerable who were asked to shield. This report covers a range of topics including:
    - Choices made including the use of centrally directed programmes to support vulnerable people with food, led by Government departments, rather than locally driven approaches.
    - How Food Support Services were stood up including the identification of the wholesalers who could provide the required level of service.
    - Negotiation of a series of contracts at pace using emergency procedures including consideration of cost, key performance indicators and notice periods.
    - Engagement of the supermarket sector to increase the number of priority supermarket deliveries to CEV people.
    - Issues faced in delivering value for money - many CEV people who tried to deregister from food box deliveries continued to receive unwanted boxes at an estimated avoidable cost of £4.1 million.
    - Costs associated with the termination of contracts. Defra served a termination notice giving rise to contractual termination costs of £3.8 million, although this was negotiated down from a potential £6.9 million.[412B]

How these lessons were applied and implemented in 2nd Lockdown

425. Defra, and OGDs, actively considered the areas which were covered by the report, which were then applied to support those shielding during the second lockdown from 5 November to 2 December 2020. Therefore, in the second lockdown, local delivery mechanisms rather than food boxes, along with greater use of supermarket deliveries, was the chosen route for support.[412C]

426. This extensive programme of work was novel and hugely complex, Defra has captured how we were able to bring together many different groups, develop funding streams, use commercial and legal resources, and to ensure that essential food supplies could be delivered to those who needed support. In the event of a future pandemic we would draw on the blueprints that enabled these interventions.[413]

427. Additionally, to help prioritise deliveries to those most in need, Defra shared data with national food distributors identifying clinically vulnerable people. The data was shared under measures in the Data Protection Act 2018 – and GDPR – that allow the processing of sensitive private information when it is in the interest of public health. A learning point that arises is that in a national emergency such as the Covid-19 pandemic, having appropriate secure mechanism in place for sharing information between organisations is necessary. This can make a positive difference to protecting vulnerable individuals.[414]

*Steps taken at the outset of the pandemic to ensure Defra continued to function effectively*

428. At the outset of the Covid-19 Defra took a number of decisions to support the safety of staff by instigating, where appropriate, that staff should work from home, and took steps to enable the department to continue to function effectively in that model. An early decision was made – a week prior to official lockdown communications – instructing staff to work from home where it was practical to do so. The decision to send staff home exposed weaknesses in the Department's IT infrastructure, which had been designed with an office-based culture in mind. This led to challenges, notably our capability to facilitate group working across the internet. These challenges were overcome rapidly with the ability to work remotely significantly

enhanced. If staff were required to work from home again, there would be no technological barriers to being able to do so effectively immediately.[416]

429. Members of Defra Group were also able, in line with Government advice, to create the safe office environments which were essential to enabling the return of those who did not have a suitable home working environment into a Covid secure environment. A number of additional steps have been taken as knowledge of Covid-19 has developed, such as monitoring air flows to reduce risk of transmission.[417]

430. We have also put in place the necessary arrangements to support staff to operate in that changed environment.[418]

*Reflections on Defra's current state of preparedness*

431. Defra had a number of contingency plans in place ahead of the Covid-19 pandemic enabling it to address significant supply chain disruption across the critical sectors for which Defra is responsible, including food supply, water and waste and veterinary medicine. The Department also had a good understanding of emergency response protocols and structures, having planned the structures and ways of working that would need to be established to respond to a whole-system emergency as part of the Department's EU Exit no deal preparations in 2019 and subsequent participation in Operation Yellowhammer.[419]

432. As a result of those foundations, which were in place prior to the pandemic and the additional changes to Defra's emergency response function during the period described above, and undertaking a critical reflection, in my view the Department now has, in the form of the PRU, an enhanced capability to respond to significant whole system emergencies (including infectious diseases, epidemics and pandemics) which have an impact across all policy areas for which Defra is responsible. This is complementary to the Department's long-established capability to respond to particular animal and plant health and flooding and CBRN emergencies. The PRU leads for the department on contributing to the cross-government efforts to plan ahead for future pandemics.[420]

433. The PRU can be enhanced by reallocating resources within teams to manage priority issues; ensure that there is an effective understanding of the issue, promote good communications with the appropriate leaders and organisations; and provide a targeted policy response. The function is also backed by the support of a data analysis cell. That cell examines the available quantitative and qualitative information and uses that to provide regular reports setting out trends and how impact may manifest themselves.[421]

434. This team and those across Defra, also have access to an enhanced toolkit, enabling both individuals and teams to enhance their preparation for handling challenges associated with emergency or novel events. This material, referred to as the "Crisis Crate", is readily accessible to Defra Group and has been tested with external organisations including the Cabinet Office [**TF/118/INQ000116369**].[422]

435. In addition to these standing units and the ability to move resources effectively within the respective units, Defra strengthened its ability to respond to larger and more resource intensive challenges by improving its emergency reserves. Emergency reserves are volunteers who are located throughout the Department who have been trained in the approaches and processes necessary to manage a response. These pre-identified volunteers can be rapidly deployed, when necessary, into the teams responsible for managing emerging risks and issues. This approach has the added benefit of ensuring that the other teams across the Department who have standing responsibilities, and capabilities, for emergency management are not 'stripped' of their experts, which would lead to those functions being weakened should a parallel event occur. There is more to do to expand this capability.[423]

