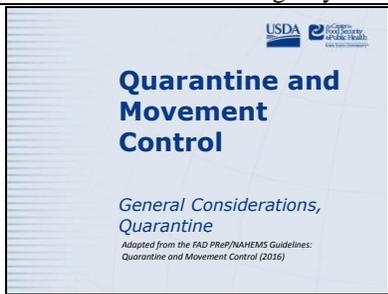
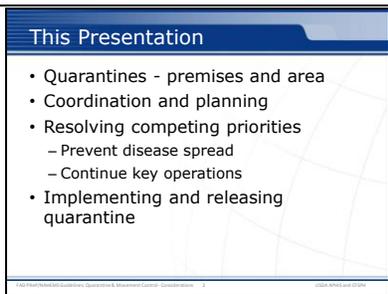


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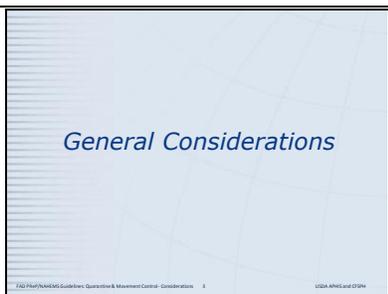
In a foreign animal disease (FAD) incident, control and containment of the disease agent is essential to eradication and recovery. Quarantine and movement control (QMC) are critical activities to protect animal health, by helping to prevent the disease agent from being transmitted to non-infected livestock and poultry populations. QMC stops and controls movements in a regulatory Control Area. This presentation focuses on diseases spread by direct and indirect contact rather than vector-borne diseases, as QMC is not particularly effective at preventing the movement of mobile insect vectors. However, QMC activities can still prevent the movement of infected hosts, which may be important in vector-borne FAD incidents. In an incident, quarantines and movement controls are handled through Unified Incident Command, following local, State, and Federal laws/regulations. *[This information was derived from the Foreign Animal Disease Preparedness and Response (FAD PRoP)/National Animal Health Emergency Management System (NAHEMS) Guidelines: Quarantine and Movement Control (2016)].*

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This presentation will discuss general considerations for two types of quarantine – quarantine imposed on an individual premises and area quarantine. It will cover the coordination and planning necessary for quarantine and movement control activities, as well as the efforts involved in resolving competing priorities. Activities to stop high-risk movements to prevent the spread of disease may come into conflict with producers wishing to continue key operations. Finally, the process for implementing and releasing the quarantine will be discussed.

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In general, Federal quarantines and movement restrictions are instituted to control interstate and international movement of infected animals and contaminated animal products. States may restrict the intrastate movement of animals, animal products, equipment, and other items. It is reasonable to assume that movement activities that pose a high risk of transmitting disease will fall under a stop movement order (or a similar term used by States, such as embargo), that movement controls or continuity of business (managed movement plans) will be applied to critical movements, and/or to those movements involving lower risk, depending upon the situation.

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Close coordination will be necessary between Federal authority, resources, and expertise, and State, local, and Tribal government authority and resources. All stakeholders, including the private sector, will need to respond in a coordinated and mutually supportive manner. The State Animal Health Official (SAHO) and the APHIS VS Assistant Director (AD) at the District will need to cooperate on all aspects of a significant disease response. QMC activities will need support from a variety of State and local agencies. *[This photo illustrates the cooperation between law enforcement and agricultural officials. Photo source: SES, Inc., Merriam, Kansas]*

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Coordination and Cooperation cont'd

- Utilize emergency management agencies and local resources
- Activate veterinary reserve groups
- Coordination achieved through ICS
- **Goals:** control, contain, eradicate the FAD

Additionally, Federal officials and SAHOs will need to work closely with emergency management agencies that may assist in identifying and coordinating State and local resources, including, but not limited to, those from public works departments, departments of transportation, departments of wildlife and natural resources, law enforcement, public health, universities, and local contractors. Veterinary reserve groups, such as the National Animal Health Emergency Response Corps or APHIS Volunteer Emergency Ready Response Corps may also be activated. Coordination of priorities and resources will be conducted through the Incident Command System (ICS). It is important that the goals of controlling, containing, and eradicating the FAD are shared and consistent across all involved in responding to the incident.

