Tennessee HPAI Response Base Plan

2015

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TN Department of Agriculture | Consumer & Industry Services

TN Department of Military | TEMA

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I. INTRODUCTION

A. Purpose

The purpose of this document is to describe the basic response procedures for addressing the potential or actual presence of the highly pathogenic avian influenza virus (HPAI) in poultry in the state of Tennessee. This plan is based upon current USDA-APHIS guidance as of the time of this writing; it is subject to change as USDA-APHIS guidelines evolve.

B. Scope of Operation

This plan focuses on preparing for, detecting, protecting against, responding to, and recovering from highly pathogenic avian influenza virus (HPAI) in poultry, including how the state will integrate mutual aid and federal assets, such as USDA-APHIS teams, into the state response. This document was developed by the Tennessee Emergency Management Agency and the Tennessee Department of Agriculture.

II. SITUATION

A. Avian Influenza

As of August 2015, HPAI is present in the United States and is heavily impacting poultry, but has not yet been detected in the state of Tennessee.

HPAI is a zoonotic virus that causes extremely high morbidity and mortality rates in poultry, and is highly contagious. HPAI is easily spread through direct contact with sick or infected poultry, as well as via fomites, such as equipment and vehicles. An HPAI outbreak in Tennessee could have a major economic impact. There may also be a significant social and psychological impact on flock owners.

Avian influenza viruses, also known as fowl plague, can be divided into highly pathogenic avian influenza virus (HPAI) and low pathogenic avian influenza virus (LPAIV). HPAI virus infection of poultry results in a mortality rate of at least 75% in 4-8 week old chickens. HPAI is caused by any influenza A virus of the H5, H7 or other subtypes with a mortality rate of at least 75%. HPAI can be associated with morbidity and mortality rates of up to 100 percent.

B. Poultry Industry in Tennessee

The poultry industry is critical to the economy of Tennessee and Tennessee is critical to the poultry industry globally. The following points summarize the status of the poultry industry in Tennessee as of 2015:

- $6.55 billion economic impact
- 27,000 jobs
- 1,650 commercial broilers
- 550 family farms
- $794 million in annual cash receipts
- 2nd largest agriculture commodity in the state
- 98% of world-wide poultry genetics

C. Potential Public Health Issues

If avian influenza presents a human threat, ESF-8 Public Health will assume the role of lead for public health and may make decisions that affect ESF-16 Animal Care & Housing. HPAI is zoonotic, and while it appears to have a relatively high species-specific transmission barrier, it also can be fatal for humans. Since the World Health Organization began recording the incidence of AI in 2003, there have been 608 cases of avian influenza infection in humans and 359 deaths. Animal health officials will coordinate with public health officials in the event that HPAI is identified in the United States. Public health information about avian influenza and humans can be found at http://www.cdc.gov/flu/avianflu.

III. MISSION

A. Mission Statement

It is the mission of the Tennessee Department of Agriculture to serve the citizens of Tennessee by promoting wise uses of our agricultural and forest resources, developing economic opportunities, and ensuring safe and dependable food and fiber.

B. Goals and Objectives

The goals of this HPAI response are:

1. Detect, control, and contain HPAI in poultry as quickly as possible
2. Eradicate HPAI using strategies that seek to protect public health and stabilize animal agriculture, the food supply, and the economy
3. Provide science- and risk-based approaches and systems to facilitate continuity of business for non-infected animals and non-contaminated animal products

To accomplish those goals, the Tennessee Department of Agriculture has established the following fundamental priorities:

- Prepare
- Detect
- Protect
- Respond
- Recover

These fundamental priorities establish the framework for the *Concept of Operations* section of this HPAI response plan.

C. Statutes and Regulations

The response organization will be as defined in the Tennessee Emergency Management Plan (TEMP) and according to the Tennessee Code Annotated sections 58-2-106 to 123.