436. Defra recognises that work to improve planning, preparedness and resilience is organic. Defra continues to seek to improve its performance through the continued use of science, robust testing and taking forward the lessons from earlier events. This includes considering events which have happened outside Defra's areas of responsibilities to see whether there are elements which can improve Defra's resilience.[424]

437. Defra is also seeking to enhance its, and across Defra sectors, overall resilience to 'shock' events such as those experienced during the pandemic. This includes

participation in centrally driven initiatives, for example, Cabinet Office led initiatives such as the Pandemic Preparedness Board and Resilience Boards. Defra is also considering how it is staffed and structured and how we invest our resources to enable us to prepare those sectors, so they are more capable of responding to potential shock events, minimising the need for Government intervention. Defra Group is putting in place measures on how it can respond more effectively to singular, or concurrent, shocks which impact multiple Defra sectors simultaneously. Defra is also engaged in another Cabinet Office initiative which is considering who is best placed to manage strategic risks in the future.[426]

438. Finally, Defra continues to concentrate effort on those areas for which we are the LGD including:
    - Zoonotic diseases.
    - Flooding, Water Supply and Quality.
    - CBRN Recovery.
    - Air Quality.
    - Food[425]

**Statement of Truth**

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

**Signed**: Personal Data

**Dated**: 18/04/2023

## ANNEX 1 – Glossary of terms

| Term | Description |
|---|---|
| ACTSO | Association of Chief Trading Standards Officers |
| AFC | Agri-Food Chain |
| Agri-Food | Agriculture-Food |
| AHVLA | Animal Health Veterinary Laboratories Agency |
| ALB | Arm's-length Bodies |
| AMR | Antimicrobial Resistance |
| APHA | Animal and Plant Health Agency |
| APHW | Animal & Plant Health and Welfare directorate |
| ARC | Audit and Risk Committee |
| ARAC | Audit and Risk Assurance Committee |
| BEIS | Department for Business, Energy & Industrial Strategy |
| BPDG | Border and Protocol Delivery Group |
| BSE | Bovine Spongiform Encephalopathy |
| BSL4 | Biosafety level 4 |
| bTB | Bovine tuberculosis |
| 3C | Command - Control - Coordination |
| C3 ConOps | Command, Control and Coordination ("C3 ConOps") |
| CBRIC | Chemical Biological Radiological Incident Cell |
| CBRN | Chemical, Biological, Radiological, Nuclear |
| CCA 2004 | The Civil Contingencies Act 2004 |
| CCU | Civil Contingencies Unit |
| CEFAS | Centre for Environment, Fisheries and Aquaculture Science |
| CEV | Clinically Extremely Vulnerable |
| CLG | Commercial Law Group |
| CMO | Chief Medical Officer |
| CNI | Critical National Infrastructure |

ANNEX 1 – Glossary of terms

| | |
|---|---|
| COBR | Cabinet Office Briefing Rooms |
| ConOps | Concept of Operations |
| COSHH Regulations | Control of Substances Hazardous to Health Regulations 2002 |
| COSI | Combating Swine Influenza |
| Covid-19 | SARS-CoV-2 |
| CPMT | Contingencies, Planning and Monitoring Team |
| CPU | Covid-19 Policy Unit |
| CSA | Chief Scientific Advisor |
| CVO | Chief Veterinary Officer |
| DA | Devolved Administrations |
| DAERA | Department of Agriculture, Environment and Rural Affairs |
| DARDNI | Dept of Agriculture & Rural Development for Northern Ireland |
| DCG | Defra Commercial Group |
| DCVO | Deputy Chief Veterinary Officer |
| DEFRA | Department for Environment, Food & Rural Affairs |
| DfT | Department for Transport |
| DG | Director General |
| DH | Department of Health |
| DHSC | Department of Health & Social Care |
| DIT | Department for International Trade |
| DLUHC | Department for Levelling Up, Housing and Communities |
| DOC | Department Operations Centre |
| EA | Environment Agency |
| EDC | Exotic Disease Control |
| EFRA | Environment, Food and Rural Affairs |
| Emergencies Division | Defra's Deputy Director-led Flood, Water & CBRN Emergencies division |
| EOC | Emergency Operations Centres |
| EOM | Emergency Operating Model |
| EUXEC | EU Exit Emergency Centre |
| ExCo | Executive Committee The senior decision-making body for Defra |

