GUIDELINES FOR THE DISPOSAL OF INTENTIONALLY ADULTERATED FOOD PRODUCTS AND THE DECONTAMINATION OF FOOD PROCESSING FACILITIES

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LIST OF ACRONYMS

AA	Assistant Administrator
ARS	Agricultural Research Service
CCP	Critical Control Point
CDC	Centers for Disease Control and Prevention
CE	Crisis Exemption
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CONOPS	Concept of Operations
DHS	Department of Homeland Security
DM	District Manager
DOD	Department of Defense
DOT	Department of Transportation
EIAO	Enforcement Investigation and Analysis Officers
EMC	Emergency Management Committee
EPA	Environmental Protection Agency
EPIA	Egg Products Inspection Act
FBI	Federal Bureau of Investigation
FDA	Food and Drug Administration
FFDCA	Federal Food, Drug, and Cosmetics Act
FLS	Front Line Supervisor
FMIA	Federal Meat Inspection Act
FSIS	Food Safety and Inspection Service
HACCP	Hazard Analysis and Critical Control Point
HMTA	Hazardous Materials Transportation Act
HMTUSA	Hazardous Materials Transportation Uniform Safety Act
HSPD-9	Homeland Security Presidential Directive 9
ICS	Incident Command System
IPP	Inspection Program Personnel
MSWLF	Municipal Solid Waste Landfill
NORTHCOM	Northern Command-Department of Defense
NRC	Nuclear Regulatory Commission
NRI	Non-Routine Incident Report
OFO	Office of Field Operations
OFDER	Office of Food Defense and Emergency Response
OIG	Office of Inspector General
OPEER	Office of Program Evaluation, Enforcement and Review
OSWER	Office of Solid Waste and Emergency Response
PPIA	Poultry Products Inspection Act
RCRA	Resource Conservation and Recovery Act
SEDO	Senior Executive Duty Officer

SPHV	Supervisory Public Health Veterinarian
SSOP	Sanitation Standard Operating Procedure
TC	Toxicity Characteristic
TSA	Transportation Security Administration
USDA	United States Department of Agriculture
UV	Ultraviolet

1. INTRODUCTION

This document is intended to serve as a resource guide for the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS or the Agency) and the Department of Health and Human Services' Food and Drug Administration (FDA) field personnel located in District Offices and at food processing facilities. It addresses the need to plan for response actions in the event that the food supply is intentionally adulterated somewhere in the supply chain. The document describes the current procedures used by each agency to respond to unintentional contamination events and how those procedures can provide a framework for planning response actions in the case of an intentional contamination emergency.

There are a large number of potential variables associated with any given contamination incident, including the nature of the commodity, the different types of threat agents that might be used as adulterants and their concentration. Because of this variation, effective disposal and decontamination response actions must be collaboratively developed by government and industry stakeholders on a case-by-case basis. This document provides general guidelines to help FSIS and FDA field personnel provide advice and, when appropriate, make decisions regarding disposal and decontamination actions in the event of an intentional contamination incident. This document does <u>not</u> address response actions for incidents involving live animals.

This report is organized into five sections and four appendices, as follows:

- Section 1 presents an overview of Federal authorities and discusses their relationship to other coordination efforts at the Federal and state levels.
- Section 2 presents the methods used to develop these guidelines.
- Section 3 presents the current procedures for disposal and decontamination following an unintentional contamination incident.
- Section 4 contains the guidelines for disposal and decontamination response actions for an intentional contamination incident.
- Section 5 discusses research and response needs.
- Appendix A categorizes potential threat agents and possible disposal options, along with details of those options.
- Appendix B provides a table containing options and details for decontamination of contaminated facilities and equipment.
- Appendix C contains examples of responses for three different intentional adulteration scenarios.
- Appendix D provides contact numbers for local, state, and other Federal offices that might need to be notified in the event of an incident.

1.1 Overview of Existing Federal Authorities

During an incident in which food products have been intentionally contaminated three Federal agencies - FSIS, FDA, and the Environmental Protection Agency (EPA) - have authority to provide assistance and guidance.

1.1.1 The Food Safety and Inspection Service

FSIS is the public health agency within USDA responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

U.S. Code 21 gives the Secretary of Agriculture (the Secretary) broad authority to inspect, detain, seize, and condemn meat, poultry, and egg products. That authority is carried out by FSIS. The Agency has the authority to:

- Inspect, detain, seize, and condemn meat products that are deemed adulterated or unhealthy for human consumption [Title 21, Chapter 12, the Federal Meat Inspection Act (FMIA), Sections 671, 672, and 673].

- Inspect, detain, seize, and condemn poultry products that are deemed unwholesome, adulterated or unbranded [Title 21, Chapter 10, the Poultry Products Inspection Act (PPIA), Section 467].

- Inspect, detain, seize, and condemn egg products that are deemed unwholesome, or adulterated [Title 21, Chapter 15, the Egg Products Inspection Act (EPIA), Sections 1047, 1048, 1049].

1.1.2 The Food and Drug Administration

FDA is responsible for protecting public health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, the nation’s food supply, cosmetics, and products that emit radiation. The FDA is also responsible for advancing public health by helping to speed innovations that make medicines and foods more effective, safer, and more affordable, and helping the public get the accurate, science-based information they need to use medicines and foods to improve their health.

The Federal Food, Drug, and Cosmetic Act (FFDCA) provides the 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.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (PL107-188) was signed into law on June 12, 2002, by President Bush. Title III of PL107-188 deals primarily with the protection of the safety and security of the food and drug supply. Subtitle A Section 303 allows for the detention by an officer or qualified FDA employee of food

if there is credible evidence or information that the food presents a threat of serious adverse health consequences or death to humans or animals.

1.1.3 The Environmental Protection Agency

EPA works to protect human health and the environment as well as to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. 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. Where authorized, EPA can delegate programs to federally recognized tribes. In addition, EPA works with tribes to build capacity and environmental programs.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorizes the President to respond to releases, or substantial threats of releases, of substances hazardous 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 delegated his CERCLA authorities to the EPA Administrator in Executive Order 12580.

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides Federal control of pesticide distribution, sale, and use. All pesticides must be registered (licensed) by EPA before they can be sold or distributed in the United States. Registration assures that pesticides will be properly labeled and if used in accordance with label safety precautions and use directions, will not cause unreasonable adverse effects to humans or the environment.

The Resource Conservation and Recovery Act (RCRA) authorizes the EPA Administrator to regulate management of hazardous waste and disposal of non-hazardous 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 of RCRA 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 allow contaminated product to be 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.

1.2 Coordination among State, Local, and Federal Agencies

FSIS and FDA are employing the Incident Command System (ICS) management principles to coordinate the response to intentional contamination incidents involving the processing and distribution of food products. FSIS also has established the Emergency Management Committee (EMC), which directs FSIS' response to major food incidents and the Agency's involvement in interagency responses to emergencies.

FSIS recently entered into an agreement with FDA, the Department of Homeland Security (DHS), and the National Association of State Departments of Agriculture to facilitate development of coordinated emergency response procedures between frontline field locations and their associated state and local emergency response organizations. These partners are all committed to employing the principles of the ICS. In the event of an intentional contamination incident, a response team would work with an incident commander, most likely someone from the state or local level, or a unified command. The response team would identify subject matter experts to assist the incident manager as well as provide a management process that overlaps the emergency response process.

1.3 Relationship of these Guidelines to Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities under Homeland Security Presidential Directive – 9 for Food and Agriculture

Homeland Security Presidential Directive – 9 for Food and Agriculture (HSPD-9) was signed by the President on January 30, 2004. The Directive established a national policy to defend the agriculture and food system against terrorist attacks, major disasters, and other emergencies. HSPD-9 directed four Federal agencies; FDA, USDA, EPA and DHS to develop coordinated response plans that include decontamination and disposal operations for handling adulterated food products or contaminated/infected plants and animals.

The White House Homeland Security Council asked the EPA to coordinate the development of a document that lays out roles and responsibilities for decontamination and disposal response actions under HSPD-9. The document, Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities, formerly referred to as the "CONOPS", focuses on chemical and biological incidents where the primary target is the U.S. food and agriculture infrastructure. The roles and responsibilities are consistent with the National Response Plan and are presented for the four primary Federal agencies tasked with response coordination under HSPD-9. The required adjustments in response activities to changes in incident magnitude and involvement of different impacted sectors are also detailed. For example, many response actions are handled solely at the local level using available local and private sector resources. However, as incidents require larger or more complex response actions, local resources may be exhausted and state or Federal resources may be needed to manage the incident. The Federal Roles and Responsibilities document presents a framework for the coordination of multiple Federal resources in a unified command structure to conduct decontamination and disposal activities.

Whether the incident involves contamination of animals, crops or food, there are key process steps involved in decontamination and disposal operations. The document clarifies these steps, identifies who is in charge of the ICS and primary and supporting Federal agencies, and outlines the means by which states or Federal agencies can request technical and resource support.

Both this guidance document and the Federal Roles and Responsibilities coordinated by the EPA (in conjunction with DHS, USDA/FSIS, USDA/APHIS, and HHS/FDA) address the issue of responses to adulteration of the food supply. However, the documents differ in the two following respects:

1. *Goal* – The objective of the Federal Roles and Responsibilities document is to describe the roles, responsibilities, and coordination of Federal and state decontamination and disposal resources in response to incidents where the primary target is the U.S. agricultural and/or food infrastructure. By contrast, the objective of these guidelines is to provide guidance to field personnel charged with implementing response actions.

2. *Content* – The Federal Roles and Responsibilities document addresses disposal and decontamination issues for food products, live animals, and crop materials potentially contaminated with biological and chemical agents. In contrast, these guidelines deal solely with food products that may be adulterated with biological, chemical, or radiological threat agents.

2. METHODOLOGY AND SCENARIO DEVELOPMENT

This section describes the methods used to collect information for the development of the guidelines in this document.

2.1 The Food Disposal and Decontamination Interagency Workgroup

An interagency team, the Food Disposal and Decontamination Interagency Workgroup, was established to facilitate coordinated discussions about the technical recommendations provided in these guidelines. The team consisted of members from FSIS, FDA, and EPA. The workgroup provided input at several meetings that were held from August through November 2004.

2.2 Literature Searches

The open literature was examined for information regarding regulatory authorities and responsibilities, as well as disposal and decontamination techniques for food products. The literature was also reviewed for case study information involving unintentional adulteration of food products that could provide useful data for the development of these guidelines.

2.3 Federal Staff Interviews

Staff in FSIS Program Offices (Office of Food Defense and Emergency Response, Office of Field Operations, and Office of Program Evaluation, Enforcement and Review) and FDA (Center for Food Safety and Applied Nutrition, and Office of Regulatory Affairs) were interviewed to obtain information about the procedures used for responding to incidents involving the unintentional adulteration of food products. Information was also requested about case studies and points of contact at the state government level.

2.4 Scenario Development

These guidelines focus on responses to the intentional adulteration of food products during processing or distribution. In order to facilitate discussion of such responses, several scenarios were constructed to serve as a framework for guideline development. These scenarios, developed through discussions with staff from FSIS and FDA, attempt to address potential adulteration incidents at several points in the supply chain.

Scenario Number 1 addresses the intentional adulteration of products at a large food processing facility; for example, a major ground beef processing facility that produces a large volume of product that is distributed over a region of the country.

Scenario Number 2 addresses the intentional adulteration of food products during transportation. In this case, a tanker truck shipment of fluid milk is contaminated.

Scenario Number 3 addresses the intentional adulteration of food products during storage in a warehouse/distribution facility. For example, this could involve the local/regional storage of frozen poultry products with a relatively smaller volume of product than the processing facility, and distribution over a more localized area.

3. CURRENT PROCEDURES

This section provides information about the current FSIS and FDA procedures for disposal and decontamination response actions for incidents involving the unintentional contamination of food products.

3.1 Procedures for Product Disposal

3.1.1 FSIS Procedures

In the event of unintentional contamination of meat, poultry, or egg products, FSIS has the authority under the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act to retain products in processing facilities and to detain products already distributed in commerce that might be adulterated for up to 20 days and petition a U.S. District court to seize products. Product seizure is initiated by the Department of Justice acting on FSIS' behalf, following a request by FSIS' Office of General Counsel, by filing a Libel of Information against the product in the appropriate district court, and the procedures to be followed for detention and seizure are outlined in FSIS Directive 8410.1 Revision 1.

If, for example, contamination were found at a processing facility, the FSIS District Manager and Inspector-in-Charge would first alert the owners of the establishment of the need to retain the product in order to protect public health. The District Manager would prepare a non-routine incident report for the incident and send the report to the Assistant Administrator for the Office of Field Operations with a copy to the Office of Food Defense and Emergency Response. The District Manager would also notify the EPA Regional Office. FSIS would then work with the owners of the establishment and the representatives of the state departments of health, agriculture, and environmental quality to determine the appropriate disposal options for the contaminated product. FSIS requires that the owners of the establishment conduct a separate hazard analysis for the incident (i.e., as an unforeseen hazard), and develop a plan for the proposed disposition action and sanitation standard operating procedures (SSOPs). These requirements are specified in 9 CFR Part 314, 9 CFR Part 417.3, 9 CFR Part 416.5. FSIS staff actions are described in several agency directives (e.g., Directives 5000.1 and 8410.1). The establishment owner's plans would be presented to the FSIS District Manager, who would determine whether the plans are sufficient to ensure that contaminated food does not enter the food supply and if the proposed actions can be implemented. FSIS Inspectors would witness the execution of the planned actions.