The statutes for cleaning and disinfection of contaminated equipment and farm houses need to follow the guidelines given in 9 CFR 56.5 (d) (1)-(3) and 9 CFR 71.10 (a). Quarantine procedures are located in guideline 9 CFR 56.5 Paragraph C to ensure the safety of other flocks and people working closely with the infected flock(s). Indemnity guidelines can be found in statute 9 CFR 53.3-11 and guideline 9 CFR 56.8 to ensure financial protection of the flock owners for future production.

IV. ORGANIZATION

In order to coordinate the complex response to highly pathogenic avian influenza (HPAI) systematically, roles and responsibilities have been identified for those within the first line of response and the supporting functions.

A. Direction and Control

The Department of Agriculture – Office of the Tennessee State Veterinarian is the primary organization for coordination, direction and control of veterinary services and allied associations and agencies assisting in highly pathogenic avian influenza virus (HPAI) response. TDA will deploy Response Strike Teams and Overhead Teams to suspected or confirmed sites to coordinate and conduct response. The primary Federal agency for incident management during an HPAI outbreak is USDA. Under the direction of the Tennessee Department of Agriculture, USDA coordinates incident management teams, manages incident response, manages public messages, and takes measures to control and eradicate HPAI.

Lead State Agency*:

Department of Agriculture – Office of the Tennessee State Veterinarian

* If avian influenza presents a human threat, ESF-8 Public Health will assume the role of lead for public health and may make decisions that affect ESF-16 Animal Care & Housing.

Supporting Agencies:

United States Department of Agriculture (USDA)
County Emergency Management Agencies (CEMA)
Tennessee Poultry Association
Tennessee Livestock Markets Association (TLMA)
Tennessee Emergency Management Agency (TEMA)
Tennessee Department of Environment and Conservation (TDEC)
Tennessee Humane Association (THA)
American Humane Association (AHA)
American Society for the Prevention of Cruelty to Animals (ASPCA)
Southeast Cooperative Wildlife Disease Study
Tennessee Farm Bureau (TFB)
Tennessee Wildlife Resources Agency (TWRA)
Tennessee Veterinary Medical Association (TVMA)
American Red Cross (ARC)
Animal Control Association of Tennessee (ACAT)
University of Tennessee Institute of Agriculture
Tennessee Volunteer Organizations Active in Disasters
Tennessee Department of Health (TDH)
Wildlife and Non-domestic Animal Work Groups

B. Incident Management

The Incident Command System (ICS), a component of the National Incident Management System (NIMS), is designed to enable efficient and effective domestic incident management by integrating facilities, equipment, personnel, procedures, and communications operating within a common

organizational structure. Tennessee has adopted NIMS and ICS organizational structures to manage emergencies and other incidents, including response to an HPAI outbreak.

In the event of a confirmed case of HPAI in the state, Tennessee anticipates operating a Unified Command - Operations, Planning, Logistics, Finance, Public Information and Safety - to include federal and state counterparts. This will be analogous to the Joint Field Office (JFO) operation the Federal Emergency Management Agency establishes at the Recovery phase of a disaster receiving a Presidential Declaration.

Furthermore, just as FEMA enters into an agreement with any state receiving federal assistance, a FEMA-State Agreement, Tennessee anticipates a Cooperative Service Agreement to be signed and placed in effect between the USDA and Tennessee in an agriculture emergency. The Cooperative Service Agreement will establish arrangements with non-federal entities for USDA to provide technical assistance, goods, or services on a full cost-recovery basis. This Cooperative Service Agreement is not dependent upon the declaration of a state of emergency by the Governor, although such a declaration may occur.

i. HPAI Response Strike Teams

In accordance with ICS principles (organizational chart in Appendix A), TDA will deploy strike teams and overhead teams to coordinate and conduct on site management. Strike Teams respond to an incident and conduct on-site operations. Overhead Teams coordinate and manage response teams, operating both in the field and in operations centers.

There are multiple types of strike teams for HPAI designed to respond at different stages.

1. Suspect HPAI strike team – FADD (Foreign Animal Disease Diagnostician)
2. Appraisal team - USDA
3. Depopulation foaming teams – 1 supervisor , 4 specialists per foaming unit
4. Disposal / composting monitoring – 1 specialist
5. Cleaning and disinfection monitoring team – 2 AHT's
6. Biosecurity and Decontamination – 1 -2 specialists
7. Case manager – 1 per five premises
8. Disease Surveillance Strike teams – 2 AHT's

The Disease Surveillance Strike Team and the Disease Management Strike Teams are listed in further detail below.

Disease Surveillance Strike Team

The Disease Surveillance Strike Teams are responsible for conducting surveillance during a HPAI event by investigating, collecting samples and transporting samples to the appropriate laboratory for testing.

Composition of Disease Surveillance Strike Team:

1. Initial Suspect HPAI strike team – (1) FADD
2. Control Zone Surveillance Strike Team: Two (2) collection specialist
3. Biosecurity equipment

Disease Management Strike Teams

The Disease Management Strike Teams respond to confirmed cases of HPAI. They are responsible for the management of depopulation, disposal, biosecurity, and decontamination. These strike teams will be responsible for coordinating with USDA Incident Management Teams, if they are deployed.

Depopulation Strike Team:

Depopulation strike team composition varies according to the method of depopulation.

Cleaning and disinfection strike team - multiple specialists

- One (1) supervisor
- Three (3) specialists
- One (1) personnel decontamination station
- Biosecurity specialists
- Biosecurity equipment

There are two types of Overhead Teams: Local Overhead Team and Regional Overhead Team.

Local Overhead Team (IMT)

The Local Overhead Team coordinates response to cases of HPAI at the local level, likely operating out of the local emergency operations center. They are responsible for providing support and coordination for local operations.

Composition of Local Overhead Team:

- Local Emergency Management Director
- TEMA District Coordinator
- State or federal animal health official

Regional Overhead Team (IMT)

The Regional Overhead Team supports response to cases of HPAI at the regional level, likely operating out of the Regional Coordination Center (RCC). They are responsible for providing support and coordination for regional operations.

Composition of regional Overhead Team:

- State or federal animal health official
- TEMA Regional Administrator
- TDEC Emergency Support Liaison (ESL)
- TDOT ESL
- Military ESL
- Other ESL

To respond to confirmed instances of HPAI, the US Department of Agriculture has four (4) Incident Management Teams nationwide. In the unlikely instance that none of those teams are available to deploy to Tennessee, the state will be heavily dependent on Emergency Management Assistance Compact

(EMAC) resources, mutual aid and contract resources if HPAI impacts more than four (4) commercial farms in the state of Tennessee.

Contracting

Contracting for support for depopulation, disposal and biosecurity of poultry will be directed by the Tennessee Department of Agriculture. USDA will direct contracting on the federal side. There may also be a supplemental cooperative agreement between TDA and USDA to reimburse for some high Path AI response. The Tennessee Department of General Services will coordinate and conduct contracting, as necessary.

ii. Operations and Coordination

The central point of coordination for state operations will be the State Emergency Operations Center (SEOC). The applicable TEMA Regional Coordination Center (RCC) will work regional operations in support of the SEOC and also may serve as staging areas or Incident Command Posts, if necessary. All local operations will be coordinated through the local Emergency Operations Center (EOC), which may also serve as staging areas or Incident Command Post locations, if necessary. All response activities at an incident site will be coordinated under Incident Command System (ICS) using the National Incident Management System (NIMS) concepts.

In an HPAI response, there will be two levels of management: tactical and strategic. The tactical level of management will be at the scene of the incident. Incident Command Posts should be as close to the impacted area commercial poultry concentration as possible. The strategic level of management will occur at the SEOC, where overall coordination and support for the Incident Command Post will be exercised. The establishment of incident command will be at the direction of the Tennessee Department of Agriculture.

iii. Public Information

Tennessee will establish a Joint Information System (JIS), the same concept as a virtual JIC, to include the Governor's Communications Office, the Tennessee departments of Agriculture, Environment & Conservation, Health, and Safety and Homeland Security, and the Tennessee Emergency Management Agency as initial participants. The JIS will provide scalability as public information issues arise or an outbreak occurs to allow for participation from impacted county public information officers, communications staff from industry partners, or other State agencies.

To assist in detecting and reporting of possible HAPIV infections, Tennessee will determine and establish 800-numbers for the public to report sick or dead poultry, to report sick or dead waterfowl, and for general questions about HPAIV and biosecurity and control of movements within and into the hot and surveillance zones around infected premises. The state will develop fact sheets, talking points and intake process for these hotlines for reporting of sick or dead poultry and waterfowl, and for other public information inquiries

Through the Joint Information System (JIS), the state will coordinate the development of pre-scripted messaging and press releases covering initial outbreak announcement and other public or industry education priorities regarding HPAIV, with the goal in mind that the initial, important key message is: "This is a poultry emergency, not a public emergency." As necessary, the state will hold briefings in

counties with the potential for an HPAIV outbreak to update county government officials, emergency management and public safety agencies on how any HPAIV outbreak in their counties will be handling response operations, depopulation and disposal, biosecurity and surveillance, public information, etc. In addition, the state will host town hall meetings with industry leaders from the producer, grower, worker and retailer segments of the industry to brief on all the topics of concern in an outbreak.

Communication with General Assembly members, members of the Governor's Cabinet, and congressional offices will be critical in ensuring coordinated and consistent information, which will also allow them to serve constituents with concerns about any HPAIV outbreak. This will also be coordinated through the Joint Information System (JIS) among agency Public Information Officers.

Leaders in the backyard poultry producers in Tennessee should be identified to help connect with small and non-commercial growers. Non-commercial growers need to be informed of biosecurity issues, disease reporting and regulations as well as commercial growers. A representative from non-commercial growers should be included on the Avian Health Advisory Board.

iv. Tennessee Department of Agriculture Central Office Roles

In general, the Central Office of TDA will be responsible for the following:

- Maintaining a presence at the State Emergency Operations Center (SEOC)
- Coordination, direction and control of veterinary services and allied associations and agencies assisting in animal health emergencies
- Coordination with the Local Emergency Management Agency to authorize ESF-16 resources and to determine which animal-care personnel are qualified and are needed in the disaster areas
- Coordinate multi-state disaster response with other State Veterinary Medical Associations and Emergency Management Agencies
- Coordination of press releases and public service announcements
- Information sharing between Regions and USDA
- Leading investigations of suspected cases of HPAI
- Guiding the development of appropriate HPAI response strike teams to include public and private resources, as necessary
- Develop legal authorities, documentation and templates

V. CONCEPT OF OPERATIONS

C. Essential Elements of Information (EEI)

Essential Elements of Information are items of intelligence information that are absolutely vital for timely decision making. For Highly Pathogenic Avian Influenza (HPAI), the Tennessee Department of Agriculture and Tennessee Emergency Management Agency have developed the following EEIs:

- Presumed occurrence of HPAI in a backyard flock due to high mortality, but not yet verified by a laboratory
- Positive test in a commercial poultry operation by a private lab
- HPAI presence in neighboring states
- Deployment status of all of the USDA-APHIS Incident Management Teams (IMT), as there are only 4 nationwide
- Deployment status of military and other potential mutual aid (EMAC) resources in other states

These Essential Elements of Information determine *what* decisions need to made and *when* those decisions should be made in order to achieve the desired outcome.

D. Status of Activation

Tennessee Department of Agriculture and Tennessee Emergency Management Agency have developed the following Activation Statuses and associated Triggers and Actions for HPAI preparedness and response. The triggers and actions accompanying the levels are based upon the Essential Elements of Information for HPAI detailed in the previous section.

Status of Activation for HPAI Response		
Triggers	**Status**	**Actions**
Day to day, no emergency management operations ongoing	**Normal Operation**	**Steady State** Continue HPAI Preparedness and Monitoring Activities
Detection in wild birds in state *Bordering state confirmed commercial* *Detection in backyard flock in-state* *No detection in-state commercial poultry*	**Elevated**	**Active Missions and Monitoring*** Legal Authority Industry ramps up biosecurity measures
Detection in a single commercial poultry facility in- state	**Initial Response**	**TEMA Staff and Selected ESFs*(limited)** FEMA Notification
Detection in 2-4 farms in one area of the state *Detection in more than 4 farms or more than one area of the state*	**Major Response**	**ESFs Staffed*** Require additional support for more than 4 farms; request EMAC and other assistance
Resources overwhelmed *Impact of primary breeder industry* *Major economic impacts*	**State of Emergency**	**Full Activation of ESFs and ESCs*** **Declared Emergency** **Executive Order Issued** Request federal economic recovery assistance such as FEMA, SBA, HUD or EDA
***** *In any emergency or disaster, ESFs may be activated based on mission requirements, with the authority of the TCA*		

i. State of Emergency

The decision to declare a State of Emergency should consider the impact on consumers, workers in the industry, and the Tennessee's poultry industry standing in international markets. However, in order to ensure effective response, the Governor may need to issue Executive Orders to waive hours of service restrictions for industry workers or other regulations. The Governor can only waive such regulations, especially federal regulations, during a state of emergency.

A. Prepare

Effective preparation for HPAI requires a cooperative effort and is dependent upon the interaction between the Department of Agriculture, USDA, poultry disease experts and Tennessee's poultry industry. Preparation for HPAI includes planning, training, organizing, equipping and exercising. In preparing for the potential of highly pathogenic avian influenza (HPAI), the state of Tennessee has taken the following actions:

- Reviewed the existing Tennessee avian influenza response plan entitled *Initial State Response and Containment Plan for Notifiable Avian Influenza in Commercial Poultry for Tennessee* as the basis for this plan specifically targeted for HPAI
- Visited other impacted states for peer-to-peer training
- Organized an HPAI task force for the state
- Reviewed available equipment and mutual aid
- Maintain a HPAI exercise program on a yearly basis

The Tennessee Department of Agriculture also will begin to identify specific resources likely to be needed for HPAI response and recovery. This information will be provided to the Tennessee Emergency Management Agency to coordinate with the state Emergency Services Coordinators to pre-identify possible sources for anticipated necessary resources.

i. Permitting

To ensure that the poultry industry is able to continue operations without adding undue risk in the event of an HPAI impact in the state, an effective permitting process to control the movement of poultry is essential. Permits will be required to allow the movement of poultry or poultry products from an uninfected premise in a control zone.

Poultry producers must meet 3, basic USDA requirements to be eligible for movement permits:

1. The premise must have a current biosecurity audit.
2. Constant sampling for virus infection is done according to USDA FadPrep guidance.
3. The permit and sampling data are managed in the USDA's Emergency Management Response (EMRS) system.

Biosecurity audits should be completed now, before a confirmed case of HPAI when resources will be engaged in response. Ongoing sampling for the presence of HPAI for permitting will be only part of all the sampling conducted for contamination, diagnosis and surveillance. The logistics of sampling, moving and delivering samples, and decontaminating after sample handling must be addressed overall, for permitting as well as ongoing response and surveillance operations. The permitted movement of poultry products should be addressed with the proposed Interstate Task Force as permits are issued by the state of

destination. Because permits are also issued for movements within an industry complex and intrastate, a poultry industry education program on permitting should be developed. EMRS training for State personnel is also essential prior to any outbreak.

B. Detect

To assist in detecting and reporting of possible HAPIV infections, Tennessee will establish 800-numbers for the public to report sick or dead poultry, to report sick or dead waterfowl, and for general questions about HPAIV and biosecurity and control of movements within and into the hot and surveillance zones around infected premises.

Suspected Cases

Initial detection of suspected cases will likely occur through private industry and be reported through the established lines of communication between industry and the Tennessee Department of Agriculture (TDA). TDA will send a team to investigate and take samples of any suspected cases of HPAI. Note that TDA has 11 personnel trained to investigate and take samples. Upon investigating a suspected case of HPAI, personnel may not enter any poultry facility for 72 hours.

Confirmation and Communication

A sample of a suspected HPAI case is sent to Tennessee Department of Agriculture laboratory to confirm whether the case is positive or negative result for HPAI. The State Veterinarian notifies USDA and sends a sample of the suspected HPAI case to the USDA laboratory to confirm. Once there is a confirmed positive case of HPAI other like industries and partners are alerted through the Poultry Association and/or Avian Advisory Board. Once Tennessee Department of Agriculture and/USDA has confirmed a case/outbreak of HPAI within the state, Tennessee Emergency Management Agency will be notified and the levels of response for this highly contagious disease to be implemented. The Tennessee Department of Health will be notified of any cases of HPAI to monitor for any implications to human health.

Epidemiology/tracing

Epidemiological investigation and movement tracing during an outbreak are critical in controlling and eradicating HPAI in poultry. In an HPAI outbreak, the goals are to:

- within 96 hours of identifying the index case, characterize the nature of the HPAI outbreak, identify the risk factors for transmission, and develop mitigation strategies;
- within 6 hours of identifying potential infected premises (IP) or contact premises (CP) through tracing activities, assign a premises classification and a priority of investigation; and
- within 24 hours of identifying the IP or initial CP, identify all additional CP.

These measures will aid in the control of HPAI and lessen the impact during the response effort. Appendix B contains a sample template of an epidemiological questionnaire. One of the single most important and urgent veterinary activities during an HPAI outbreak is to rapidly and diligently trace-back and trace-forward movements from infected premises (IP). This tracing will aid in the control of the spread of HPAI virus and limit the impact of the outbreak. Tracing should cover all movements from the premises, including susceptible poultry and livestock, non-susceptible species, animal products, vehicles, crops and grains, and people. Tracing also includes consideration of all potential modes of transmission and possible contact with wild birds.

Trace-back and trace-forward information should ideally be collected for at least 21 days before the appearance of clinical signs in poultry infected with HPAI. Additional tracing information is collected for movements up to the time that quarantine was imposed.

Tracing information will be obtained from many sources (such as reports from field veterinarians, producers, industry, farm service providers, or the public). The Emergency Management Response System (EMRS) is used to collect and report epidemiological data, including movement tracing information, locally and nationally.

Surveillance

Surveillance is a critical activity during an outbreak of HPAI. This section specifically focuses on surveillance in poultry. The following are goals in an HPAI outbreak:

- To implement surveillance plans within 48 hours of the confirmation of an outbreak;
- To implement a surveillance plan that will (1) define the present extent of HPAI and (2) detect unknown IP quickly;
- To have the surveillance plan consider the susceptible wildlife population in the area, to coordinate with USDA APHIS and other agencies to perform appropriate HPAI surveillance;
- To provide complete surveillance data summaries and analysis at intervals as specified by incident commander (IC); and
- To develop effective surveillance plans that can achieve desired outcomes by leveraging available resources, satisfying jurisdictional requirements, and implementing continuity of business measures.

A surveillance plan indicates the frequency, number, and distribution of animals and premises to be sampled. This requires tradeoffs be made among six surveillance parameters or tools, listed below. These tradeoffs are made employing initial information collected about the outbreak, and best estimates. During an outbreak, surveillance plans will change as new information becomes available. The six surveillance parameters are:

1. *Design (threshold) prevalence.* The goal is to determine the lowest feasible prevalence that can be used to detect infected birds on premises. The chosen proportion of animals or premises infected that if exceeded will indicate the disease has been detected for a given confidence level and population size (1 percent vs. 5 percent vs. 15 percent).

2. *Confidence level.* The selected level (90 percent confident vs. 95 percent confident) that the disease can be detected for the chosen design threshold, given the population size.

3. *Types of tests.* Test choices—clinical inspection, polymerase chain reaction testing, serology testing, etc.—and the test cutoff values can influence the design prevalence choice. Each test has a sensitivity and specificity that varies with the cutoff values.

4. *Sampling frequency.* Previous negative test results can augment information

gained from negative test results if the time period between sampling is short—ideally daily, but definitely less than the incubation period. The value of the previous negative test results decreases as the interval between sampling increases (daily vs. every other day).

5. *Risk-based sampling.* Selecting populations with a higher proportion of infected animals (1 percent vs. 10 percent) reduces the number of samples needed for a given confidence and population size.

6. *Sampling scheme.* Within the selected population (risk-based or total population) a random, convenience, or other scheme may be used, and the choice will influence the number of animals/premises sampled.

Surveillance will be conducted according to USDA national standards.

C. Protect

A critical component of an HPAI response is the designation of zones, areas, and premises. The Incident Commander will work with the Operations Section and Situation Unit within the Planning Section to (1) determine appropriate zones, areas, and premises designations in the event of an HPAI outbreak and (2) reevaluate these designations as needed throughout the outbreak based on the epidemiological situation. These zones, areas, and premises designations are used in quarantine and movement control efforts. *See Appendix A.* Organizational Chart.

State and Federal officials have the authority to enforce quarantine or hold orders. State quarantines are imposed on individual flocks and premises when HPAI is suspected. State quarantines are used to control intrastate movement. Federal quarantines are used to stop interstate movement of poultry and poultry products. Both State and Federal quarantines may be used simultaneously.

If not already in place, quarantine is placed on the farm by Tennessee Department of Agriculture (TDA) as soon as the case is confirmed by USDA's National Veterinary Services Laboratories (NVSL). The quarantine restricts movement of people, animals and animal products on and off the farm. It is enforced by TDA personnel and, if needed, local law enforcement.

Elements of Quarantine

1. Assure that quarantine signs are posted at farm entrance(s) and on poultry house doors.
2. Eliminate all non-emergency service and other visits to quarantined farm, including supervisory, repair and maintenance personnel.
3. Fully inform grower of the problem and danger involved.
4. Specifically restrict movement of grower and family individuals and employees.
5. Suspend feed deliveries until a specific program is outlined by the Department of Agriculture.
6. Birds will be moved according to procedures outlined by the Tennessee State Veterinarian (including dead birds).

7. The Tennessee State Veterinarian will outline procedures for cleaning and disinfecting houses after removal of birds, with advice from the Tennessee Emergency Management Disease Committee (EMDC).
8. Placements will be withheld until permitted by the Tennessee State Veterinarian.
9. Quarantine Release: Farms will be considered for release 21 days after cleanup and decontamination is completed. Environmental swabs will have tested negative to virus isolation for at least 2 weeks prior to release.

Note that many farms and industry sites have quarantine procedures that are more stringent than those implemented by the state or federal governments. In those instances, farm or industry quarantine procedures may be implemented in addition to those required by state or federal order.

Quarantine Zones

The initial response to AI in the state of Tennessee is quarantine and movement control, and may be followed up by depopulations and proper disposal of infected and exposed poultry and poultry products, and disposal of contaminated products and materials, on infected and dangerous contact premises.

The initial quarantine zones will include, as a *minimum*:

- 3 kilometer "infected hot zone"
- 10 kilometer "surveillance zone

The size of these zones is subject to change as determined by the Tennessee Department of Agriculture in conjunction with USDA to allow for rapid and efficient containment and elimination of the virus.

D. Respond

Timely and efficient response to the presence of highly pathogenic avian influenza (HPAI) is critical to minimize the spread of the disease, loss of animals and economic disruption within the state of Tennessee and surrounding states. This is accomplished by rapid **depopulation** of infected poultry, appropriate **disposal** and effective **biosecurity**.

i. Personnel Safety

Medical monitoring will be conducted as needed on-site for response staff and contract workers. All personnel responding to contain and eradicate AI will be provided with proper personal protective equipment (PPE) and will be provided standard operating procedures (SOP) and training in the proper use of the equipment. All equipment needs to be tested to meet OSHA standards for responders and contracted personnel, especially respirators. A formal orientation and safety briefing, along with transition briefings when appropriate, should be provided for arriving teams and contracted personnel to ensure a solid orientation for personnel as to the situation on-the-ground.

If there is a large outbreak, the Tennessee Department of Agriculture – Agricultural Crime Unit could provide guidelines so security personnel know exactly what their duties will be. This will be coordinated with local law enforcement.

Local 911, