

**Homeland Security
Presidential Directive – 9
Food and Agriculture**

**Federal Food and
Agriculture
Decontamination and
Disposal Roles and
Responsibilities**

August 2005



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EXECUTIVE SUMMARY

Homeland Security Presidential Directive # 9 (HSPD-9) establishes a national policy to defend the nation's agriculture and food system against terrorist attacks, major disasters, and other emergencies. In support of this, the White House Homeland Security Council (HSC) tasked the Environmental Protection Agency (EPA) with coordinating with the U.S. Departments of Agriculture (USDA), Health and Human Services (HHS), Defense (DoD), and Homeland Security (DHS) to document Federal food and agriculture decontamination and disposal roles and responsibilities. Significant portions of this document were developed collaboratively during an interagency workshop attended by more than 75 representatives of these five Federal agencies.



This document describes the general Federal roles and responsibilities for decontamination and disposal in response to animal, crop, and food incidents. It is consistent with the U.S. Government's National Response Plan (NRP) and Annexes and is intended to clarify and document existing relationships among the Federal community rather than replace existing plans or agreements. Federal roles are described for incidents at three levels of magnitude: 1) Local/Limited Response, 2) State/Regional Response, and 3) National Response. Discussions are limited to incidents involving chemical or biological agents. Radiological incidents are not addressed.

Although the focus of the document is on the decontamination and disposal phases of response actions, this document also addresses earlier and later phases (i.e., preparedness/surveillance, detection/notification, control/containment, characterization, and finally recovery/clearance). The outcomes of the earlier phases can significantly impact the scale required for decontamination and disposal operations. In addition, summaries of current statutes, authorities, national plans, Presidential directives, the Incident Command System (ICS), and programmatic and emergency response points of contact related to food and agriculture incidents are included as appendices.

Most decontamination and disposal actions are handled at the local level, not by the Federal government. The private sector holds 85% of the nation's food and agricultural assets and will have a key role in response actions. Processes and procedures exist for routine prevention and response (including surveillance). Thus, the Federal role is most often one of technical assistance and advice, not direct implementation. Federal agencies will generally serve in an operational role only after state/local/private resources are overwhelmed. As incidents escalate in magnitude and complexity, roles and responsibilities change and the Federal agencies will take on a more prominent role. Federal agencies may, however, assume a primary role, even in "small" incidents, when hazardous materials, foreign animal diseases, or exotic plant pathogens are involved. In a catastrophic event, the NRP would be activated and bring to bear the full authority and resources of the Federal government.

Accordingly, under the ICS, if a state is unable to coordinate incident command (IC), Federal agencies, such as the Animal and Plant Health Inspection Service (APHIS), Food Safety and

Inspection Service (FSIS), and the Food and Drug Administration (FDA), may need to do so. In response to incidents involving crops (pre-harvest) and animals (pre-slaughter in an agricultural setting), APHIS is the lead federal agency in assisting states/local governments in the coordination of transportation and disposal of contaminated or potentially contaminated plant and animal material, including decontamination. USDA coordinates with HHS/FDA to address zoonoses diseases (i.e., affecting both humans and animals). As in previous incidents, APHIS also works with state and local government environmental and health departments, as well as EPA regions, to develop suitable decontamination and disposal solutions for each incident.

In response to a food incident involving FDA-regulated products, FDA functions mainly in an advisory role in single-state incidents, but may play a more active role if the incident involves several states or if a state is unwilling or unable to fully respond. If FSIS-regulated products are involved, FSIS will manage incidents of adulterated food or food commodities, regardless of the size or location of the incident. FSIS will work with state and local government environmental and health departments, as well as EPA regions, to develop suitable decontamination and disposal solutions for each incident. FSIS will provide guidance and monitor product movement and disposal, but the owner of the product is held responsible and liable for its safe disposition.

For crop, animal, and food incidents, EPA has two primary roles. EPA has statutory responsibility for licensing or approving the sale and use of pesticides for decontamination [is there a word missing here?] control of pathogens or other pests on crops or on environmental surfaces of livestock and food-related facilities and equipment. EPA also provides technical assistance in identifying, selecting, and locating appropriate waste handling options, identifying and addressing related environmental and health concerns, and working with the waste management industry to identify special measures that may help protect their personnel and the integrity of their facilities. Although the responsibility for issuing permits and for monitoring and enforcing compliance of municipal solid waste programs has been delegated to the states, EPA can take steps to assist in reaching the desired levels of environmental quality. For contamination incidents involving chemical and biological threat agents, advice on appropriate decontamination options and cleanup levels may be sought from FDA and EPA.

Finally, the discussion and descriptions in this document highlight that appropriate decontamination and disposal decisions, and the resulting operations, involve multi-disciplinary expertise and teamwork. In addition, strong communication and resource sharing are critical to efficient and effective response actions so that multi-disciplinary technical resources can be accessed from anywhere within all government levels of the emergency response community in a timely manner.

**FEDERAL FOOD AND AGRICULTURE DECONTAMINATION
AND DISPOSAL ROLES AND RESPONSIBILITIES**



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I. INTRODUCTION AND BACKGROUND

A. Purpose

The purpose of this document is to provide government authorities at all levels, industry, and other entities associated with the U.S. food and agriculture sector with a comprehensive description of the Federal government's key roles and responsibilities, and capabilities for the decontamination and disposal actions needed in response to the introduction of biological or chemical contamination of significant concern, by natural, unintended, or malicious means.



This document also identifies the lead and support Federal agency or agencies¹ for each activity and the relationships with other levels of government and industry to effectively achieve the desired outcome. Summary descriptions of the Federal agencies' general responsibilities and statutory authorities for protecting the nation's food and agriculture infrastructure, agency contact information, and the relevant homeland security national plans and directives are provided as appendices.

This document was prepared by a collaborative effort of the U.S. Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA), U.S. Department of Health and Human Services (HHS)/Food and Drug Administration (FDA), U.S. Department of Homeland Security (DHS), and U.S. Department of Defense (DoD).

B. Application and Scope

This document is a resource for those in government and industry who have responsibilities in protecting the nation's food and agriculture infrastructure from biological or chemical contamination. It provides summary descriptions of key activities, agencies, and capabilities for the seven prevention and response steps, with emphasis on the decontamination and disposal steps, for each of the three major sectors: livestock production, crop production, and food processing. For each of these sectors, the identified key activities, agencies, and capabilities are further described for each of three levels of geographic contamination: 1) Local/Limited, 2) State/Regional, and 3) National. Discussions are limited to incidents involving chemical or biological agents. Radiological incidents are not addressed in this document. In addition, key background information on related food and agriculture decontamination and disposal plans and authorities; IC; and key programmatic and emergency response points of contact are included as appendices to this document.

¹ The Federal Bureau of Investigations is the lead agency for criminal investigations of terrorist acts or terrorist threats within the United States. Investigative and intelligence activities are managed by the FBI from the FBI command post or Joint Operations Center (JOC). The command post or JOC coordinates with the necessary Federal law enforcement assets required to respond to and resolve the threat or incident with State, local and tribal law enforcement authorities.

The information in this document responds to the requirements in Homeland Security Presidential Directive #9, HSPD-9, *Defense of United States Agriculture and Food*, <http://www.whitehouse.gov/news/releases/2004/02/20040203-2.html>, and related homeland security national plans and guidance (refer to the appendices), to improve planning, coordination, and transparency between authorities at all levels and industry. The five Federal agencies that collaborated on this document recognize that there are inherent limits in capturing the numerous activities that would be exercised for any and all contaminations in the food and agriculture sectors given the scope, size, and complexities of these sectors in the United States and the evolving and expanding roles and responsibilities of government agencies at all levels for homeland security. However, the agencies believe this document does provide a good overarching guide or description of the Federal agencies' activities and capabilities for most contaminants in animals, crops, or food. Specific contamination events may require additional unique activities and coordination that may not be captured in this document.

The descriptions of responsibilities, authorities, and actions are focused on those of Federal agencies with mention of state and/or local authorities. States, territories, and tribes have or will have individual sector plans that will cover many of the steps described in this document for the Federal level. The U.S. Government's food and agriculture sector National Infrastructure Protection Plan (NIPP) Joint Working Group, a collaborative effort by representatives from all levels of government and sectors of the food and agriculture industry, has the mission of creating a template, or model, plan, following the structure of the draft NIPP for states to use to develop their sector-specific plans to protect their food and agricultural infrastructure. The goal of this effort is to maximize the commonalities, or harmonized components, among the state plans and with the NIPP to facilitate a more unified and coordinated response between all government levels and industry to a contamination incident in the food and agriculture sector.

C. Audience

While the document focuses on the roles and responsibilities of the Federal community in responding to a food or agriculture incident, the audience includes a broad range of individuals and governmental organizations. The audience includes, but is not limited to:

- Federal agencies that have response resources/capabilities and/or regulatory authority pertinent to decontamination and disposal for agriculture and food incidents;
- State, tribal, and local government agencies concerned with food, agriculture, public health, environmental protection and homeland security; and
- Food and agriculture-related industry and private organizations.

Appendix D mentions a number of related Federal response plans being developed for the food and agriculture sector. USDA, HHS, EPA, and other Federal agencies will work collaboratively to develop an interagency/intergovernmental outreach strategy to communicate these efforts, building on ongoing outreach activities of existing organizations, such as the Food and Agriculture Government Coordinating Council (GCC)/Sector Coordinating Council (SCC) and

the National Association of State Departments of Agriculture (NASDA). Although joint outreach materials will be consistent, certain agencies will also have a need to target specific audiences, e.g., solid waste handlers. In addition, relevant decontamination and disposal components of the Document may be incorporated into other food and agriculture response plans currently being developed (e.g., Food and Agriculture Incident Annex to the National Response Plan (NRP)).

D. Incident Response Levels and Phases of Emergency Response

Incident Response Levels

Three scenarios² were used to describe the roles and responsibilities performed and the authorities used by the Federal government agencies in the event of an incident targeting food or agriculture. The scenarios included hypothetical incidents involving actual select agents and probable events for each sector (i.e., animals, crops, and food). Three levels of magnitude were considered for each sector-specific scenario. However, where essentially the same steps would be followed for more than one level of magnitude, the descriptions were collapsed into a single sub-section. The levels of magnitude are:

- Level 1 - Local/Limited Response
- Level 2 - State/Regional Response
- Level 3 - National Response

These levels are based on the area and number of locations of contamination (e.g., single or multiple facilities, farms, ranches,) and are used to help with the characterization of the activities, authorities, capabilities, and potential need for different levels of resources and cooperation. Regardless of the level of magnitude, the lead agencies recognize the need to work together and to work closely with the emergency management community to respond to a food or agricultural event. It is important to note that although this document focuses on the use and coordination of Federal resources, the state, tribal, and local government agencies, and the private sector, play critical roles in detecting and responding to food and agricultural incidents.

Level 1 - Local/Limited Response:

A Level 1 response is handled almost exclusively at the local level. For example, an incident of contamination might occur and be contained on one site, and the local and private sector resources might be sufficient to respond. In such cases, Federal involvement is minimal but might include technical consultation or use of an approved pesticide. A Level 1 response is analogous to an ICS type 4 or 5 incident (see Appendix C: Incident Command System and Unified Command (UC) for more information on the ICS/UC).

Level 2 - State/Regional Response:

A Level 2 response uses non-Federal (state or multi-state) resources in support of a local response. At this level, contamination might occur at multiple sites or involve a higher level of

²Appendix B: Sector-Specific Scenarios Used in Developing Animals, Crops, and Food Chapters describes the three scenarios.

complexity than can be efficiently and effectively managed at the local level, so multi-jurisdictional resources will be used, e.g., USDA and FDA disease detection and response procedures, and detention and seizure authorities. At this level, local resources are exceeded, state/regional resources (and/or the resources of other local jurisdictions) are needed, and there will be a greater level of Federal involvement. However, the IC remains at the local or state level. A Level 2 response is analogous to an ICS type 3 incident.

Level 3 - National Response:

A Level 3 response uses Federal resources in conjunction with a state/local response. At this level, contamination occurs at multiple sites in many states. Local and state resources might be at full capacity. In these cases, incident is managed through national policies designed to supplement state/local resources with Federal resource assets. The IC is at the Federal level although all resources (local, state, and Federal) are engaged. A Level 3 response is analogous to an ICS type 1 or 2 incident.

Determining the Incident Response Level

All incidents are initially handled at the lowest possible organizational level; however, responses to incidents in the food and/or agricultural sectors are often dynamic in nature and may not conform to the three levels described above. For example, at Level 1 (Local/Limited Response), Federal support is limited primarily to technical assistance and training. At Level 3 (National Response), resource needs have increased to the point where Federal support may include deployment of personnel or material resources. Given the variability of incidents and responses, it is possible that a response will require limited personnel and equipment from the Federal government, but that its potential risk level (e.g., a terrorist activity) will warrant Federal management of the incident, consistent with a much larger incident. For this reason, the thresholds for Federal response and support must remain flexible.

Phases of Emergency Response

This document is focused on decontamination and disposal responsibilities, processes, and capabilities. However, a response to the detection of contamination in animals, crops, and/or food includes other important steps or phases. Although each of the agencies involved in developing this document has slightly different response procedures, for purposes of this document, the emergency response process can be thought of as seven key phases. These phases may overlap or occur in parallel or occur in a different order.

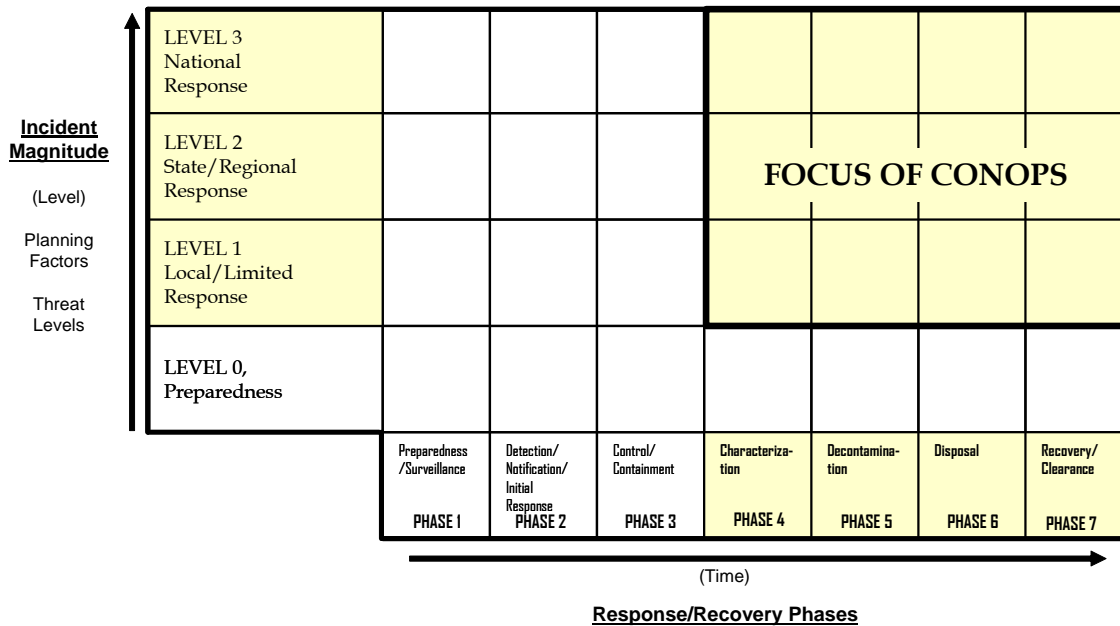
- Phase 1: Preparedness / Surveillance
- Phase 2: Detection / Notification / Initial Response
- Phase 3: Control / Containment
- Phase 4: Characterization
- Phase 5: Decontamination
- Phase 6: Disposal
- Phase 7: Clearance

To establish the context of discussions for decontamination and disposal, this document provides descriptions of the prior phases. It is important to note that while these seven phases may occur sequentially, they may also be implemented simultaneously or *may* take place in a different order, depending on the incident-specific and site-specific circumstances. For

example, decontamination may precede disposal or vice versa. The phases included here should be used as a guide to understanding the processes needed to successfully decontaminate and dispose of contaminated food, crops, or livestock; however, flexibility is essential in determining the most appropriate steps and the order in which they should be taken in any specific incident.

Levels of Response and Phases Graphic

The following graphic illustrates the seven response phases and the three levels of magnitude. The darkened part in the upper right corner indicates the primary focus of this document, i.e., Phases 4-7.



E. Introduction to Sector-Specific Chapters on Animals, Crops, and Food

Organization

These chapters focus on three main sectors – animals, crops, and food – and address incidents at three levels of magnitudes, Local/Limited Response, State/Regional Response, and National Response (although discussions on some levels of magnitude were consolidated if the steps were essentially the same for more than one level).

The purpose of each of these three sector chapters is to:

- Summarize the seven phases of the emergency response process in responding to a contamination incident.
- Focus on the decontamination and disposal phases of the emergency response process and on the resources and communications these activities require.
- Communicate that while key process steps remain the same at each of the three incident levels described in Chapter 2, the amount of resources required to accomplish these

steps may increase as the levels increase. As more resources are required, they must be drawn from additional sources.

- Clarify how agency emergency response resources may be used in support of local and state resources during Level 1, 2, and 3 incidents.

Each sector-specific chapter begins with a brief introduction to the first three phases of response: preparedness, initial response, and control through containment. The actions taken during these phases generally occur prior to decontamination and disposal activities but may have a significant influence and impact on the scale of decontamination and disposal operations required. For example, quick and accurate early detection of a foreign animal disease will greatly reduce the number of animals requiring disposal. For this reason, these initial phases are discussed in each chapter prior to the discussion of the decontamination and disposal response phases.

The last four phases of response, including decontamination and disposal, are discussed in each chapter using two different formats: text and tables. The text format provides more detailed information to set the stage for what is occurring during the response. The tables offer a clear and concise guide to the key processes taking place during each response phase as well as the agency in charge, support agencies, and capabilities. The text and tables should be used in concert to gain a more comprehensive understanding of the flow of response roles and authorities during animal, crop, and food incidents.

The seven response phases include actions that may or may not be carried out in a linear fashion. In many cases, they are iterative and build one upon the other. More often, they are carried out in a parallel manner, with activities occurring simultaneously. This concept is important in understanding and interpreting the sector-specific chapters on animals, crops, and food. For example, disposal of carcasses may occur before the premises are decontaminated. However, after decontamination, there may be additional items requiring disposal. Additionally, agent characterization and attribution will occur throughout the response, not just at one static point in time.

Each of the three sector-specific chapters was written primarily from information gathered during an interagency workshop.³ Representatives from EPA, working in close partnership with representatives from USDA, DoD, HHS/FDA, and DHS, coordinated development of these chapters after analyzing key scenarios involving animals, crops, and food.⁴ Since some response actions are tailored to the individual incident, the scenarios cannot represent the full range of activities that can take place during an incident. Rather, the chapters outline the types of actions that will likely be necessary during an incident involving the food or agriculture sectors. As noted elsewhere in this document, flexibility will be needed in determining the specific actions taken, as well as who will serve as the lead and support agencies during any specific incident.

³The interagency workshop was held in Washington, DC in September 2004.

⁴Appendix B contains a full explanation of scenarios used at the workshop; a summary of scenarios is provided at the end of this section.

Underlying Assumptions

In reading the following chapters, it is important to note the following underlying assumptions.

- Government response actions, generally speaking, begin at the lowest possible governmental level, e.g., the local fire or police departments.
- The majority of response actions are primarily managed by state, local, or private sector entities.
- Processes/procedures exist for routine prevention and response to livestock, crop, and food incidents (including surveillance) at the local, county, and state levels.
- Response to agriculture and food incidents will be structured using the ICS/UC in accordance with the National Incident Management System (NIMS).
- The “primary” Federal agency is generally acting in support of local/state resources and not as a first responder. (Some exceptions exist when dealing with certain animal diseases or plant pathogens.)
- The primary Federal agency may utilize resources from other Federal agencies via relationships established in the NRP and associated Annexes⁵.
- This document is consistent with the NRP and Annexes. It is intended to clarify and document existing relationships among the Federal community and is *not* intended to replace existing plans or agreements.
- Each NRP Emergency Support Function (ESF) Annex delineates a primary coordinating agency and support agencies. USDA serves as the primary coordinator for ESF Annex #11 - Agriculture and Natural Resources. USDA serves as the primary coordinator in a multi-agency response to an incident requiring control and eradication of an outbreak of highly contagious animal disease, highly infective plant disease, or economically devastating plant pest infestation. Other Federal departments and agencies may be called on to support USDA. Similarly, ESF Annex #8 for health and medical services includes provisions for food products regulated by FDA.
- Appropriate decontamination and disposal decisions, and the resulting operations, involve multi-disciplinary expertise and teamwork. Strong communication and resource sharing are critical to efficient and effective response actions so that multi-disciplinary technical resources can be accessed from anywhere within all governmental levels of the emergency response community in a timely manner.
- DHS receives notification of incidents and determines the need for DHS coordination. DHS may assume the primary role in coordination of Federal support. While there are no clearly definable levels to automatically indicate the need for this, DHS *may* assume the lead role for coordinating support when certain parameters are met.⁶
- Communications and coordination among government agencies at all levels and with industry are facilitated by the GCC and the Industry SCC. These two councils operate

⁵The NRP (and its Annexes) are available at http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml.

⁶ See Appendix E, DHS, for more information on these parameters.

independently and jointly to share information regarding planning, strategies, issues, and threats to the nation's food and agriculture.

Overview of Scenarios

Animals:

The sector-specific chapter on animals was developed using a foot-and-mouth disease (FMD) scenario. The scenario was discussed in great detail during the interagency workshop, and workgroup members discussed three levels of magnitude in analyzing the scenario.

Crops:

The sector-specific chapter on crops was developed using a scenario involving *Ralstonia solanacearum*, a plant pathogenic bacterium that causes wilt diseases. This scenario was also discussed in detail during the interagency workshop, at which time participants opted to combine discussions of Level 2 (State/Regional Response) and Level 3 (National Response) in the chapter because of the similarity of response actions at these two levels of magnitude.

Food⁷:

The sector-specific chapter for food was developed by using two different scenarios in detail - contamination of fluid milk (a FDA-regulated product) with cyanide, and contamination of liquid egg products (a Food Safety and Inspections Service (FSIS)-regulated product). Scenarios considered roles and responsibilities if contamination took place during transportation of the product, in a warehouse or distribution facility, and in a processing plant from which the product might be distributed to several regions of the country.

⁷While detailed discussions were held during the interagency workshop, additional discussions were coordinated by USDA's FSIS and HHS' FDA, using refined scenarios. Concurrent with the development of this document, USDA/FSIS and HHS/FDA developed Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Facilities, a more detailed document designed to provide the food industry sector with guidance on decontamination and disposal of contaminated food commodities and related facilities and equipment. Additional information on the more detailed FSIS and FDA document can be obtained through contacts identified in Appendix A: Contact Information for Key Program Offices and Emergency Operation Centers.

II. ANIMALS



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II. ANIMALS

A. Introduction

Threats to the nation's food supply can impact any segment of the agriculture or food sector, from farm to fork. This chapter focuses on decontamination and disposal involving animals and animal carcasses.



The USDA and individual states have responsibility for the protection of the nation's agricultural resources including livestock and poultry. In the event of a wide-scale disease outbreak⁸, the state and Federal agricultural authorities will be completely engaged in strategic animal health emergency response functions (e.g., detection, control, eradication, disposal, decontamination). Further, these authorities will need support from other Federal agencies, along with their resources, in carrying out traditional emergency management/logistical response functions. This section illustrates how the interdependent animal health and emergency management response functions might be coordinated to ensure an orderly, immediate, and unified response.

Although the working group used a specific scenario to analyze the resources needed at each level of magnitude, the discussions that follow are not scenario dependent. Rather, they outline coordination of response resources regardless of a specific disease or chemical agent or whether the outbreak is naturally or intentionally caused.

Numerous federal agencies have authorities and responsibilities related to human, animal, and wildlife health, safety, and management. Many of these authorities include significant levels of discretion that may be applied during an animal disease outbreak, depending on the scope and magnitude of the incident. Certain authorities may be used initially, while additional authorities may be used if the magnitude or complexity of the incident grows. The use of the ICS⁹ allows flexibility in the response structure by adding or deleting positions as the response evolves. Incident command may evolve into UC as additional authorities are brought into play, and Area Command, as defined in the NIMS¹⁰, may be employed to coordinate multiple incident command structures. For example, an incident command may initially be led by the state/local level or by the federal level involving one agency, but if multiple state and federal agencies become involved, a UC will likely be required.

This section clarifies the coordination of Federal response resources in support of USDA resources (as the primary federal agency in the NRP under the ESF Annex #11) and state/local resources to ensure the best use of available capabilities and expertise in safely and effectively

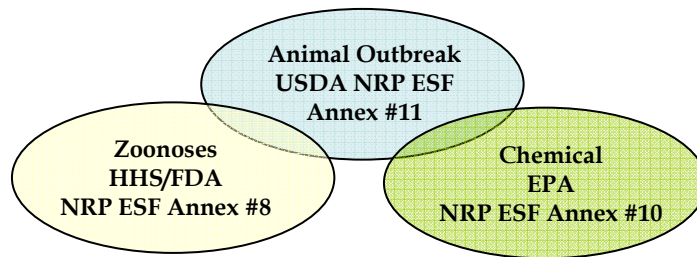
⁸This section deals specifically with disease outbreak. Response to a chemical contamination is similar, although not exactly the same. For example, chemical contamination is diluted as it spreads, so it does not replicate like biologicals. Also, chemicals may be neutralized, while biologicals are contained and destroyed.

⁹More information about Incident Command and Unified Command can be found in the NIMS.

¹⁰Additional information on the NIMS can be found at: <http://www.fema.gov/nims/>

eradicating an animal disease outbreak. There are several points that need to be emphasized regarding IC and resource utilization. These apply throughout the emergency response process.

- At Level 1, and often at Level 2, incident command is assumed to remain at the state emergency management level. Area command might be used if the response involves multiple locations.
- At Level 3, incident coordination may be at the state level involving a unified command structure between state and Federal resources or may be at the Federal level. An area command will likely be used.
- The NRP outlines primary and support agencies via the ESF Annexes.



The graphic above depicts the overlapping responsibilities among the NRP’s ESF Annexes #8, #10, and #11. There is some shared responsibility among the agencies.

- ESF Annex #11 establishes USDA as the primary Federal agency for responding to animal disease outbreaks in an agricultural setting.
- If the disease agent is identified as a zoonoses (i.e., affecting both humans and animals), then USDA coordinates with HHS/FDA (i.e., the primary agency for ESF Annex #8).
- If the disease is caused by chemical contamination, USDA coordinates with EPA (i.e., the primary agency for ESF Annex #10).
- If local/state and USDA resources and capabilities are overwhelmed, additional Federal resources are available through the NRP (in accordance with ESF Annex #11).

The following table presents a comparison of this document’s incident levels with USDA’s Incident Types.

EXTENT OF SITUATION	STATE	MULTI-STATE	NATIONAL
	Local or Limited	State	State or National
Incident Type	Type 4 or 5	Type 3	Type 1 or 2
Incident Level in this document	Level 1	Level 2	Level 3

B. Summary of Emergency Response Phases 1 – 3

The first three incident response phases are:

- Preparedness/surveillance,
- Detection/notification/initial response, and
- Control/containment.

The response actions during these phases are summarized in the text below and in the accompanying table.

Response Phase 1 – Preparedness/Surveillance

Preparedness includes public education, planning, training, exercises, and routine surveillance. Emergency responders who will be called on to assist in an animal health emergency will receive training in using the incident command structure. This training helps responders organize emergency response, standard emergency response procedures and protocols, including decontamination and disposal methods, and appropriate and coordinated health and safety training requirements and certification.

Surveillance generally is conducted by trained farmers, crop advisors, and private veterinarians. These persons identify unusual disease events and report them to a Foreign Animal Disease Diagnostician (FADD), who conducts testing for foreign animal diseases, such as FMD. In addition, all stakeholders (e.g., swine industry, poultry industry) in the agricultural sector should constantly watch for inconsistencies in order to identify and contain incidents at the earliest possible phase.

Response Phase 2 – Detection/Notification/Initial Response

Early detection of the introduction of an animal disease outbreak is crucial to minimizing the spread of disease. A comprehensive public awareness campaign should include Federal, state, and industry Public Information Officers (PIO) as well as producers, farmers, ranchers, and other animal owners. The campaign should emphasize the need for heightened security on farms, as well as procedures for reporting animal disease anomalies.

Response Phase 3 – Control/Containment

Clinical history and initial laboratory testing may result in a “presumptive” positive case, and further testing may result in a “confirmed” case. Both cases will result in measures to trace the spread of the disease and to control the disease through quarantine and appropriate bio-security measures, stop movement, continued surveillance, and export restrictions, as necessary.

Several key process steps started during Phases 1-3 are carried out throughout the response. These include refinement and adherence to worker Health and Safety Plans (HASP), risk and threat communication via daily Situation Reports (SITREP), and continuation of the criminal investigation, as necessary. Risk and threat communication is important not only among responders, but with crop and food authorities, government authorities, and the public.

KEY PROCESS STEPS FOR RESPONSE PHASES 1 – 3 OF AN INCIDENT RESPONSE FOR ANIMALS ¹¹		
Phase 1 – Preparedness / Surveillance	Phase 2 – Detection / Notification / Initial Response	Phase 3 – Control / Containment
<ul style="list-style-type: none"> • Routine surveillance conducted by USDA/ Animal and Plant Health Inspection Service (APHIS) or states for foreign animal diseases (FAD) • Identify key staff, provide training, and conduct practice exercises (e.g., FAD, ICS, emergency response) • Identify EPA-registered antimicrobial pesticide products to inactivate specific animal pathogens. If none are registered, consider obtaining Federal Insecticide Fungicide and Rodenticide Act (FIFRA) Sec. 18 exemptions that will allow the use of products for such pathogens • Plan strategy for public communication • Develop local/state plans for disposal sites. Determine whether emergency declarations are needed at state or Federal levels and, if so, by whom 	<ul style="list-style-type: none"> • Initiate risk and threat communications (e.g., Emergency Operation Centers (EOCs) provide daily SITREPs reports) • Identify source of outbreak and begin criminal investigation, if necessary • Deploy resources according to need and implement worker HASP • Evaluate whether there is potential for contamination to spread to crops and/or food. If so, notify proper authorities and integrate efforts • Exercise emergency declarations as needed at state and/or federal levels 	<ul style="list-style-type: none"> • USDA quarantines premises, area, or state where disease exists and possibly nearby premises, areas, or states, as necessary • USDA stops movement of susceptible animals and products until potential routes of dissemination of the disease can be determined • USDA determines surveillance zone and infected zone • Determine disposition of affected herds as necessary (i.e., depopulate, quarantine, or release as the disease dictates) • Vaccination may be used strategically to create barriers between infected zones and disease-free zones

C. Summary of Emergency Response Phases 4 – 7

Response Phase 4 – Characterization

Characterization is an iterative process throughout the response.¹² Initial characterization is considered presumptive and further characterization is required for confirming results, delineating the nature and extent of contamination, and planning disposal and decontamination activities.

Summary Table

RESPONSE PHASE 4 – CHARACTERIZATION – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> • Identify disease and assess animal population at risk (Situational Assessment) 	<ul style="list-style-type: none"> • Incident command is at the state emergency management level • For <u>animal diseases</u>, 	<ul style="list-style-type: none"> • Primary resources are county and state personnel deployed at the local level. Need for Federal resources is 	<ul style="list-style-type: none"> • USDA’s EOC will support communications and logistics of the response since it will

¹¹ See USDA/ APHIS Veterinary Services’ National Animal Health Emergency Management System Guidelines for complete coverage of response plans, actions, and guidance.

¹² See National Animal Health Emergency Management System Guidelines, Response to a Highly Contagious Disease. USDA/ APHIS/ VS/ Emergency Management Staff.

RESPONSE PHASE 4 – CHARACTERIZATION – ANIMALS			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
	USDA (ESF Annex #11) is primary Federal agency in partnership with state/local agencies <ul style="list-style-type: none"> • For <u>zoonotic diseases</u>, HHS/FDA coordinates with USDA (ESF Annex #8). • If contaminant is a <u>chemical</u>, then EPA coordinates with USDA (ESF Annex #10) 	limited	impact international trade <ul style="list-style-type: none"> • USDA/ APHIS will support local/state efforts in assessing animal population at risk. USDA/ APHIS National Veterinary Services Laboratory (NVSL) or FADD Laboratory will confirm diagnosis of disease
<ul style="list-style-type: none"> • Characterize the animals' environment, including farms, transportation systems, and other facilities (Situational Analysis) 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • USDA/ APHIS Veterinary Services (VS) will assist with characterization
<ul style="list-style-type: none"> • Develop, communicate, and implement response plan that includes characterization, decontamination, disposal, and clearance 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	
<ul style="list-style-type: none"> • If FAD is confirmed and potentially nefarious, continue criminal investigation 	<ul style="list-style-type: none"> • Department of Justice (DOJ)Federal Bureau of Investigation(FBI) leads criminal investigation and coordinates in a Joint IC or UC structure 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • DOJ/FBI criminal investigation and law enforcement officials coordinate with USDA and state Offices of Investigator General or Investigative and Enforcement Services units
Level 2 – State/Regional Response			
<ul style="list-style-type: none"> • Same process steps as Level 1, but scale of resources and effort increases 	<ul style="list-style-type: none"> • Same incident command as Level 1, except that the number of people and agencies involved may be expanded 	<ul style="list-style-type: none"> • Local resources fully used. State resources required to a greater degree. Need for federal resources may increase but remains moderate 	<ul style="list-style-type: none"> • Same resources identified for Level 1 are available but may be used to a greater degree
Level 3 – National Response			
<ul style="list-style-type: none"> • Same process steps as Level 1, but scale is much larger 	<ul style="list-style-type: none"> • There will be <u>Unified Command</u> (local, state, federal) at the incident level; <u>Area Command</u> at the state level; and <u>national coordination</u> provided through the 	<ul style="list-style-type: none"> • USDA may coordinate interagency support through DHS/Federal Emergency Management (FEMA)or by directly contacting the EOC of 	<ul style="list-style-type: none"> • All available assets listed above may be used. • In addition, Federal resources are available through the NRP (per

RESPONSE PHASE 4 – CHARACTERIZATION – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
	NRP. <ul style="list-style-type: none"> Resources are provided by additional layers of emergency declarations from the state Governor's office and the President 	other another agency. However, USDA's role and level of participation will vary, depending on the nature of the emergency (see NRP's ESF Annex #11)	ESF Annex #11) to assist with logistics and support the characterization response phase

Response Phase 5 – Decontamination

Optimally, disease-contaminated premises, objects, or non-susceptible animals that are identified to be cleaned and disinfected (decontaminated) should be freed of the disease agent within 48 hours of being so identified (or within 72 hours of being classified as an infected or contiguous premise).¹³ All premises on which animals are euthanized and disposed of must be cleaned and disinfected. Disinfection of environmental surfaces, such as surfaces of livestock facilities or equipment in those facilities, with antimicrobial pesticides must be accomplished with pesticide products bearing an EPA registration or an emergency exemption from registration for such use.¹⁴ Decontamination is essential to contain the spread of disease and is an integral part of the eradication plan. If items cannot be adequately cleaned and disinfected, they should be disposed of using appropriate disposal methods. Decontamination and disposal actions are iterative during a response.

Summary Table

RESPONSE PHASE 5 – DECONTAMINATION – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> Identify scope of decontamination operations, including premises, equipment, animal products (e.g., milk), and personnel 	<ul style="list-style-type: none"> Incident command is at the state emergency management level. USDA is primary federal agency in partnership with state/local agencies 	<ul style="list-style-type: none"> Primary resources are at local level. State resources may be used. Need for federal resources is limited 	<ul style="list-style-type: none"> USDA/APHIS EOC will monitor and coordinate the response activities
<ul style="list-style-type: none"> Identify and approve efficacious antimicrobial pesticides(s) 	<ul style="list-style-type: none"> Same as above. USDA (identification) and EPA (approval) 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA pesticide expertise should be consulted. If no registered products are available, may need to obtain FIFRA Sec.18 emergency exemption
<ul style="list-style-type: none"> Identify and obtain necessary resources for carrying out decontamination 	<ul style="list-style-type: none"> USDA 	<ul style="list-style-type: none"> Same as above 	

¹³Highly Contagious Disease Strategy document, part of the National Animal Health Emergency Management System Guidelines (USDA/APHIS/VS/Emergency Management). 2003.

¹⁴EPA is responsible for registering the use of pesticides or granting exemption from registration to control pests, including microorganisms and fungi, insects and other invertebrates, vertebrate animals, and vegetation under the FIFRA Sections 3 and 18, respectively.

RESPONSE PHASE 5 – DECONTAMINATION – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
<ul style="list-style-type: none"> Remove debris and clean areas, equipment, and people prior to decontamination 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Conduct decontamination 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Collect wastewater for disposal ,as necessary 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
Level 2 – State/Regional Response			
<ul style="list-style-type: none"> Same process steps as Level 1, but scale increases 	<ul style="list-style-type: none"> Same incident command as Level 1, except that it may be expanded 	<ul style="list-style-type: none"> Local resources fully used. State resources required to a greater degree. Need for federal resources may increase but remains moderate 	<ul style="list-style-type: none"> Same resources identified for Level 1 are available, but may be used to a greater degree
Level 3 – National Response			
<ul style="list-style-type: none"> Same process steps as Level 1, but scale of resources and effort is much larger 	<ul style="list-style-type: none"> There will be <u>Unified Command</u> (local, state, Federal) at the incident level; <u>Area Command</u> at the state level; and <u>national coordination</u> provided through the NRP. Resources are provided by additional layers of emergency declarations from the state Governor’s office and the President 	<ul style="list-style-type: none"> USDA may coordinate interagency support through DHS/FEMA or by directly contacting the EOC of another agency. However, USDA’s role and level of participation will vary, depending on the nature of the emergency. 	<ul style="list-style-type: none"> All available assets listed above may be used. USDA may use multi-agency coordination (MAC) groups to assist in identifying resources to accomplish cleaning and disinfection. In addition, assets from multiple agencies are available through the NRP (per ESF Annex #11) to assist with the disinfection unit under operations (e.g., EPA emergency response personnel, DHS/FEMA emergency response personnel) or to provide logistical or contract support.

Response Phase 6 – Disposal

Optimally, contaminated and potentially contaminated materials from an animal outbreak, including animal carcasses, should be properly disposed of within 24 hours of the destruction of the susceptible animals. In a Level 3 incident, this presents extraordinary challenges. In general, animal carcasses are considered non-hazardous wastes and, as such, can be managed in non-hazardous waste facilities (e.g., municipal solid waste landfills). Therefore, USDA and state solid waste agencies are responsible for the management/disposal of carcasses. Development of local/state Emergency Management Plans allows for the pre-determination of burial sites in local/county municipal landfills. Federal resources will be used in support of local/state plans. Disposal will be conducted in a manner that does not allow the disease to spread, provides

protection to human health and the environment, and conserves meat or animal protein if logistically supportable from a bio-security viewpoint. Decisions on disposal are addressed by individual states on a site-by-site basis and vary according to pathogen/agent and site-specific conditions.

USDA’s disposal personnel provide services that are essential to an effective animal health emergency response. USDA welcomes state and Federal EPA involvement in this capacity. Key disposal personnel include:

- A Disposal Unit Leader, who is physically based at the Incident Command Post (ICP), and
- Multiple Disposal Team Members (forming teams, each of which is headed by a Disposal Team Manager) working on multiple premises.

Treatment/disposal of infected carcasses and wastes should be performed in a manner that protects human health and the environment. Incineration (e.g., municipal, medical waste, hazardous waste, pathology, air curtain), on-site burial, off-site burial in a municipal solid waste landfill or hazardous waste landfill, alkaline digestion, composting, and rendering are all potential options. Acceptable treatment/disposal options should be developed in conjunction with USDA and state solid/hazardous waste officials and will depend on numerous factors, such as the type of disease (e.g., is it contagious to humans or animals), the number of carcasses for treatment/disposal, transportation issues, and availability of treatment/disposal capacity.

Initially, the USDA’s Disposal Unit Leader and Disposal Team positions are filled by trained state or USDA/APHIS VS personnel. As the response capacity grows, there may be a need to integrate other Federal response personnel into these positions, such as EPA’s On-Scene Coordinators (OSC), APHIS veterinarians, biologists, and treatment and disposal experts in headquarters, regions, and labs. Options for additional Federal resources include DHS/FEMA Veterinary Medical Assistance Teams, U.S. Army Corps of Engineers (USACOE), General Services Administration (GSA) contract support, and EPA emergency response personnel, to name a few. These resources are available in accordance with the authorities in the NRP’s ESF Annex #11.

Summary Table

RESPONSE PHASE 6 – DISPOSAL – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> • Assess volume of animals for disposal 	<ul style="list-style-type: none"> • Incident command is at the state emergency management level. • USDA is primary federal agency in partnership with state/local agencies 	<ul style="list-style-type: none"> • Primary resources are at the <u>local</u> level. <u>State</u> resources may be used. Need for <u>federal</u> resources is limited 	<ul style="list-style-type: none"> • USDA/APHIS may support local/state efforts in assessing animal population for disposal
<ul style="list-style-type: none"> • Determine method(s) of euthanasia and disposal, evaluate risks of options, and develop a site- 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA solid waste, air and water expertise may be consulted

RESPONSE PHASE 6 – DISPOSAL – ANIMALS			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
specific disposal plan			
<ul style="list-style-type: none"> • If rendering is chosen, determine fate of byproducts 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • FDA should be consulted regarding rendered material reuse 	<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> • If burial is chosen, determine whether euthanasia and disposal will occur on-site, off-site, or both. If on-site disposal is chosen, contact the state solid waste agency for approval or advice 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA solid waste, air and water expertise may be consulted.
<ul style="list-style-type: none"> • Appraise value of animals for indemnification purposes 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • State and federally approved assessors may be consulted
<ul style="list-style-type: none"> • Arrange transportation and approval/advice for off-site disposal. Ensure that local/state agency and waste management industry are involved, as needed. Follow pre-approved plan for predetermined sites, if available 	<ul style="list-style-type: none"> • Same as above. 	<ul style="list-style-type: none"> • Same as above. 	
<ul style="list-style-type: none"> • Procure equipment and prepare site, including perimeter control 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	
<ul style="list-style-type: none"> • Carry out disposal plan 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA solid waste, air and water expertise may be consulted • USDA Disposal Operations Guidelines are available
<ul style="list-style-type: none"> • Close disposal site per requirements of local/state authorities, as appropriate (Site may remain open and active in accordance with applicable state and local regulations) 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA solid waste, air and water expertise could be consulted
<ul style="list-style-type: none"> • Arrange for disposal of personal protective equipment (PPE) and other waste 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	
Level 2 - State/Regional Response			
<ul style="list-style-type: none"> • Same process steps as Level 1, but scale increases 	<ul style="list-style-type: none"> • Same IC as Level 1, except that it may be expanded 	<ul style="list-style-type: none"> • Local resources fully used. State resources required to a greater 	<ul style="list-style-type: none"> • Same resources identified Level 1 are available, but may be

RESPONSE PHASE 6 – DISPOSAL – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
		degree. Need for federal resources may increase but remains moderate	used to a greater degree. <ul style="list-style-type: none"> USDA Animal Emergency Response Organization teams may be used
Level 3 – National Response			
<ul style="list-style-type: none"> Same process steps Level 1, but scale is much larger 	<ul style="list-style-type: none"> There will be <u>Unified Command</u> (local, state, federal) at the incident level; <u>Area Command</u> at the state level; and <u>national coordination</u> provided through the NRP. Resources are provided by additional layers of emergency declarations from the state Governor’s office and the President 	<ul style="list-style-type: none"> USDA may coordinate interagency support through DHS/FEMA or by directly contacting the EOC of another agency. However, USDA’s role and level of participation will vary, depending on the nature of the emergency 	<ul style="list-style-type: none"> All available assets listed above may be used. USDA may use MAC groups and the NRP to fill the Disposal Unit in Operations Section of ICS. EPA On-Scene Coordinators may work under Disposal Unit as may DHS/FEMA NDMS teams and others. Assets from multiple agencies are available through the NRP (per ESF #11) for disposal support (e.g., DoD/USACOE may provide contract support for debris/carcass disposal and Department of Interior [DOI/USGS] should this be USGS? If so, write out since this is the 1st reference to the agency. may provide assistance with carcass disposal).