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Planning

- Determine legal authority
 - Quarantines
 - Biosecurity
 - Permitting
 - Traffic control and road maintenance
- Identify resources
 - Develop agreements
- Identify agricultural routes and potential checkpoint sites

The economic impact of a highly contagious disease of livestock or poultry is directly affected by the time it takes to control, contain, and eradicate the outbreak. QMC is complex, involving multiple agencies with different areas of authority and responsibility. Cooperation between farmers, processors, and emergency authorities is key for controlling the outbreak. Planning for an emergency is critical in order to develop a consistent, systematic approach to respond to a regional or multi-State disease outbreak. State protocols for imposing quarantines do exist, but vary from State to State. Few States have comprehensive plans covering all the complexities of QMC during an animal health incident. Planning at every level, including industry, should consider the following:

- Determine the legal authority of agencies and protocols for issuing, lifting, and enforcing a quarantine and for biosecurity, permitting, traffic control, and road maintenance.
- Identify resources that are trained and ready; resources that need to be developed; private resources that may be or could be available. Develop agreements with other agencies for sharing resources.
- Identify major agricultural routes (livestock and pick-up/delivery of products such as milk and feed) and suitable checkpoint sites on those routes.

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Planning cont'd

- Develop communication plans
 - Internal and external
- Ensure appropriate PPE, disinfectants
- Understand roles, responsibilities of emergency response
- Response conducted through ICS
 - Animal Movement and Permits Group
 - Other personnel as designated by Incident Commander

Again, planning at every level, including industry, should consider the following:

- Develop communications plans to exchange information between checkpoints and the chain of command to the Incident Commander, and also to communicate information to the public about QMC activities, in coordination with Incident Command.
- Ensure appropriate personal protective equipment (PPE) and disinfectants are available for use during QMC activities.
- Understand the different roles and responsibilities of those involved in the response.

Incident response will be handled through the Incident Command System (ICS), based on the National Response Framework (NRF) and the National Incident Management System (NIMS). The Animal Movement and Permits Group, or other personnel as designated by the Incident Commander, will be assigned responsibility for QMC activities.

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Continuum of Activities

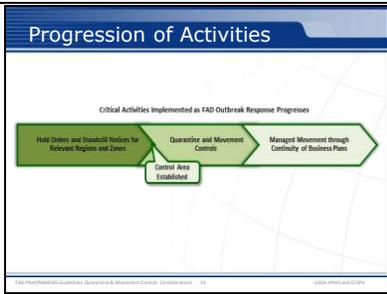
- Quarantine and movement control
 - Stops or limits movement
 - Affects livestock or poultry businesses
- Continuity of business
 - Managed movement
 - Maintains essential business functions
 - Manages disease risk

The purpose of all QMC activities—quarantines, movement controls, and managed movement—is to stop the spread of an FAD to non-infected livestock and poultry populations, so the FAD can be contained and eradicated. QMC stops or severely limits the movement of animals, products, fomites, vehicles and equipment, affecting the ability of a producer or processor to continue key operations during an outbreak. Continuity of business (COB), on the other hand, manages the movement of non-infected animals and non-contaminated animal products in a regulatory Control Area. Managed movement involves the development and implementation of science- and risk-based systems and protocols to help agriculture and food industries maintain essential business functions, or return to business during an FAD response, while the risk of disease spread and threat to public health is effectively managed.

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Quarantines, movement controls, and COB have the same goal: to prevent the transmission of the FAD to non-infected premises. While quarantines and movement controls are highly effective at limiting the spread of disease, they also impede typical business operations—this is when COB plans enter into response efforts to effectively manage movement. **Quarantines and movement controls** are applied to premises in the regulatory Control Area to ensure infected animals, fomites, and products do not leave premises. Quarantines are applied to Infected, Contact, and Suspect Premises. Movement controls are applied to At-Risk and Monitored Premises. Consideration will be given to critical movements (i.e., feed trucks). **COB or managed movement** is intended to manage movement for non-infected premises (At-Risk and Monitored Premises) in a regulatory Control Area and to facilitate movement within and out of the Control Area.

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This figure provides an illustration of how the activity may change as the outbreak progresses. QMC and COB both help to achieve the goals of an FAD response. Transitioning between the phases of hold orders and standstill notices, quarantine and movement controls, and managed movements requires effective preparedness planning ahead of an event between all relevant partners. *[Critical Activities Implemented as FAD Outbreak Response Progresses. Content provided by: USDA]*

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There are many activities that compete for limited resources in an event; a major challenge in preparing for and responding to FAD outbreaks is successfully managing these interests during the response. A priority of preparedness planning should be to discuss, mitigate, or resolve competing priorities prior to an incident. This can be accomplished by identifying required resources, establishing mutually accepted response goals and objectives amongst stakeholders, and increasing awareness of these competing priorities. As each agriculture sector develops their disease specific COB plans, it is critical that incident goals, guidelines, strategies, and procedures are coordinated with Federal, State, Tribal, and local planning efforts.

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An FAD response effort will begin locally, involving local, State, and Tribal authority and resources. If needed, Federal authority and resources will then be employed. Unified Incident Command should make a strong effort to have clear communication and appropriate educational materials on disease transmission to gain voluntary compliance from producers, families, and others involved in the quarantine. In an FAD outbreak, there may be both State quarantines and Federal quarantines, but typically, an individual premises quarantine will be issued under State authority.

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The authority of the SAHO varies by State. Issuance of a State quarantine on an individual premises may be made on a presumptive positive diagnosis, pending laboratory confirmation, or only on the basis of a confirmed positive. It may be possible to initially institute a hold order on a premises; this hold order effectively quarantines a premises and stops animal and fomite movement while diagnostic testing or additional epidemiological investigation is being completed to determine whether an official (and less temporary) quarantine notice is necessary. This hold order may be called a stop movement order, embargo, temporary standstill, or another term by States. All premises including At-Risk and Monitored Premises in the Control Area are subject to movement control restrictions—some States may also choose to quarantine these premises. The authority of the SAHO varies by State, and is typically codified in statute or legislation.

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Issuance of Quarantine cont'd

- Requested by FADD conducting investigation
 - High suspicion of FAD
 - Inconsistent with endemic disease
- Notify SAHO and AD of quarantine and any needed outside support

An individual premises quarantine or hold order is typically requested by a foreign animal disease diagnostician (FADD) who has conducted an investigation and determines the findings are consistent with “high suspicion of an FAD” and when “the findings are consistent with an FAD and are generally inconsistent with an endemic disease/condition, or are discordant with an endemic disease/condition.” While the quarantine may initially be verbal, a written and signed quarantine order should be presented to the owner or manager of the premises as soon as possible, or as required by the laws of the State involved. The SAHO and APHIS VS Assistant Director (AD) at the District should be notified immediately of either a verbal or a written quarantine or hold order. They should also be made aware of any support that may be necessary from outside the premises to enforce the quarantine or hold order and begin disease control and eradication operations on the premises.

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Implementing Premises Quarantine

- Team led by Site Manager assigned to locations to ensure enforcement
 - Apply quarantine, notify owner/agent
 - Secure premises
 - Establish biosecurity
 - Develop contingency plans
 - Restrict movement
 - Animals, animal products, fomites
 - Prepare for essential movement

Infected Premises, Contact Premises, and Suspect Premises are subject to individual premises quarantine. Quarantines may be imposed on facilities with live animal inhabitants (farms or feedlots), as well as those without resident live animals (auction markets). A team of personnel, led by a Site Manager (while this position is typically called a Site Manager, it may also be termed a Team Leader, Premises Liaison, etc.), is assigned to one or more quarantined locations to ensure implementation and enforcement of quarantine procedures. The following steps are critical in implementing a premises quarantine.

- Applying a quarantine and notifying the owner/agent
 - Securing a quarantined premises, and establishing biosecurity procedures
 - Developing contingency plans
 - Restricting movement of animals, animal products and fomites, and also preparing for essential movement of vehicles and equipment
- Each of these steps will be explained in greater detail on the next few slides.

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Notifying Owner/Agent

- Serve quarantines to individual in direct control of animals
 - Three attempts to notify
 - Document all attempts
- SAHO may authorize quarantine if immediate action is necessary
- Verify notification receipt

Ideally, quarantine notices should be personally served to an individual with immediate control of the animals or the premises where the animals are located. At least three attempts to serve the notice should be made at different times of the day. It is important to document all attempts to deliver the quarantine notice. In a large outbreak, it may not be possible to deliver notifications in person. Phone calls may be warranted. The SAHO may authorize the action required by the notice on epidemiological grounds, if the disease situation requires immediate action. However, it is important to verify that notification has been received by owners/agents and those in immediate control of the animals or premises where the animals are located.

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Securing a Premises

- Prohibit movement
- Account for animals in premises census
 - Prevent escape or intentional removal
- Display signs to warn of restricted access and security
- If authorized, law enforcement may assist if required

A premises under quarantine must be secured to ensure prohibited movement on and off the premises does not occur. Account for all animals on a quarantined premises in a premises census. This is important to prevent the spread of disease, including preventing the accidental escape or intentional removal of any animal from the premises. A sufficient supply of highly visible, weatherproof signs should be on hand so that adequate numbers of signs can be displayed to warn of restricted access and the security in place. Some States have the authority to enlist local law enforcement to help maintain and enforce a State-ordered quarantine.

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Biosecurity Procedures

- Establish Work Zones to restrict access
- Keep a log of all movements
- Evaluate wildlife involvement

Biosecurity protocols will be established to inhibit the spread of the pathogen. This includes the proper maintenance, decontamination, and/or disposal of personal protective equipment. Work zones will be established to restrict access in entering and exiting a quarantined premises. These work zones include the Hot Zone (Exclusion Zone), Warm Zone (Contamination Reduction Zone), and Cold Zone (Support Zone); a Line of Separation (LOS) separates the Cold Zone from the other zones. Essential personnel will enter and exit the premises through a Decontamination Corridor. A complete log of all movements should be established and monitored, including responders, employees, any emergency personnel, owners and their family, as well as any animals, animal products, vehicles, equipment, and other materials. Biosecurity is the most critical element in the successful execution of QMC activities because of the necessity for certain personnel and items to move across the LOS between contaminated areas of a quarantined premises and the outside (and non-infected) world. The risk of a quarantine being compromised by wildlife and/or vectors should be evaluated based on wildlife identified on, or near, an Infected Premises, species susceptibility to the FAD, risk of the species acting as a fomite, and their pattern of movement. APHIS will cooperate with State and Federal agencies that have primary jurisdiction for wildlife, through Incident Command. *[This illustration shows work zones established on a farm with the Decontamination Corridor and control access points marked. Graphic illustration by: Dani Ausen and Andrew Kingsbury, Iowa State University]*

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Contingency Planning

- Health and safety of people is top priority
- Obtain medical care as quickly as possible
- Coordinate decontamination of the victim without interfering with essential treatment
- Inform medical facility of pathogen transmission, disinfection, etc.

If a person on a quarantined premises is injured or becomes seriously ill, every effort must be made to aid and obtain medical care for the person as quickly as possible. As needed, this may include emergency transport to a medical facility; health and safety is the top priority. Assuming the risk of pathogen transmission exists, the team assigned to the quarantined premises should coordinate decontamination of the victim; if possible, do so without interfering with essential treatment. Authorities at the medical facility may need to be informed of the risk of pathogen transmission, and cleaning and disinfection supplies and/or expertise may need to be provided for medical personnel, transport, and clothing. More in depth information can be obtained from the *FAD PRoP/NAHEMS Guidelines: Health and Safety* and the *FAD PRoP SOP: Health and Safety*.

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Movement

- Essential movement
 - Humane care of animals
 - Employees and people residing on premises
 - Biosecurity protocols, clean clothes, PPE, cleaning and disinfection
- Animals, products, fomites
 - Generally don't move during quarantine
 - Permits granted for one-time movement if essential or critical
 - Requires high biosecurity measures

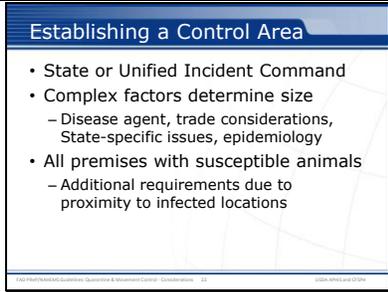
While movement must be restricted to limit the spread of disease, allowances must be made for the humane care of animals (such as feed delivery) and other necessary or critical activities. This care is necessary from the time the status of the animals is determined until they are released from quarantine, sent to slaughter, or depopulated. People residing on the quarantined premises will need to enter and leave the site, as will some employees working on the premises. The most important measures required to accommodate such essential movements are the use of clean clothes and footwear, personal protective equipment (PPE), along with cleaning and disinfection of vehicles and equipment. Under an individual premises quarantine, movement of animals, animal products, and fomites from Infected Premises, Contact Premises, or Suspect Premises is generally prohibited except under specific circumstances determined and authorized by Unified Incident Command. Movements determined necessary by Incident Command will be granted a specific permit for one-time movement. All movement will require biosecurity and cleaning and disinfection measures as specified by Incident Command.

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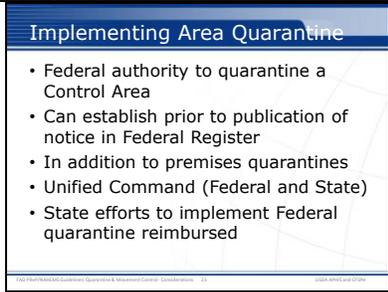
Historically, individual premises quarantines as discussed previously are applied under State authority rather than Federal authority. A regulatory Control Area for a specific area or region can be established by the State and/or the Unified Incident Command. Additionally, a Federal quarantine (or a Federal area quarantine) may be issued when requested by a SAHO, or as directed by the U.S. Secretary of Agriculture. As defined in 9 CFR 71, a quarantined area is as follows: “The States, Territories, or the District of Columbia or portions thereof quarantined by the Secretary of Agriculture for the specific contagious, infections, or communicable animal disease mentioned in each part.” Control Areas were established around Infected and Contact Premises during recent FAD outbreaks (HPAI) in the United States; Federal area quarantines were not established in HPAI, and may/may not be established during an FAD outbreak.

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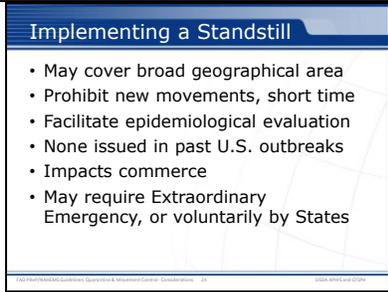
The State and/or Unified Incident Command establish a regulatory Control Area around Infected and Contact Premises, and depending on the epidemiological situation, possibly around a Suspect Premises. Factors used to determine the size of a Control Area are complex, and may be based on characteristics of the disease agent, trading partner considerations, State-specific issues, and the epidemiology of the outbreak. All of the premises with susceptible animals within the Control Area are subject to additional requirements due to their geographical proximity to locations considered infected.