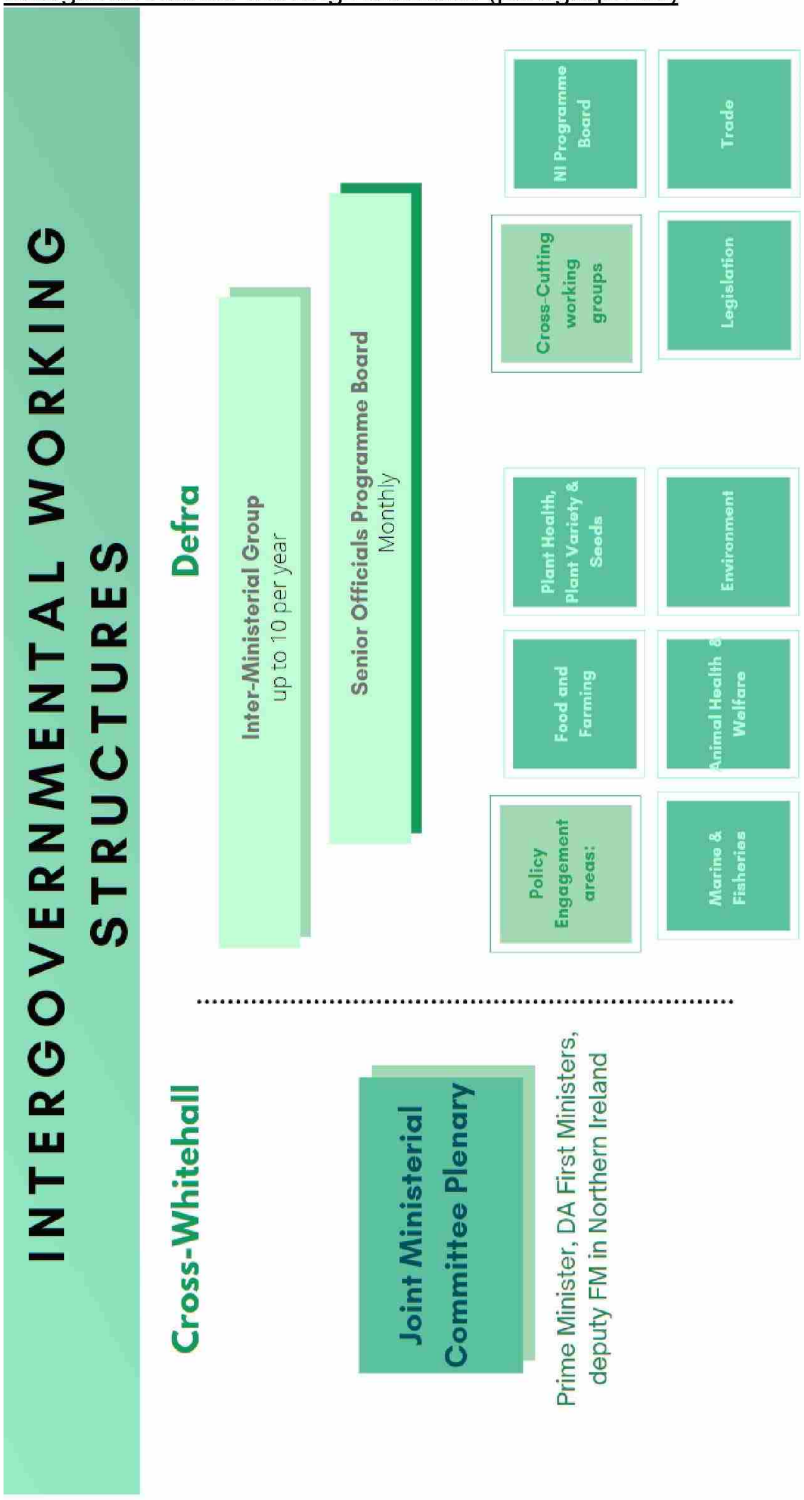
| | |
|---|---|
| F4 | The Food 4 |
| FAN | Food Authenticity Network |
| FBT | Food, Biosecurity and Trade |
| FCAT | Food Chain Analysis Team |
| FCELG | Food Chain Emergency Liaison Group |
| FCERM | Flood and Coastal Erosion Risk Management |
| FFaB | Food, Farming and Biosecurity |
| FFC | Flood Forecasting Centre (FFC) |
| FGS | Flood Guidance Statement |
| FMD | Foot and Mouth Disease |
| FOB | Forward Operating Bases |
| FRIF | Food Resilience Industry Forum |
| FSA | Food Standards Agency |
| FSS | Food Standards Scotland |
| GDS | Government Decontamination Service |
| GESAC | Defra Group Evidence, Science and Analysis Committee |
| GLD | Government Legal Department |
| GSFC | Department for Transport-led Government Secured Freight Capacity |
| HAIRS | Human Animal Infections and Risk Surveillance |
| HCID | Highly Contagious Infectious Disease |
| HPA | Health Protection Agency |
| HPAI | Highly Pathogenic Avian Influenza |
| HSE | Health and Safety Executive |
| IHR | International Health Regulations |
| IMG EFRA | Inter-Ministerial Group for Environment, Food and Rural Affairs |
| INHFL | International Natural Hazards Forward Look |
| IRSWG | Infrastructure Resilience Sector Working Group |
| LDCC | Local Disease Control Centre |
| LGC | Laboratory of the Government Chemist |
| LGD | Lead government department |

| | |
|---|---|
| MACA | Military Aid to the Civil Authorities |
| MERS | Middle East Respiratory Syndrome |
| MMO | Marine Management Organisation |
| MoJ | Ministryof Justice |
| NFAS | National Flood Advisory Service |
| NAHWP | National Animal Health and Welfare Panel |
| NDCC | National Disease Control Centre |
| NDOMS | Notifiable Disease Outbreak Management System |
| NFRC | National Flood Response Centre |
| NRE-RWG | Nuclear and Radiological Emergencies – Recovery Working Group |
| NRWG | National Recovery Working Group |
| NSRA | National Security Risk Assessment |
| NTAG-R | National Technical Advisory Group for CBR Recovery |
| OCR | Official Controls Regulation 2017/625 |
| ODSec | Defence and Overseas Secretariat |
| OGD | Other government department |
| ORB | Outbreak Readiness Board |
| PHE | Public Health England |
| PRU | Policy Response Unit |
| RAG | Red - Amber - Green |
| RAID | Risks, Assumptions, Issues and Dependences |
| RAIDD | Risk Assumptions, Issues, Dependencies, Decisions |
| RCG | Recovery Co-ordinating Group |
| REPPIR | Radiation (Emergency Preparedness and Public Information) Regulations 2019 |
| RPA | Rural Payments Agency |
| RWCS | Reasonable Worst Case Scenario |
| SAC | Science Advisory Council |
| SAC-ED | Science Advisory Council sub-committee for Exotic Disease |
| SAGE | Scientific Advisory Group for Emergencies |
| SBV | Schmallenberg virus |

| | |
|---|---|
| SCG | Strategic Co-ordinating Group |
| Secretary of State | Secretary of State for Environment, Food and Rural Affairs |
| SitRep | Situation Report |
| SRM | Strategic Management |
| SSRP | Sector Security Resilience Plans |
| STAC | Science and Technical Advisory Cell |
| STEFI | Scenario Tool Exeter Food Inflation |
| SVS | State Veterinary Service |
| TARP | Trade in Animal Related Products Regulations 2011 |
| The 1981 Act | The Animal Health Act 1981 |
| The Rule 9 Request | The request for evidence Rule 9 of the Inquiry Rules 2006, dated 21 November 2022 (reference M1/DEFRA/01) |
| TTF | Transition Task Force |
| UKHSA | UK Health Security Agency |
| UK-ICN | UK International Coronavirus Network |
| UKSF | The UK Surveillance Forum |
| UKZADI | UK Zoonoses, Animal Diseases and Infections Group |
| VADER | Veterinary medicine Availability & Disease Emergency Response |
| VMD | Veterinary Medicines Directorate |
| VRG | Veterinary Risk Group |
| WHO | World Health Organisation |
| WOAH | World Organisation for Animal Health |