As outlined in FSIS Directive 5730.1 and a 1998 Memorandum of Understanding between FSIS and FDA regarding the sharing of information in dual jurisdictional establishments, when warranted (e.g., for plants processing products subject to regulation by both FSIS and FDA), FSIS would also contact FDA District Office staff as well as EPA Regional Office staff to coordinate responses on food product disposal actions.

3.1.2 FDA Procedures

For FDA-regulated food products, unless the product is seized by a U.S. Marshall, the owner of the establishment is responsible for the development of product disposal plans. The FDA District Office reviews the plans and contacts the relevant state agency and the EPA Regional Office, if needed, about the acceptability of the plans. FDA can offer advice and observe implementation of the proposed actions. FDA Field Investigators follow the guidance specified in Section 947 of the Office of Regulatory Affairs Investigations Operations Manual with regard to product disposition. Disposal decisions are usually made between the owner of the product, the appropriate state agency and local authorities.

As outlined in a 1998 Memorandum of Understanding between FSIS and FDA regarding the sharing of information in dual jurisdictional establishments, when warranted (e.g., for plants processing products subject to regulation by both FDA and FSIS), FDA would also contact FSIS District Office staff as well as EPA Regional Office staff to coordinate responses on food product disposal actions.

3.2 Procedures for Decontamination

3.2.1 FSIS Procedures

If the contamination incident occurs in a federally inspected meat, poultry or egg processing facility, the owner of the establishment is required to remediate the facility and demonstrate to FSIS that safe production of the product can resume.

As described in Section 3.1.1, the owner of the establishment prepares a hazard analysis, a remediation plan, and SSOPs. The plans should also address the protection of plant staff and FSIS inspection and compliance personnel during the remedial actions, and the disposal of any secondary waste streams resulting from decontamination actions. These plans are presented to the FSIS District or Regional Manager, who determines whether the plans are sufficient and the proposed actions can be implemented. FSIS field personnel witness the execution of the planned actions. Prior to the restart of operations, testing is conducted to document that the remediation action was successful.

Where warranted, FSIS may also contact FDA District Office staff and EPA Regional Office staff to coordinate responses on facility decontamination actions.

3.2.2 FDA Procedures

For FDA-regulated food products, as with disposal, decontamination plans are the responsibility of the establishment owner working with the appropriate state or local agency. The FDA District Office may offer advice and observe implementation of the proposed actions.

Where warranted, FDA may also contact FSIS District Office staff and EPA Regional Office staff to coordinate responses on facility decontamination actions.

4. DISPOSAL AND DECONTAMINATION GUIDELINES

Although response to any intentional contamination incident must be considered on a case-by-case basis, this document provides some guidance on disposal options for the contaminated product and decontamination actions for the facility. The phases of an incident of intentional contamination are described and the elements of a disposal and decontamination plan are presented. The previous section described the procedures currently used to dispose of unintentionally contaminated food products and decontaminate the facilities. This section describes how those procedures might change when the incident involves the intentional adulteration of food products. Finally, this section contains information on the categorization of agents that FSIS and FDA have identified as having potential for use in intentional contamination. Appendix A contains a table outlining those specific agents.

Depending on the nature of the incident, a great deal of interaction among regulatory agencies (Federal, state, and local) might be required. Appendix D provides a list of important phone numbers for agencies that may possibly be involved in responding to an incident of intentional adulteration. Users of these guidelines are strongly encouraged to consult Appendix D to identify appropriate emergency contacts in their states and regions in preparation for responding to an incident of intentional adulteration. It is important to remember that FSIS and/or FDA headquarters (depending on the food product) should be kept informed at all times.

4.1 Characteristics of an Intentional Adulteration Incident

FSIS or FDA are likely to become aware of an intentional adulteration incident by:

- Receipt of a tip by a government agency (e.g., local law enforcement, FBI, USDA- Office of Inspector General) or the owner of the establishment; or

- Surveillance or monitoring system results (e.g., Consumer Complaint Monitoring System, laboratory analytical results) indicating unusual patterns of foodborne disease incidence or product contamination.

Incidents involving the intentional adulteration of food products may differ from unintentional contamination incidents in a number of ways, including:

1. *Type of agent* – threat agents may include biological, chemical, or radiological materials not typically found in food. Disposition of these unusual agents may require specific actions that provide special protection for personnel and to limit contamination of other environmental media.

2. *Scale of the incident* – although an intentional adulteration incident may be limited to a single facility, it could also involve a coordinated attack on a number of large facilities within a region or throughout the country. Larger scale incidents may require coordination among local, state and Federal government agencies within a region as well as across regions, and quickly saturate available resources.

3. *Coordination with local law enforcement and FBI* – the law enforcement community will become involved upon the suspicion or confirmation of intentional contamination. FSIS and FDA staff in the field will need to work with state and local law enforcement and the FBI to rapidly retain or detain suspect products and take samples for laboratory testing while preserving the integrity of the crime scene. The ability of both of these types of actions to proceed unimpeded requires advanced planning among the different agencies involved.

4. *Public concern* – media and the public, including government leaders, will have great interest and concern over an intentional contamination of the food supply. Incidents of panic and confusion regarding which food products have been contaminated may occur. Effective stakeholder risk communications will be critical under these circumstances.

4.2 Procedures for Incidents Involving Intentional Adulteration

Sections 3.1 and 3.2 describe the procedures currently used to dispose of contaminated product and decontaminate facilities and equipment, respectively, following incidents of unintentional contamination of food products. This section describes how those procedures may change when the incident involves the intentional adulteration of food products.

An intentional adulteration incident can be divided into several phases:

- Discovery and response phase – the event is identified and confirmed, a response team is created, the team conducts an investigation, and detains, retains, and recalls contaminated products;

- Disposal phase – a specific plan for the disposal of the waste is developed and implemented;

- Decontamination phase – affected equipment and structures are decontaminated based on a specific decontamination plan; and

- Event clearance and termination.

4.2.1 Discovery and Response Phase

During the discovery and response phase, the determination of whether or not an incident is intentional or unintentional is made. **Figure 4-1** illustrates the steps taken in this first phase. Once the intentional adulteration is detected or even suspected, the appropriate authorities (FSIS, FDA, FBI, local law enforcement, state health authorities, etc.) should be notified. In some cases, these authorities should be part of a response team specifically developed to deal with the incident. As dictated by the principles of ICS, depending on the incident, the incident command might be from a state or local authority (e.g., a local law enforcement or public health agency representative). The response team will conduct the investigation and detain, retain or recall the product as necessary. Disposal and decontamination cannot occur until an investigation is completed and the incident command has cleared the product for disposal. The development of disposal and decontamination plans can be initiated during the discovery and response phase.

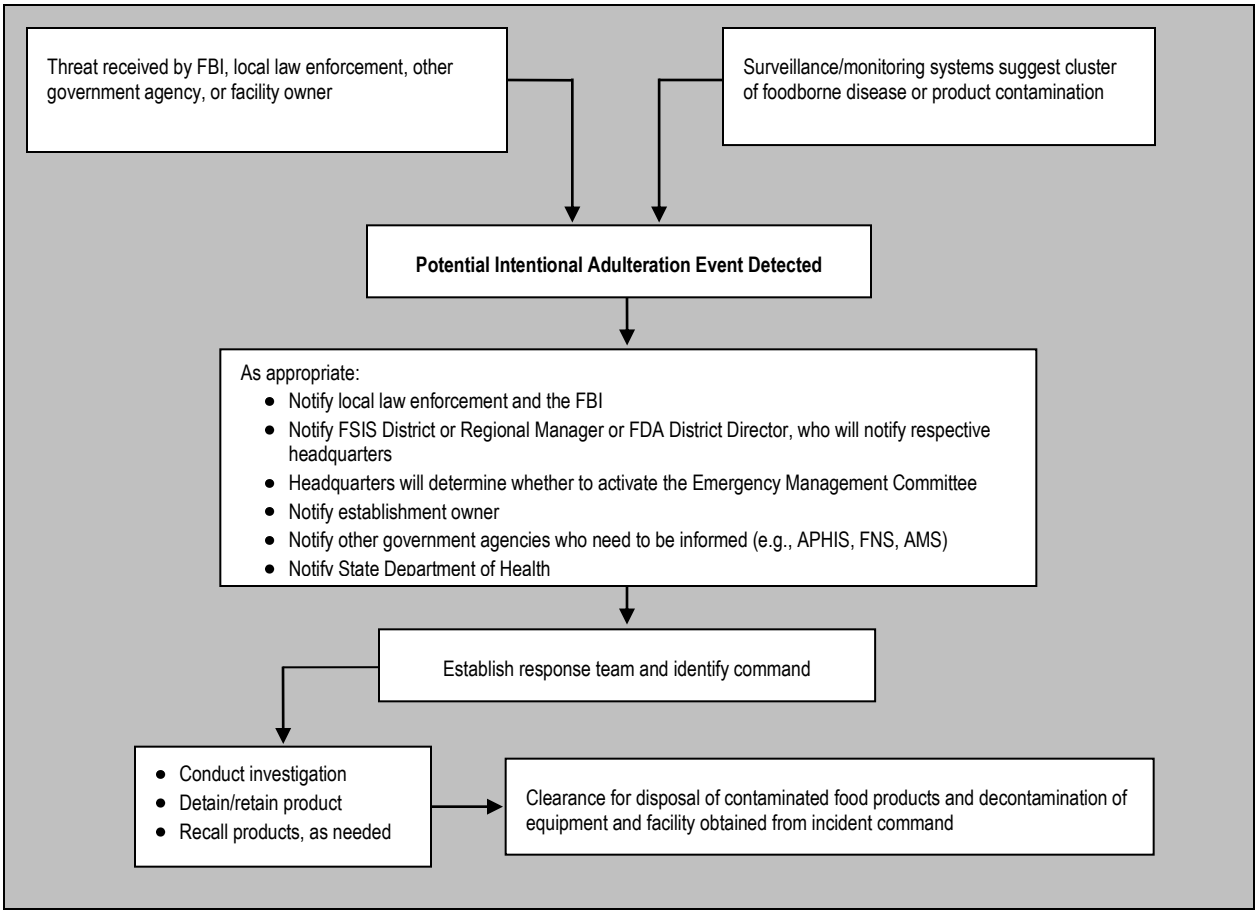

Figure 4–1. Discovery and Response Phase

4.2.2 Disposal Phase

A key element of the disposal phase is the development and completion of a disposal plan. As illustrated in **Figure 4–2**, an approved disposal plan for the contaminated products is required to show how the waste will be properly dispositioned.

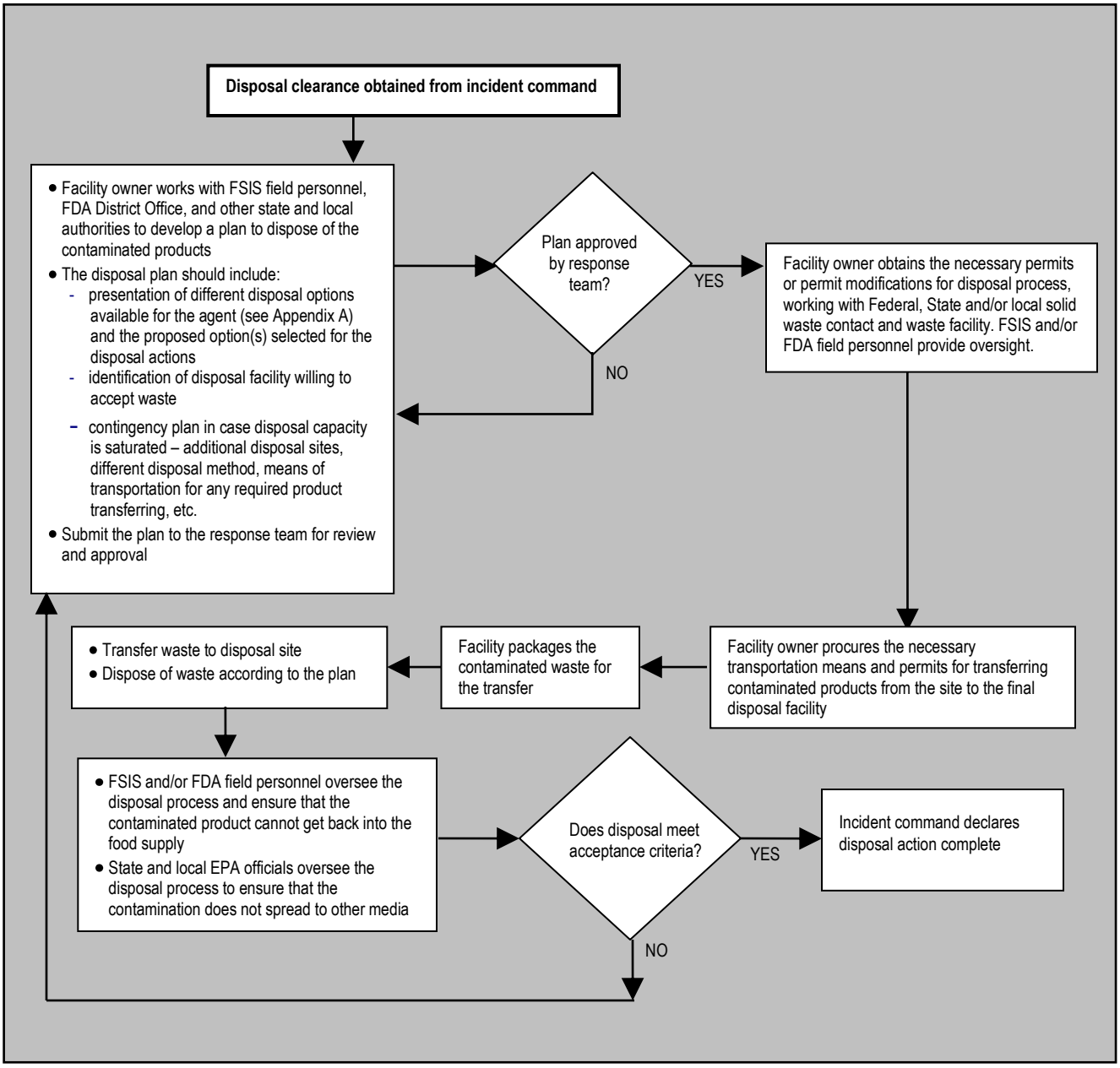

Figure 4–2. Disposal Phase

Federal oversight of the development of the disposal plan depends on the type of food product:

- If the food product is under FSIS regulatory authority, the establishment owner will work with FSIS headquarters, field personnel, and the District or Regional Manager to develop the disposal plan, with consultation from state and local agencies.

- If the contaminated product is under FDA regulatory authority, the facility owner will work with the state and local agencies to develop the disposal plan. The FDA District Office will provide support in the plan development if requested.

Key elements of the disposal plan should address the following questions:

- What is (are) the contaminant(s) or threat agent(s)?

- How is the contaminated food matrix categorized (e.g. hazardous waste, municipal waste, radiological waste, non-hazardous waste requiring special handling, or unknown – see Appendix A)?

- What is the quantity of the contaminated product for disposal?

- What is the preferred disposal method (land disposal, incineration, rendering)?

- Is the selected disposal technique acceptable according to state, local, and Federal regulations?

- Where is the final disposal facility?

- What are the logistics for moving the contaminated products from the site to the disposal facility?

- Is transportation required for the transfer of waste to the final disposal site?

- What are the required permits associated with the disposal process and how are they procured? Is assistance from state, local, and Federal government agencies required?

- Is there a health and safety protection plan for the workers who will be involved in the disposal process? If so, what is the plan?

- Who and what organizations will be involved in overseeing the disposal process?

- What are the acceptance criteria for the disposal process?

The development of the disposal plan may include a template for waste profiling and pre-selections of facilities. The plan may also address potential training and inoculation recommendations for disposal facility workers. For disposal by landfill or rendering in particular, there may be a limited quantity of available disposal capacity. It may be prudent to negotiate blanket purchase agreements with disposal companies before a crisis. The disposal facilities need to be contacted prior to the completion of the disposal plan. Packaging and transportation will be partially driven by the disposal facility chosen. Potential disposal

techniques need to be evaluated early on in the process, and a disposal facility representative brought in at that time. In some cases it may be necessary to address the disposal of decontamination residuals.

Once the plan is completed by facility management, it will be submitted to the incident manager and the appropriate state level solid waste agency for review and acceptance. If the plan is accepted, the facility will proceed with disposal according to the plan. Any deviations from the plan should be communicated immediately to the incident manager and the agencies overseeing the disposal action; authorization from the incident manager is required prior to proceeding to the next step.

FSIS and FDA observation and oversight of the disposal process helps to ensure that the disposal is successful and that contaminated product cannot be reintroduced into the food supply. Oversight by EPA or environmental quality authorities ensures that the contaminated products are disposed of properly and that there will be no further contamination of other media (i.e., air, groundwater, or soil).

Once all of the contaminated products are disposed of properly, the results will be reported to the incident manager and the appropriate state agency as part of the event clearance and termination process. However, the event is not considered closed and complete until decontamination and clearance have occurred.

4.2.2 Decontamination Phase

Figure 4–3 illustrates the necessary steps preceding decontamination and closure of the event. Like the disposal phase, a plan must be developed by the facility owner with input from the FSIS field personnel and headquarters as well as state and local authorities. Options for decontamination techniques can be found in Appendix B. Decontamination of facilities or equipment will likely occur after the contaminated products have been removed or collected and disposal response actions have been completed.

In most cases, the owner of the establishment has an interest to conduct a cost-effective and timely remedial action in order to get the facility back on line as quickly as possible. However, the response team, including FSIS, FDA, and EPA, may need time to determine the most appropriate decontamination techniques for the incident, depending upon the threat agent. Intentional adulteration incidents may involve the use of threat agents not typically found as contaminants in food sector industrial facilities. Alternatively, the owner of the establishment may determine that the remedial actions required to restart the plant will not be cost-effective because the ability to sell product from the facility upon restart has been complicated by public opinion about the incident.

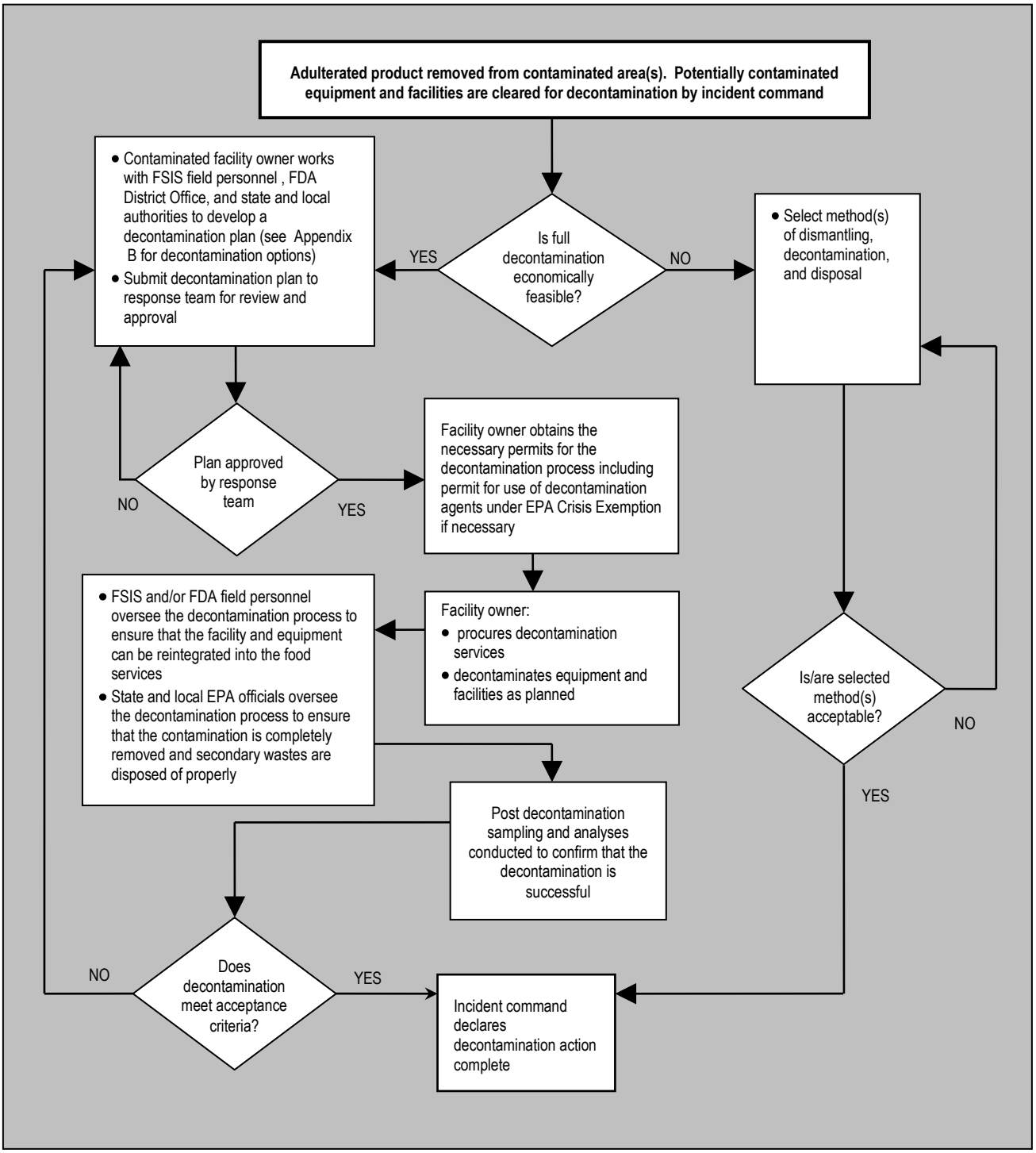

Figure 4–3. Decontamination Phase

In some cases it may be necessary to perform environmental sampling outside of the contaminated facility to determine whether contamination has spread beyond its boundaries. If contamination has spread to roads, other facilities, or private residences for example, additional decontamination and disposal may be necessary. Roles and responsibilities of the various agencies for environmental sampling and decontamination and disposal outside the facility would be determined and assigned within the ICS.

As discussed earlier, Appendix B provides general guidance about types of decontamination techniques that may be useful for threat agents of concern for food products. However, the specific techniques required to effectively remediate facilities or equipment for a given incident should be decided on a case-by-case basis after careful consideration of the incident operational parameters. Worker protection or facility personnel concerns about safety and the generation and disposition of secondary waste streams resulting from the remedial actions should be discussed in the decontamination plan and factored into any recommendations.

Data on the efficacy on decontamination technologies for terrorist agents are scarce. EPA has reviewed data related to the safety and effectiveness of some decontamination technologies such as anthrax decontamination, but in general it can be difficult to find specific recommendations. The efficacy of decontamination technologies is known to vary with site-specific conditions including surface roughness, contaminate concentration, surface pH, and contact time. Efficacy also varies with different decontamination situations such as building walls, hard surfaces, office equipment, furnishings, personal protective equipment, and other debris that may be generated. Since each site is different, each cleanup plan must be tailored to the unique situation at that site. Due to the hazards potentially associated with terrorist agents, it is essential for facility owners to work closely with EPA and other local, state, and Federal agencies with expertise in sampling, decontamination, and protection of workers.

4.2.3 Event Clearance and Termination

Once the incident command, which would include or consult with all relevant agencies, declares the disposal and decontamination adequately completed, the incident is considered closed and terminated.

4.3 Categorization of Threat Agents

FSIS and FDA have considered the types of agents that might be used to intentionally adulterate food products. These agents include microbial pathogens, toxins, chemicals, and radionuclides. The addition of these agents to food products would produce waste materials that must be disposed in a manner that prevents the transfer of toxic constituents from one medium (i.e., food matrices) to another (e.g., groundwater, atmosphere).

Although specific disposal decisions will vary on a case-by-case basis, depending on the particular aspects of each incident, Table A-1 in Appendix A generally categorizes or bins representative threat agents by potential waste management category (i.e., disposal as hazardous waste, municipal solid waste, special case waste, or radioactive waste). For example, the presence of certain agents will cause the contaminated food to be considered a hazardous waste. Disposition of such waste must comply with the requirements for hazardous waste management,

including the use of engineered landfills and approved incinerators. The addition of other agents will cause the contaminated food to be considered a municipal waste, which can be managed by a wider range of potential options. Wastes contaminated with characteristic wastes should go to hazardous waste facilities. Non-hazardous wastes should go to non-hazardous waste facilities. Wastes that are not hazardous but have some risks may potentially be disposed of/treated as hazardous wastes. The purpose of binning the agents is to provide some guidance for the disposal of contaminated food products using representative threat agents by illustrating a range of considerations and options. Additional details regarding available disposal options are also presented in Appendix A. Appendix B presents information on potential decontamination options for representative threat agents. Actual remediation decisions will be made at the state and local level on a case-by-case basis in consultation with the company and may differ from these suggestions.

5. RESEARCH AND RESPONSE NEEDS

Table 5–1 provides a summary of the data and response needs and potential solutions identified during development of these guidelines. Other considerations for research are also listed below.

Table 5–1. Summary

Response Needs	***Potential Solutions***
Coordination among FSIS, FDA, FBI and local law enforcement during incident response needs improvement.	FSIS is currently developing protocols for communication and coordination of response efforts. FSIS is testing protocols using Table Top Exercises.
Case studies and lessons learned information is poorly documented.	Develop procedures for documenting case histories of all contamination events (unintentional and intentional), including lessons learned. Revise procedures, based on documented information, to improve response capabilities.
Contaminated products may require temporary storage pending decisions about disposal options. Plans for possible storage options are not in place.	At the District Office level, develop contingency plans for the interim housing of contaminated products, pending disposal, to improve response preparedness for adulteration incidents.
Local and regional disposal resources (e.g., landfills, incinerators) may be overwhelmed during a large incident or multiple incidents within a region.	Develop a network of potential disposal resources at the District Office level to improve the capability to respond to surge capacity demands.
Private sector decontamination capabilities may be exceeded during a large local or multiple regional incidents.	Identify a network of companies with specialized expertise to assist in addressing the need for remedial action support under surge conditions. Coordinate access to other specialized Federal resources [e.g., Department of Defense Northern Command, (DOD NORTHCOM); National Guard] that might be needed under certain conditions.
Analytical laboratory capacity may be exceeded during a large local or multiple regional incidents.	Using the FERN model, develop local networks of laboratories, including state, academia, and private sector labs that may be quickly activated to accommodate surge requirements.
There is a lack of analytical methods for some threat agents in food matrices and disposal of threat agents.	1) Catalog: Threat agent/food matrix pairs for which methods are currently available List of test methods under development List of priority testing needs 2) Coordinate laboratory methods research and development efforts with the FDA, CDC, ARS, and universities.
Food products contaminated with threat agents that have already been purchased by consumers might require special handling. For example, the contaminated product might be too dangerous or perceived as being too dangerous to be handled by consumers.	FSIS and FDA should explore developing agreements with state and local HAZMAT teams and the National Guard or NORTHCOM for support in collecting food products and other associated contaminated materials from consumer homes for incidents involving certain threat agents.
Effective decontamination techniques might not be readily available for all threat agents of concern.	Coordinated research and development programs should be undertaken by EPA, FSIS, ARS, FDA, CDC, DOD, DHS, and the academic community.
Contractors might not start removal procedures without first receiving indemnification against liability that could result from release of harmful substances.	EPA should determine if some form of contractor indemnification is needed for food adulteration events and if agreements could be pre-negotiated.

Other research and response needs that merit consideration include:

a) The purchase and stockpiling of transportable decontamination and disposal equipment that could be brought to the contaminated site;

b) The impact of facility decontamination techniques on disposal of residues, both from a cost and an environmental perspective.

APPENDIX A – POTENTIAL DISPOSAL OPTIONS AND TECHNIQUES FOR THREAT AGENTS

This appendix provides information on disposal techniques for dealing with threat agents. In **Table A–1**, potential threat agents and their characteristics and the disposal category that food contaminated with the agent belong to is identified. Disposal options for wastes belonging to the different categories are then discussed. Adulterated food products might be categorized as hazardous waste, non-hazardous waste that may require special handling, non-hazardous waste that can be treated as municipal waste, or radiological waste, depending on the adulterant and its concentration. Once it has been determined which category is most appropriate for the contaminated product, the corresponding technique should be presented in the disposal plan.

Table A–1. Disposal Considerations by Agent Category

Agents	*Heat Resistant*	*Special Considerations*	*Disposal Category*[a]
Bacteria [b, c, d]	No	Some have inhalation concerns – potential exposure pathway	II & III
Spores [e, f]	Both	Some have inhalation concerns – potential exposure pathway	II & III
Toxins [c, f]	Both	Some have inhalation concerns – potential exposure pathway	II & III
Chemical Agents [g, h]	Both	Potential chronic health effects – Groundwater contamination	I & II
Radionuclide Agents	No		IV
Unknown Agents			II

[a] Definition of Disposal Categories:
Disposal Category I – Waste contaminated with chemicals identified as "Toxicity Characteristic" (TC) Hazardous Waste constituents at concentrations exceeding those listed in Table 1 of 40 CFR Part 261 should be disposed of in accordance with RCRA hazardous waste requirement in 40 CFR Part 264. However, if the waste constituent concentration does not meet the TC level listed in Table 1, the waste is then considered as a non-hazardous waste and can be disposed of as municipal waste (see Disposal Category III).
Disposal Category II – These wastes are contaminated with agents that are not listed as hazardous wastes by EPA's regulations. However, due to their potential toxicities, these contaminated wastes should receive special handling. In addition, wastes contaminated with unknown agents should also receive special handling.
Disposal Category III – These wastes are contaminated with agents that can be disposed of as municipal wastes.
Disposal Category IV – Disposal of wastes contaminated with radioactive materials should be in accordance with NRC/DOE regulations.

[b] In general, microbial pathogens do not survive long in the environment outside of a host. Therefore, it should be safe to dispose of wastes contaminated with these agents in municipal landfills or municipal incinerators, unless otherwise specified below. Spore forming microorganisms are an exception.

[c] Some agents are harmful when inhaled in large doses; wastes contaminated with these agents should receive special handling.

[d] *Mycobacterium* spp. is highly infectious when inhaled; waste contaminated with this agent should receive special handling.

[e] *Anthrax* and *Coxiella* spores are infectious when inhaled. In addition, as specifically required by 9 CFR 314.3(b), carcasses and parts condemned because of anthrax at official establishments that are not equipped with tanking facilities shall be disposed of by (1) complete incineration or (2) by thorough denaturing with appropriate disinfectant prior to disposal in accordance with state or municipal authorities. Wastes contaminated with these agents should receive special handling.

[f] Some of these agents are toxic when ingested but have not been shown to be harmful when inhaled. Furthermore, because it is unlikely that they will be released into the atmosphere or groundwater in sufficient quantities to cause adverse health effects, wastes contaminated with these agents may be disposed of as municipal waste.

[g] Some of these agents are listed by EPA as acutely hazardous commercial pesticides under 40 CFR 261 (RCRA "P" list). Wastes contaminated with one of these agents are <u>not</u> required to be designated as hazardous waste per 40 CFR 261.33 but they should receive special handling. A contaminated product having the presence of a "P waste" does not automatically make it a hazardous waste. However, if the total quantity of the contaminated waste exceeds 1 kg, it is strongly suggested that the contaminated product be handled as a hazardous waste.

[h] These pesticides are not listed under 40 CFR 261. However, they are acutely toxic, can cause chronic health effects, and may contaminate groundwater. Therefore, wastes contaminated with these agents should receive special handling.

A.1 POTENTIAL DISPOSAL TECHNIQUES

It is important to dispose of contaminated food products in an environmentally responsible manner. Fortunately, there is a long history of safely disposing of food contaminated with biological contaminates. Many of the same technologies can be used to dispose of food intentionally contaminated with biological, chemical or radiological agents. This section provides an overview of techniques that may be applicable for disposal of contaminated food products. The most appropriate disposal approach must be decided on a case-by-case basis. It is important that the facility owner be in close interaction with local, state, and Federal regulatory authorities.

A.1.1 Rendering

The most common technique used to dispose of contaminated meat and poultry products is rendering. Rendering is a process in which purified fat and protein products are recovered from inedible portions of animal and poultry by cooking at high temperatures following by a separation of the fat and proteins. The cooking is done to remove moisture and kill bacteria. Anthrax spores will also not survive the rendering process (1). In addition, the process provides an opportunity to reduce the quantity of waste requiring disposal.

In general, there are two types of animal rendering processes, edible and inedible (2):

- Edible rendering plants process fatty animal tissue into edible fats and proteins. The plants are normally operated in conjunction with meat packing plants under FSIS inspection and processing standards.

- Inedible rendering plants produce inedible tallow and grease, which are used in livestock and poultry feed, pet food, soap, and the production of fatty-acids.

A.1.1.1 Edible Rendering

A typical edible rendering process consists of feeding ground fat trimmings (usually consisting of 14 to 16 percent fat, 60 to 64 percent moisture, and 22 to 24 percent protein) via a belt conveyor to a melt tank. The melt tank heats the materials to about 110^{o}F, and the melted fatty tissue is pumped to a disintegrator, which ruptures the fat cells. The proteinaceous solids are separated from the melted fat and water by a centrifuge. The melted fat and water are then heated with steam to about 200^{o}F by a shell and tube heat exchanger. A second-stage centrifuge then separates the edible fat from the water, which also contains any remaining protein fines. The water is discharged as sludge, and the "polished" fat is pumped to storage (2).

A.1.1.2 Inedible Rendering

There are two processes for inedible rendering: the wet process and the dry process. Presently, only the dry process is used in the United States, since the wet process is energy inefficient, generates too much liquid waste, and has a negative impact on the quality on the fat produced.

Dry rendering is a batch or continuous process that removes moisture from raw material in order to release fat. Following dehydration, the melted fat and protein solids are separated and stored (2).

A.1.1.2.1 Batch Rendering Process

In the batch process, the raw material from the receiving bin is conveyed to a crusher for size reduction to improve cooking efficiency. The raw material is then transferred to a batch cooker where it is heated to about 275^{o}F. Following the cooking cycle of 1.5 to 2.5 hours, the contents are discharged to the percolator drain pan (equipped with a screen) to separate fat from protein solids.

From the percolator drain pan, the separated protein solids are then conveyed to a screw press, where a complete separation of the fat from the solids is done. These solids, called cracklings, are then ground and screened to produce protein meal. The fat from both the screw press and the percolator drain pan is centrifuged or filtered and stored in the crude animal fat tank (2).

A.1.1.2.2 Continuous Rendering Process

The continuous rendering system is similar to a batch system except that a single, continuous cooker is used rather than several parallel batch cookers. In the continuous system, the raw material is continuously charged into a cooker, which is typically a horizontal, steam-jacketed cylindrical vessel equipped with a mechanism that continuously moves the material horizontally through the cooker.

Continuous cookers cook the material faster than batch cookers, and typically produce a higher quality fat product. From the cooker, the material is discharged to the drainer, which performs the same function as the percolator drain pan in the batch process. The remaining operations are generally the same as the batch process operations (2).

It is important to note that the application of rendering is situation dependent. For example, waste contaminated with hazardous chemicals may not be appropriate for rendering since equipment and products generated from the process may be considered as contaminated, thus generating additional secondary wastes requiring disposal. If a food product is contaminated with a hazardous constituent (i.e., arsenic or mercury) and the contaminated food fails the toxicity characteristic (TC) then the waste is hazardous and should not be run through a rendering plant. The hazardous waste would need to be treated or disposed of in an acceptable hazardous waste unit or facility after meeting the Land Disposal Restrictions (40 CFR Part 268). The same might be true for waste requiring special handling.

A.2 NON-HAZARDOUS WASTE DISPOSAL

Non-hazardous waste is disposed of as municipal wastes. Municipal wastes can be disposed of by land disposal or by combustion techniques. Brief descriptions of municipal waste disposal techniques are provided below.

A.2.1 Land Disposal Techniques

A municipal solid waste landfill (MSWLF) is a discrete area of land or an excavation that receives household waste. An MSWLF is not a land treatment unit, surface impoundment, injection well, or waste pile, as those terms are defined in the law (3). Although MSWLFs are similar to hazardous waste landfills in design and operations, they are not subject to the stringent regulations that are imposed on the latter.

An MSWLF unit may receive types of wastes other than municipal waste as defined under Subtitle D of RCRA, such as commercial solid waste, non-hazardous sludge, small quantity generator waste, and industrial solid waste. Such a landfill may be publicly or privately owned. Additional information on MSWLFs can be found in the *Solid Waste Disposal Facility Criteria – Technical Manual* (3).

A.2.2 Combustion Techniques

There are three types of combustors that may be used to burn municipal waste: large municipal waste combustors; small municipal waste combustors; and commercial and industrial solid waste incineration units. These are discussed briefly below. For more information on municipal waste management techniques, please refer to the following link: http://www.epa.gov/ebtpages/ wastsolidmunicipalsolidwaste.html.

A.2.2.1 Large and Small Municipal Waste Incinerators

Large municipal waste combustors are incinerators that are capable of burning greater than 250 tons of municipal waste per day and that burn household, commercial, and/or institutional waste. Burning waste reduces its volume before disposal into a landfill. Municipal waste combustors include the subcategory of waste-to-energy plants, which generate electricity or steam from burning waste.

Large municipal waste combustors are field constructed units ranging from 50 to 1,000 tons per day (tpd). A municipal waste combustion facility might be comprised of multiple combustors and some have capacities up to several thousand tpd. In these large combustors, the waste is gravity or ram-fed to a single combustion chamber. The waste is moved through the combustor via a grate system. Air is supplied in excess of stoichiometric conditions through the grates and into the combustion chamber above the grates. These units are designed with either waterwall or waste heat boilers for energy recovery (4). Small municipal waste combustors have a similar design but small capacity. They are normally prefabricated units capable of burning 5 to 150 tpd. The incinerators are of two designs, starved-air or excess-air (4).

A.2.2.2 Commercial and/or Industrial Incinerators

EPA has separate regulations and guidelines for commercial and/or industrial type solid waste incineration units. The regulations and guidelines apply to incinerators used by commercial and industrial facilities to burn non-hazardous solid waste.

A.3 HAZARDOUS WASTE DISPOSAL

There are several methods that can be used to dispose of hazardous wastes. The two major techniques approved by EPA are land disposal technologies and combustion. Discussions of these two techniques are provided below.

A.3.1 Land Disposal Techniques

EPA has promulgated regulations on the design and operation of land disposal units (LDUs) for managing hazardous wastes. EPA defines an LDU as landfill, salt dome or bed formation, surface impoundment, waste pile, underground mine, injection well, underground cave, or land treatment facility.[1]

For solid hazardous contaminated food products (e.g. powdered eggs) landfills and incineration will most likely be the selected methods of choice. For liquid hazardous contaminated food products or any secondary wastewater from the decontamination process, surface impoundments or land treatment facilities may be appropriate.

Landfills are land disposal sites that are protected by an engineered cover to protect against surface infiltration, and lined with an almost impermeable liner to prevent migration of wastes to the surrounding environment. They are monitored from the inception to post-closure phases. They are regulated by EPA under 40 CFR 264, Subpart N.

Landfills are subject to minimum technological requirements; that is, they must be designed with:

- a cover;
- a double-liner;
- a leachate collection and removal system;
- a leak detection system;
- a site-specific leachate flow rate, also known as an action leaching rate, to indicate when a unit is no longer functioning properly, and;
- storm water run-on and runoff controls to prevent migration of hazardous constituents for at least a 25-year storm (3).

Under 40 CFR 264.314 placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids in any landfill is prohibited. Placement of non-hazardous liquids in a landfill is also essentially prohibited. In the case of destroying food products, therefore, it may be necessary to turn liquids into solids before disposal in a landfill. There are

[1] *Under Subtitle C of the Resource Conservation Recovery Act (RCRA), Section 3004(a), EPA has promulgated regulations on the design and operations of land disposal units (LDUs) for managing hazardous wastes which are codified in 40 CFR 264 (Ref. 1).*

certain situations when containers holding free liquids can be placed in a landfill, such as small containers (i.e., ampules), containers that are products (i.e., batteries), or lab packs. If sorbents are used to treat hazardous wastes so that the waste no longer contains free liquids, the owner and operator must use non-biodegradable sorbents.

To prevent significant voids that could cause collapse of final covers when containers erode, and to maintain and extend available capacity in hazardous waste landfills, containers placed in a landfill must be either at least 90 percent full or crushed, shredded, or in some other way reduced in volume, unless the containers are very small, such as ampules (3).

A.3.2 Combustion Techniques

Combustion is also commonly used to manage hazardous wastes. Combustion can permanently destroy some toxic organic compounds contained in hazardous waste by breaking their chemical bonds and converting them to their constituent elements. This technique can also reduce the volume of waste to be disposed of on land by converting solids and liquids to ash.

During burning, organic wastes are converted from solids and liquids into gases. These gases pass through the flame, are heated further, and eventually become so hot that their organic compounds break down into the constituent atoms. These atoms combine with oxygen and form stable gases that are released to the atmosphere after passing through air pollution control devices (5).

The stable gases produced by the combustion of organics are primarily carbon dioxide and water vapor. Depending on waste composition, however, small quantities of carbon monoxide, nitrogen oxides, hydrogen chloride, and other gases may form. Emissions of these pollutants are regulated under EPA's RCRA combustion unit standards.

The management or disposal of metals, ash, and other byproducts of the combustion process is also regulated by EPA's RCRA standards. Ash is an inert solid material composed primarily of carbon, salts, and metals. When ash is removed from the combustion chamber, it may be considered hazardous waste due to derived rules or its chemical composition. Also, small particles of ash carried up the stack with the exhaust gases (also called fly ash) may carry hazardous constituents out of the unit and into the environment. Since combustion will not destroy inorganic compounds present in hazardous waste, such as metals, it is possible that such compounds may also end up in ashes at harmful concentrations. Ash residue is subject to applicable RCRA standards and may need to be treated for metals or other inorganic constituents prior to land disposal (4).

A.4 SPECIAL HANDLING TECHNIQUES - MEDICAL WASTE INCINERATION

In most cases, it should be possible to determine (through sampling and analysis) whether a contaminated food product is hazardous or non-hazardous (municipal) waste. However, there are situations for which it may not be possible to determine what the contaminant or threat agent is, or circumstances when the contaminated food product is classified as a non-hazardous waste,

but due to special circumstances, it may not be advisable to dispose of it as municipal waste. In such cases, special handling techniques should be considered. The determination of when to use special handling techniques to dispose of contaminated food products should be made on a case-by-case basis.

Some hazardous waste can be characterized as medical waste and should be disposed as such. Medical waste is generally defined as any solid waste that is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biological materials. In general, incineration is used most often for disposing of medical wastes. However, emerging alternative approaches to incineration, such as reclamation and size reduction are being studied and pursued by private industry.

Hospital/medical/infectious waste incinerators (medical waste incinerators - MWIs) are incinerators used by hospitals, health care facilities, and commercial waste disposal companies to burn hospital, medical, and infectious wastes. Burning this waste reduces its volume and destroys pathogens in the waste material (6).

Although there are a variety of MWIs, the basic design of all MWIs consists of primary and secondary combustion, which are sequential operations that are typically carried out in two separate chambers. In the primary chamber, the waste is loaded and ignited, the volatile organic components driven off, and the nonvolatile materials combusted to ash. The volatile organic components released from the primary chamber are combusted in the secondary chamber.

For more information about medical waste incinerators, please refer to: http://www.epa.gov/epaoswer/other/medical/.

A.5 RADIOACTIVE WASTE DISPOSAL

For incidents involving contamination of food products with radioactive materials, waste products would be considered radioactive low level waste or transuranic waste, depending on the radioisotope and amount of radioactive material used. If the contamination consists of a hazardous chemical and a radioactive component, then the resulting waste is termed as mixed waste (e.g., mixed low level radioactive waste). The discussion provided below only applies to low level waste. For more information on how to deal with mixed waste, please refer to the following link: http://www.epa.gov/radiation/mixed-waste/.

Disposal of low-level waste is regulated by the U.S. Nuclear Regulatory Commission (NRC). Low level wastes are defined as items that have become contaminated with radioactive material or have become radioactive through exposure to neutron radiation. The radioactivity can range from just above natural background levels to very highly radioactive in certain cases, such as parts from inside a reactor vessel in a nuclear power plant. Low level radioactive wastes are usually disposed by shallow land burial in engineered landfills. As required by NRC, radioactive materials that need to be shipped out of the operating site must be packaged for shipment to protect the public from exposure in the event of an accident (7).

Transportation of radioactive materials is regulated by the Department of Transportation (DOT) under the Hazardous Materials Transportation Act (HMTA) and the Hazardous Materials

Transportation Uniform Safety Act (HMTUSA). DOT regulations cover all aspects of transportation, including packaging, shipper and carrier responsibilities, and documentation for all levels of radioactive materials (8). The type of packaging required depends on the total quantity of radioactivity, the form of the materials, and the concentration of radioactivity. In most cases, the packaging used for transport is also used for disposal. Most low level waste contains low enough levels of radioactivity to be shipped in strong, tight containers or DOT 7A Type A containers. Type A containers must be able to withstand ordinary transportation conditions and conform to DOT requirements stated in 49 CFR 178.350. Wastes containing higher levels of radioactivity are shipped in Type B containers, which must be able to withstand accident-type conditions.

There are currently two low level waste disposal facilities that accept a broad range of low level wastes. They are located in Barnwell, South Carolina, and Richland, Washington. In addition, Envirocare of Utah is licensed by the NRC to operate a facility in Utah. It primarily accepts low level waste with small concentrations of radioactive material that are generated after a facility shuts down permanently and needs to remove a large bulk of contaminated material—such as contaminated soil or debris from demolished buildings—in preparation for NRC license termination (8).

The low level wastes at the Barnwell and Richland facilities are buried under several feet of soil in near-surface shallow trenches, usually in the containers in which they were shipped. Low level waste may be stored to allow short-lived radioactive materials to decay and to provide safe-keeping when disposal sites are not readily accessible. The NRC believes storage can be safe over the short term as an interim measure; however, disposal rather than storage is preferred over the long term. For more information, please refer to: http://www.nrc.gov/waste/llw-disposal.html.

A.6 REFERENCES

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8. National Safety Council, 2002. A Guide to the U.S. Department of Energy – Low-Level Radioactive Waste. Washington, DC. January 2002.

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APPENDIX B – POTENTIAL DECONTAMINATION OPTIONS FOR INACTIVATING THREAT AGENTS

This appendix provides information on the potential decontamination options that can be used in the clean up of facilities and equipment contaminated with biological, chemical or radiological threat agents. **Table B–1** presents some decontamination treatments that might be used for the various categories of threat agents of concern for food products. The specific agents within the agent categories can be found in Table A–1. For any decontamination effort it is crucial to conduct pre- and post-decontamination environmental sampling to verify the success of the decontamination process. It should be noted that, as with disposal, selection of the appropriate decontamination options should be done on a case-by-case basis after a careful review of available valid, documented information concerning safety and efficacy of each option. The appropriate options will depend not only on the type of contaminant, but also the type of surface that is contaminated. In the case of bacteria, spores, viruses and parasites, it may be necessary to obtain EPA emergency approval for the use of unregistered chemical decontamination agents.

Table B–1. Potential Decontamination Options

Decontamination Agents[1]	***Applications***	***Agent Categories[2]***						***Special Considerations***
		Bacteria	***Spores***	***Viruses & Parasites***	***Toxins***	***Chemicals***	***Radiological Agents***	
Liquid Antimicrobials								
Bleach[4]	Hard, non-porous surfaces	✓	✓	✓	✓			To kill spores and other microorganisms, a bleach solution close to but not above pH 7 (neutral) and 5,000 to 6,000 parts per million (ppm) should be prepared by mixing one part bleach (5.25%-6.00%) to one part white vinegar (acetic acid) to eight parts water. Bleach and vinegar must not be combined together directly, rather some water must first be added to the bleach (e.g., two parts water to one cup of bleach), then vinegar (e.g., one cup), and then the rest of the water (e.g., six parts). The pH of the solution should be tested with a paper test strip. Surfaces should remain in contact with the bleach solution for 60 minutes (repeated applications will be necessary to keep the surfaces wet).
Liquid chlorine dioxide[4]	Hard surfaces	✓	✓	✓	✓			Liquid chlorine dioxide (500 mg/L) should be applied at room temperature (68°F, 20°C) and have a contact time of at least 30 minutes.
Liquid hydrogen peroxide – peroxyacetic acid[4]	Hard surfaces	✓	✓	✓	✓			Peroxyacetic acid (5,000 parts per million (ppm)) should be applied at room temperature (68°F, 20°C) and have a contact time of between 10 to 20 minutes.
Physical Methods								
Heat	Hard surfaces	✓	✓	✓	✓			Heat and/or autoclaving can be used to inactivate biological agents. The effectiveness of the treatment depends upon time/ temperature.

Decontamination Agents[1]	***Applications***	***Agent Categories[2]***						***Special Considerations***
		Bacteria	***Spores***	***Viruses & Parasites***	***Toxins***	***Chemicals***	***Radiological Agents***	
Steam cleaning	Hard surfaces	✓	✓	✓	✓			Steam cleaning physically extracts biological agents from equipment surfaces.
	Facilities & structures					✓		
High pressure heat	Hard surfaces	✓	✓	✓	✓	✓		Gas turbine jet engines are used to deliver hot exhaust gases, at high velocity, to decontaminate large items and equipment.[3]
	Facilities & structures					✓		
Photochemical	Hard surfaces	✓		✓				All microbes and many organophosphates can be inactivated by UV or X-ray irradiation, but spores and biological toxins are more resistant
	Facilities & structures	✓		✓				
High pressure water/slurry jets	Hard surfaces					✓		Hot or cold high pressure (2000 psi) water/slurry jets can be used to remove surface contamination. Water should be collected and disposed of appropriately. [3]
Quaternary ammonia compounds[4]	Hard surfaces	✓	✓	✓	✓			The application of sodium hypochlorite should be alternated with quaternary ammonia compounds (quats) in case the toxin is acid resistant.
Sodium hydroxide solution[4]	Hard surfaces	✓	✓	✓	✓	✓		Decontamination of containers should be done using 5% sodium hydroxide solution, and rinsed with large quantities of water. Residues in contaminated containers should be emptied in a diluted form into a deep pit while avoiding potential contamination of ground waters.[5]
<u>Gas or Vapor Antimicrobials</u>								
Gaseous chlorine dioxide[4]	Facilities & structures	✓	✓	✓	✓			Chlorine dioxide gas (500-750 ppm) should be applied for a minimum of 12 hours, at a minimum temperature of 70°F, and at a minimum relative humidity of 65%.
Ethylene oxide[4]	Facilities & structures	✓	✓	✓	✓			Application concentration and duration not specified
Hydrogen peroxide vapor[4]	Facilities & structures	✓	✓	✓	✓			Application concentration and duration not specified
Methyl bromide gas[4]	Facilities & structures	✓	✓	✓				Methyl bromide gas is registered for the fumigation of soil, buildings, and quarantine shipments, however, some uses are being phased out under the Montreal Protocol.
<u>Liquid Cleaners</u>								
Soap and water	Hard surfaces and facilities & structures					✓	✓	In general, decontamination of metal surfaces in contact with radioactive materials can be achieved by scrubbing the surface with mild soap and water or bleach solution.
Commercial products containing EDTA	Hard surfaces and facilities & structures						✓	Commercial products containing EDTA and various solubilizers (e.g., "Lift-Away") may enhance effectiveness. Spent solvents, rags and paper towels must be collected and disposed of as low level wastes.
Sand blasting	Hard surfaces and facilities &						✓	High pressure sandblasting to is performed to remove surface contamination and is useful for

Decontamination Agents[1]	***Applications***	***Agent Categories[2]***						***Special Considerations***
		Bacteria	***Spores***	***Viruses & Parasites***	***Toxins***	***Chemicals***	***Radiological Agents***	
	structures							porous surfaces like concrete.
Surface removal	Hard surfaces and facilities & structures						✓	Remove paint or surface layers containing contaminants.
Dismantling, removal, replacement	Hard surfaces and facilities & structures						✓	Physical removal of selected components. Removed materials are shipped to disposal site as low level radioactive waste.
Demolition	Facilities & structures						✓	Complete destruction and/or disposal of facility or equipment, but only after decontamination.

[1] Sources used to develop the listed decontamination agents and techniques:
a. List of chemical agents that were authorized for use in past anthrax incidents for decontamination purposes by EPA Office of Solid Waste and Emergency Response (OSWER) Crisis Exemption (CE) statute under Section 18 of FIFRA. For more information, please refer to the following link: http://www.epa.gov/epahome/hi-anthrax.htm
b. Biological and chemical list compiled by the FDA and FSIS.
c. Office of the Deputy Prime Minister of UK, in "Strategic National Guidance – The decontamination of buildings and infrastructures exposed to Chemical, Biological, Radiological or Nuclear (CBRN) Substances or Material", May 2004.
d. Inchem – Website that provides chemical safety information on several pesticides. For more information on recommended decontamination procedures for specific pesticides, refer to the following link: http://www.inchem.org
e. University radioactive material decontamination procedures – Tulane University, Iowa State University, etc.

[2] See Table A-1 for a detailed list of agents within the different categories.

[3] High pressure heat and high pressure water techniques are applicable for decontamination of organophosphate chemical agents, but not for other chemical agents.

[4] The use of this option to inactivate *B. Anthracis* spores and other biological warfare agents is not registered and requires an exemption from EPA.

[5] Sodium hydroxide solution is applicable for decontamination of all checked agents except for arsenic compounds, cyanide, mercury, and strychnine

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APPENDIX C – EXAMPLE SCENARIOS AND ACTIONS FOR DISPOSAL AND DECONTAMINATION

Example Scenario Number 1 – Processing Facility

Background

In this scenario, 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 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 (retention) on all suspected/affected product, facilities, and equipment, and verifies that all HACCP (Hazard Analysis and Critical Control Point) regulatory requirements (Monitoring, Verification, Recordkeeping, Corrective Action, Reassessment) are met.

- The SPHV then notifies the Frontline Supervisor (FLS) of the incident.

- Upon receiving the notification from the SPHV, the FLS immediately notifies the District Office and the Recall Management Staff of the incident.

- The District Manager (or designee) completes a Non-Routine Incident Report (NRIR) and sends the report electronically to the Office of Field Operations (OFO) Senior Executive Duty Officer (SEDO) and the Office of Food Defense and Emergency Response (OFDER)

- OFDER forwards a copy of the NRIR to the Office of Inspector General (OIG) through Office of Program Evaluation, Enforcement and Review (OPEER).

- 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 in consultation with OFDER will determine if the EMC has to be convened. OFDER then activates the EMC and notifies applicable personnel per FSIS Directive 6500.1.

- 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 their HACCP Plan to ensure that the hazard is addressed in the hazard analysis. The HACCP Plan will be revised accordingly, per 9 CFR 417.3 based on the results of the reassessment.

Disposal

After a quick turnaround, results from the investigation indicate that adulteration has occurred and that the contaminated product was contained within the processing facility. Trace forward and trace back investigations are initiated to confirm that no contaminated products were moved out of the facility. The investigation also confirms that the agent used was anthrax spores. 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 (non-hazardous waste requiring special handling). 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 spores, the owner proposes incineration because the facility has no tanking capabilities. Given the concern about potential airborne release of anthrax spores, thermal destruction at a medical waste incinerator was 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 would be 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 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 DOT regulations. At the incinerators, the entire container is 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 is accepted. The owner proceeds with the plan and the contaminated product is transferred to a medical waste incinerator for thermal destruction. The disposal is observed by the FSIS IPP and local heath and environmental agency officials and accepted as successfully completed. The results are reported to the incident manager for final closure of the incident. Due to the intentional nature of the contamination it may be necessary to preserve samples of the contaminated product for analysis by law enforcement and the FBI.

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. Since 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 nature and extent of the contamination, the following aspects may need to be addressed in the decontamination plan:

- Pre- and post-treatment 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 areas 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 the Crisis Exemption (CE) statute (if needed).
- Procurement of the necessary decontamination services from professional licensed and insured contractors 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 chorine 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.

If approved by the incident manager, with review and concurrence from local, state and/or Federal environmental officials, the owner of the facility could proceed with the decontamination process. The effectiveness of the decontamination would be confirmed through post-treatment sampling. The FSIS Inspector and the District Manager would 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 was successful, and the disposal was complete, the incident manager might declare closure of the incident even if the criminal investigation continues. The FSIS IPP and District Manager would 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 Police authority as the incident manager. The incident manager works with FDA field staff and the state police to isolate the shipment and begin trace back and trace forward investigations to determine the extent of the contamination. In addition, DOT and the Transportation Security Administration (TSA) are consulted. Early results of the investigation indicate that the contamination was contained within the tanker truck and occurred somewhere between the farm and the processing plant. No product recalls are necessary, since the contaminated milk was 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. 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. Because test results indicate a mercury concentration level that is higher than 0.2 mg/L, the disposal options available to the owner include:

a) Land burial in an established hazardous waste disposal facility. The contaminated fluid milk must be solidified to immobilize the mercury in a solid matrix since land burial will not accept liquid waste. Or,

b) Treatment of the contaminated milk 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. Or,

c) Incineration of mercury contaminated liquid. Incineration of the waste may not be acceptable since it may require secondary treatment of the media used to control air pollution from incinerators (i.e., air scrubbing liquid, etc.).

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 would be similar to those outlined in Scenario 1. As in Scenario 1, the incident manager works closely with law enforcement and the FBI to preserve any needed samples.

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. Since the tanker truck container was in contact with the threat agent, it could be cleaned using 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 still might not be adequately decontaminated for food transport despite being considered "cleaned" by EPA's standard; 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 would require addressing these issues prior to obtaining approval from the incident manager.

Example Scenario Number 3 – Warehouse/Distribution Facility

Background

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

- The DM notifies, by telephone, the FLS and the IPP of the tip.
- The DM also notifies, by telephone and via the NRIR, the OFO SEDO and OFDER 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 has been completed.
- OFDER notifies 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 their HACCP Plan to ensure that this CCP is addressed. If not, the HACCP Plan will be revised accordingly, per 9 CFR 417.3.

Sampling results indicate that a batch of the product was 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 was 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 NRC requirements.

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

a) Disposal of the contaminated product as low-level waste in accordance with NRC regulations, or

b) On-site storage of the contaminated product to allow for radioactive decay to background level.

Since the radiological agent could have a long half-life, storage for decay may not be acceptable. If low-level waste disposal is selected, the owner may be required to package the contaminated product and seek disposal at an approved low-level waste disposal site. The owner may also need to obtain approval for interstate transportation, which may raise concerns about the transfer of radioactive materials across state lines. These details would 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 would be 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 waste streams, 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, the NRC Regional Office should be contacted 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 would be collected, packaged and disposed as low-level waste. Post-treatment area surveys would be required to confirm that the radioactivity in the contaminated areas has been reduced to natural background levels.

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

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APPENDIX D – CONTACT INFORMATION

This appendix contains contact information for state agencies, in alphabetical order by state, which might need to be contacted by district offices in the case of an intentional adulteration incident (e.g. State Departments of Agriculture, Health, and Environment). Regional offices of the EPA and NRC are provided. Contact information for regional Federal Bureau of Investigation (FBI) offices is also included; the Weapons of Mass Destruction Coordinator should be contacted.

Unless otherwise noted, these numbers are for in-state use only during regular business hours. **If an incident involves health or environmental effects which require immediate action by local authorities, call 911 or other local emergency response access numbers.** Incidents involving CERCLA/ EPCRA Hazardous Substance/ Environmental Response and Remediation OR Releases Affecting "Waters of the State"/ Water Quality may also require notification of the National Response Center (1-800-424-8802).

Two other important emergency contacts are:

- FDA's 24-hour emergency number (866) 300-4374 or (301) 796-8240
- USDA's Food Safety and Inspection Service Office of Food Defense & Emergency Response 24-hour emergency number (866) 395-9701

STATE AGENCY CONTACT INFORMATION

ALABAMA

Department of Agriculture & Industries
Food Safety & Consumer Division Deputy Commissioner: (334) 240-7238

Department of Environmental Management
Emergency Response: (800) 843-0699

Department of Public Health
Assistant State Health Officer for Disease Control & Prevention: (334) 206-5325

ALASKA

Department of Natural Resources
Division of Agriculture, Director's Office: (907) 761-3851

Department of Environmental Conservation
Food Safety & Sanitation Program Manager: (907) 269-7501

Department of Public Health
Director's Office: (907) 465-3092

ARIZONA

Department of Agriculture,
Division of Food Quality Services, Livestock Inspection and Animal Disease Control Programs: (602) 542-4373

Department of Environmental Quality
Emergency Response: (800) 234-5677

Department of Health Services
Office of Public Health- Emergency Preparedness & Response: (602) 364-3289

ARKANSAS

Department of Environmental Quality
Director's Office: (501) 682-0959

Department of Health
Emergency Communications Center: (501) 661-2136

Department of Emergency Management
Incident/Disaster Reporting: (800)-322-4012

Livestock & Poultry Commission
(501) 907-2400

CALIFORNIA

Department of Food & Agriculture
Meat & Poultry Inspection: (916) 654-0504

Animal Health & Food Safety Services: (916) 654-0881

Department of Natural Resources
Environmental Protection Agency-Deputy Secretary for External Affairs: (916) 323-2520

Health & Human Services Agency
Emergency Medical Services Authority: (916) 322-4336

COLORADO

Department of Agriculture
Inspection & Consumer Services: (303) 477-0076

Department of Public Health & Environment
Director's Office: (303) 692-2700

CONNECTICUT

Department of Agriculture
Bureau of Regulation & Inspection Director's Office: (800) 861-9939

Department of Environmental Protection
Emergency Spill Reporting: (860) 424-3338

Department of Public Health
Director of Environmental Health: (860) 509-7293

DELAWARE

Department of Agriculture
Food Products Inspection-Food Products Administrator: (302) 698-4539

Department Of Natural Resources
Hazardous Spills & Emissions - Environmental Emergency Notification and Complaints: (800) 662-8802

Emergency Management Agency
Emergency Center: (877) 729-3362

Department of Health & Human Services
Division of Public Health- Director's Office: (302) 744-4701

FLORIDA

Department of Agriculture & Consumer Services
Division of Agricultural Environmental Services: (850) 488-3022

Division of Emergency Management
Director's Office: (850) 413-9900

Division of Environmental Protection
Secretary's Office: (850) 245-2118

Department of Health
Division of Environmental Health: (850) 245-4250

GEORGIA

Department of Agriculture
Animal Industry Assistant Commissioner: (404) 656-3671

Food Safety Agricultural Manager: (404) 656-3632

Department of Natural Resources
Environmental Protection: (888) 373-5947

Emergency Management Agency
Director's Office: (800) TRY-GEMA

Division of Public Health
Emergency Preparedness: (404) 657-2594

HAWAII

Department of Agriculture
(808) 973-9560

Department of Health
Food & Drug Branch-Food Safety: (808) 586-4725

Department of Land and Natural Resources
Enforcement Hotline: (808) 587-0077

IDAHO

Department of Agriculture
Division of Animal Industries: (208) 332-8540

Department of Environmental Quality
Director's Office: (208) 373-0240

Department of Health & Welfare
Food Protection Program: (208) 334-5500

ILLINOIS

Department of Agriculture
Food Safety Division Manager: (217) 785-5680

Emergency Management Agency
24-Hour Response: (800) 782-7860

Environmental Protection Agency
Office of Emergency Response: (217) 785-0830

Department of Human Services
Office of Health Services: (217) 782-2736

INDIANA

Department of Agriculture
Office of Commissioner: (317) 232-8774

Department of Environmental Management
Emergency Response: (317) 308-3049

Department of In-State Health
Public Health Preparedness & Emergency Response Director: (317) 234-3545

IOWA

Department of Agriculture & Land Stewardship
Meat & Poultry Bureau Chief: (515) 281-5597

Department of Public Health
Division of Acute Disease Prevention & Emergency Response: (515) 281-7996
Division of Environmental Health: (515) 281-5099

KANSAS

Department of Agriculture
Food Safety Program: (785) 296-3556

Department of Health and Environment
Bureau of Epidemiology and Disease Prevention: (785) 296-1500
Report Public Health Incident: (877) 427-7317
Report Bioterrorism Incident: (877) 427-7317
Division of Environment Director's Office: (785) 296-1535

KENTUCKY

Department of Agriculture
Office of Consumer & Environmental Protection: (502) 573-0282

Cabinet for Environmental & Public Protection
Department of Environmental Protection: (502) 564-2150

Cabinet for Health Services
Division of Epidemiology & Health Planning: (502) 564-7243

Division of Emergency Management
(800) 255-2587

LOUISIANA

Department of Agriculture & Forestry
Animal Health Services: (225) 925-3962

Department of Health and Hospitals
Public Health Division- Food & Drug Program: (225) 763-5484

Homeland Security & Emergency Preparedness
24 Hour Communications Line: (225) 925-7500

MAINE

Department of Agriculture
Division of Quality Assurance & Regulation: (207) 287-2161
Division of Animal Health & Industry: (207) 287-3701

Emergency Management Agency
(800) 452-8735

Department of Environmental Protection
24-Hour Hazardous Materials Spill Hotline: (800) 452-4664

Bureau of Health
Environmental Health Unit: (866)-292-3474

MARYLAND

Department of Agriculture
Maryland Food Center Authority: (410) 379-5760
Office of Marketing, Animal Industries, & Consumer Services: (410) 841-5782

Emergency Management Agency
(877) MEMA-USA

Department of the Environment
Environmental Emergencies: (866) 633-4686

Department of Health
Office of Environmental Health/Environmental Health Epidemiologist: (410) 767-5049

MASSACHUSETTS

Department of Agricultural Resources
Commissioner's Office: (617) 626-1701

Department of Environmental Protection
Environmental Strike Force: (617) 556-1000

Department of Public Health
Emergency Preparedness & Response: (617) 624-5270

Emergency Management Agency
Public Information Officer: (508) 820-2002

MICHIGAN

Department of Agriculture
Emergency Line for Agricultural Producers & Food Retailers: (517) 373-0440
Agriculture Pollution/Spills Hot Line: (800) 405-0101

Department of Environmental Quality
24-Hour Pollution Emergency Alert System: (800) 292-4706

Department of Community Health
General Information: (517) 373-3740

MINNESOTA

Department of Agriculture
Minnesota Duty Officer/24 Hour Incident Report Line: (651) 649-5451 (Twin Cities Metro Area and Outside MN) or (800) 422-0798 (Greater MN only).

Environmental Quality Board
Animal Agriculture Helpline: (651) 296-2888

Health Department
Office of Emergency Preparedness: (651) 296–0047

MISSISSIPPI

Department of Agriculture & Commerce
Regulatory Services-Meat Inspection: (601) 359-1191

Emergency Management Agency
24-Hour Emergency Line: (800) 222-MEMA (6362)

Department of Environmental Quality
24-Hour State Warning Point: (601) 352-9100

Department of Health
Division of Epidemiology: (601) 576-7725

MISSOURI

Department of Agriculture
Meat & Poultry Inspection Program: (573) 522-1242 or (573) 526-2090

Department of Health and Senior Services
Center for Local Public Health Services: (573) 751-6170
State Public Health Laboratory: (573) 751-0633

Department of Public Safety
State Emergency Management Agency Director: (573) 526-9101
Planning & Disaster Recovery Branch: (573) 526-9234

Department of Natural Resources
24-Hour Environmental Emergency Response line: (573) 634-2436

MONTANA

Department of Livestock
General Information: (406) 444-7323
Animal Health Division: (406) 444-2043

Department of Environmental Quality
Director's Office: (406) 444-2544

Department of Public Health and Human Services
Public Information Officer: (406) 444-2596

Department of Military Affairs
Disaster & Emergency Services Division: (406) 841-3911

NEBRASKA

Department of Agriculture
Bureau of Animal Industry: (402) 471-2351
Poultry & Egg: (402) 471-4292
Bureau of Dairy & Food: (402) 471-2536

Department of Environmental Quality
Director's Office: (402) 471-2186

Emergency Management Agency
Emergency Line: (402) 471-7421

Department of Health and Human Services
Regulations & Licensure-Epidemiology: (402) 471-6450

NEVADA

Department of Agriculture
Division of Animal Industry: (775) 688-1182 ext. 231

Department of Conservation & Natural Resources
Division of Environmental Protection: (775) 687-4670

Department of Public Safety
Division of Emergency Management: (775) 687- 4240

Department of Human Resources
Health Division-Epidemiology: (775) 684-5946

NEW HAMPSHIRE

Department of Agriculture, Markets & Food
Division of Animal Industry: (603) 271-2404

Department of Safety
Bureau of Emergency Management: (800) 852-3792

Environmental Services Department
To Report a Potential Violation: (603) 271-2973

Health and Human Services Department
Public Health Services: (603) 271-4501

NEW JERSEY

Department of Agriculture
Division of Animal Health: (609) 292-3965

Department of Environmental Protection
24-Hour Hotline to Report an Environmental Incident: (877) 927-6337

Department of Health and Senior Services
Consumer & Environmental Health Services: (609) 588-3120
Communicable Disease Service: (609) 588-7539

NEW MEXICO

Department of Agriculture
Standards & Consumer Services Division: (505) 646-1616
Veterinary Diagnostic Services: (505) 841-2576

Department of Environment
Environmental Protection Division: (800) 219-6157

Department of Health
(505) 827-2613

Department of Public Safety
Office of Emergency Management: (505) 476-9622

NEW YORK

Department of Agriculture & Markets
Division of Food Safety & Inspection: (518) 457-4492

Emergency Management Office
Emergency Coordination Center Staffed 24 Hrs: (518) 457-2200

Department of Environmental Conservation
24-Hour Confidential Environmental Violation Line: (800) 847-7332

Department of Health
Public Health Preparedness & Response to Bioterrorism: (518) 474-2893

NORTH CAROLINA

Department of Agriculture & Consumer Services
Emergency Programs Division Director: (919) 807-4307

Department of Environment & Natural Resources
Enforcement Division: (919) 733-4984
Division of Environmental Health: (919) 733-2870

Department of Health and Human Services
Epidemiology Section: (919) 733-3421

Department of Crime Control & Public Safety
Emergency Management Switchboard: (919) 733-3867

NORTH DAKOTA

Department of Agriculture
Meat Inspection Director: (701) 328-4762

Division of Emergency Management & State Radio Communication
24-Hour Hotline (800) 472-2121

Department of Health
Environmental Health Section/Report an Incident: (701) 328-5210 or 5166

OHIO

Department of Agriculture
Food Safety & Meat Inspection Issues Hotline: (800) 282-1955

Emergency Management Agency
24-Hour contact: (614) 889-7150

Environmental Protection Agency
24-Hour Hotline to Report Emergencies: (800) 282-9378

Department of Health
Division of Food Safety: (614) 466-1390

OKLAHOMA

Department of Agriculture, Food, & Forestry
Food Safety Director: (405) 522-6113

Oklahoma Department of Civil Emergency Management
Director's Office: (405) 521-2481

Department of Environmental Quality
For Environmental Complaints: (800) 522-0206 or (405) 271-4468

Department of Health
Health Department Civil Emergency Management: (405) 590-2554
Communicable Disease Division: (405) 271-4060

OREGON

Department of Agriculture
Food Safety Division: (503) 986-4720

Department of Environmental Quality
Office of Compliance & Enforcement: (503) 229-6585
Emergency Response System: (800) 452-0311

Office of Homeland Security
Emergency Management: (503) 378 2911

Department of Human Services
Office of Disease Prevention and Epidemiology: (800) 422-6012

PENNSYLVANIA

Department of Agriculture
Bureau of Food Safety & Laboratory Services: (717) 787-4315

Department of Environmental Protection
Emergency Response: (800) 541-2050
Citizen Complaint Line: (866) 255-5158

Department of Health
Emergency Information Line (after hours, weekends & holidays): (717) 737-5349
General Information: (877) PA-HEALTH

RHODE ISLAND

Office of the Secretary of State
Emergency Management Agency: (401) 946 -9996

Department of Environmental Management
After Hours Emergencies: (401) 222-3070
For General Information: (401) 222-6800
Division of Agriculture: (401) 222-2781

Department of Health
Division of Environmental Health: (401) 222-3118

SOUTH CAROLINA

Department of Agriculture
Laboratory Services Division: (803) 734-2210

Emergency Management Division
(803) 737-8500

Department of Health & Environmental Control
Office of Public Health Preparedness: (803) 898-3708

SOUTH DAKOTA

Department of Agriculture
Animal Industry Board: (605) 773-3321

Department of Environment & Natural Resources
Hazardous Waste: (605) 773-3352
Spills: (605) 773-3296
Main Department: (605) 773-3151

Department of Health
Office of Public Health Preparedness & Response 24/7 Disease Surveillance: (800) 592-1861 (in SD only) or (605) 773-3737

Office of Homeland Security
Bioterrorism Hotline: (800) 592-1861

TENNESSEE

Department of Agriculture
Ag Crime Unit Supervisor: Office (615) 837-5181, Pager (800) 428-1359, Cell (615) 351-4815

Department of Environment & Conservation
Environmental Assistance Centers and other Environmental Related Contacts: (888) 891-TDEC (8332)

Department of Homeland Security
Emergency Management Agency: (800) 262-3300
Regional Information Center: (877) 250-2333

Department of Health
Communicable & Environmental Disease Services: (615) 741-7247 or (800) 404-3006
After Hours Emergency Consultation Available (615) 741-7247

TEXAS

Department of Agriculture
General Information: (512) 463-7476
Nationwide Toll Free Phone: (800) TELL-TDA (800-835-5832)

Commission on Environmental Quality
Environmental Release Hotline or the Texas Natural Resource Conservation Commission: (800) 832-8224 Regional Office, Monday through Friday 8:00 to 5:00
24-Hour Hotline: (512) 239-2507 or (512) 463-7727

Department of Public Safety
Division of Emergency Management: (512) 424-2138 or (512) 424-2000

Department of Health
Bureau of Environmental Health: (512) 834-6640
Toxic Substances Control Division: (512) 834-6600

UTAH

Department of Agriculture & Food
Meat and Poultry Inspection Program Manager: (801) 538-7117
Assistant Manager: (801) 538-7163

Department of Public Safety
Division of Emergency Services and Homeland Security: (801) 538-3400 or (800) SL-FAULT

Department of Environmental Quality
Environmental Response and Remediation24 Hour Emergency Line: (801) 536-4123

Department of Health
Bureau of Food Safety and Environmental Health: (801) 538-6750

VERMONT

Agency of Agriculture, Food & Markets
Director, Food Safety & Consumer Protection- Meat Inspection: (802) 828-2426

Department of Public Safety
Emergency Management Agency: (802) 244-8721 or (800) 347-0488
HazMat Hotline: (800) 641-5005 (24-hour State Police Dispatch)

Department of Environmental Conservation
Waste Management Division: (802) 241-3888

Department of Health
(802) 863-7200 or (800) 464-4343 (from within Vermont)

VIRGINIA

Department of Agriculture & Consumer Resources
Food Safety and Security Program: (804) 786-2035

Department of Emergency Management
24 Hour State Police Domestic Terrorism Hotline: (866) 488-8554

Department of Environmental Quality
Deputy Director for Operations: (804) 698-4484

Department of Health
Emergency Response & Preparedness Programs Deputy Commissioner: (804) 864-7026

WASHINGTON

Department of Agriculture & Consumer Resources
Food & Agriculture Security: (360) 902-1813

Emergency Management Division
24-Hour Emergency Line: (800) 258-5990

Department of Health
Emergency Preparedness & Response/Consumer Hotline: (800) 525-0127
Division of Environmental Health-Food Safety & Shellfish: (360) 236-3330

Department of Ecology
Spill Prevention, Preparedness & Response (800) 258-5990

WEST VIRGINIA

Department of Agriculture
Meat & Poultry Inspection Division: (304) 558-2206

Department of Environmental Protection
Office of Environmental Remediation: (304) 926-0455

Office of Environmental Health Service
(304) 558-2981

Office of Emergency Services
(304) 558-5380

WISCONSIN

Department of Agriculture, Trade & Consumer Protection
Food Emergencies during Business Hours (7:45 a.m. - 4:30 p.m., Monday - Friday):
Madison (608) 224-4700
Southern region (608) 224-4661
Eau Claire (715) 839-3844
Green Bay (920) 448-5120
Non Business Hours: (800) 943-0003 Wisconsin Emergency Management. Ask the duty officer to contact DATCP- Division of Food Safety

Emergency Management
24-Hour Duty Officer: (800) 943-0003

Department of Natural Resources
24-Hour Environmental Clean Up Line: (800) 943-0003

WYOMING

Department of Agriculture
Consumer Health Services: (307) 777-7321

Department of Environmental Quality
24-Hour Emergency Call Line: (307) 777-7781

Department of Health
All Hazards Response Program on Call Surveillance: (888) 996-9104

ENVIRONMENTAL PROTECTION AGENCY (EPA) REGIONAL OFFICES

EPA Region 1 (covering Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont)

1 Congress Street
Suite 1100
Boston, MA 02114-2023
(617) 918-1111 or (800) 372-7431 within Region 1

EPA Region 1 RCRA Enforcement Contacts:

Enforcement Manager:	(617) 918-1751
Connecticut Liaison:	(617)918-1882
Massachusetts Liaison:	(617) 918-1757
Maine, Rhode Island, and Vermont Liaison:	(617) 918-1756
New Hampshire Liaison:	(617) 918-1756
Solid Waste Reduction/Recycling:	(617) 918-1813/1792

EPA Region 2 (covering New Jersey, New York, Puerto Rico, and the Virgin Islands)

290 Broadway
26th Floor
New York, NY 10007-1866
(212) 637-3000

RCRA Compliance Branch:	(212) 637-4145
Hazardous Waste Compliance Section:	(212) 637-4140
Special Wastes Team:	(212) 637-4135

EPA Region 3 (covering Washington, DC, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia)

1650 Arch Street
Philadelphia, PA 19103-2029
(215) 814-5000 or (800) 438-2474 in Region 3

Waste and Chemicals Management Division:	(215) 814-3110
Municipal Solid Waste:	(215) 814-3298
Toxic Waste – Land:	(215) 814-3396/3388

EPA Region 4 (covering Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee)

Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-3104
(404) 562-9900 or (800) 241-1754 in Region 4

Managing Solid Wastes:	(404) 562-8688/ 8457/ 8482

RCRA Compliance State-by-state Coordinators

Alabama:	(404) 562-8601
Florida	(404) 562-8597
Georgia	(404) 562-8594
Kentucky	(404) 562-8590
Mississippi	(404) 562-8617
North Carolina	(404) 562-8605
South Carolina	(404) 562-8589
Tennessee	(404) 562-8556

EPA Region 5 (covering Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin)

77 West Jackson Boulevard
Chicago, IL 60604
(312) 353-2000 or (800) 621-8431 in Region 5

Pollution Prevention and Program Initiatives Section: (312) 886-0976

EPA Region 6 (covering Arkansas, Louisiana, New Mexico, Oklahoma, and Texas)

1445 Ross Avenue
Suite 1200
Dallas, TX 75202-2733
(214) 665-2200 or (800) 887-6063 in Region 6

Emergency & Hot Line Phone Numbers

National Response Center:	(800) 424-8802
Superfund Hot Line:	(800) 533-3508
Environmental Emergencies:	(866) 372-7745

EPA Region 7 (covering Iowa, Kansas, Missouri, and Nebraska)

901 North 5th Street
Kansas City, KS 66101
(913) 551-7000 or (800) 223-0425 in Region 7

EPA Emergency Response:	(913)281-0991
Office of External Programs:	(913) 551-7003 or (800)-223-0425

EPA Region 8 (covering Colorado, Montana, North Dakota, South Dakota, Wyoming, and Utah)

One Denver Place
999 18th Street
Suite 500
Denver, CO 80202-2466
(303) 312-6312 or (800) 227-8917 in Region 8

Solid and Hazardous Waste Program:	(303) 312-7081 or 1-800-227-8917 ext. 7081
Tribal Solid and Hazardous Waste Coordinator:	(303) 312-6149/7008

EPA Region 9 (covering American Samoa, Arizona, California, Guam, Hawaii, Nevada the Northern Mariana Islands, and unincorporated U.S. Pacific possessions)

75 Hawthorne Street
San Francisco, CA 94105
(415) 744-1305

Environmental Emergencies: (415) 947-4400

EPA Region 10 (covering Alaska, Idaho, Oregon, and Washington)

1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1200 or
(800) 424-4372 in Region 10

Solid Waste & Toxics Unit: (206) 553-1060

Below is the link for EPA's regional and state Solid Waste offices websites.

http://www.epa.gov/epaoswer/osw/regions.htm

NUCLEAR REGULATORY COMMISSION (NRC) REGIONAL PUBLIC AFFAIRS OFFICES

Region I
475 Allendale Road
King of Prussia, PA 19406-1415
(610) 337-5330

Region II
61 Forsyth Street
Suite 23 T85
Atlanta, GA 30303-3415
(404) 562-4416

Region III
801 Warrenville Road
Lisle, IL 60532-4351
(630) 829-9663

Region IV
611 Ryan Plaza Drive
Suite 400
Arlington, TX 76011-8064
(817) 860-8128

FEDERAL BUREAU OF INVESTIGATION (FBI) FIELD OFFICES BY STATE

ALABAMA

Mobile Division
200 North Royal Street
Mobile, AL 36602
Phone: (251) 438-3674
Fax: (251) 415-3235

Birmingham Division
2121 8th Avenue North, Suite 1400
Birmingham, AL 35203
Phone: (205)326-6166

ALASKA

Anchorage Division
101 E. 6th Ave.
Anchorage, AK, 99501
(907) 276-4441

ARIZONA

Phoenix Division
201 E. Indianola
Phoenix, AZ 85012
(602) 279-5511

ARKANSAS

Little Rock Field Office
24 Shackleford West Blvd.
Little Rock, AR 72211
(501) 221-9100

CALIFORNIA

Los Angeles Field Office
11000 Wilshire Blvd. Suite 1700
Los Angeles, CA 90024
(310) 477-6565

Sacramento Field Office
4500 Orange Grove
Sacramento, CA 95841
(916) 481-9110

San Diego Division
9797 Aero Dr.
San Diego, CA 92123
(858)-565-1255

San Francisco Division
450 Golden Gate Avenue
13th Floor
San Francisco, CA 94102
(415) 553-7400

COLORADO

Denver Division
Byron G. Rogers Federal Building
1961 Stout Street, Suite1823
Denver, CO 80294
(303) 629-7171

CONNECTICUT

New Haven Division
600 State Street
New Haven, CT 06511
(203) 777-6311

DELAWARE (all counties are covered by the FBI field office in Baltimore)

Baltimore Field Office
2600 Lord Baltimore Drive
Baltimore, MD 21244
(410) 265-8080

DISTRICT OF COLUMBIA

Washington Field Office
601 4th Street NW
Washington DC 20535
(202) 278-2000

FLORIDA

Jacksonville Division
7820 Arlington Expressway, Suite 200
Jacksonville, FL 32211
(904) 721-1211

Miami Division
16320 Northwest 2nd Avenue
North Miami Beach, FL 33169
(305) 944-9101

Tampa Division
500 Zack Street, Suite 610
Tampa, FL 33602
(813) 273-4566

GEORGIA

Atlanta Division
2635 Century Center Parkway, NE, Suite 400
Atlanta, GA 30345
(404) 679-9000

HAWAII

Honolulu Division
300 Ala Moana Boulevard, Suite 4-230
Prince Jonah Kuhio Federal Building
Honolulu, HI 96813
(808) 566-4300

IDAHO (all counties are covered by the FBI field office in Salt Lake)

Salt Lake City Division
257 East 200 South, Suite 1200
Salt Lake City, UT 84111
(801) 579-1400

ILLINOIS

Chicago Division
219 South Dearborn Street, Suite 905
Chicago, IL 60604
(312) 431-1333

Springfield Illinois Division
400 West Monroe Street, Suite 400
Springfield, IL 62704
(217) 522-9675

INDIANA

Indianapolis Division
575 North Pennsylvania Street, Room 679
Indianapolis, IN 46204
(317) 639-3301

IOWA (all counties are covered by the FBI field office in Omaha)

Omaha Division
10755 Burt Street
Omaha, NE 68114-2000
(402) 493-8688

KANSAS (all counties are covered by the FBI field office in Kansas City, MO)

Kansas City Division
1300 Summit
Kansas City, MO 64105
(816) 512-8200

KENTUCKY

Louisville Field Office
600 Martin Luther King Jr. Place, Room 500
Louisville, KY 40202
(502) 583-3941

LOUISIANA

New Orleans Division
2901 Leon C. Simon Blvd.
New Orleans, LA 70126
(504) 816-3000

MAINE (all counties are covered by the FBI field office in Boston)

Boston Field Office
One Center Plaza, Suite 600
Boston, MA 02108
(617) 742-5533

MARYLAND

Baltimore Field Office
2600 Lord Baltimore Drive
Baltimore, MD 21244
(410) 265-8080

MASSACHUSETTS

Boston Field Office
One Center Plaza, Suite 600
Boston, MA 02108
(617) 742-5533

MICHIGAN

Detroit Field Office
477 Michigan Avenue, Fl. 26
Detroit, MI 48226
(313) 965-2323

MINNESOTA

Minneapolis Division
Federal Bureau of Investigation
111 Washington Avenue South, Suite 1100
Minneapolis, MN 55401
(612) 376-3200

MISSISSIPPI

Jackson Division
100 W. Capitol Street, Suite 1553
Jackson, MI 39269
(601) 948-5000

MISSOURI

Kansas City Division
1300 Summit
Kansas City, MO 64105
(816) 512-8200

St. Louis Division
2222 Market Street
St. Louis, MO 63103
(314) 589-2500

MONTANA (all counties are covered by the FBI field office in Salt Lake)

Salt Lake City Division
257 East 200 South, Suite 1200
Salt Lake City, UT 84111
(801) 579-1400

NEBRASKA

Omaha Division
10755 Burt Street
Omaha, NE 68114-2000
(402) 493-8688

NEVADA

Las Vegas Division
700 East Charleston Boulevard
Las Vegas, NV 89104
(702) 385-1281

NEW HAMPSHIRE (all counties are covered by the FBI field office in Boston)

Boston Field Office
One Center Plaza, Suite 600
Boston, MA 02108
(617) 742-5533

NEW JERSEY

Newark Division
11 Centre Place
Newark, NJ 07102
(973) 792-3000

The Newark Division covers all counties in New Jersey with the exception of Camden, Gloucester and Salem. These counties are covered by the Philadelphia Division.

Philadelphia Division
8th Floor
600 Arch Street
Philadelphia, PA 19106
(215) 418-4000

NEW MEXICO

Albuquerque Division
4200 Luecking Park Avenue NE
Albuquerque, NM 87107
(505) 889-1300

NEW YORK

Albany Division
200 McCarty Avenue
Albany, NY 12209
(518) 465-7551

Buffalo Field Office

One FBI Plaza
Buffalo, NY 14202
(716) 856-7800

New York Field Office
26 Federal Plaza
New York, NY 10278
(212) 384-1000

NORTH CAROLINA

Charlotte Field Office
400 South Tryon Street
Suite 900
Charlotte, NC 28285
(704) 377-9200

NORTH DAKOTA (all counties are covered by the FBI field office Minneapolis)

Minneapolis Division
Federal Bureau of Investigation
111 Washington Avenue South, Suite 1100
Minneapolis, MN 55401
(612) 376-3200

OHIO

Cincinnati Division
John Weld Peck Federal Building
550 Main Street
Suite 9000
Cincinnati, OH 45202
(513) 421-4310

Cleveland Division
1501 Lakeside Avenue
Cleveland, OH 44114
(216) 522-1400

OKLAHOMA

Oklahoma City Division
3301 W. Memorial Rd.
Oklahoma City, OK 73134
(405) 290-7770

OREGON

Portland Division
1500 S.W. First Avenue
Suite 400
Portland, OR 97201
(503) 224-4181

PENNSYLVANIA

Philadelphia Division
8th Floor
600 Arch Street
Philadelphia, PA 19106
(215) 418-4000

Pittsburgh Division
3311 East Carson Street
Pittsburgh, PA 15203
(412) 432-4000

RHODE ISLAND (all counties are covered by the FBI field office in Boston)

Boston Field Office
One Center Plaza, Suite 600
Boston, MA 02108
(617) 742-5533

SOUTH CAROLINA

Columbia Division
151 Westpark Boulevard
Columbia, SC 29210
(803) 551-4200

SOUTH DAKOTA (all counties are covered by the FBI field office Minneapolis)

Minneapolis Division
Federal Bureau of Investigation
111 Washington Avenue South, Suite 1100
Minneapolis, MN 55401
(612) 376-3200

TENNESSEE

Knoxville Field Office
710 Locust Street, Suite 600
Knoxville, TN 37902
(865) 544-0751

Memphis Field Office
225 N. Humphreys Boulevard, Suite 3000
Memphis, TN 38120
(901) 747-4300

TEXAS

Dallas Field Office
One Justice Way
Dallas, TX 75220
(972) 559-5000

Houston Field Office
2500 East T.C. Jester
Houston, TX 77008
(713) 693-5000

El Paso Field Office
660 South Mesa Hills Drive, Suite 3000
El Paso, TX 79912
(915) 832-5000

San Antonio Field Office
615 East Houston Room 200
San Antonio, TX 78205
(210) 225-6741

UTAH

Salt Lake City Division
257 East 200 South, Suite 1200
Salt Lake City, UT 84111
(801) 579-1400

VERMONT (all counties are covered by the FBI field office in Albany)

Albany Division
200 McCarty Avenue
Albany, NY 12209
(518) 465-7551

VIRGINIA

Richmond Division
1970 E. Parham Road
Richmond, VA 23228
(804) 261-1044

Norfolk Division
150 Corporate Blvd.
Norfolk, VA 23502
(757) 455-0100

WASHINGTON

Seattle Division
1110 Third Avenue
Seattle, WA 98101-2904
(206) 622-0460

WEST VIRGINIA (all counties are covered by the FBI field office in Pittsburgh)

Pittsburgh Division
3311 East Carson Street
Pittsburgh, PA 15203
(412) 432-4000

WISCONSIN

Milwaukee Field Office
330 E. Kilbourn Ave. Suite 600
Milwaukee, WI 53202
(414) 276-4684

WYOMING (all counties except Yellowstone National Park are covered by the FBI field office in Denver)

Denver Division
Byron G. Rogers Federal Building
1961 Stout Street, Suite1823
Denver, CO 80294
(303) 629-7171

For Yellowstone National Park use the Salt Lake Division

Salt Lake City Division
257 East 200 South, Suite 1200
Salt Lake City, UT 84111
(801) 579-1400

APPENDIX E – WORKING GROUP MEMBERS

Food Safety and Inspection Service
- Carol Maczka
- Perfecto Santiago
- Judy Riggins
- Nathaniel Clark
- Richard Van Blargan
- Michelle Catlin

Environmental Protection Agency
- Laura Flynn
- David Bartenfelder
- Paul Cassidy
- Thea McManus
- Carlton (Jeff) Kempter
- Cayce Parrish
- Rosemary Workman
- Linda Strauss

Consultants
- Lou Borghi
- Phuoc Le
- Curtis Travis
- Dorothy Yuan
- Anne Roberts

Food and Drug Administration
- John J. Guzewich
- Donald Kautter Jr.
- LeeAnne Jackson

Also Interviewed
- Zygmunt Sala (FSIS)