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If established, Federal area quarantines are typically applied to what was defined previously as a regulatory Control Area. Federal area quarantines must appear as a Federal Register Notice, however, they can go into effect before the Federal Register Notice is published. A Federal quarantine may exist in addition to individual premises quarantines under State authorities. Federal personnel work through the Unified Incident Command with State officials and others to determine the most appropriate Control Area, and work with State personnel to establish, secure, and maintain a Federal quarantine. USDA may request that the affected States contribute resources to maintain and enforce the quarantine; USDA will reimburse States for this effort via cooperative agreement.

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Prior to, or simultaneously with, the implementation of a Federal area quarantine, a standstill of livestock movements may be put into effect through a Federal Register Notice. A standstill notice would likely cover a broad geographical area, prohibit new movements for a short period of time, and facilitate a rapid evaluation of the epidemiology of the outbreak. To date, a Federal standstill notice has not been issued in past U.S. outbreaks. Standstill after disease detection, such as a 24-hour standstill notice, will have significant impacts on commerce, as well as unaffected producers and consumers. The benefits and consequences should be considered carefully by Incident Command. In spite of the drawbacks, a standstill notice can be an important tool to significantly limit animal movement and potential spread of disease while a Control Area is being defined. In order to implement a standstill, it is likely that a declaration of an Extraordinary Emergency would be required. The Federal government may also request that States voluntarily implement a standstill through State authority.

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State Area Quarantine Authority

- May elect additional quarantine area outside the boundary of Federal area
- Protect State's interests
- Federal goal to support States for science- and risk-based quarantine, controlled movement
 - Secure Food Supply Plans
 - Other collaborative activities

In some cases, States may elect to establish an additional quarantine area (which may be called a State control area, protection zone, or other term), which may exist outside the boundaries of the Federal area quarantine. This may be to protect their State from disease incursion, or as a result of real or perceived disease-freedom by trading partners. States have widely varied plans, requirements, and resources for such activities; some States would immediately request Federal resources, while others would be unlikely to request Federal resources at all. However, it is a Federal goal to support States for the implementation of science- and risk-based quarantine and movement control measures, such as the Secure Food Supply Plans, or other collaborative State activities.

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Recent FAD Control Areas

- HPAI Control Areas were established
 - Around Infected and Contact Premises
- Federal area quarantines were not established
- May/may not be established during an FAD outbreak

It is important to note that Control Areas were established around Infected and Contact Premises during recent FAD outbreaks (HPAI) in the United States; Federal area quarantines were not established in HPAI, and may/may not be established during an FAD outbreak.

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Quarantine Violations, Appeals

- Violations
 - State: handled by the State
 - Federal: handled by APHIS IES
 - Documentation tracked in EMRS2
- Appeals
 - Process varies for State quarantines
 - Process for Federal quarantines
 - Hearing, includes hearing officer, epidemiologist, Incident Commander, owner

The investigation and penalties involved in violations of a State quarantine are based on State laws and authorities. Violations of a Federal quarantine order are handled through APHIS Investigative and Enforcement Services (IES), with investigations and penalties handled by IES. Documentation of the investigation should be tracked through the Emergency Management Response System 2.0 (EMRS2) or a comparable data system. Thorough documentation of violations should include identification of individuals or companies, vehicles, animals transported, dates and times of arrival/departure. The appeal process may vary for quarantines imposed by the State. The appeal process in a Federal quarantine involves a hearing focusing on epidemiological evidence. The hearing usually must occur within 48 hours of the request. The hearing should include the Hearing Officer (designated within Incident Command, may be part of the Animal Movement and Permits Group), Epidemiologist, Incident Commander (or designee), and the owner.