Response Phase 7 – Clearance

The purpose of the clearance phase is to document and certify that decontamination and waste disposal activities (i.e., Phases 5 and 6) were effectively implemented, that the contaminated site is disease-free, and that it is acceptable to reuse the site, including buildings, machinery, and the surrounding area. Clearance may also need to include an area-wide sampling and surveillance of native wildlife.

The clearance phase is the responsibility of the primary federal agency, namely USDA/APHIS. Support from national and international animal and public health officials may also be necessary, depending on the magnitude of the incident.

Summary Table

RESPONSE PHASE 7 – CLEARANCE – ANIMALS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> Determine “disease-free status” and eligibility for re-population by evaluating decontamination and conducting surveillance of the surrounding domestic and wildlife population. If disease is zoonotic, must include public health agencies 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA is primary federal agency in partnership with state/local agencies 	<ul style="list-style-type: none"> Primary resources are at local level. State resources may be used. Need for federal resources is limited 	<ul style="list-style-type: none"> USDA/APHIS EOC will monitor and coordinate response activities. USDA/APHIS VS will consult national and international animal and public health organizations (e.g., Centers for Disease Control and Prevention [CDC], OIE, World Health Organization [WHO], etc.), as needed.
• Level 2 – State/Regional Response			
<ul style="list-style-type: none"> Same process steps as Level 1, but scale increases 	<ul style="list-style-type: none"> Same IC as Level 1, except that it may be expanded 	<ul style="list-style-type: none"> Local resources fully used. State resources required to a greater degree. Need for federal resources may increase but remain moderate 	<ul style="list-style-type: none"> Same resources identified for Level 1 are available, but may be used to a greater degree
• Level 3 – National Response			
<ul style="list-style-type: none"> Same process steps as Level 1, but scale is much larger 	<ul style="list-style-type: none"> There will be <u>UC</u> (local, state, federal) at the incident level; <u>Area command</u> at the state level; and <u>national coordination</u> provided through the NRP. Resources are provided by additional layers of emergency declarations from the state Governor’s office and the President 	<ul style="list-style-type: none"> USDA may coordinate interagency support through DHS/FEMA or by directly contacting EOC of other another agency. However, USDA’s role and level of participation will vary depending on the nature of the emergency 	<ul style="list-style-type: none"> Same resources identified for Levels 1 and 2 are available, but may be used to a greater degree. In addition, assets from multiple agencies are available through the NRP (per ESF Annex #11).

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III. CROPS



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III. CROPS

A. Introduction

Terrorists can attack plants, fields, crops, and their associated storage facilities by infesting/infecting them with known or unknown pests/pathogens (invasive species). These species can also enter the United States through unintended human introduction or by natural means, as with Asian soybean rust in 2004. Invasive species are non-native species whose introduction is likely to cause economic or environmental harm, or harm to human health. These species can include insects, vertebrates, plants, viruses, bacteria, or other disease agents. Certain plant pest and disease agents are currently established and severely impacting agricultural systems in other countries but are not yet present in the United States.



As required by the Agricultural Bioterrorism Protection Act of 2002, USDA has identified those foreign plant pests of greatest concern to the nation's agriculture. To mitigate infestation/infection of our agricultural system by foreign invasive species and pathogens, the USDA's APHIS and its partners in DHS, in all levels of government, and in the private sector are continuing to better prepare for such an event.

Response to impact on the nation's agriculture infrastructure from an introduced pest are believed to be not significantly dependent on whether the introduction was by natural, unintentional, or intentional means. Therefore, the chapter on crops and storage facilities was developed irrespective of the means of introduction.

When such an event occurs, the lead agency in the response, decontamination, and disposal will be USDA/APHIS. However, under the leadership of USDA, state and local agricultural and environmental authorities and private industry will play an integral role in addressing the situation. USDA, EPA, state lead agencies for pesticides, pesticide manufacture's, and commodity organizations will be active in sharing information about potentially effective pesticides for control of the plant disease, pesticide availability, and effective control methods and planning. As required by HSPD-9, USDA has established the National Plant Disease Recovery System (NPDRS) with one of its goals the identification of one or more efficacious pesticides for each of the plant pests mentioned above.

EPA, as noted above in the animal chapter, is responsible for registering, or granting exemption from registration, for use of specific pesticides on the host crops and other host plants to control the disease (decontamination) is there a word missing here or should there be an "e.g.," inserted before decontamination?. This agency is also responsible for establishing tolerances for residues of those pesticides on food and livestock feed commodities. These regulatory actions ensure that these pesticides meet the required safety standards for humans and the environment and that commodities can be traded in national and international commerce. The above actions by federal and state government agencies and the private sector are well

exemplified by the response to the introduction of Asian soybean rust disease, one of USDA's identified pests of concern.

State-level waste management authorities will drive solid waste management and disposal decisions, with EPA's Office of Solid Waste (OSW) providing technical advice, as necessary. If the invasive species is introduced as a terrorist action, DHS will be a co-lead agency.

B. Summary of Emergency Response Phases 1 - 3

B.1. Response Phase 1 - Preparedness/Surveillance

USDA/APHIS has the lead in preparedness and surveillance. It pursues preparedness goals by:

- Gathering information from domestic and foreign entities and preparing risk assessments;
- Maintaining phytosanitary permitting, which prevents the introduction and/or spread of quarantine pests or pathogens on plant material entering the United States through inspections, testing, surveillance, and/or treatment¹⁵;
- Conducting and cooperating in international, national, USDA regional, and state-wide surveillance activities;
- Preparing action plans and New Pest Response Guidelines¹⁶; and
- Maintaining a standing New Pest Advisory Group (NPAG) whose role is to rapidly evaluate the significance of the introduction of a new plant pest into the United States and to recommend options and/or a course of action regarding this new pest.

The USDA coordinates with the DHS to maintain agricultural inspections at ports of entry.

USDA conducts surveillance through education, sampling, surveying, and trapping. Through the Cooperative State Research, Education, and Extension Service (CSREES), USDA/APHIS educates industry, growers, state plant health regulatory officials, and other stakeholders on monitoring, detecting, and identifying potential pests or pathogens. USDA/APHIS conducts national surveys in conjunction with state departments of agriculture (i.e., the Cooperative Agricultural Pest Survey [CAPS]). The results of the surveys are available through the National Agricultural Pest Information System (NAPIS)¹⁷. USDA/APHIS also conducts international surveillance through the Offshore Pest Information System (OPIS) by monitoring target pest populations and potential pathways of entry that could lead to the introduction of a new plant pest into the United States.

¹⁵For purposes of this chapter, phytosanitary is defined as infestation status (pest or disease) of plant material.

¹⁶An action plan provides operational guidance on how to eradicate a pest/disease that has been introduced and successfully eradicated previously. The New Pest Response Guidelines deal with pest/disease that has not been previously introduced into the United States; the strategy may be to eradicate or control.

¹⁷<http://www.ceris.purdue.edu/napis/>

B.2. Response Phase 2 – Detection/Notification/Initial Response

Once the introduction of a suspected plant pest/pathogen is reported, USDA/APHIS's detection activities include identification and verification, inspection, monitoring, sampling, testing samples, and trapping efforts. Host materials suspected of contamination are first screened at an academic, state, or federal lab or field identifier (for non-microbial pests). USDA/APHIS confirms contamination at its own laboratory or expert identifier. Once USDA/APHIS confirms contamination, it traces the contamination forwards and backwards, issues an Emergency Action Notification (EAN) to hold all host plants at facilities that have received suspect plant material from the initial source (e.g., nursery or farm), and issues an emergency quarantine. A federal quarantine will restrict movement of host material from the entire state unless the state enacts a quarantine for the affected part of the state. If the state quarantines the affected part of the state, then the federal quarantine will also only cover the affected part of the state.

USDA/APHIS follows several notification/communication activities upon confirming contamination. It notifies the relevant local, state, and federal officials, both internal and external to the USDA. For example, APHIS officials will notify the Secretary of Agriculture, the USDA Under Secretary for Marketing & Regulatory Programs, the APHIS Administrator, the Plant Protection and Quarantine (PPQ) Administrator, and the USDA mission under secretaries. External to the USDA, many other federal, state, and national organizations will be contacted. For example, DHS, state departments of agriculture, the National Plant Board,¹⁸ the growers' association(s), and CSREES will all be notified of the status of the detection, response, and recovery.

USDA/APHIS's initial response activities include:

- Convene the USDA/APHIS /PPQ's NPAG¹⁹ to assess the significance of the introduction of the new plant pest into the United States and to recommend options and/or a course of action regarding this new pest;
- Establish a federal quarantine as described above; and,
- Implement the emergency response guideline for the appropriate pest/pathogen if one exist (see PPQ web site: <http://www.aphis.usda.gov/ppq/index.html>).

B.3. Response Phase 3 – Control/Containment

USDA/APHIS as part of its EAN places immediate restrictions on movement of commodities, their processing/storage facilities, and fields/forests/greenhouses of origin determined to be potentially infested or infected with potential bioterror agents. The quarantine may restrict access, specify methods for securing facilities and/or containing agents, and specify requirements for timely treatment of infected or infested material. Fulfillment of these actions may be achieved by USDA/APHIS, a state or local cooperator, or a non-governmental organization (NGO) working under a memorandum of understanding (MOU) to assist in the elimination of plant risks and prevention of spread of the agent.

¹⁸The National Plant Board is an association of the 50 state plant regulatory officials; usually department heads.

¹⁹The NPAG is composed of scientists with subject matter expertise, program managers, and experienced operations officers.

Control and containment activities depend on the pest/pathogen. The NPAG options paper, the New Pest Response Guideline, or action plan will list the required activities. In the case of *Ralstonia* (the scenario used for this chapter), hold, test, dispose and decontaminate are the steps employed.

KEY PROCESS STEPS FOR RESPONSE PHASES 1 – 3 FOR CROPS		
Phase 1 - Preparedness/Surveillance	Phase 2 - Detection/Notification/Initial Response	Phase 3 - Control/Containment
<ul style="list-style-type: none"> • USDA gathers information from domestic and foreign entities and prepares risk assessments • Conducts phytosanitary permitting (a permit that declares that the plant material is free of regulated pest and disease agents and authorizes movement in commerce) • Cooperates with DHS in maintaining agricultural inspections at ports of entry 	<ul style="list-style-type: none"> • Conduct domestic surveys in cooperation with states • If detection, issue an EAN and a quarantine to stop movement of infected plant material. Convene NPAG • Notify key officials of USDA, DHS, states, EPA, commodity groups, others 	<ul style="list-style-type: none"> • First responders on site for immediate control/containment/abatement are USDA regional and state plant regulatory officials (SPRO) • Trace forwards and backwards to delimit infestation • If positive, EAN specifies required treatment of material and potentially contaminated surroundings. It also specifies any restrictions on access to contaminated site • Maintain monitoring of treatments and potentially contaminated surroundings to ensure that agent is not inadvertently released prior to complete elimination/eradication

Response Phase 4 - Characterization

The initial characterization process for an agent requires determination of the actual agent, determination of its risk potential for damage and spread, and delimitation of where it now occurs. This will involve some reviewing of records of intrastate, interstate, and international commerce so that USDA/APHIS can trace infected/infested plant commodities back to their origin and trace their movement. Based upon the extent of dissemination of the pathogen, pest, or weed agent, the potential amount of decontamination and disposal can then be determined. The scope of the response needed for an incident will be assessed by USDA/APHIS which can determine whether the conditions warrant a higher level response. The level of risk from the agent and the extent of dissemination of that agent are the primary factors in determining the response level.

The efficacy, availability, feasibility, and selection of the means of decontaminating potentially infected/infested materials will be determined by USDA/APHIS in cooperation with EPA's Office of Pesticide Programs (OPP), as mentioned above. This process may be fairly straightforward for a small contaminated greenhouse that is secured but can be more complicated for agents that have been released into open areas such as cropping fields. Characterization of the decontamination method is likely to determine whether or not disposal is needed and, if so, the acceptable means of disposal. Agents that can be completely eliminated

by disinfection of facilities may require only disposal of the infected/infested plants. Field crops that can be effectively treated with an efficacious pesticide will not likely need disposal, because the goal is to adequately control the pest while saving the crop for harvest and intended use. The decision on disposal technique will depend upon the state solid waste regulatory authority but will require concurrence from USDA/APHIS to ensure that phytosanitary risks are eliminated. Technical advice from EPA's Office of Solid Waste and Emergency Response (OSWER) will be important to the final decision about disposal of infected/infested commodities.

A critical part of the ongoing characterization process includes establishment of good communication with cooperating governmental agencies, stakeholders, and the public by the lead agency, USDA/APHIS. Any changes in the spread of the agent, announcements of plans and completed objectives, and confirmed progress in elimination of phytosanitary risks may involve changes or expansions of the groups that will need to be informed. Lack of adequate characterization of those most affected by the action can delay timely completion of efforts to eliminate phytosanitary risks.

Summary Table

RESPONSE PHASE 4: CHARACTERIZATION - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 - Local/Limited Response			
<ul style="list-style-type: none"> Determine the agent causing the contamination 	USDA/APHIS	<ul style="list-style-type: none"> CSREES/county extension. Academic institutions. State departments of agriculture 	<ul style="list-style-type: none"> USDA, state, and academic labs Infrastructure to respond to crop emergencies Lab analysis for select agents Local organizations that respond to and start investigating emergencies
<ul style="list-style-type: none"> Characterize the agent, the site(s), and the magnitude of contamination 	USDA/APHIS	<ul style="list-style-type: none"> State departments of agriculture State Plant Health Inspectors Academic institutions. 	<ul style="list-style-type: none"> USDA's Emergency Response Team (ERT). Guidance documents on select agents (e.g., APHIS' New Pest Response Guidelines) In field presence to investigate situation
<ul style="list-style-type: none"> Characterize contamination 	USDA/APHIS	<ul style="list-style-type: none"> State departments of agriculture 	<ul style="list-style-type: none"> USDA's ERT Use all USDA, EPA, state, local, and academic information resources Perform monitoring and surveillance to determine the extent, intensity, magnitude, and scope of contamination to plants, soil, water, air, food, etc.

RESPONSE PHASE 4: CHARACTERIZATION - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
<ul style="list-style-type: none"> Continue tracing the contamination forwards and backwards 	USDA/APHIS	<ul style="list-style-type: none"> DHS 	<ul style="list-style-type: none"> Experience working with domestic and foreign plant sources, channels of trade, and interstate commerce
<ul style="list-style-type: none"> Begin analysis of options for decontamination methods, including chemical (pesticides) and non-chemical control methods of select agent for crop/commodities and facilities, equipment 	USDA/APHIS	<ul style="list-style-type: none"> EPA/OPP State departments of agriculture DHS Pesticide manufacturers/industry 	<ul style="list-style-type: none"> USDA, EPA, State Department of Agriculture, and industry technical expertise for researching decontamination options Knowledge of potentially efficacious pesticides
<ul style="list-style-type: none"> Contact EPA/OPP to coordinate availability of suitable pesticides 	USDA/APHIS	<ul style="list-style-type: none"> State departments of agriculture Pesticide manufacturers/industry 	<ul style="list-style-type: none"> Communicate network with EPA pesticide regulatory authorities EPA can advise on suitability of potential pesticides to use Manufacturers have technical expertise on efficacy and supply
<ul style="list-style-type: none"> Make regulatory decision(s) to approve use of pesticide(s) 	EPA/OPP	<ul style="list-style-type: none"> USDA State departments of agriculture Pesticide manufacturers 	<ul style="list-style-type: none"> Authority to approve emergency use of pesticides Authority to set regulations on permissible pesticide residue on crop commodities Technical expertise for risk assessment of potential pesticide use
<ul style="list-style-type: none"> Begin analysis of options for treatment methods and disposal facilities 	USDA/APHIS	<ul style="list-style-type: none"> State waste regulators EPA/OSWER DHS 	<ul style="list-style-type: none"> State-level waste management regulators are primary agencies in charge of waste management EPA/OSWER has technical expertise on disposal options
<ul style="list-style-type: none"> Continue to communicate with governmental partners, affected entities, and public 	USDA/APHIS	<ul style="list-style-type: none"> NASDA Federal government agencies (e.g., EPA, GCC) Trade associations 	<ul style="list-style-type: none"> Network of government and industry contacts
Level 2 – State/Regional Response and Level 3 – National Response			
<ul style="list-style-type: none"> Determine the agent causing the contamination 	USDA/APHIS	<ul style="list-style-type: none"> CSREES/county extension Academic institutions 	<ul style="list-style-type: none"> USDA, state, and academic labs Infrastructure to respond

RESPONSE PHASE 4: CHARACTERIZATION - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
			to crop emergencies <ul style="list-style-type: none"> • Lab analysis for select agents • Local organizations that respond to and start investigating emergencies
<ul style="list-style-type: none"> • Characterize the agent, the site(s), and the magnitude of contamination 	USDA/APHIS	<ul style="list-style-type: none"> • State departments of agriculture • State Plant Health Inspectors • Academic institutions 	<ul style="list-style-type: none"> • USDA’s ERT • Guidance documents on select agents (e.g., APHIS’ New Pest Response Guidelines) • In field presence to investigate situation
<ul style="list-style-type: none"> • Characterize the contamination 	USDA/APHIS	<ul style="list-style-type: none"> • State departments of agriculture 	<ul style="list-style-type: none"> • USDA’s ERT • Use all USDA, EPA, state, local, and academic information resources • Monitoring and surveillance to determine the extent, intensity, magnitude, and scope of the contamination to plants, soil, water, air, food, etc.
<ul style="list-style-type: none"> • Declare a National Agriculture Emergency 	Secretary of the USDA	<ul style="list-style-type: none"> • USDA/APHIS • DHS 	<ul style="list-style-type: none"> • Declaration will mobilize resources and coordination at the federal level • Use of ICS • Expenditure of Farm Credit Commodity Corporation (FCCC) funds
<ul style="list-style-type: none"> • Continue tracing the contamination forwards and backwards 	USDA/APHIS	<ul style="list-style-type: none"> • DHS 	<ul style="list-style-type: none"> • Experience working with domestic and foreign plant sources, channels of trade, and interstate commerce
<ul style="list-style-type: none"> • Draft the characterization statement 	USDA/APHIS	<ul style="list-style-type: none"> • EPA • State departments of agriculture • Regional USDA 	<ul style="list-style-type: none"> • Collaborate with DHS, Customs, and U.S. Department of Transportation (DOT) while characterizing transportation links for tracing forwards and backwards
<ul style="list-style-type: none"> • Begin analysis on available decontamination methods (e.g., pesticides) 	USDA/APHIS	<ul style="list-style-type: none"> • EPA/OPP • State departments of agriculture 	<ul style="list-style-type: none"> • EPA and state departments of agriculture have several organizational resources

RESPONSE PHASE 4: CHARACTERIZATION - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
		<ul style="list-style-type: none"> DHS 	<ul style="list-style-type: none"> for efficiently researching decontamination methods Knowledge of potentially efficacious pesticides
<ul style="list-style-type: none"> Contact EPA/OPP to coordinate availability of suitable pesticides 	USDA/APHIS	<ul style="list-style-type: none"> State departments of agriculture Pesticide manufacturers 	<ul style="list-style-type: none"> Communicate network with EPA pesticide regulatory authorities EPA can advise on suitability of potential pesticides to use Manufacturers have technical expertise on efficacy and supply
<ul style="list-style-type: none"> Make regulatory decision(s) to approve use of pesticide(s) 	EPA/OPP	<ul style="list-style-type: none"> USDA State departments of agriculture Pesticide manufacturers 	<ul style="list-style-type: none"> Authority to approve emergency use of pesticides Authority to set regulations on permissible pesticide residues on crop commodities Technical expertise for risk assessment of potential pesticide use
<ul style="list-style-type: none"> Begin analysis on options for treatment methods & disposal facilities 	USDA/APHIS	<ul style="list-style-type: none"> State waste regulators EPA/OSWER DHS 	<ul style="list-style-type: none"> State-level Waste Management Regulators are primary agencies in charge of waste management EPA/OSWER has technical expertise on disposal options
<ul style="list-style-type: none"> Continue to communicate with governmental partners, affected entities, and public 	USDA/APHIS	<ul style="list-style-type: none"> State departments of agriculture NASDA. Federal government agencies (e.g., EPA, GCC, SCC) Trade associations 	<ul style="list-style-type: none"> Utilization of the established communication channels of the GCC and the SCC Joint GCC and SCC coordination of decision-making and communications for public-private sectors Network of government and industry contacts

Response Phase 5: Decontamination

This phase involves determination of the most appropriate approaches for decontamination. The method of decontamination is, of necessity, tied to the acceptable methods of disposal. Although USDA/APHIS will be the primary agency for decontamination, there will likely be

registration discussions with EPA/OPP to ensure that the most effective, the most logistically sound, and the most environmentally appropriate method is selected. EPA, USDA, state departments of agriculture, and pesticide manufacturers are working to identify and approve suitable pesticides for the identified plant pests of concern prior to an introduction of the pest into U.S. agriculture, as was accomplished for Asian soybean rust. USDA/APHIS will decide the level of response needed and will increase its response if surveillance indicates a greater phytosanitary risk based upon the agent and its dissemination.