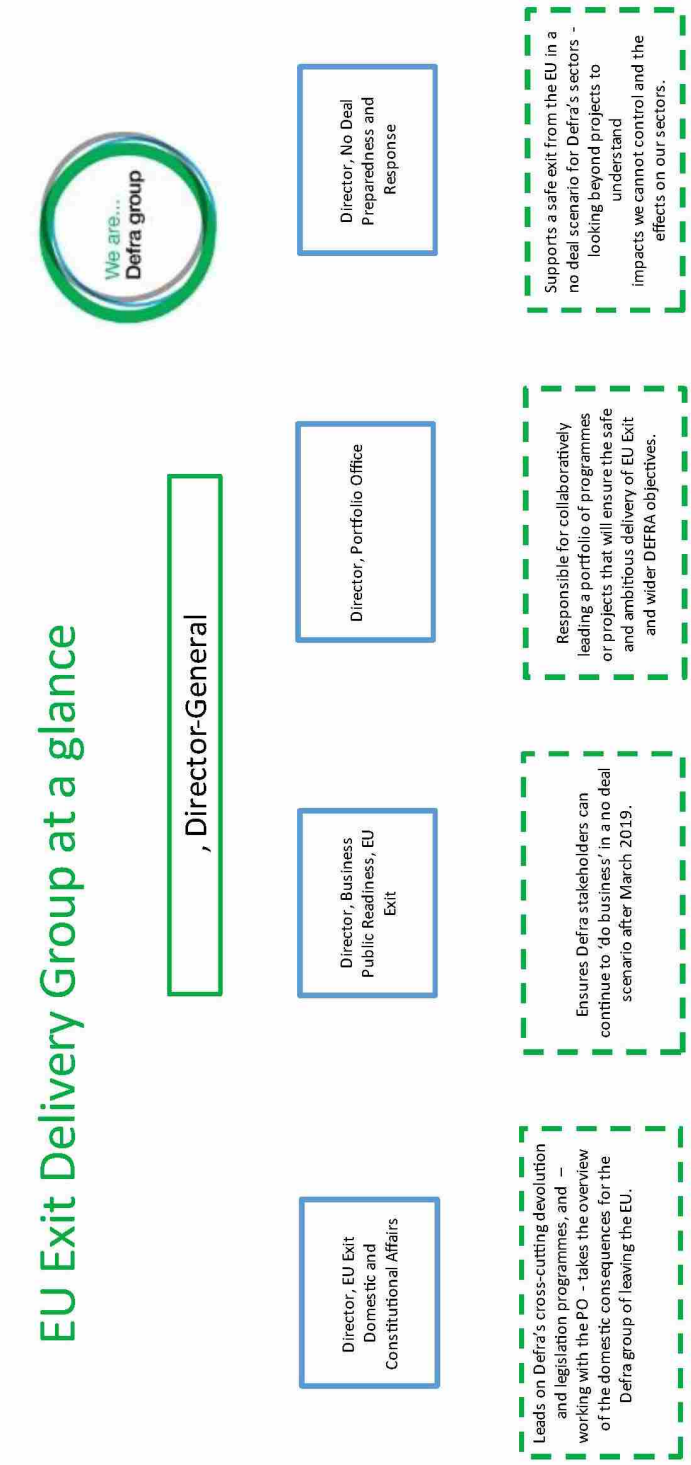
**ANNEX 2 – Defra organograms**

1. Intergovernmental working structures (paragraph 59)



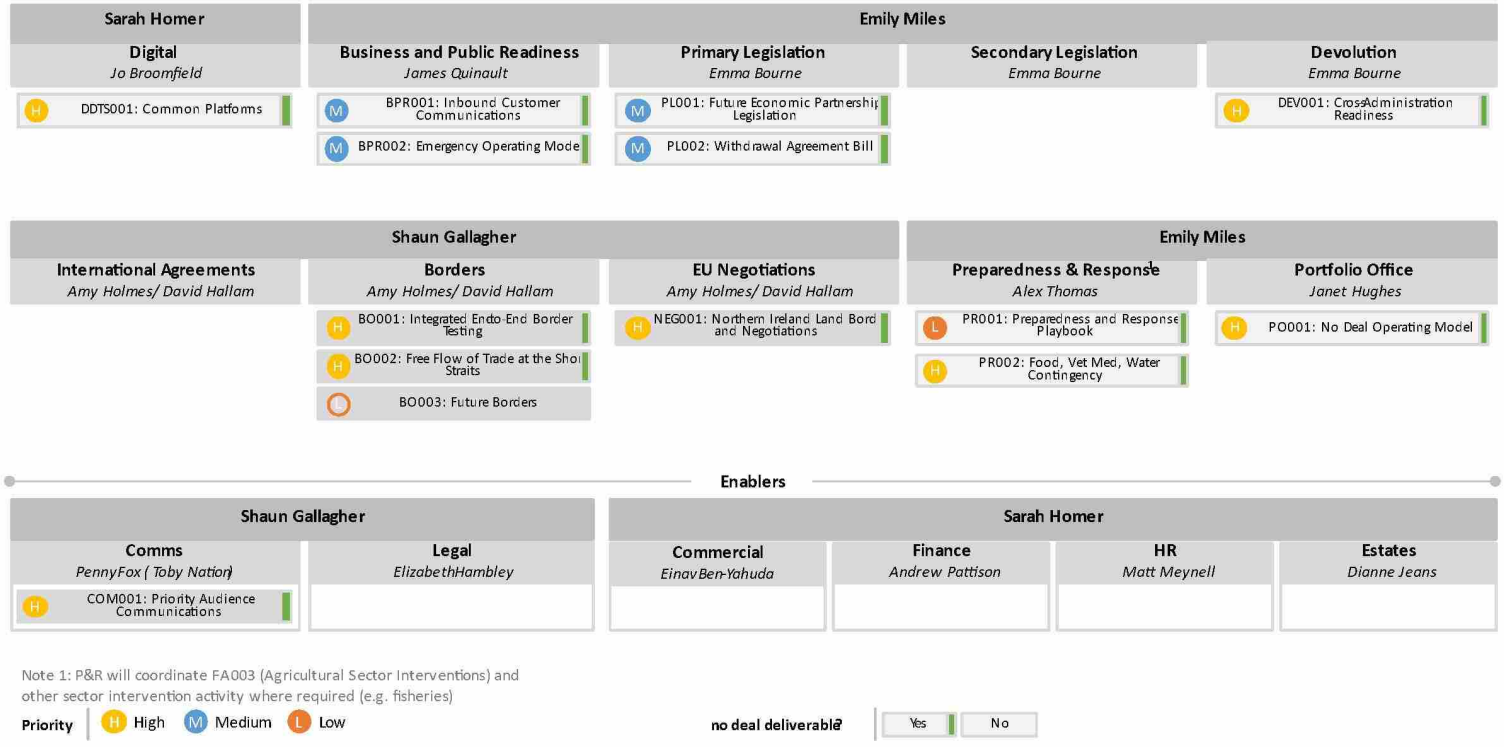
ANNEX 2 – Defra organograms

2. EU Exit Delivery Group (paragraph 365)



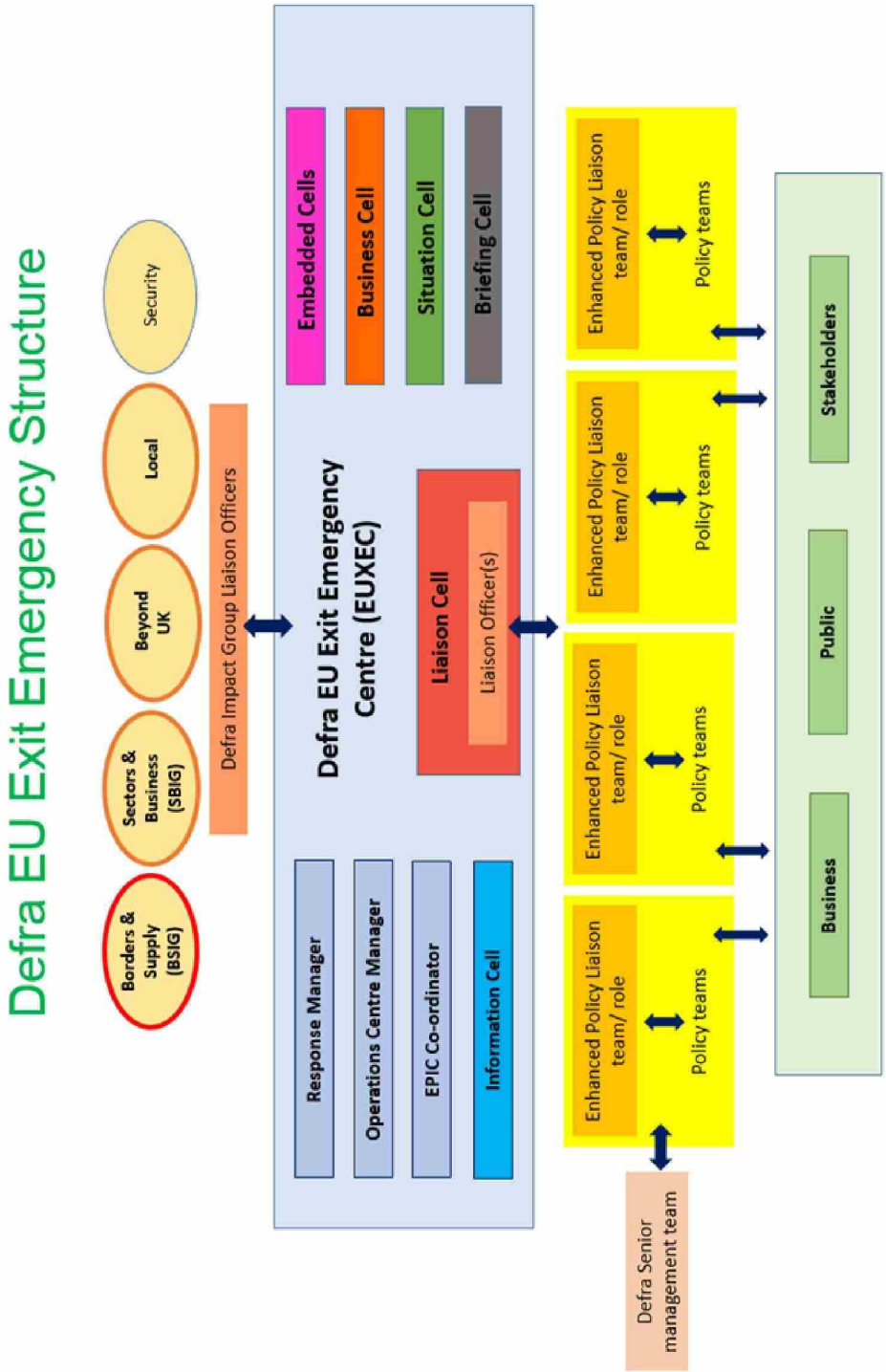
3. EU Exit projects and workstreams (paragraph 355)

# Cross-cut workstreams and cross -cut projects

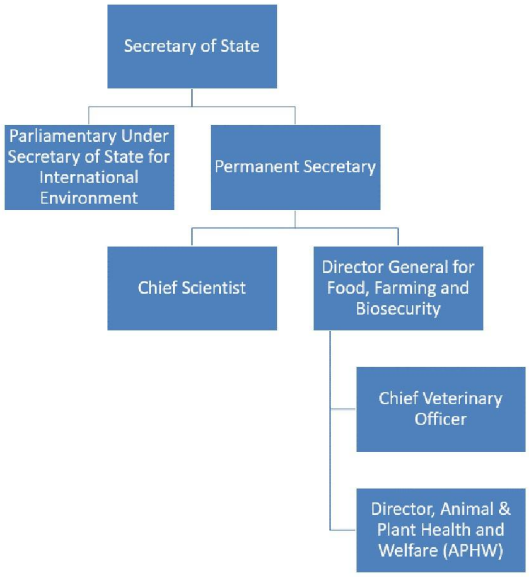


ANNEX 2 – Defra organograms

4. Defra EU Exit Emergency Structure (paragraph 378)

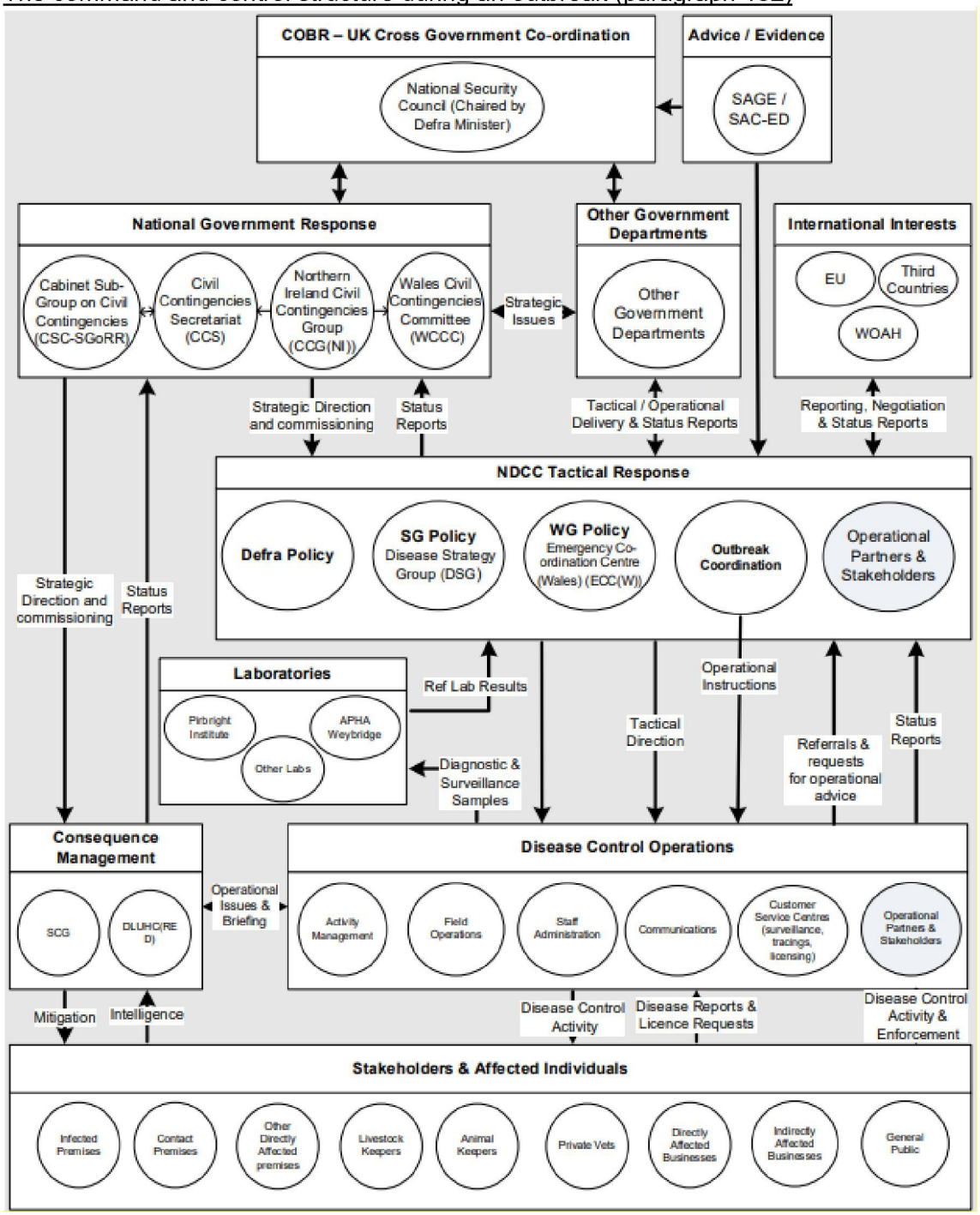


5. Senior Decision-Making Hierarchy in Defra's APHW Directorate (paragraph 93)

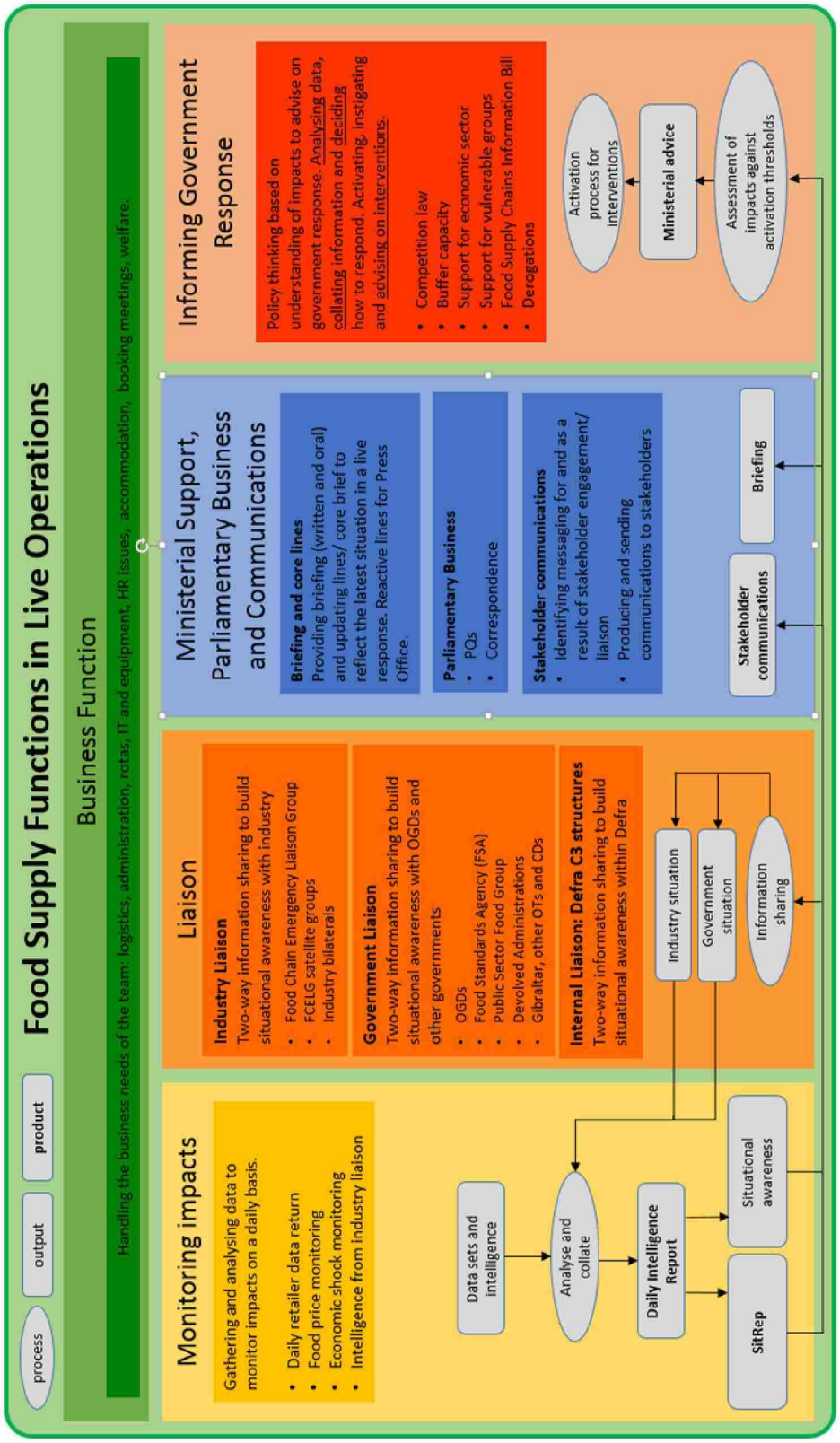


ANNEX 2 – Defra organograms

6. The command and control structure during an outbreak (paragraph 132)

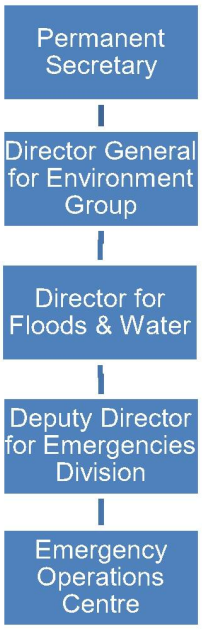


7. Food Supply Functions in Live Operations (paragraph 370)

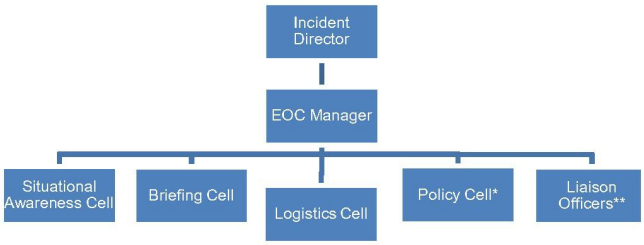


ANNEX 2 – Defra organograms

8. Internal Defra EOC command and control structure (paragraph 228)

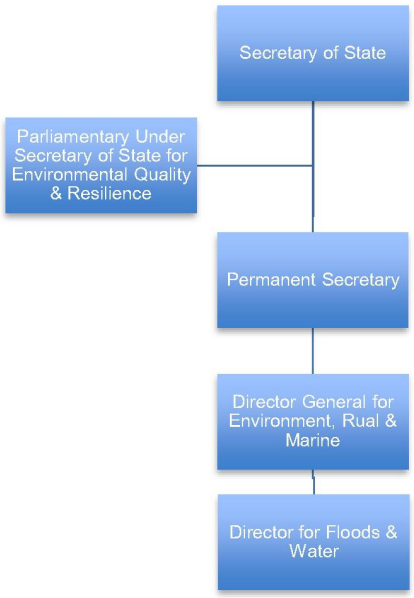



Emergency Operations Centre (EOC) structure



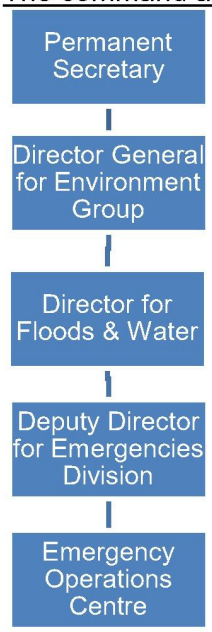
ANNEX 2 – Defra organograms

9. The hierarchy of senior managers in decision making for crisis events (paragraph 270)

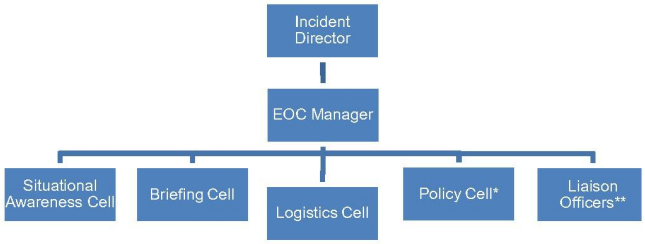


ANNEX 2 – Defra organograms

10. The command and control structure during a flooding response (paragraph 292)




Emergency Operations Centre (EOC) structure




* resourced and under the command of Deputy Director for Floods, Coastal Erosion and Risk Management (FCERM)
** resourced and under the command of Defra Communications, EA, and DLUHC

## ANNEX 3- OTHER DEFRA BOARD COMMITTEES

439. I provide a brief account here of the other Defra Board committees listed above. The purpose of the Delivery Committee is to encourage the department to focus on outcomes and goals; it reviews the progress of the department's projects, oversees the operational performance Defra Group, monitors rand manages significant risks and makes choices about priorities, sequencing and pace. The Nominations Committee is chaired by a non-executive director and its purpose is to ensure that there are satisfactory systems for identifying and developing leadership and high potential within the department, and to scrutinise the incentives and succession planning for the board and the senior leadership of the department.[427]