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Non-Cooperative Owners

- Owner reactions to entry request may vary
- Personnel should leave property if concerned for safety
- Document all non-compliance issues
- If confronted with threat
 - Remain calm, maintain safety, avoid confrontation, involve higher authority

During some incidents, it will be necessary for response personnel to gain access to private property in order to carry out their duties, including imposing premises quarantine. Personnel should always travel in teams. Owners' reactions to a request to enter their property may vary. In the event that the actions, behavior, and/or language of an owner/occupant of a premises or another member of the public causes concern for any team member's personal safety, personnel should leave the premises immediately. Field teams must document all non-compliance issues and safety concerns. Personnel should do the following when confronted with a non-cooperative or threatening owner:

- Remain calm.
- Remember personal safety is the first priority.
- Avoid confrontation; a situation can escalate without warning.
- Depending on the threat, call their supervisor or local law enforcement.
- If law enforcement is required, the supervisor should also be notified.
- The public may be informed that they are interfering with a government employee performing official duties, and are in violation of U.S. Code (Title 18 Section 111).

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Releasing Premises Quarantine

- Must have high level of confidence in disease freedom
 - Depopulation
 - Disposal/disposition
 - Cleaning and disinfection
 - Downtime with no animal presence
 - Verification of health status
 - Laboratory confirmation
 - Period of restocking

Individual premises are typically released from quarantine prior to the release of the Federal area quarantine in which they are located. There are multiple steps involved in releasing individual premises from quarantine; Unified Incident Command needs to have a high level of confidence that the premises, and surrounding premises in a designated geographic area, are free from the disease agent. Release of individual premises quarantine may come after the following activities occur (all activities may not be necessary, depending on the type of premises):

- Depopulation,
- Appropriate disposal/disposition of animals and contaminated products and materials (including non-susceptible animals),
- Complete cleaning and disinfection,
- Downtime where the premises has been without animals,
- Verification of the health status of the animals on the premises (may include visual and diagnostic surveillance),
- Laboratory confirmation that there is no evidence of the disease agent, and
- Period of restocking, where disease surveillance occurs.

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Releasing Area Quarantine

- Area quarantine released before or after individual premises
- Federal Register notice indicates the release of Federal area quarantine
- Release of portions of quarantine may reduce size of Control Area
 - Trade considerations or epidemiologic information

Regional or area quarantines can be released before or after individual premises are released. However, Federal area quarantines are typically in place until the end of an incident. A Federal Register notice will indicate the release of Federal quarantine. The entire area of a Federal quarantine does not need to be released simultaneously. Based on trade considerations, epidemiologic information, or other factors, portions of the Federal quarantine may be released, reducing the size of the Control Area gradually before complete release of the entire Federal area quarantine.

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For More Information

- FAD PReP/NAHEMS Guidelines: Quarantine and Movement Control
<http://www.aphis.usda.gov/fadprep>
- Quarantine and Movement Control web-based training module
<http://naherc.cfsph.iastate.edu/>

More details can be obtained from the sources listed on the slide, available on the USDA website (<http://www.aphis.usda.gov/fadprep>) and the National Animal Health Emergency Response Corps (NAHERC) Training Site (<http://naherc.cfsph.iastate.edu/>).

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Guidelines Content

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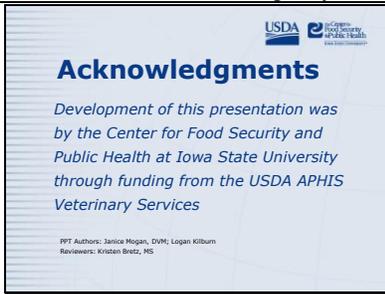
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The print version of the Guidelines document is an excellent source for more detailed information. This slide acknowledges the Guidelines' authors and reviewers. It can be accessed at <http://www.aphis.usda.gov/fadprep>.

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