The decontamination treatment and monitoring are the responsibility and under the supervision of USDA/APHIS with the assistance of various cooperators. This aspect is critical when dealing with agents that pose phytosanitary risks. As with characterization, communication of completed decontamination and monitoring results to cooperators, stakeholders, and the general public will be important to alleviate their concerns.

Summary Table

RESPONSE PHASE 5: DECONTAMINATION – CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> Determine the most appropriate approach(or approaches) for decontamination after reviewing the available options. 	USDA/APHIS	<ul style="list-style-type: none"> USDA/PPQ State departments of agriculture EPA/OPP for technical assistance Pesticide manufacturers/industry Growers 	<ul style="list-style-type: none"> Review APHIS’ New Pest Response Guidelines Technical expertise of lead and support agencies in determining most appropriate decontamination options including logistics of decontamination approach(or approaches) USDA technical expertise on efficacy of pesticides and location(s) for pesticide stocks and availability Consideration of environmental impacts from decontamination options
<ul style="list-style-type: none"> Ensure that any pesticides used for decontamination are approved by EPA/OPP and state(s) 	USDA/APHIS	<ul style="list-style-type: none"> EPA/OPP State lead agency (usually, department of agriculture) 	<ul style="list-style-type: none"> EPA assesses potential human health and environmental risks from use of pesticides EPA/OPP has authority to license use of pesticides EPA/OPP establishes regulations (tolerances) on allowable pesticide residue levels in commodities
<ul style="list-style-type: none"> Perform decontamination; application of pesticide(s) 	USDA/APHIS	<ul style="list-style-type: none"> EPA SPROs 	<ul style="list-style-type: none"> Purchase of stocks of pesticides (usually by growers)

RESPONSE PHASE 5: DECONTAMINATION – CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
to decontaminate plants, premises, and equipment		<ul style="list-style-type: none"> State department of agriculture DHS DoD 	<ul style="list-style-type: none"> Expertise applying pesticides (application usually by growers or commercial pesticide applicators)
<ul style="list-style-type: none"> Continue sampling and monitoring to assess the effectiveness of decontamination method(s) and containment procedures until decontamination is determined to be adequately achieved 	USDA/APHIS	<ul style="list-style-type: none"> State labs 	<ul style="list-style-type: none"> Test samples at USDA and state depts. of agr. Labs Apply technical expertise to evaluate effectiveness of decontamination
<ul style="list-style-type: none"> Ensure that communication links between all affected, interested, and relevant parties are functioning and streamlined 	USDA/APHIS	<ul style="list-style-type: none"> Food and Agriculture GCC, SCC 	<ul style="list-style-type: none"> Use GCC and SCC to facilitate effective communications between government and industry
Level 2 - State/Regional Response and Level 3 - National Response			
<ul style="list-style-type: none"> Determine the most appropriate approach(or approaches) for decontamination after reviewing the available options 	USDA/APHIS	<ul style="list-style-type: none"> USDA/PPQ State department of agriculture EPA/OPP and OSWER for technical assistance Pesticide manufacturers/industry Growers DHS 	<ul style="list-style-type: none"> Review APHIS' New Pest Response Guidelines Use technical expertise of lead and support agencies in determining most appropriate decontamination options including logistics of decontamination approach(or approaches) Use USDA technical expertise on efficacy of pesticides and location(s) for pesticide stocks and availability Consider of environmental impacts from decontamination options FCCC can provide emergency funding if necessary DHS can help coordinate logistics
<ul style="list-style-type: none"> Ensure that any pesticides used for decontamination are approved by EPA/OPP and state 	USDA/APHIS	<ul style="list-style-type: none"> EPA/OPP State-lead agency 	<ul style="list-style-type: none"> EPA/OPP has authority to approve use of pesticides EPA/OPP establishes allowable pesticide residue limits for commodities EPA assesses potential

RESPONSE PHASE 5: DECONTAMINATION – CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
			human health and environmental risks from use of pesticides
<ul style="list-style-type: none"> Decide logistics and management for decontaminate effort; apply pesticide(s) to decontaminate plants, premises, and equipment: include who purchases and makes pesticide applications 	USDA/APHIS	<ul style="list-style-type: none"> EPA SPROs State department of agriculture DHS DoD Pesticide applicators 	<ul style="list-style-type: none"> Purchase stocks of pesticides (typically growers) Expertise applying pesticides (typically growers or commercial applicators) USDA can contract for pesticide application. USDA and/or states can decide to allow growers to make pesticide applications (typical) EPA's OSCs can assist depending on the emergency
<ul style="list-style-type: none"> Perform decontamination; apply pesticide(s) to decontaminate plants, premises, and equipment 	USDA/APHIS	<ul style="list-style-type: none"> EPA SPROs State department of agriculture DHS DoD 	<ul style="list-style-type: none"> Purchase stocks of pesticides (typically growers) Expertise applying pesticides (typically growers or commercial applicators)
<ul style="list-style-type: none"> Continue sampling and monitoring to assess the effectiveness of decontamination method(s) and containment procedures until decontamination is determined to be adequately achieved 	USDA/APHIS	<ul style="list-style-type: none"> State labs 	<ul style="list-style-type: none"> Test samples at USDA and state department of agriculture labs Technical expertise to evaluate effectiveness of decontamination
<ul style="list-style-type: none"> Ensure that communication links between all affected, interested, and relevant parties are functioning and streamlined 	USDA/APHIS	<ul style="list-style-type: none"> GCC; Food and Agr. SCC (see above) 	<ul style="list-style-type: none"> Use the GCC and SCC to ensure effective communications among government and industry

Response Phase 6: Disposal

The available disposal methods will be limited by earlier decisions about handling of phytosanitary risks and the selection of decontamination methods. Barring any unforeseen reinfection or reinfestation, there should be no need to elevate the incident response level (i.e., Levels 1, 2, and 3, as described in Chapter 2) by the time of disposal.

If all potentially infected/infested materials are to be incinerated without decontamination, the transport considerations will differ from those for disposal of treated materials at a landfill. The

selection of disposal methods will depend upon the options provided by State Solid Waste Management Regulators. Although these methods must meet phytosanitary risk requirements of USDA/APHIS, the state solid waste management agency will ultimately decide the method to use.

Early communication with the state about this issue will be important to ensure the states' ability to handle the materials that will need to be disposed. A consistent message to the public about the disposal method and disposal-related concerns will be important. Also, as mentioned above, the goal of treating field crops with approved pesticides is to control the pest and allow the crop to be harvested, which eliminates the need for disposal.

Summary Table

RESPONSE PHASE 6: DISPOSAL - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
Level 1 - Local/Limited Response			
<ul style="list-style-type: none"> Identify and characterize all plant materials and equipment requiring treatment and/or disposal, including volume of material 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> USDA/APHIS EPA/OSWER for technical assistance Waste management industry USDA/APHIS Local government agencies DHS 	<ul style="list-style-type: none"> States have technical expertise in knowledge on state environmental laws and authority to impose their standards States have expertise on administrative requirements (e.g., manifests) and local facilities accepting wastes USDA has technical expertise of select agent in magnitude of waste EPA/OSWER has technical expertise on disposal options and federal environmental standards
<ul style="list-style-type: none"> Evaluate risks for, and choose, waste treatment method(s) 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> State solid waste management industry and regulators are key in this step EPA/OSWER has technical expertise on treatment options and federal environmental standards
<ul style="list-style-type: none"> If on-site treatment or disposal is selected, contact state solid waste agency for advice 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS 	<ul style="list-style-type: none"> State solid waste management industry and regulators are key in this step EPA/OSWER has technical expertise on disposal options and federal environmental

RESPONSE PHASE 6: DISPOSAL - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
		<ul style="list-style-type: none"> DHS 	standards
<ul style="list-style-type: none"> If off-site treatment or disposal is selected, arrange for transportation and assure local/state agency and waste management industry are involved, as needed. Follow pre-approved plan for pre-determined sites, if available 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> State solid waste management industry and regulators are key in this step EPA/OSWER has technical expertise on disposal options and federal environmental standards
<ul style="list-style-type: none"> Carry out treatment and disposal 	<ul style="list-style-type: none"> IC is at the state emergency management level USDA/APHIS is primary. Federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> OSCs can help in execution of waste management
<ul style="list-style-type: none"> Close disposal site per requirements of local/state authorities 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> OSCs can help in execution of waste management
<ul style="list-style-type: none"> Arrange for disposal of PPE 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> OSCs can help in execution of waste management
<ul style="list-style-type: none"> Ensure communication links between all affected, interested, and relevant parties 	<ul style="list-style-type: none"> IC is at the state emergency management level. USDA/APHIS is primary federal agency, in partnership with state/local agencies 	<ul style="list-style-type: none"> State Solid Waste Management Regulators Waste management industry EPA/OSWER for technical assistance GCC Food and Agriculture SCC 	<ul style="list-style-type: none"> Ensure that the public is receiving one consistent message on the status of the decontamination and disposal efforts

RESPONSE PHASE 6: DISPOSAL - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 2 – State/Regional Response and Level 3 – National Response			
<ul style="list-style-type: none"> Identify and characterize all plant materials and equipment requiring treatment and/or disposal 	<ul style="list-style-type: none"> Same IC as Level 1 except that it may be expanded 	<ul style="list-style-type: none"> USDA/APHIS EPA/OSWER for technical assistance Waste management industry USDA/APHIS Local government agencies DHS 	<ul style="list-style-type: none"> States have technical expertise in knowledge of state environmental laws and authority to impose their standards States have expertise on administrative requirements (e.g., manifests) and local facilities accepting wastes USDA has technical expertise of select agent in magnitude of waste EPA/OSWER has technical expertise on disposal options and federal environmental standards
<ul style="list-style-type: none"> Choose waste treatment method(s) 	<ul style="list-style-type: none"> Same IC as Level 1 except that it may be expanded 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> State solid waste management industry and regulators are key in this step EPA/OSWER has technical expertise on treatment options and federal environmental standards
<ul style="list-style-type: none"> Choose disposal option(s) 	<ul style="list-style-type: none"> Same IC as Level 1 except that it may be expanded 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS. 	<ul style="list-style-type: none"> State solid waste management industry and regulators are key in this step EPA/OSWER has technical expertise on disposal options and federal environmental standards.
<ul style="list-style-type: none"> Execute treatment and disposal 	<ul style="list-style-type: none"> Same IC as Level 1 except that it may be expanded 	<ul style="list-style-type: none"> Waste management industry EPA/OSWER for technical assistance Local government agencies USDA/APHIS DHS 	<ul style="list-style-type: none"> OSCs can help in execution of waste management
<ul style="list-style-type: none"> Ensure communication links between all affected, interested, and relevant parties 	<ul style="list-style-type: none"> Same IC as Level 1 except that it may be expanded 	<ul style="list-style-type: none"> State Solid Waste Management Regulators Waste management industry 	<ul style="list-style-type: none"> Ensure that the public is receiving one consistent message on the status of the decontamination and disposal efforts

RESPONSE PHASE 6: DISPOSAL - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
		<ul style="list-style-type: none"> EPA/OSWER for technical assistance Association of State Territorial Solid Waste Management Officials (ASTSWMO) GCC; Food and Agriculture SCC 	<ul style="list-style-type: none"> Coordinate state waste regulator's disposal efforts for a multi-state or national incident

Response Phase 7 - Clearance

The confirmation of elimination/eradication of infection/infestation is this phrase written as intended? is achieved by negative results of ongoing monitoring and surveillance. Upon confirmation, USDA/APHIS is the agency responsible for declaration of eradication/elimination of phytosanitary risks, lifting of emergency quarantines, and communication of these outcomes to cooperators, stakeholders, and the public in a timely manner.

For more extensive national emergencies, the Secretary of Agriculture will lift any state of emergency so declared. By the time of recovery and clearance, it is expected that the ongoing characterization of potential risks will have addressed all critical issues and that there will be no need to raise the threat to a higher level.

As with all monitoring and surveillance activities (basis for clearance decisions), it is possible for some phytosanitary risks to go undetected. However, the nature of exposure to most bioterror agents is likely to be strongly expressed in susceptible hosts and unlikely to be overlooked during surveillance activities.

Summary Table

RESPONSE PHASE 7: CLEARANCE - CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 - Local/Limited Response			
<ul style="list-style-type: none"> Continue sampling to assess the status of the decontamination, cleanup, and disposal until clearance is achieved 	USDA/APHIS	<ul style="list-style-type: none"> State waste regulators EPA/OSWER State department of agriculture DHS 	<ul style="list-style-type: none"> Laboratory and technical expertise to collect environmental samples and test for decontamination effectiveness Ensure that decontamination and disposal efforts are completed
<ul style="list-style-type: none"> Declaration of non-contamination from USDA 	USDA	<ul style="list-style-type: none"> DHS State department of agriculture 	<ul style="list-style-type: none"> Authority to make decision if clearance declaration is appropriate
<ul style="list-style-type: none"> Lift emergency quarantine 	USDA/APHIS	<ul style="list-style-type: none"> DHS State department of 	<ul style="list-style-type: none"> Authority to lift emergency quarantines

RESPONSE PHASE 7: CLEARANCE – CROPS AND STORAGE FACILITIES			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
		agriculture	
<ul style="list-style-type: none"> Communicate status of recovery/clearance actions with relevant parties 	USDA/APHIS	<ul style="list-style-type: none"> GCC State department of agriculture Food and Agriculture SCC DHS Growers 	<ul style="list-style-type: none"> Communication networks Access to stakeholder groups
Level 2 – State/Regional Response and Level 3 – National Response			
<ul style="list-style-type: none"> Continue sampling to assess the status of the decontamination, cleanup, and disposal until clearance is achieved 	USDA/APHIS	<ul style="list-style-type: none"> State waste regulators EPA/OSWER State department of agriculture DHS 	<ul style="list-style-type: none"> Laboratory and technical expertise to collect environmental samples and test for decontamination effectiveness Ensure that decontamination and disposal efforts are completed
<ul style="list-style-type: none"> Declaration of non-contamination from USDA 	USDA	<ul style="list-style-type: none"> DHS State department of agriculture 	<ul style="list-style-type: none"> Authority to make decision if clearance declaration is appropriate
<ul style="list-style-type: none"> Lift emergency quarantine 	USDA/APHIS	<ul style="list-style-type: none"> DHS State department of agriculture 	<ul style="list-style-type: none"> Authority to lift emergency quarantine
<ul style="list-style-type: none"> Lift National Ag. Emergency 	USDA (Secretary)	<ul style="list-style-type: none"> DHS 	<ul style="list-style-type: none"> Authority to lift the state of emergency
<ul style="list-style-type: none"> Communicate status of recovery/clearance actions with relevant parties 	USDA/APHIS	<ul style="list-style-type: none"> GCC State department of agriculture Food and Agriculture SCC DHS Growers 	<ul style="list-style-type: none"> Communication networks Access to stakeholder groups

IV. FOOD



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IV. FOOD

A. Introduction

Food safety and security is regulated by and the responsibility of the USDA/FSIS and the U.S. HHS/FDA, depending on the food commodity or product. USDA/FSIS regulates domestic and imported meat, poultry, and some egg products²⁰, and HHS/FDA regulates all other food products. USDA/APHIS regulates the item while it is a crop, or in the growing phase, and HHS/FDA regulates the item once it is harvested. APHIS regulates animals pre-slaughter. Additionally, states exercise regulatory control over the food industry, usually through the activities of state departments of agriculture and health. For example, local health departments regulate retail food safety in most of the nation.



Food adulteration events that relate to FDA-regulated food are limited in scope may be addressed at the state and local level. In general, the Federal HHS/FDA functions mainly in an advisory role in single state incidents, but may serve a more active role if the incident involves several states or if a state is unwilling or unable to fully respond. However, for meat, poultry, and egg products, USDA/FSIS is the lead agency in managing incidents of adulterated food for food commodities under their regulatory jurisdiction, regardless of the size or location of the incident. Therefore, discussion in this chapter may be split between USDA/FSIS and HHS/FDA, depending on the food commodity or product.

This chapter is not scenario-specific²¹ because the response would be the same regardless of the type of food involved. It outlines coordination of response resources regardless of the threat agent and whether or not the incident was intentional or unintentional. Certain authorities may be involved initially and additional authorities may be brought into play, if and when the magnitude of the incident grows.

B. Summary of Emergency Response Phases 1-3

B.1. FDA-regulated Commodities

Response Phase 1 - Preparedness/Surveillance

Surveillance for food-borne illness is conducted by CDC and state and local authorities (food borne illness investigations) and food regulatory agencies (via sampling, complaint investigations, and inspections) at the local, state, and federal level. Intentional contamination may also be detected by law enforcement agencies through their information sources.

²⁰Fluid milk is regulated by FDA in cooperation with the states.

²¹The scenarios used during the interagency workshop are discussed in the Appendices.

Response Phase 2 - Detection/Notification/Initial Response

Once contamination is suspected or identified by the surveillance system, the agency that has made the identification will notify other federal, state, and local food regulatory agencies and FBI, as appropriate. The lead regulatory agency will coordinate informing industry and the public about the incident, as appropriate. The latter activity, in particular, will likely also involve state and local authorities. The lead regulatory agency will coordinate federal, state and local food regulatory agencies sampling and investigations for food safety purposes. [State or Local offices?] Offices of epidemiology will coordinate disease outbreak investigations. FBI and other law enforcement agencies will conduct investigations and forensic sampling for criminal investigatory purposes.

Response Phase 3 - Control and Containment

Based on investigational findings during Response Phase 2, lab results and any epidemiological information, HHS/FDA, state, and local government agencies will determine whether to detain equipment and/or product known, or suspected, to be contaminated and quarantine affected areas. Actions are most likely to be performed at the state and local level. However, HHS/FDA may act to detain a product under its own authority under certain circumstances. The Federal, state, and local authorities decide whether to shut down operations at other potentially affected entities (e.g., farms, trucking companies, processing plants, retail outlets). Again, action is mostly likely to be at the state or local level. Industry may initiate voluntary product recalls and public notification as well. The lead regulatory agency will coordinate state and local actions to notify the public and industry through press releases and other appropriate actions.

B.2. USDA/FSIS-regulated Commodities**Response Phase 1 - Preparedness/Surveillance**

Surveillance for food contamination incidents is conducted by USDA/FSIS or state inspectors working at slaughter and processing facilities, by USDA/FSIS laboratory personnel analyzing product samples, by USDA/FSIS personnel who may discover illegal activities in marketplaces, and by USDA/FSIS headquarters personnel monitoring calls to the Meat and Poultry Hotline and the Consumer Complaint Monitoring System. Intentional contamination may also be detected by law enforcement (e.g., DHS/FBI) or intelligence agencies through their information sources. Illness surveillance by local, state, and federal agencies, such as the CDC's surveillance system for USDA/FSIS-regulated products, is as critical to USDA/FSIS-regulated products as it is to FDA-regulated products.

Response Phase 2 - Detection/Notification/Initial Response

Once contamination is suspected or identified by the surveillance system, or threat information is received from law enforcement or intelligence agencies, USDA/FSIS will move to retain products in processing that have not yet entered domestic commerce, and to detain products already in distribution. The USDA/FSIS field personnel will notify the facility manager of the public health protection rationale for the retention and detention actions. Location of incident will determine USDA/FSIS office involved.

Response Phase 3 - Control and Containment

USDA/FSIS can retain and detain products for up to 20 days prior to petitioning the court for product seizure if an acceptable response action cannot be reached with the facility owner. Response actions might include the initiation of a voluntary food product recall by the manufacturer and public notification of the recall by USDA/FSIS.

As needed, the USDA/FSIS District Manager will coordinate response actions with the appropriate state agencies, local law enforcement and FBI, and other relevant federal agencies. For example, HHS/FDA may need to be contacted to coordinate response actions for secondary products (i.e., food products made with meat, poultry, or egg products not amenable to USDA/FSIS regulations), given overlapping authorities, or to provide specialized or surge laboratory support. Regional EPA may provide support for waste disposal and facility decontamination response actions, particularly for incidents involving hazardous wastes and/or the transport of contaminated products across state lines. DHS/Transportation Security Administration (TSA) may provide support for response actions needed for truck and tanker shipments of contaminated product.

KEY PROCESS STEPS FOR PHASES 1-3 OF A RESPONSE FOR HHS/FDA-REGULATED COMMODITIES		
Phase 1 - Preparedness/Surveillance	Phase 2 - Detection/Notification/Initial Response	Phase 3 - Control/Containment
<p>Surveillance for food-borne illness.</p> <ul style="list-style-type: none"> Epidemiologists (i.e., CDC and state and local offices of epidemiology, via food borne illness investigations) <p>Surveillance for food contamination</p> <ul style="list-style-type: none"> Food regulatory agencies (via sampling, complaint investigations and inspections). Fix alignment of this bullet so that it matches the top bullet 	<ul style="list-style-type: none"> Depending on who receives the initial information (state, HHS/FDA, law enforcement), all these agencies are notified. Initiate investigations and sample collection FBI leads law enforcement investigation FBI will notify DHS, who will notify GCC, Joint Terrorism Task Force (JTTF) Once initial signs of contamination detected (by surveillance, sampling, or intelligence), all other relevant agencies notified by detecting agency If terrorist act suspected, DHS/FBI leads law enforcement 	<ul style="list-style-type: none"> Based on lab results and investigation findings, state/FDA will determine whether to detain equipment and product known to be contaminated and alert the public and industry Depending on the circumstances (e.g., if a state is unable or unwilling to act), FDA may act on its own authority to detain or seize product FBI leads law enforcement investigation
<ul style="list-style-type: none"> Surveillance conducted by FSIS Inspectors at slaughter and processing facilities, by FSIS laboratory personnel analyzing product samples, and by FSIS headquarters personnel monitoring calls to Meat and Poultry Hotline and Consumer Complaint Monitoring System Illness surveillance for food contamination is conducted by epidemiologists at CDC and state offices of epidemiology, via food borne illness investigations) and food regulatory agencies (via sampling, complaint investigations and inspections) at the local, state, and federal level 	<ul style="list-style-type: none"> FSIS inspectors supervise product sampling, retaining products in processing facilities, and detaining products in distribution FSIS District Manager, with FSIS Inspector-in-Charge at establishment notify facility manager of public health protection rationale for retention/detention actions FDA might provide analytical lab support and coordinate response actions for potentially affected secondary food products Notifies Criminal Investigation Division 	<ul style="list-style-type: none"> FSIS can retain/detain products for up to 20 days prior to petitioning court for product seizure Response actions might include initiation of voluntary food product recall by manufacturer and public notification of recall by FSIS

C. Summary of Emergency Response Phases 4 – 7

The following response information discussed for Phases 4 – 7 is the same regardless of lead agency.

Response Phase 4 – Characterization

Characterization, as discussed in Chapter 2 and as described in this section, is done to identify the extent of contamination in the environment. Once FSIS or FDA/state has determined that the product is contained, and management of the potential public health impacts of the incident is under way, additional testing can be performed to better characterize the contamination to determine the appropriate disposal and effective decontamination response actions.

Characterization should include sampling strategies to identify when remedial actions are complete, worker protection requirements, and the disposition of any secondary waste streams generated during decontamination.

For a Level 1 incident, where contamination is limited to a single truck or facility, environmental characterization would probably not be necessary depending on the agent present. For a Level 2 incident, because contaminated products may have been distributed beyond the facility or truck that was the original source of contamination, environmental contamination may have occurred (e.g., spread by trucks onto roads and into the air, transported to sewage treatment plants by routine equipment cleaning operations, etc.) and environmental characterization is necessary. In each case, the steps are the same; however, the task is larger and more complex.

For a Level 2 incident, the state, working with FDA and USDA/FSIS, as appropriate, would assess potential pathways for spread of contamination beyond the source (e.g., trace back to the source of contamination and trace forward to processing facilities, transportation routes). Sampling strategies would be developed and environmental samples would be taken along likely routes and at likely destinations. Sampling inside food facilities could be performed by FDA, FSIS, state or local agency, a food establishment employee, or a private laboratory. Data from the testing would be used in developing site-specific strategies for decontamination. EPA might provide technical assistance in developing the sampling strategies and identifying appropriate testing techniques and methods. If state and FSIS capabilities are overwhelmed, EPA might assist in taking samples and identifying laboratories that could provide analytical support. Along those lines, EPA has undertaken an effort to catalog EPA and state environmental lab capabilities. This compendium of labs could be used during an incident to identify appropriate laboratory facilities, as needed. The Food Emergency Response Network (FERN) is a lab consortium for food testing. Other agencies in the FERN laboratory network would be involved in analyses.

For a Level 3 incident, there could be extensive environmental contamination, as well as numerous vehicles and facilities that are contaminated, including warehouses, supermarkets, schools, restaurants, and individual homes. People could have contaminated food in their refrigerators, or they may dispose of contaminated products outdoors, in their trash or down the drain. Therefore, there could be widespread environmental contamination as well. The overall response would be federalized, and the need for environmental sampling will greatly

exceed available resources at all levels. Priorities for sampling will need to be established at the national level, probably by the DHS through the Interagency Incident Management Group (IIMG) as directed in the NRP. EPA would support this effort under the NRP’s ESF Annex #10, according to the national priorities.

Summary Table

RESPONSE PHASE 4 – CHARACTERIZATION - FOOD AND FOOD PROCESSING PLANTS			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
Level 1 – Local/Limited Response			
<ul style="list-style-type: none"> Some environmental sampling (inside and outside facility) may be necessary 	<ul style="list-style-type: none"> IC is at the state/local level 	<ul style="list-style-type: none"> FDA or USDA/FSIS may be a support agency 	<ul style="list-style-type: none"> FDA would have a lot of involvement because the contamination could have come from an ingredient that was shipped interstate
<ul style="list-style-type: none"> Continue criminal investigation if agent is considered to be potentially nefarious 	<ul style="list-style-type: none"> DOJ/FBI leads investigation and coordinates with existing IC 	<ul style="list-style-type: none"> FSIS and FDA investigative personnel might provide support 	<ul style="list-style-type: none"> DOJ/FBI criminal investigation and law enforcement officials
Level 2 – State/Regional Response			
<ul style="list-style-type: none"> Assess potential pathways for spread of contamination beyond source (e.g., trace back to source of contamination and trace forward to processing facilities, transportation routes) 	<ul style="list-style-type: none"> IC is at the state/local level 	<ul style="list-style-type: none"> FDA or FSIS will support effort, especially if multiple states are involved EPA assist, if necessary 	<ul style="list-style-type: none"> FDA or USDA/FSIS assist in identifying destinations of contaminated products, facilitate coordination across states Federal EPA assists in determining all related environmental contamination
<ul style="list-style-type: none"> Develop and implement sampling strategies along routes of likely spread of contamination 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA support efforts if state is overwhelmed FDA and FSIS might assist in development of sampling strategies 	<ul style="list-style-type: none"> EPA, FDA, and FSIS provide technical assistance in identifying appropriate methods, as needed, and developing and implementing strategies
<ul style="list-style-type: none"> Analyze samples (products and surfaces) 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA, FDA, and FSIS might assist in identifying capable laboratories; possibly also provide analytical support FERN could provide support
<ul style="list-style-type: none"> Analyze lab results for use in developing decontamination strategies 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA can assist in data analysis/interpretation
Level 3 – National Response			
<ul style="list-style-type: none"> Same process steps as for Level 2, but scale is much larger 	<ul style="list-style-type: none"> IC is at federal level with FDA, FSIS, or DHS/FBI as primary agency 	<ul style="list-style-type: none"> EPA or other agencies will provide support 	<ul style="list-style-type: none"> All available assets listed above may be used, consistent with national priorities

Response Phase 5 – Decontamination

The steps for decontamination are the same for all levels. Specifically, after the extent of contamination is identified:

- The need for and feasibility of decontamination is determined;
- Decontamination goals are established;
- Options for meeting those goals are identified and evaluated;
- Decontamination strategy is developed and implemented;
- Decontamination effectiveness is evaluated;
- Further decontamination may be necessary, if the decontamination goals have not been met; and
- Wastes are collected for disposal.

In most cases, food products contaminated by chemical or biological threat agents would not be decontaminated for subsequent use, but rather collected and disposed. Disposal of these products is discussed later in the section on disposal. However, it may be necessary to decontaminate vehicles, equipment, and facilities. In general, this would be the legal and financial responsibility of the respective owners and/or operators.

For a Level 1 incident (e.g., limited to a single truck or facility), where contamination involves an HHS/FDA-regulated food, IC would be at the state level, with HHS/FDA providing assistance, if necessary. Where it involves a USDA-regulated food, the USDA/FSIS or a designated state department of agriculture would be the lead agency overseeing the decontamination.

Decontamination requirements would most likely be established by state and local officials, who would then oversee the decontamination to ensure that it has been done appropriately and effectively. For contamination incidents involving chemical and biological threat agents, advice on appropriate decontamination options and cleanup levels might be sought from HHS/FDA and EPA, who may also be able to identify qualified decontamination contractors. At USDA/FSIS facilities, the District Manager and Inspector-in-Charge have the authority to determine what steps the establishment must take to restore sanitary conditions such that production of safe products can resume.

If the contaminant is biological and there are no decontamination products approved for use against the agent, EPA could grant an emergency exemption under FIFRA Section 18 to allow use of an appropriate and effective product. After decontamination, sampling would be done to confirm that contamination has been eliminated or reduced to an acceptable level. The sampling might be done by the state or by the contractor hired by the owner/operator to do the decontamination. Further decontamination may be necessary until all regulatory requirements for decontamination goals are met.

For a Level 2 incident, where there has been limited distribution of contaminated products to warehouses or retail establishments, the steps in decontamination are essentially the same as for a Level 1 incident, but the task will be much larger. The numbers of potentially contaminated trucks, facilities, and various types of equipment will be much greater. It is also possible that there may be contamination released to the environment (e.g., spread by trucks onto roads and

into the air, transported to sewage treatment plants by routine equipment cleaning operations). Decontamination at individual sites will most likely be managed by an ICS headed by the state; but, an Area Command may be necessary to coordinate the overall response, establish decontamination priorities, and maximize effective use of all available resources. If the state is capable of heading the Area Command, it will take that role; if not, the Area Commander will be HHS/FDA or USDA/FSIS, as appropriate.

For meat, poultry, and egg products, FSIS requires that the owners of a contaminated establishment undertake a series of steps to ensure the restoration of sanitary conditions so that processing and/or distribution of products can resume. Under 9 CFR §416.15(b) of the Sanitation Standard Operating Procedures (SSOP) regulations, the owner of the establishment must take corrective actions that include procedures to ensure appropriate disposition of products that may be contaminated and to restore sanitary conditions in decontaminating the facility. The decontamination plan must also consider the protection of worker health and the disposition of any secondary waste streams produced by the remedial actions.

If there is environmental contamination, EPA will participate in the Environmental Unit of the Operations Section within the ICS to oversee or conduct decontamination of environmental releases. If state capabilities for facility/equipment decontamination oversight are fully used and additional resources are needed, EPA may be asked to provide additional resources. It should be noted that if contamination can be sealed off and secured within a facility, vehicle or piece of equipment, decontamination efforts by EPA will be redirected to other priorities.

For a Level 3 incident, there will be widespread distribution of contaminated products throughout the nation, and potentially extensive environmental contamination as well. Decontamination efforts will have to be federalized, because the need for decontamination will greatly exceed available resources at all lower levels. Priorities for decontaminating critical infrastructure will have to be set at the national level, probably by DHS through the Interagency Incident Management Group. EPA will actively support marshaling, organizing, and overseeing decontamination efforts under the NRP ESF Annex #10, according to the national priorities. The DoD and the National Guard will be needed for support. Stafford Act funding will most likely be needed to pay for these operations, because the costs will likely significantly exceed other available sources.

Summary Table

RESPONSE PHASE 5 - DECONTAMINATION - FOOD AND FOOD PROCESSING PLANTS			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 - Local/Limited Response			
<ul style="list-style-type: none"> Identify need for, and feasibility of, decontaminating vehicles, equipment, and facilities 	<ul style="list-style-type: none"> IC is at the state emergency management level FDA or FSIS is primary federal agency 	<ul style="list-style-type: none"> Primary resources are at local level State resources may be used Need for federal resources is limited 	<ul style="list-style-type: none"> Decontamination is legal and financial responsibility of owner/operators Owner may opt for disposal rather than decontamination

RESPONSE PHASE 5 - DECONTAMINATION - FOOD AND FOOD PROCESSING PLANTS			
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities
<ul style="list-style-type: none"> Identify decontamination goals and options; select best option 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA could provide technical assistance 	<ul style="list-style-type: none"> If contamination is biological, EPA/OPP pesticide expertise could be consulted If no registered products are available, EPA/OPP can provide FIFRA §18 emergency exemption, if warranted Advice on appropriate decontamination options and cleanup levels might be sought from HHS/FDA (at FDA-regulated facilities), and EPA, who may also be able to identify qualified decontamination contractors
<ul style="list-style-type: none"> Develop and implement decontamination strategy 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA/OSWER could provide advice on strategies
<ul style="list-style-type: none"> Evaluate effectiveness and decontamination further, if necessary 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA/OSWER could recommend methods for evaluating effectiveness
<ul style="list-style-type: none"> Collect wastes and wastewaters for disposal, as necessary 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> EPA/OSWER could identify appropriate ways of temporarily storage wastes awaiting disposal
Level 2 - State/Regional Response			
<ul style="list-style-type: none"> Same process steps as for Level 1, but scale increases 	<ul style="list-style-type: none"> Same IC as Level 1, except that it may be expanded into Area Command, headed by state, if possible, otherwise by FDA or USDA/FSIS 	<ul style="list-style-type: none"> Same as Level 1 	<ul style="list-style-type: none"> Same as Level 1, plus EPA could oversee activities or conduct cleanup of environmental contamination if state/private resources are overwhelmed
Level 3 - National Response			
<ul style="list-style-type: none"> Same process steps as for Level 1, but scale is much larger 	<ul style="list-style-type: none"> IC is at federal level 	<ul style="list-style-type: none"> All relevant agencies would be mobilized 	<ul style="list-style-type: none"> EPA would support, conduct and/or oversee all phases of decontamination of critical infrastructure according to national priorities

Response Phase 6 - Disposal

For a Level 1 incident, disposal of contaminated food products will be managed at the state/local level. Federal agencies (e.g., HHS/FDA, USDA/APHIS, and EPA) will play a supporting role by providing technical expertise and resources as the incident escalates in severity and scope. In a catastrophic national event that encompasses multiple facilities and/or

food products, the NRP will be activated and bring to bear the full authority and resources of the Federal government.

Summary Table

RESPONSE PHASE 6 – DISPOSAL - FOOD AND FOOD PROCESSING PLANTS				
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities	USDA/FSIS & HHS/FDA Field Staff Response Actions -EXECUTION DETAILS
Level 1 - Local/Limited Response				
1. Ascertain agency in charge based on product and location in process.	<ul style="list-style-type: none"> ICS is at the state emergency management level, or USDA/FSIS is the primary federal agency. 	<ul style="list-style-type: none"> FDA or FSIS may be a support agency²² 	<ul style="list-style-type: none"> State environmental agency has oversight. Works with owner of product and disposal facility to issue/modify permits for disposal actions Federal agencies could support local/state efforts in assessing food disposal options and capacity 	<ul style="list-style-type: none"> USDA/FSIS will activate the Emergency Management Committee (EMC), which will develop recommended actions. The EMC will work with the ICS at the local level through the FSIS District Office HHS/FDA's EOC will work with the ICS at the local level through the FDA District Office
2. Assess volume of food materials for disposal (product, equipment, vehicles, etc.)	<ul style="list-style-type: none"> ICS is at the state emergency management level, or USDA/FSIS is the primary federal agency 	<ul style="list-style-type: none"> HHS/FDA or USDA/FSIS may be a support agency 	<ul style="list-style-type: none"> HHS/FDA and USDA/FSIS could support local/state efforts in assessing food products for disposal 	<ul style="list-style-type: none"> USDA/FSIS EMC and HHS/FDA EOC will work with ICS through District Offices. For FSIS-regulated products, it is their Districts; for FDA-regulated products, it is their Districts
3. Determine waste classification (hazardous/solid/ medical/ infectious/ special) based on categorization of agents.	<ul style="list-style-type: none"> Same as above. However, state/local agencies might apply more stringent criteria and classify wastes as hazardous particularly under heightened media attention 	<ul style="list-style-type: none"> HHS/FDA or USDA/FSIS may be a support agency, especially for decisions involving rendering as a disposition option 	<ul style="list-style-type: none"> EPA/OSWER could be consulted. EPA may facilitate disposition of hazardous waste requiring interstate transfers 	<ul style="list-style-type: none"> Same as above
4. Determine if decontaminatio	<ul style="list-style-type: none"> ICS 	<ul style="list-style-type: none"> HHS/FDA or USDA/FSIS may 	<ul style="list-style-type: none"> EPA/OSWER decontamination 	<ul style="list-style-type: none"> Same as above

²²Egg products in transit are under FDA jurisdiction. Meat and poultry products in transit are under USDA/FSIS jurisdiction.

RESPONSE PHASE 6 – DISPOSAL - FOOD AND FOOD PROCESSING PLANTS				
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities	USDA/FSIS & HHS/FDA Field Staff Response Actions -EXECUTION DETAILS
n is needed for transportation and disposal		be a support agency	expertise could be consulted	
5. Determine if treatment is available for hazardous disposal, if necessary	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA/OSWER could be consulted 	<ul style="list-style-type: none"> • Same as above
6. Determine disposal method(s) on- and off-site; evaluate risk for disposal option(s); develop a disposal plan	<ul style="list-style-type: none"> • Product owner develops disposal plan and submits to state/local agencies for approval and permitting 	<ul style="list-style-type: none"> • HHS/FDA or USDA/FSIS may be a support agency, especially for decisions involving rendering as a disposition option 	<ul style="list-style-type: none"> • EPA's OSWER, air, and water expertise could be consulted on composting, landfilling, combustion, etc. 	<ul style="list-style-type: none"> • Same as above
7. Arrange for transportation	<ul style="list-style-type: none"> • IC is at the state emergency management level, or, USDA/FSIS is primary federal agency. • Either case in coordination with state DOT 	<ul style="list-style-type: none"> • HHS/FDA, USDA/FSIS, or DOT may be support agencies • <i>Note:</i> DOT and/or DHS/TSA points of contact (POCs) should be identified 	<ul style="list-style-type: none"> • EPA/OSWER hazardous waste manifest expertise could be consulted 	<ul style="list-style-type: none"> • Same as above
8. Secure approvals from local/state and waste management firm for off-site disposal. Follow pre-approved plan for pre-determined sites, if available	<ul style="list-style-type: none"> • IC is at the state emergency management level 	<ul style="list-style-type: none"> • HHS/FDA, USDA/FSIS, and EPA may be support agencies 	<ul style="list-style-type: none"> • EPA/OSWER disposal expertise could be consulted 	<ul style="list-style-type: none"> • Same as above
9. Carry out disposal plan	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • EPA/OSWER, air, and water expertise could be consulted 	<ul style="list-style-type: none"> • Same as above
10. Close on-site disposal/compost site per requirements of local/state	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 		<ul style="list-style-type: none"> • Same as above

RESPONSE PHASE 6 – DISPOSAL - FOOD AND FOOD PROCESSING PLANTS				
Key Process Steps	Agency in Charge¹	Support Agencies	Capabilities	USDA/FSIS & HHS/FDA Field Staff Response Actions -EXECUTION DETAILS
authorities				
11. Arrange PPE and secondary wastestreams	<ul style="list-style-type: none"> • Same as above 	<ul style="list-style-type: none"> • Same as above 		<ul style="list-style-type: none"> • Same as above
Level 2 - State/Regional Response				
<ul style="list-style-type: none"> • Same process steps as for Level 1 incident, but scale increases. Disposal capacity may become stressed 	<ul style="list-style-type: none"> • Same IC as Level 1, except that it may be expanded to bring in federal aid 	<ul style="list-style-type: none"> • Local resources fully used. State resources required to a greater degree. Need for federal resources and coordination likely to increase • Coordinated communication to all stakeholders, through ICS and Joint Information Center (JIC), is critical. 	<ul style="list-style-type: none"> • Same resources identified for Level 1 are available, but may be used to a greater degree 	<ul style="list-style-type: none"> • Same as above
Level 3 - National Response				
<ul style="list-style-type: none"> • Same as for disposal of process steps as for Levels 1 and 2, but scale is much larger. National disposal capabilities may be overwhelmed 	<ul style="list-style-type: none"> • IC is at federal level with USDA or FDA as primary agency, depending on product/commodity. DHS/FBI would be in charge if this were a terrorist incident 	<ul style="list-style-type: none"> • USDA may coordinate interagency support through DHS/FEMA, MAC groups, or by directly contacting EOC of another agency • Disposal will be overwhelmed and may require EPA disposal capacity coordination • Coordinated communication to all stakeholders, through ICS and JIC, is critical • Minimizing public health and environmental 	<ul style="list-style-type: none"> • EPA OSCs may work under Disposal Unit of the ICS. EPA might also mobilize its emergency response contractor (i.e., USACOE) for transportation, materials handling, and disposal unit construction/operation 	<ul style="list-style-type: none"> • Same as above

RESPONSE PHASE 6 – DISPOSAL - FOOD AND FOOD PROCESSING PLANTS				
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities	USDA/FSIS & HHS/FDA Field Staff Response Actions -EXECUTION DETAILS
		impacts may require interim storage of contaminated products pending availability of suitable waste disposal capacity		

Response Phase 7 - Clearance

For vehicles, equipment, or localized contamination in facilities, USDA/FSIS or the state (with HHS/FDA oversight) will evaluate the post-decontamination sampling data and make a determination as to whether the decontaminated vehicles, equipment, or facilities may be used for their original food-related purposes, or for other purposes. They will also reissue any permits that have been withdrawn, and release impounded vehicles or equipment. The Department of Labor (DOL)/Occupational Safety and Health Administration (OSHA) may need to be consulted if there is any residual contamination to which workers may be exposed in the future. It should be noted that because of the potentially high costs of decontamination and the public stigma associated with intentionally contaminated product, owners/operators may choose disposal of equipment and closure of facilities over decontamination.

For environmental contamination, or for widespread contamination of large facilities and critical infrastructure, a process for clearing decontaminated areas for re-occupancy will be similar to the process used for the largest anthrax cleanups. An independent committee of technical experts will be convened to peer-review the individual cleanups and make recommendations on whether a decontaminated area can be reoccupied. This committee will be a multi-disciplinary advisory group, composed of scientists from USDA/FSIS, HHS/FDA and CDC, DOL/OSHA, EPA, DoD, as well as relevant state, local, and tribal agencies. They will evaluate site-specific and agent-specific characteristics, epidemiological information, the methods used in decontamination, and sampling data taken before and after decontamination. Based on this analysis, the committee will recommend that the area can be either reoccupied and used for food handling or that further cleanup is necessary.

Summary Table

RESPONSE PHASE 7 – CLEARANCE - FOOD AND PROCESSING PLANTS*			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
Level 1 - Local/Limited Response and Level 2 - State/Regional Response			
<ul style="list-style-type: none"> For vehicles, equipment, or localized contamination in facilities, evaluate post-decontamination sampling data 	<ul style="list-style-type: none"> State or USDA/FSIS 	<ul style="list-style-type: none"> HHS/FDA 	<ul style="list-style-type: none"> Laboratory and technical expertise to collect samples and test for decontamination effectiveness

RESPONSE PHASE 7 – CLEARANCE – FOOD AND PROCESSING PLANTS*			
Key Process Steps	Agency in Charge ¹	Support Agencies	Capabilities
<ul style="list-style-type: none"> Determine whether decontamination is adequate 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Reissue permits; release impounded vehicles or equipment 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Communicate status of recovery/clearance actions with relevant parties 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Communication networks Access to stakeholder groups
Level 3 - National Response			
<ul style="list-style-type: none"> Evaluate post-decontamination sampling data for vehicles, equipment, or localized contamination in facilities 	<ul style="list-style-type: none"> State or USDA/FSIS 	<ul style="list-style-type: none"> HHS/FDA DOL/OSHA 	<ul style="list-style-type: none"> Laboratory & technical expertise to collect samples and test for decontamination effectiveness Consultation on minimizing worker exposure to potential residual contamination
<ul style="list-style-type: none"> Determine whether decontamination is adequate 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Re-issue permits; release impounded vehicles or equipment 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	
<ul style="list-style-type: none"> Determine decontamination effectiveness for environmental contamination, widespread contamination of large facilities or critical infrastructure 	<ul style="list-style-type: none"> State Health Department or Environmental Agency 	<ul style="list-style-type: none"> USDA/FSIS, HHS/FDA and CDC, EPA, and DOL/OSHA, relevant state, local tribal agencies 	<ul style="list-style-type: none"> Evaluate site- and agent-specific characteristics, relevant epidemiological information, pre- and post-decontamination sampling data, and decontamination methods used, to recommend whether areas can be re-occupied or further decontamination is necessary
<ul style="list-style-type: none"> Communicate status of recovery/clearance actions with relevant parties 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Same as above 	<ul style="list-style-type: none"> Communication networks Access to stakeholder groups

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APPENDIX A
CONTACT INFORMATION FOR KEY PROGRAM OFFICES AND
EMERGENCY OPERATION CENTERS



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APPENDIX A
CONTACT INFORMATION FOR KEY PROGRAM OFFICES AND
EMERGENCY OPERATION CENTERS

Agency	Phone number	Website
National Response Center (NRC) <i>To report oil or chemical spills</i>	800-424-8802	http://www.nrc.uscg.mil/
U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) APHIS Emergency Operations Center (EOC) APHIS Plant Protection and Quarantine (PPQ) Food Safety Inspection Service (FSIS)	1-877-677-2369 (toll free) <i>[please add others as appropriate]</i>	http://www.usda.gov/ http://www.aphis.usda.gov/ http://www.aphis.usda.gov/ppq/ http://www.fsis.usda.gov/
U.S. Department of Defense (DoD)	<i>[please add as appropriate]</i>	http://www.dod.gov/
U.S. Department of Health and Human Services (HHS) Food and Drug Administration (FDA) FDA Emergency Operations Center (EOC)	301-443-1240	http://www.hhs.gov/ http://www.fda.gov/
U.S. Department of Homeland Security (DHS) Homeland Security Operations Center (HSOC)	<i>[please add as appropriate]</i>	http://www.dhs.gov/
U.S. Environmental Protection Agency (EPA) Office of the Administrator Office of Homeland Security	202-272-0167 202-564-6978	http://www.epa.gov http://www.epa.gov/adminweb/ http://www.epa.gov/homelandsecurity/
Office of Enforcement and Compliance Assurance (OECA) Office of Criminal Enforcement, Training and Forensics Criminal Investigation Division	202-564-2440 202-564-2480 202-564-2523	http://www.epa.gov/compliance/
Office of Prevention, Pesticides, and Toxic Substances (OPPTS) Office of Pesticide Programs (OPP)	202-564-2902 703-305-7090	http://www.epa.gov/oppts/ http://www.epa.gov/pesticides/
Office of Solid Waste and Emergency Response (OSWER) Emergency Operations Center Office of Emergency Management	202-566-0200 202-564-3850 202-564-8600	http://www.epa.gov/swerrims/ http://www.epa.gov/swerrims/emergencies.htm
Office of Water (OW) Office of Groundwater and Drinking Water Water Security Division	202-564-5700 202-564-3750 202-564-3779	http://www.epa.gov/OW/ http://www.epa.gov/safewater/ http://cfpub.epa.gov/safewater/watersecurity/index.cfm

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APPENDIX B
SECTOR-SPECIFIC SCENARIOS USED IN DEVELOPING
ANIMALS, CROPS, AND FOOD CHAPTERS



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APPENDIX B

SECTOR-SPECIFIC SCENARIOS USED IN DEVELOPING ANIMALS, CROPS, AND FOOD CHAPTERS

This appendix describes the scenarios used in writing the sector-specific chapters. For animals, a background of disease and general response strategy is given followed by examples of level 1, 2, and 3 incidents with the pathogen. For crops, the pathogen is described and then examples are given of level 1, 2, and 3 incidents with the pathogen. For food, the response process for decontamination and disposal is summarized for scenarios at levels 1, 2, and 3.

Animals

Pathogen Analyzed: Foot-and-Mouth Disease Virus

The foot-and-mouth disease (FMD) virus is an extremely contagious viral disease of domestic cloven-hoofed and many wild animal species. It is characterized by fever, vesicular lesions, and subsequent erosions of the epithelium of the mouth, tongue, nares, muzzle, feet, and teats. FMD virus stability includes:

- pH sensitive: <6.5 or > 11.0
- UV sensitive: sunlight
- Survives in moist, organic-rich materials

FMD virus is transmitted via aerosols, direct contact, meat products, and fomites.

U.S. Department of Agriculture (USDA) is the lead federal agency under the Animal Health Protection Act, the Economy Act, Homeland Security Presidential Directive #9 (HSPD-9), ESF Annex #4, and ESF Annex #11. Other key federal agencies involved are the U.S. Department of Health and Human Services/Food and Drug Administration (HHS/FDA), U.S. Department of Homeland Security (DHS), U.S. Department of Defense (DoD), U.S. Environmental Protection Agency (EPA), and the Department of Labor (DOL)/Occupational Safety and Health Administration (OSHA). The goal of USDA/Animal and Plant Health Inspection Service (APHIS) is to detect, control, and eradicate the disease agents as quickly as possible to return the United States to free status. The scope of the disaster used by the animal workgroup varies in the speed of the response due to multiple foci and real time exponential growth. Affected animals are appraised and disposed of as close to the affected premises as possible – usually within 12 to 24 hours of culling.

The location chosen for this scenario is the Midwestern states. FMD is theoretically introduced into cattle/swine herds. Estimated requirements are 5 workers per herd of 40 animals per day for depopulation and disposal. Average herd size is 200 animals. Level 1 and 2 scenarios occur regularly and are being handled cooperatively between federal, state, and local organizations. A Level 3 response, specifically in the case of FMD, is a huge task.

Scenario for Level 1: Single Premises Response

Location: Central Kansas

- Limited to one location (27 head of dairy cattle)
- Foreign Animal Disease Diagnostician (FADD) investigates as part of routine surveillance
- Diagnosis
- LOCAL: state, federal, industry agricultural responders
- Quarantine
- Depopulation
- Disposal
- Re-stocking of herd
- Resume ongoing surveillance

Scenario for Level 2: Multiple Premises Confined Area Response

Multiple infected premises, limited geographically.

Location: Central and Eastern Texas

- All activities from the Level 1 - Example 1 scenario, plus:
- REGIONAL: State, federal, and industry agricultural responders with or without State Emergency Management Agency (SEMA) or DHS/Federal Emergency Management Agency (FEMA)
- Can use all or part of the federal Animal Emergency Response Organization (AERO) team

Scenario for Level 3: Multiple States

Multiple infected premises, widespread geographically

Examples: 1914 U.S. FMD Outbreak and 2001 U.K. FMD Outbreak

Location: Northern CA, Southern AZ, North/Central NM, South/Central TX, Southern AK, Northern SC, Southern NC

- All activities from the Level 1 and 2 responses, plus:
- Local, state, federal agricultural responders overwhelmed
- Insufficient AERO members to do it all
- SEMA and FEMA involved
- National Response Plan (NRP) activated

Crops

Pathogen Analyzed: *Ralstonia solanacearum* (race 3 biovar 2)

The scenario chosen for analysis consisted of *Ralstonia solanacearum*, a plant pathogenic bacterium that causes wilt diseases. There are several races of the *R. solanacearum* organism each impacting various crops. The race chosen for analysis, *R. solanacearum* race 3 biovar 2, affects geranium, potatoes, tomatoes, and eggplant. This race is of special concern to federal agencies in the United States because of its high impact toward damaging global crops (current estimates are that this race affects approximately 3,750,000 million acres in 80 countries and damages exceeding approximately \$950,000,000 per year) and for the fact that it is not (yet) known to occur in the United States. The U.S. Federal government would like to make every effort to keep this specific race of *R. solanacearum* out of the United States.

Scenario for Level 1: Local/Limited Threat Level

A general detection survey (conducted by state inspectors in conjunction with APHIS-Plant Protection and Quarantine (PPQ) inspectors) for geraniums in greenhouses associated with a large nursery in Idaho has resulted in a confirmed positive for *R. solanacearum* race 3 biovar 2. The nursery is quarantined. Trace back and trace forward investigations have concluded that the extent of the infection is localized to that nursery. Infected plants and associated soil are destroyed properly and the nursery is decontaminated.

Scenario for Level 2: State/Regional Threat Level

The same large nursery in Idaho ships infected geraniums to 17 other states before *R. solanacearum* race 3 biovar 2 is detected. In Maine, asymptomatic geraniums are held prior to sale in a nursery next to a farm growing an organic crop of potatoes. Through irrigated water and movement of workers from the nursery to the farm, over 100 acres of potatoes have become infected. The nursery and farm are quarantined. The extent of the infection is determined to be within two counties in Maine. Regulatory actions from Scenario 1 are undertaken at the nursery. Additionally, the potato crop must be destroyed. Soil decontamination or soil removal are not practical. The infected fields and an area within a 1 mile radius around those fields are quarantined until the organism is no longer viable in the soil (at least 5 years). Only non-solanaceous crops can be grown in the quarantined areas.

Scenario for Level 3: Nation Threat Level

Seed potatoes from a large supplier in Europe have been contaminated with *R. solanacearum* race 3 biovar 2. Potato crops are planted in several states within the northeastern United States using these contaminated seed potatoes. Through the NAPIS it is determined that Maine, New York, Vermont, New Hampshire and New Jersey have a significant amount of crop acreage contaminated with *R. solanacearum* race 3 biovar 2. These states are quarantined, and regulatory actions are initiated. The feasibility of eradication versus "slow the spread" must be considered as well as trade implications.

Upon discussion within the workgroup, the USDA and U.S. EPA officials determined that the information generated for roles and responsibilities for Scenario 2 and 3 would be very similar. Therefore, they created a new scenario (i.e., Scenario for a Level 2/3 incident) that effectively combined the elements of the scenarios described above.

Food

The sector-specific chapter on food was developed by using two different scenarios in detail—contamination of fluid milk (a FDA-regulated product) with cyanide, and contamination of liquid egg products (a Food Safety and Inspection Service (FSIS)-regulated product). Scenarios considered roles and responsibilities if contamination took place during transportation of the product, in a warehouse or distribution facility, and in a processing plant where the product may be distributed to several regions of the country.

While detailed discussions were held during the interagency workshop, additional discussions were coordinated by USDA/FSIS and HHS/FDA, using slightly different scenarios. Concurrent to the development of this document, USDA/FSIS and HHS/FDA developed

*Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Facilities*²³, a more detailed document designed to provide the food industry sector with guidance for decontamination and disposal of contaminated food commodities and related facilities and equipment. The following discussion relates to these refined scenarios and information that was produced by the FSIS effort:²⁴

Example Scenario Number 1 – Processing Facility

Background

In this scenario, it is assumed that the adulteration incident occurs in a large ground beef processing facility. The incident is identified in a note received by the facility manager. Plant management immediately notifies the Federal Bureau of Investigation (FBI), local law enforcement authorities, and the FSIS Inspector of the note. The FBI and local police quickly set up a response team, with the local police chief as the incident manager. An investigation into the allegation begins. At the same time, the following actions are taken by FSIS staff:

- The plant FSIS Inspection Program Personnel (IPP) notifies the Supervisory Public Health Veterinarian (SPHV) of the incident.
- The SPHV recommends the plant IPP take a Regulatory Control Action on all suspected/affected product, facilities, and equipment, and conduct a “02” procedure.
- The SPHV then notifies the Frontline Supervisor (FLS) of the Non-Routine Incident (NRI).
- Upon receiving the NRI from the SPHV, the FLS immediately notifies the District Office and the Recall Management Staff FSIS District Manager of the incident.
- The District Manager (DM), by telephone and via the NRI Report, notifies the Office of Field Operations (OFO) Senior Executive Duty Officer (SEDO) and the Office of Food Security and Emergency Preparedness (OFSEP) of the incident.
- The OFSEP notifies the Office of Inspector General (OIG), and the Office of Program Evaluation, Enforcement and Review (OPEER) of the incident.
- The OFO SEDO reviews and validates the incident. The SEDO forwards the incident report to the OFO Assistant Administrator (AA) office for possible activation of the FSIS Emergency Management Committee (EMC).
- Based on a thorough review of the incident report and all relevant information concerning the incident, the OFO AA activates the EMC and notifies applicable personnel per FSIS Directive 6500.

²³Additional information on the more detailed FSIS & FDA document can be obtained through contacts identified in Appendix A: Contact Information for Key Program Offices and Emergency Operation Centers.

²⁴Inserted verbatim from the March 1, 2005 draft of the Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Facilities, Appendix C (USDA/FSIS/Office of Food Security and Emergency Preparedness).

- The FSIS EMC advises appropriate personnel to take control actions, such as sampling of the affected product, containers, equipment, and the environment.
- The plant management reassesses its HACCP Plan to ensure that this Critical Control Point (CCP) is addressed. If not, the HACCP Plan will be revised accordingly, per 9 CFR 417.3.

Disposal

After a quick turnaround, results from the investigation indicate that adulteration has occurred, and that the contaminated products have been contained within the processing facility. Trace forward and trace back investigations are initiated to confirm that no contaminated products have been moved out of the facility. The investigation also confirmed that the agent used was anthrax. Although the incident investigation is still in progress, the incident manager recognizes the need to dispose of the contaminated products and potentially decontaminate the facility and equipment for continuity of operations. The incident manager clears the products for disposal and the facility for decontamination.

Upon receipt of the release order from the incident manager, the FSIS IPP works with the District Manager and the owner of the facility to develop plans for the disposal and decontamination actions. After consultations with the state and local health and environmental officials, the following determinations are made:

- About 100,000 pounds of contaminated product require disposal.
- The contaminated product is not considered to be a hazardous waste (per EPA's regulations). The affected product is classified as a Category II waste. Therefore, plant management must select a method for disposition judged to be appropriate by local authorities and FSIS.
- The owner has several options for disposing of the contaminated product, including land burial, incineration, and rendering. Taking into account the requirements under 9 CFR 314.3 on the disposal of carcasses and products contaminated with anthrax, the owner proposes incineration because the facility has no tanking capacities. Because the contaminated products are not considered to be hazardous, the wastes can be sent to a municipal incinerator. However, given the concern about potential airborne release of anthrax spores, thermal destruction at a medical waste incinerator is selected as the disposal option. The FSIS IPP, the District Manager, and the state and local environmental authorities agree that the proposed medical waste incineration has an acceptable disposal technique.
- The plant develops agreements with the multiple medical waste incineration facilities needed to handle the batch of contaminated product.
- To provide containment of the contamination during transfer to the medical waste incinerators, the adulterated product is placed into a disposable container with double polyvinyl or polyethylene liners and sealed. The containers satisfy Department of Transportation (DOT) regulations. At the incinerators, the entire containers are fed for combustion.
- Plant management obtains the necessary permits for the disposal action from local authorities and from DOT for the waste transfer.

The proposed disposal plan is submitted to the incident manager for review, and it is accepted. The owner proceeds with the plan and the contaminated product is transferred to the municipal incinerator for thermal destruction. The disposal is observed by the FSIS IPP and local health and environmental agency officials and accepted as successfully completed. The results are reported to the incident manager for final closure of the incident.

Decontamination

The decontamination process begins when the owner of the facility receives clearance from the incident manager. In this instance, the facility owner has an interest in returning the plant to operations as soon as possible. Because anthrax can be an airborne as well as a foodborne toxin, the potential for anthrax contamination may include the whole production facility or a few immediate areas where the contamination was found. Depending on the extent of the contamination, the following aspects may need to be addressed in the decontamination plan:

- Pre- and post-area sampling to determine the effectiveness of the decontamination process;
- Decontamination of hard surface (non-porous) equipment;
- Removal and replacement of hard-to-clean parts;
- Fumigation of area potentially contaminated by the agent;
- Obtaining concurrence from local, state and federal environmental protection officials on the proposed decontamination techniques;
- Obtaining the necessary authorization for use of decontamination agents from EPA under Crisis Exemption (CE) statute (if needed); and,
- Procurement of the necessary decontamination services from professional organizations if the specialized capabilities do not exist within the company. This also requires procurement of the needed decontamination agents.

In this case, the owner might propose to use liquid chlorine dioxide at the concentration and application time suggested in Appendix B for remediation of all hard surface equipment and non-porous structures. For fumigation of contaminated areas, the owner might select vaporized hydrogen peroxide as the decontamination agent with the application time and concentration suggested in Appendix B.

If approved by the incident manager, with review and concurrence from local, state and federal environmental officials, the owner of the facility can proceed with the decontamination process. The effectiveness of the decontamination will be confirmed through post-action sampling. The FSIS Inspector and the District Manager will observe the decontamination process and verify the effectiveness of the process prior to giving their acceptance to the incident manager.

If all results indicate that the decontamination process is successful, and the disposal is complete, the incident manager may declare closure of the incident even if the criminal

investigation continues. The FSIS IPP and District Manager will approve restart of facility operations.

Example Scenario Number 2 - Transportation

Background

In this scenario the adulteration incident involves a shipment of products. FSIS has regulatory authority over shipments of meat and poultry products, whereas, FDA has regulatory authority over shipments of egg products and other food products. The FBI has received a tip that a tanker truck carrying fluid milk from Farm Cooperative A to milk processing Plant B has been contaminated with mercury.

The FBI begins the incident investigation and asks the state law enforcement community to set up a response team with the regional state policy authority as the incident manager. The incident manager works with FDA field staff and the state policy authority to isolate the shipment and begin trace back and trace forward investigations to determine the extent of the contamination. In addition, DOT and the DHS/Transportation Security Administration (TSA) are consulted. Early results of the investigation indicate that the contamination is contained within the tanker truck and has occurred somewhere between the farm and the processing plant. No product recalls are necessary, since the contaminated milk is isolated prior to distribution in commerce. The incident manager gives clearance for disposal of the contaminated product and decontamination of the tanker truck after receiving investigation closure from assigned law enforcement.

Disposal

Upon receipt of the disposal and decontamination order from the incident manager, the owner of Farm Cooperative A begins to draft a plan for disposing of the adulterated milk. In this case, the food product is regulated at the federal level by the FDA. One difference between this scenario and Scenario 1 is that the FDA is less directly involved in the preparation of the disposal plan than FSIS. FDA's function is to provide consultation to the owner in the planning process.

The process of preparing the disposal plan is similar to that outlined in Scenario 1. Because waste containing mercury, the threat agent, is considered hazardous waste at mercury concentrations greater than 0.2 mg/L (see Appendix A), the contaminated product should be treated as hazardous waste. Therefore, the disposal options available to the owner include:

- Land burial in an established hazardous waste disposal facility. The contaminated fluid milk may need to be solidified to immobilize the mercury in a solid matrix because land burial may not accept liquid waste.
- The contaminated milk may require treatment to remove most of the mercury prior to disposal. Various techniques have been used to remove mercury from wastewater, including sulfide precipitation, coagulation, adsorption, and membrane separation.
- Incineration of mercury contaminated liquid waste may not be acceptable because it may require secondary treatment of the media used to control pollution from incinerators (i.e., air scrubbing liquid.)

The selection of the techniques to dispose of the contaminated milk must be submitted to the incident manager for review and approval prior to carrying out the disposal process. Once the disposal plan is approved by the incident manager, the remaining steps in the disposal process are similar to those outlined in Scenario 1.

Decontamination

Decontamination of a transport vehicle or fleet of vehicles may require coordination with other federal agencies, such as DOT and TSA, working through the response team. Because the tanker truck container has been in contact with the threat agent, it may be cleaned up using an appropriate decontamination agent(s). However, it may be more cost-effective for the owner of the vehicles to remove them from service, at least with respect to food transport, rather than attempt to remediate them.

If the owner decides to remediate the tanker truck, it may not be used for food transport even though it may be considered "cleaned" by EPA's standard because food safety assurance could require a higher standard. Thus, if this option is selected by the owner, the rehabilitated tanker truck could be reused for purposes other than food processing, such as transporting oil or wastewater. In any case, the decontamination plan will require addressing these issues prior to obtaining approval from the incident manager.

Example Scenario Number 3 – Warehouse/Distribution Facility

Background

In this scenario, a FSIS-regulated poultry product stored in a warehouse is reported to be adulterated in a tip to the FSIS District Office. As outlined in Scenario 1, the following actions are taken by FSIS staff:

- The DM notifies, by telephone, the FLS and the FSIS IPP of the tip.
- The DM also notifies, by telephone and via the NRI Report, the OFO SEDO and OFSEP of the incident.
- The FLS notifies the Recall Management Staff of the incident.
- The FLS instructs the FSIS IPP to conduct an "02" procedure to verify compliance. The Pre-Shipment Review is completed.
- OFSEP notifies the OIG and OPEER of the incident.
- Under the authority and directions of the FBI, OPEER conducts a thorough investigation of the incident with regard to transportation and warehouse issues.
- Also under the authority and directions of the FBI, OPEER assumes control of all of the activities regarding the criminal act, the product in transport and in storage at the warehouse. Therefore, the OPEER Program Investigator becomes the incident manager.
- The FSIS Enforcement Investigation and Analysis Officers (EIAO) are deployed to investigate the incident as coordinated by the DM and under the guidance of the OFO EMC representative. The tasks include sampling and analysis of the affected products, equipment, containers, etc.

- The warehouse management reassesses its HACCP Plan to ensure that this Critical Control Point (CCP) is addressed. If not, the HACCP will be revised accordingly, per 9 CFR 417.3.

Sampling results indicate that a batch of the product is contaminated with radiological materials. The FSIS IPP moves to detain the products from further distribution, per instructions from the FLS and the DM.

Disposal

Because the poultry product is contaminated with a radiological agent, the adulterated product is considered to be a low level radioactive waste. The disposal of such a waste must satisfy Nuclear Regulatory Commission (NRC) requirements.

The owner of the warehouse works with the FSIS IPP and the DM to develop a disposal plan. In this case, the regional NRC office is also called upon for consultation. Disposal options include:

- Dispose of the contaminated product as low-level (radioactive) waste (LLW) in accordance with NRC regulations
- Provide on-site storage of the contaminated product to allow for radioactive decay to background level.

Because the radiological agent could have a long half-life, storage for decay may not be acceptable. If LLW disposal is selected, the owner may be required to package the contaminated product and seek disposal at an approved LLW disposal site. The owner may also need to obtain approval for inter-state transportation, which may raise concerns about the transfer of radioactive materials across state lines. These details will need to be worked out in the disposal plan prior to getting approval from the incident manager.

Once the plan is approved by the incident manager, the remaining steps in the disposal process are similar to those outlined in Scenario 1.

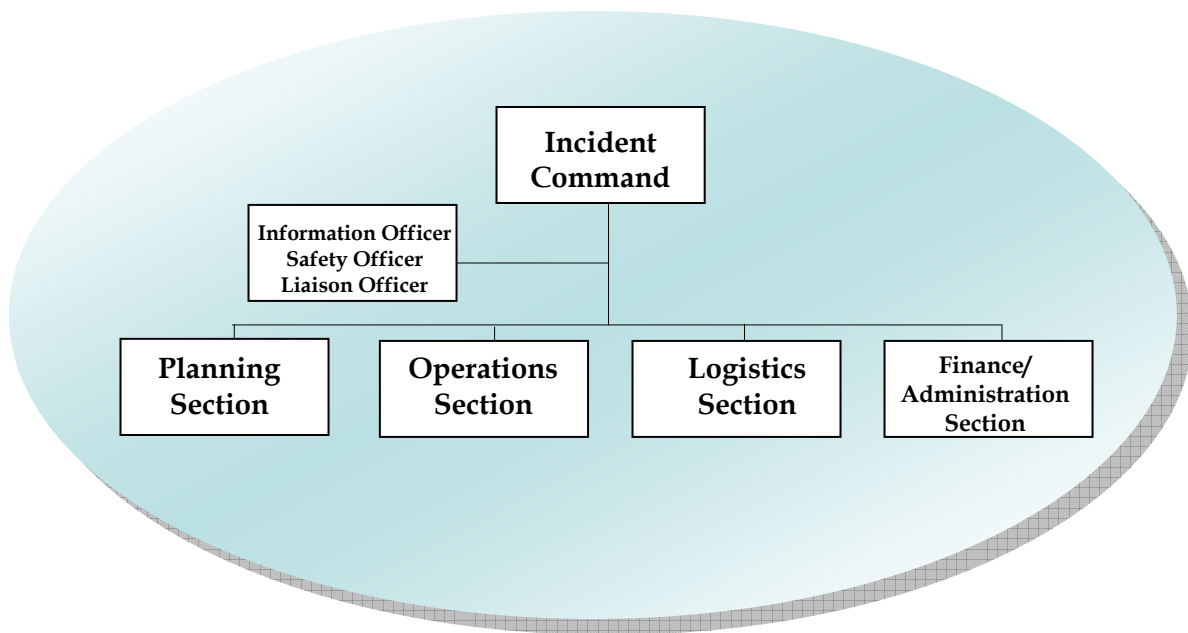
Decontamination

Decontamination of a warehouse may be less difficult than cleanup of a processing facility, given the limited amount of equipment involved. However, similar types of considerations apply with respect to determining the appropriate remediation method, protection of workers, generation and distribution of secondary wastestreams, and cost-effectiveness given the potential future uses of the facility. If the facility does not have the training and/or capabilities to clean up radiological contamination, contact the NRC Regional Office for consultations including the proper decontamination process as well as organizations that provide professional cleanup and survey services.

Decontamination of a hard surface in contact with the contaminated product can be accomplished by using mild soap solution or any available commercial radiological decontamination solution. The used rags and wipe materials will be collected, packaged and disposed as LLW. Post-treatment area surveys will be required to confirm that the radioactivity in the contaminated areas has been reduced to natural background levels.

Results of post-treatment area surveys will form the basis for the declaration of incident closure by the incident manager.

APPENDIX C
THE INCIDENT COMMAND SYSTEM AND UNIFIED COMMAND



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APPENDIX C

THE INCIDENT COMMAND SYSTEM AND UNIFIED COMMAND

The Federal organizational system designated for national response operations is called the Incident Command System (ICS). The ICS is the model tool for command, control, and coordination of a response and provides a means to coordinate the efforts of individual agencies as they work toward the common goal of stabilizing the incident and protecting life, property, and the environment.

If a single entity is in charge of a response, the ICS can be used to organize the response operations under that entity. For example, during the initial response phases of an incident targeting animals, the Incident Commander (i.e., the person in charge of the response) is likely to be a local veterinarian or law enforcement official. If multiple entities are stakeholders in responding to the event, then a Unified Command (UC) can be used with shared authority.

Using the ICS when responding to incidents involving food or agriculture allows representatives from different agencies and different levels of government to understand not only the overarching response structure, but also allows those representatives to efficiently and effectively assume an active role in supporting the response.

In addition, one of the principles of ICS/UC is that one individual is generally overseeing no more than 5 to 7 other individuals in the chain-of-command. This facilitates the flow of communication throughout the ICS/UC and gives the structure the flexibility to expand or enlarge as the resource requirements change.

Within ICS, the “command staff” leads the “general staff” in responding to an incident. The command staff is led by the Incident Commander. The general staff includes a safety officer, a liaison officer, and an information officer. These are individuals with a direct line of communication to the Incident Commander.

The command staff oversees the general staff that can include any of four additional sections:

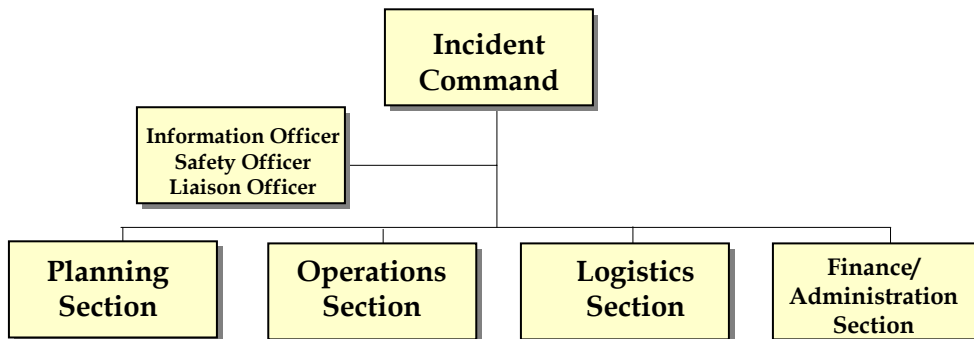
- Operations
- Planning
- Logistics
- Finance and Administration

Each section is led by a chief who has a direct line of communication with the Incident Commander, as well as responsibility for the actions within that chief’s section. National Interagency Incident Management System (NIIMS) and National Incident Management System (NIMS) support the creation of an environmental unit within the planning section of the command structure. U.S. Department of Agriculture (USDA) utilizes specific groups for disinfection and disposal within the operations section of the command structure. All of these ICS variations may be used to achieve the goal of effective communication and operations regarding decontamination and disposal during an emergency response.

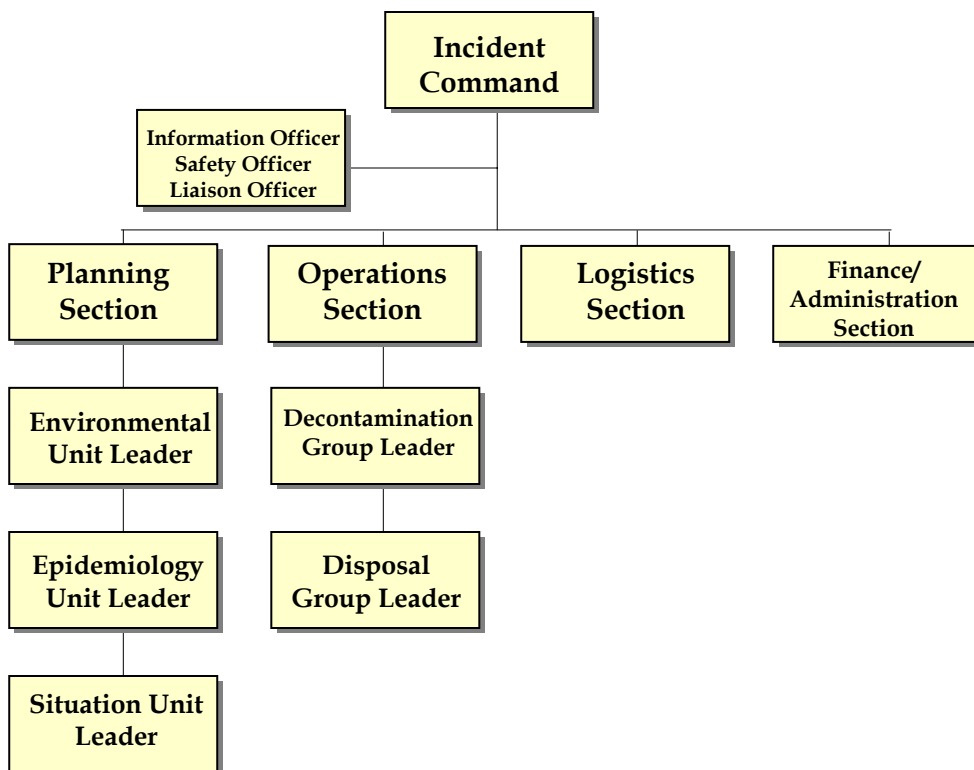
Decisions regarding decontamination and disposal can be made within ICS structure in several places:

- IC Level
- Operations Section
- Decontamination Group and/or Disposal Group within Operations Section
- Planning Section
- Environmental Unit within Planning Section

ICS ORGANIZATION



ICS ORGANIZATION WITH ENVIRONMENTAL UNIT AND DECONTAMINATION AND DISPOSAL GROUP



APPENDIX D
RELEVANT STATUTES AND AUTHORITIES, HOMELAND SECURITY PRESIDENTIAL
DIRECTIVES, AND
NATIONAL PLANS FOR DECONTAMINATION AND DISPOSAL



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APPENDIX D
RELEVANT STATUTES AND AUTHORITIES, HOMELAND SECURITY PRESIDENTIAL
DIRECTIVES, AND
NATIONAL PLANS FOR DECONTAMINATION AND DISPOSAL

Federal Food/Agriculture Statutes

Homeland Security Act of 2002

This act established the Department of Homeland Security (DHS), whose primary mission is to prevent terrorist attacks within the United States, reduce the vulnerability of the United States to terrorism, minimize the damage, and assist in the recovery from terrorist attacks, carry out all functions of entities transferred to the Department, including by acting as a focal point regarding natural and manmade crises and emergency planning, as well as other duties.

Public Health Security and Bioterrorism Preparedness and Response Act of 2002

This act expands Animal and Plant Health Inspection Service (APHIS) authorities including activities to enhance methods of protecting against the introduction of plant and animal disease organisms by terrorists. It provides Food and Drug Administration (FDA) with detention authority, expanded record keeping provisions, and authorizes the FDA to commission other federal officials to conduct examinations and investigations of FDA-regulated foods at jointly regulated facilities. It also requires FDA to provide by regulation procedures for instituting on an expedited basis certain enforcement actions against perishable foods subject to a detention order.

Agricultural Bioterrorism Protection Act, Public Health Security and Bioterrorism Preparedness and Response Act of 2002

This act is a subpart of the Public Health Security and Bioterrorism Preparedness Response Act of 2002. Both require that entities, such as private, state, and Federal research laboratories, universities, and vaccine companies, that possess, use, or transfer agents or toxins deemed a threat to public health or animal or plant health or products register these agents with APHIS. As required by this act, U.S. Department of Agriculture (USDA) identified and published (March 18, 2005,) lists of high consequence select agents of livestock and crops (http://www.aphis.usda.gov/programs/ag_selectagent/index.html).

Animal Health Protection Act

Under this act, amended in 2003, APHIS has the authority to order the quarantine and/or disposal of animals that have been or may have been exposed to a disease or pest identified as harmful to livestock or poultry. APHIS has, in previous animal disease events, assisted in the coordination of transportation and disposal of contaminated or potentially contaminated animal carcasses.

Plant Protection Act (Title IV of the Agricultural Risk Protection Act of 2000)

This act gives APHIS the authority to order the quarantine, treatment, disinfection, and/or disposal of plants that have been or may have been exposed to a disease or pest identified as harmful to U.S. agriculture. APHIS has, in previous plant disease events, assisted in the

coordination of transportation and disposal of contaminated or potentially contaminated plant material.

Relevant Core USDA, FDA, and EPA Statutes

USDA

The Federal Inspection Acts

Under U.S. Code 21, food processors under USDA's jurisdiction are subject to the **Federal Meat Inspection Act**, the **Poultry Products Inspection Act**, and the **Egg Products Inspection Act**. Under these acts, USDA can take measures to inspect, detain, seize, and condemn meat, poultry, and egg products, thus preventing introduction or dissemination of any contagious, infectious, or communicable disease of animals and poultry moving interstate or into the United States.

USDA's Food Safety and Inspection Service (FSIS) provides continuous inspection of all meat, poultry, and egg products prepared for distribution in commerce and reinspects imported products to ensure they meet U.S. safety standards. FSIS tests for and conducts enforcement activities to address situations of microbiological, chemical, and other types of contamination.

HHS/FDA

The Federal Food Drug and Cosmetic Act (FFDCA)

The FFDCA provides FDA with broad regulatory authority over food that is introduced or delivered into interstate commerce. Under the FFDCA, manufacturers are responsible for producing safe, wholesome, and truthfully labeled food products. It is a violation of the law to introduce into interstate commerce adulterated or misbranded products that violate the various provisions of the FFDCA. Under the act, U.S. Environmental Protection Agency (EPA) regulates the amount of pesticide that may remain in or on food or animal feed products.

U.S. Code 21 – Detention of Food and Seizure of Food

FDA may, by Administrative Order, detain food (which includes live food animals) for up to 30 days if it has credible evidence or other information that the food presents a threat of serious adverse health consequences or death to humans or other animals. It may also seize any adulterated article of food that has been introduced into interstate commerce. This authority is valid at all interstate commerce points, departure areas, and receiving areas, retail or wholesale.

Both the administrative detention and seizure authorities apply to domestically produced articles of food and can be used while imported articles of food are still in the custody of Customs and Border Protection. In general, seized food that is judicially condemned must, after entry of a judicial decree, be disposed of by destruction or sale as the court may direct.

U.S. Code 21 – Adulterated Food

Food is adulterated if, among other things, it bears or contains any added poisonous or deleterious substance that may render it injurious to health; is unfit for food; or has been prepared, packed, or held under unsanitary conditions whereby it may have been contaminated with filth or whereby it may have been rendered injurious to health; if its container is composed, in whole or in part, of any poisonous or deleterious substance that may render the

contents injurious to health; or if it has been intentionally subjected to radiation, unless the use of the radiation was in conformation with a food additive regulation or exemption.

U.S. Code 42 – Prevention of Communicable Diseases, Public Health Service Act

Under section 361 of the Public Health Service Act, FDA has authority to issue regulations that are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the states or possessions, or from one state or possession into any other state or possession. For purposes of carrying out and enforcing such regulation, FDA may provide for inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be infected or contaminated as sources of dangerous infection to human beings and other measures, as in the agency's judgment may be necessary. This authority would apply to food that is a vector for communicable disease.

EPA

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

CERCLA authorizes the President to respond to releases, or substantial threats of releases of hazardous substances to the environment, and to respond to releases or substantial threats of releases of pollutants or contaminants that may present an imminent and substantial danger to the public health or welfare. CERCLA also authorizes investigations and studies. The President has delegated his CERCLA authorities to the EPA Administrator in Executive Order 12580.

Resource Conservation and Recovery Act (RCRA)

RCRA authorizes EPA to regulate management of hazardous waste and disposal of nonhazardous solid waste. This authority has been delegated to the states, which must meet minimum Federal regulatory requirements, but implement their own programs at the state and local level.

EPA has broad authority under Subtitle C to regulate treatment, storage and disposal of hazardous waste as “necessary to protect human health and the environment.” Subtitle D prohibits “open dumps” and requires EPA to establish criteria for “sanitary landfills.” An example of how this authority might be used would be to direct someone, who has made a decision to landfill diseased animals/waste, to the state agency to ensure that the diseased animals/wastes are disposed of only in municipal landfills that meet specific criteria, that is, municipal landfills that are in compliance with the Federal criteria for municipal landfills contained in 40 CFR Part 258.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

FIFRA authorizes EPA to regulate the sale, distribution, and use of pesticides in the U.S. FIFRA is a product licensing statute; EPA grants registrations to pesticide products before they may be distributed or sold in the United States. In emergencies, EPA issues emergency exemptions to FIFRA registration requirements to allow sale, distribution, and use of unregistered pesticides to control pest emergencies. Recent examples are anthrax and Asian soybean rust disease. FIFRA authorizes EPA to review and register pesticides for specified uses. EPA also has the

authority to cancel the registration of a pesticide if subsequent information shows that continued use would pose unreasonable adverse effects to human health and/or the environment.

Clean Water Act (CWA)

CWA makes it unlawful for any person to discharge any pollutant from a point source into waters of the United States, except in compliance with certain specified provisions of the Clean Water Act. Chief among these provisions is CWA Section 402, under which pollutant discharges can be authorized by a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits contain technology-based limitations, which generally represent the degree of control that can be achieved by point sources using various levels of pollution control technology, and water quality-based effluent limitations, which are calculated at levels to achieve applicable state or EPA water quality standards. An example of how this authority applies in an agricultural context is the 2003 regulation promulgated by EPA to revise its effluent limitations guidelines and standards for concentrated animal feeding operations (CAFOs). These technology-based requirements would be implemented in NPDES permits issued to CAFOs.

Clean Air Act (CAA)

CAA authorizes the EPA Administrator to regulate air emissions from certain types of area, stationary, and mobile sources. This law authorizes the Administrator to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. An example of how this authority might be used in an agricultural incident would be to provide for air monitoring downwind from a disposal site.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

The National Oil and Hazardous Substances Pollution Contingency Plan, more commonly known as the NCP at 40 CFR part 300, describes the process by which EPA and other agencies prepare for and implement efficient, coordinated, and effective response to discharges of oil and releases of hazardous substances and releases of pollutants or contaminants that may present an imminent and substantial danger to public health or welfare of the United States in accordance with the authorities of CERCLA and CWA. It implements the authorities provided to EPA and other agencies under CERCLA, the CWA, and Executive Order 12580. It also sets forth the process for activating the national response system, specifies responsibilities among the Federal, state, and local governments, and describes resources that are available for response.

Homeland Security Presidential Directives (HSPDs)

HSPD-5 (Management of Domestic Incidents)

Directs DHS to create a single, comprehensive National Incident Management System (NIMS). The NIMS provides a consistent, nationwide approach for Federal, state, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, and complexity. DHS developed a National Response Plan (NRP) to integrate Federal domestic prevention, preparedness, response, and recovery plans (see below).

HSPD-7 (Critical Infrastructure Identification, Prioritization, and Protection)

Establishes national policy for Federal departments and agencies to identify and prioritize U.S. critical infrastructure and key resources and to protect them from terrorist attack. A preparation and prevention tool. Various agencies are identified as sector-specific agencies responsible for developing sector-specific plans (e.g., USDA and FDA for food and agriculture and EPA for water).

HSPD-9 (Food and Agriculture)

Establishes national policy to defend the agriculture and food system against terrorist attacks, major disasters cause naturally or by man, and other emergencies. Aimed at incidents where the primary impact is on agriculture and food infrastructure. Calls for recovery systems able to stabilize agricultural production and food supply, including removal and disposal of contaminated agriculture and food products or infected plants and animals and decontamination of premises. HSPD-9 called for the creation of a number of more specific plans and strategies. Summaries of these specific plans are presented below under the heading HSPD-9 Related Response Plans. These include plans for Chemical and Biological Emergency Response, Bovine Spongiform Encephalopathy, National Animal Health Emergency Management System, USDA Facility Specific Response, National Plant Disease Recovery System, USDA/FSIS Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Facilities, USDA Food and Agricultural Response, USDA/FSIS Model Food Security, and this document on decontamination and disposal. HSPD-9 also calls for a standardized agriculture and food-specific response plan to be integrated into the NRP.

HSPD-10 (National Biodefense Policy)

Directs agencies to establish a bio-defense program including threat awareness, prevention and protection, surveillance and detection, response and recovery. HHS is developing medical countermeasures, and EPA is developing risk assessment and decon capabilities.

Federal Response Plans**National Response Plan****Base Plan**

Supplanting the Federal Response Plan, the NRP establishes a comprehensive all-hazards approach to enhance the ability of the United States to manage domestic incidents. The NRP, along with NIMS, were created from directives in the Homeland Security Act of 2002 and HSPD-5 (above) to form an essential framework of the nation's approach to incident management. The NRP creates a new plan by merging concepts from various existing plans, including the Federal Response Plan and the National Contingency Plan (NCP). It will provide a framework for all Federal, state, tribal, and local government agencies and industry for dealing with incidents of national significance.

Incident Annexes

Outlines core procedures, agency roles, and responsibilities. Incident annexes group capabilities and resources according to specific contingencies.

HazMat Incident Annex

Describes roles and coordinating mechanisms for managing certain oil and hazardous materials pollution incidents that are determined to be Incidents of National Significance and are conducted through concurrent implementation of NRP and NCP without Emergency Support Function (ESF) Annex #10 activation. Describes how hazard-specific NCP structures such as the National and Regional Response Teams (NRT and RRT) work with NRP coordinating mechanisms such as the Interagency Incident Management Group (IIMG).

A scenario-specific example of this annex might include a hazardous material spill in an agricultural setting that requires implementation of the NRP and NCP without activation of the guidance in ESF Annex #10 (see below).

Bio Incident Annex

Describes the actions and responsibilities required to respond to a human disease outbreak of known or unknown origin requiring Federal assistance. This annex may apply with or without a Presidential Declaration. Primary Federal functions include supporting state, local and tribal public health and medical capabilities according to ESF #8 (see below). A scenario-specific example of this annex might include intentionally released avian flu virus resulting in a flu pandemic.

Catastrophic Incident Annex

Establishes the strategy for implementing and coordinating an accelerated, proactive national response to a catastrophic incident. Normal procedures for other ESF annexes will apply but are streamlined to address the magnitude of events.

Food and Agriculture Incident Annex

Being developed

Emergency Support Function Annexes

Detail the responsibilities of Federal agencies for coordinating resources during Federal emergencies. ESF annexes group capabilities and resources into functions likely to be needed during an incident.

ESF Annex #8: Public Health and Medical Services

Provides coordinated Federal assistance to supplement state, local, and tribal resources in response to public health and medical care needs for potential or actual Incidents of National Significance. ESF #8 is directed by HHS and can be activated through the Stafford Act or the Public Health Service Act. It may coordinate with ESF #11 on safety of food-producing animals.

ESF Annex #10: Oil and Hazardous Materials Response

Provides Federal support in response to an actual or potential discharge and/or uncontrolled release of oil or hazardous materials during Incidents of National Significance when ESF #10 is activated. EPA manages the overall Federal effort for clean up and disposal. For biological incidents, EPA assesses the extent of contamination and decontaminates the affected areas. USDA assists in the depopulation, decontamination, or disposition of livestock and poultry contaminated with hazardous materials.

ESF Annex #11: USDA's Food and Nutrition Service (FNS), APHIS, and FSIS

Serves as the Agriculture and Natural Resources Annex Coordinator in a multi-agency response incident requiring 1) provision of nutrition assistance; 2) control and eradication of an outbreak of highly contagious animal disease or highly infective exotic plant disease or an economically devastating plant pest infestation; 3) assurance of food safety and food security; and, 4) assistance in the protection of Natural and Cultural Resources. USDA has developed standard operating plans for response under ESF #11.

Other Plans**National Oil and Hazardous Substance Pollution Contingency Plan**

Grants authority to and guides the actions of the National Response System and its components including the 1 National and 13 Regional Response Teams. Incident notification is via the National Response Center. Whether funded via CERCLA (Superfund) or Oil Trust Funds monies or via Stafford Act Declaration, response is in accordance with NCP. NCP is the response authority used by EPA and Coast Guard when responding under any of the NRP annexes.

Interim National Infrastructure Protection Plan (NIPP)

Safeguards the nation's critical infrastructure before a terrorist attack occurs. The NIPP outlines roles and responsibilities for Federal, state, and local governments in coordinating activities to reduce the vulnerability of critical infrastructures. Also, see NRP above.

NIPP Food/Ag Sector-Specific Plans

Separate plans for USDA and FDA including identifying assets in the food/agr sector, assessing vulnerabilities and interdependencies among assets, analyzing potential risks based on threats and consequences, prioritizing assets, developing sustainable programs to protect assets. Intent is to finalize an inter-agency food and agriculture sector specific plan.

Chemical and Biological Emergency Response Plan

Provides a coordinated response to chemical and biological agent emergencies involving FDA-regulated products. This plan describes how the FDA Emergency Operations Center (EOC), when notified of a presumptive positive diagnosis by the USDA, will use ICS in working with USDA to determine appropriate response actions.

Bovine Spongiform Encephalopathy (BSE) Emergency Response Plan

Provides a coordinated response to BSE emergencies involving FDA-regulated products. This plan describes how the FDA EOC, when notified of a presumptive positive diagnosis by the USDA, will use ICS in working with USDA to determine appropriate response actions.

National Animal Health Emergency Management System (NAHEMS) Guidelines

Designed for use by Veterinary Services personnel in the event of an incursion of foreign animal disease (FAD) or FAD arthropod vector into the United States. The NAHEM guidelines may be integrated into the preparedness plans of other Federal, state, local, and tribal agencies. Topics covered in various guidelines include field investigations, disease control and eradication strategies and policies, operational procedures for disease control and eradication, site-specific

emergency management strategies for various types of facilities, guidelines for disposal, cleaning and disinfection, including administrative and resource management and educational resources.

USDA's National Plant Disease Recovery System (NPDRS) Plans

Identify critical characteristics of the select plant agents of high consequence (see Agricultural Bioterrorism Protection Act above) and identify suitable prevention and control methods, including chemical, nonchemical, and development of resistant seed varieties to sustain production for economically important crops. For each disease, the NPDRS Committee will develop response plans, including a strategy for detection and monitoring of the plant disease, effective communications, and rapid response (chemical controls) and longer term response (development of crop varieties with disease resistance) to control and manage the disease. EPA/Office of Pesticide Programs (OPP) is an active member of the committee, providing technical and regulatory information about potential pesticides for USDA's consideration.

USDA/FSIS Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Facilities

Describes a need to plan for response actions in the event that the food supply is intentionally adulterated in the supply chain by using current response procedures for unintentional contamination events. This is a resource guide for the USDA/FSIS and HHS/FDA field personnel located in District Offices and at food processing facilities.

USDA Food and Agricultural Response Plan

(being developed)

USDA/FSIS Model Food Security Plans

Provides guidance or best management plans for protection four facilities – egg processing facility, meat and poultry processing facility, slaughter facility, and an import establishment for the food industry.

Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities Under Homeland Security Presidential Directive/HSPD-9

Describes Federal decontamination and disposal roles and responsibilities and framework for food and agriculture response. This document focuses on use of a variety of existing and enhanced procedures and interagency coordination to address decontamination and disposal of contaminated food, crop, and animal. And, it clarifies and documents existing relationships emphasizing Federal agency support of state/local response. The target audiences are government managers and industry.

APPENDIX E
DESCRIPTION OF ROLES AND RESPONSIBILITIES
OF DHS, USDA, HHS/FDA, AND EPA



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APPENDIX E

DESCRIPTION OF ROLES AND RESPONSIBILITIES OF DHS, USDA, HHS/FDA, AND EPA

Department of Homeland Security (DHS)

DHS, USDA, EPA, and HHS work closely together to secure America's food supply. Working in partnership with both Federal and non-Federal partners, DHS has implemented measures to strengthen the security of our nation's food supply, taking specific steps toward the strategic goals of awareness, prevention, protection, response, and recovery.

DHS may assume the primary coordination role in Federal support in response to a food and agriculture incident. DHS may assume the lead role for coordinating support when the following parameters are met: (1) U.S. Government receives and approves a state request for a Presidential Disaster Declaration; (2) the Secretary or Administrator of a key Federal agency requests that DHS assume primary responsibility; or (3) the President designates DHS as the primary agency.

Food and agriculture security is monitored as part of the information analysis and infrastructure protection focus of the Homeland Security Operations Center (HSOC), the primary national-level hub for information sharing and operational coordination relating to domestic incident management. The HSOC collects and fuses information from a variety of sources to help deter, detect, and prevent terrorist acts.

Communications and coordination among government agencies at all levels and with industry is facilitated by the Government Coordinating Council (GCC) and the Sector Coordinating Council (SCC). These two councils operate independently and jointly to share information regarding planning, strategies, issues, and threats to the nation's food and agriculture.

U.S. Department of Agriculture (USDA)

The USDA regulates animals, crops, and certain food products. The oversight of food products at the Federal level is split between the USDA/FSIS and the HHS/FDA depending on the food commodity/product. FSIS regulates domestic and imported meat, poultry, and egg products, and FDA regulates all other food products. FSIS has authority over liquid, frozen, and powdered egg products; FDA has authority over shell eggs until they are cracked open. USDA/APHIS regulates the item while it is a crop, or in the growing phase and HHS/FDA regulates the item once it is harvested. USDA/APHIS also regulates animals.

In a response, if a state is not capable of heading the Area Command, the Area Commander will be HHS/FDA, USDA/FSIS, or USDA/APHIS as appropriate. Different states have different disposal requirements, so an incident affecting product distributed to a number of states may present additional challenges. For meat, poultry, and egg products, USDA/FSIS is the lead agency in managing incidents of adulterated food for food commodities under their regulatory jurisdiction, *regardless of the size or location of the incident*. This differs from FDA's role in food adulteration events which may be more limited in scope. In general, the FDA functions mainly

in an advisory role in single state incidents, but may serve a more active role if the incident involves several states or if a state is unwilling or unable to fully respond.

APHIS has the authority and experience in the quarantine, treatment, disinfection, and/or disposal of both plants and animals that have been or may have been exposed to a disease or pest identified as harmful to U.S. agriculture. APHIS has, in previous plant and animal disease events, assisted in the coordination of transportation and disposal of contaminated or potentially contaminated plant and animal material.

FSIS has the authority and experience in detention, seizure, quarantine, and disposal of contaminated meat, poultry, or egg products; disease and/or contagion prevention; and disease and/or contagion suppression. FSIS has also assisted in the coordination of transportation and disposal of contaminated or potentially contaminated foods. FSIS only needs a reason to believe that the product is adulterated or misbranded to take action. FSIS can detain a product (that is not a live animal) for up to 20 days. After 20 days, FSIS must move for seizure of the product. Once an animal is slaughtered and becomes a product, FSIS can detain the product anywhere in the supply chain up to the time it enters a consumer's home.

With respect to decontamination and disposal, FSIS works with state and local government environmental and health departments, as well as EPA regional staff, to develop suitable solutions for each incident. In each of these cases, FSIS will provide guidance, and monitor product movement and disposal, but the owner of the product is held responsible and liable for its safe disposition. Product seizures are an exception; after a judge seizes a product, the title transfers to the U.S. government.

For meat, poultry, and egg products, FSIS requires that the owners of a contaminated establishment undertake a series of steps to ensure the restoration of sanitary conditions so that processing and/or distribution of products can resume. At these facilities, the District Manager and Inspector-in-Charge have the authority to do this as well. The owner of the establishment must take corrective actions that include procedures to ensure appropriate disposition of products that may be contaminated and to restore sanitary conditions in decontaminating the facility. The decontamination plan must also consider the protection of worker health and the disposition of any secondary wastestreams produced by the remedial actions.

The Secretary's responsibilities include declaration of an Extraordinary Emergency under which he may seize, quarantine and dispose of affected live animals or animal carcasses. The Secretary may seize, quarantine, and dispose of any animals, which are or have been affected with or exposed to the disease and the carcasses of any such animals and any products and articles which the Secretary finds were so related to such animals as to be likely to disseminate any such disease.

U.S. Department of Health and Human Services' (HHS) Food and Drug Administration (FDA)

The HHS/FDA safeguards the nation's food supply by making sure that all ingredients used in foods are safe, and that food is free of contaminants – such as disease-causing organisms, chemicals, or other harmful substances. Again, while USDA/FSIS regulates domestic and imported meat, poultry, and egg products, FDA regulates all other food products.

USDA/APHIS regulates the item while it is a crop, or in the growing phase, and HHS/FDA regulates the item once it is harvested.

In a response, if the state is not capable of heading the Area Command, the Area Commander will be HHS/FDA, USDA/FSIS, or USDA/APHIS as appropriate. Different states have different disposal requirements, so an incident affecting product distributed to a number of states may present additional challenges. For meat, poultry, and egg products, USDA/FSIS is the lead agency in managing incidents of adulterated food for food commodities under their regulatory jurisdiction, regardless of the size or location of the incident.

Food adulteration events that relate to FDA-regulated food are limited in scope may be addressed at the state and local level. In general, the Federal HHS/FDA functions mainly in an advisory role in single state incidents, but may serve a more active role if the incident involves several states or if a state is unwilling or unable to fully respond.

U.S. Environmental Protection Agency (EPA)

EPA promulgates regulations that implement environmental laws enacted by Congress, including regulations related to decontamination and disposal and licensing the use of pesticides. The Agency responds to releases of hazardous substances to the environment, including substantial threats of releases of pollutants or contaminants that may present an imminent and substantial danger to the public health or welfare. It also regulates the management of hazardous waste and disposal of nonhazardous solid waste.

The responsibility for issuing permits and for monitoring and enforcing compliance of municipal solid waste programs has been delegated to the states, which must meet minimum Federal regulatory requirements, but implement their own programs at the state and local level. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

An example of how this authority might be used would be to require someone who has made a decision to landfill diseased animals/wastes to ensure that the animals were only disposed of in municipal landfills that are in compliance with the Federal criteria for municipal landfills.

EPA expects that decontamination will initially be conducted by the responsible party and/or by local and state authorities, with other Federal departments or agencies involved, as appropriate - consistent with their traditional missions. EPA roles, responsibilities, and procedures for decontamination and disposal are described in the National Contingency Plan (NCP) and ESF Annex #10 of the NRP. For contamination incidents involving chemical and biological threat agents, state and local official may seek advice on appropriate decontamination options and cleanup levels from EPA, who may also be able to identify qualified decontamination contractors.

EPA sets minimum criteria for municipal solid waste (MSW) landfills; however, states and localities write their own guidance and regulations that meet or exceed these national criteria. States may also write supplemental guidance to deal with specific waste disposal issues, such as medical waste, carcass disposal, etc. This supplemental guidance may vary widely from state to state. It's important to note:

- State/local governments would determine whether a contaminated animal, crop, or food product should be disposed of in MSW, hazardous waste, or medical waste facility;
- State/local governments are responsible for implementing and enforcing their MSW programs; and,
- EPA has no federal enforcement authority for disposal of MSW or medical waste, although the Agency has offered recommendations, on the safe disposal of wastes potentially contaminated by chronic wasting disease (CWD).

Explosive, ignitable, corrosive, and selected chemicals that are, by regulation, considered toxic, would be hazardous wastes and would have to be disposed of in appropriate hazardous waste disposal facilities. EPA can provide technical assistance in:

- Identifying, selecting, and locating appropriate waste handling options;
- Identifying and addressing related environmental and health concerns; and,
- Working with the waste management industry to identify special measures that may help protect their personnel and the integrity of their facilities.

EPA also has responsibility to license or register the sale and use of pesticides that would be used to control, repel, or attract pests, including microorganisms, fungi, insects and other invertebrate organisms, vertebrate animals, and plants. To accomplish this responsibility, EPA has statutory authority under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to require pesticide manufacturers to submit scientific data to characterize potential hazards, exposures, and risks of all pesticides and product efficacy of public health pesticides. EPA's OPP has the responsibility of ensuring each pesticide and its intended use(s) meet high scientific and safety standards. However, the Act also allows OPP to grant exemptions to registration if certain emergency conditions exist. Accordingly, EPA might need to issue crisis or other emergency exemptions to allow sale, distribution, and use of antimicrobial chemicals for inactivating such pathogens in/on items or structures, as well as other emergency exemptions that might be needed to respond to an incident affecting food, crop, or animals.

EPA is the sector lead for water security and works closely with the Water Information Sharing and Analysis Center (Water ISAC) to provide information for America's drinking and wastewater utilities. The Water ISAC also provides a unique link between the water sector and Federal environmental, homeland security, law enforcement, intelligence and public health agencies.

Depending on the method of disposal, in the event of an incident targeting food or agriculture, permits may be required under the CAA. For example, if incineration were used as a method of disposal, permits may be required.

Primary Agency Designation in This Document

Primary and support agency roles described in this document are consistent with the roles outlined in the National Response Plan and associated annexes. ESF Annex #11 designates USDA as the primary agency for agricultural and natural resource issues. Therefore, the USDA

and the individual states have responsibility for the protection of the nation's agricultural resources and USDA would be the primary agency coordinating the Federal response to an agricultural incident. Federal response is usually in support of state/local response. For oil and hazardous materials, ESF Annex #10 designates EPA (inland zone) and the coast guard (coastal zone) as the primary agencies. Chemical contaminants in an agricultural setting may be considered hazardous materials and invoke ESF Annex #10. Typically, however, food and agricultural disease agents are biological agents such as bacterial and viral pathogens, invoking ESF Annex #11.

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APPENDIX F
ACRONYM LIST

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APPENDIX F

ACRONYM LIST

AA	Assistant Administrator
AERO	Animal Emergency Response Organization
APHIS	Animal and Plant Health Inspection Service
CAA	Clean Air Act
CAFO	Concentrated Animal Feeding Operation
CAPS	Cooperative Agricultural Pest Survey
CCP	Critical Control Point
CDC	Centers for Disease Control and Prevention
CE	Crisis Exemption
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CSREES	Cooperative State Research, Education, and Extension Service
CWA	Clean Water Act
CWD	Chronic Wasting Disease
DHS	U.S. Department of Homeland Security
DM	District Manager
DoD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DOJ	U.S. Department of Justice
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
EAN	Emergency Action Notification
EIAO	Enforcement Investigation and Analysis Officers
EMC	Emergency Management Committee
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ERT	USDA's Emergency Response Team
ESF	Emergency Support Function
FAD	Foreign Animal Diseases
FADD	Foreign Animal Disease Diagnostic Diagnostician
FBI	Federal Bureau of Investigation
FCCC	Farm Credit Commodity Corporation
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FERN	Food Emergency Response Network
FFDCA	Federal Food, Drug, and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FLS	Frontline Supervisor

FMD	Foot-and-Mouth Disease
FSIS	Food Safety and Inspection Service
GCC	Government Coordinating Council
GSA	General Services Administration
HASP	Health and Safety Plans
HHS	U.S. Department of Health and Human Services
HSC	Homeland Security Council
HSPD	Homeland Security Presidential Directive
ICP	Incident Command Post
ICS	Incident Command System
ICS/UC	Incident Command System/Unified Command
IIMG	Interagency Incident Management Group
INS	Incident of National Significance
IPP	Inspection Program Personnel
JIC	Joint Information Center
JTTF	Joint Terrorism Task Force
LLW	Low Level (Radioactive) Waste
MAC	Multi-Agency Coordination
MOU	Memorandum of Understanding
MSW	Municipal Solid Waste
NAAQS	National Ambient Air Quality Standards
NAHEMS	National Animal Health Emergency Management System
NAPIS	National Agricultural Pest Information System
NASDA	National Association of State Departments of Agriculture
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NGO	Nongovernmental Organization
NIIMS	National Interagency Incident Management System
NIMS	National Incident Management System
NIPP	National Infrastructure Protection Plan
NPAG	New Pest Advisory Group
NPDES	National Pollutant Discharge Elimination System
NPDRS	National Plant Disease Recovery System Committee
NRC	Nuclear Regulatory Commission
NRI	Non-Routine Incident
NRP	National Response Plan
NVSL	National Veterinary Services Laboratory
OFO	Office of Field Operations
OFSEP	Office of Food Security and Emergency Preparedness
OIG	Office of Inspector General
OPEER	Office of Program Evaluation, Enforcement and Review
OPIS	Offshore Pest Information System
OPP	Office of Pesticide Programs
OSCs	On Scene Coordinator

OSHA	Occupational Safety and Health Administration
OSW	Office of Solid Waste
OSWER	Office of Solid Waste and Emergency Response
OW	Office of Water
PIO	Public Information Officer
PPE	Personal Protective Equipment
PPQ	Plant Protection and Quarantine
RCRA	Resource Conservation and Recovery Act
SCC	Sector Coordinating Council
SEDO	Senior Executive Duty Officer
SEMA	State Emergency Management Agency
SITREP	Situation Reports
SPHV	Supervisory Public Health Veterinarian
SPRO	State Plant Regulatory Official
SSOP	Sanitation Standard Operating Procedures
TSA	Transportation Security Administration
UC	Unified Command
USACOE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
VS	Veterinary Services
Water ISAC	Water Information Sharing and Analysis Center
WHO	World Health Organization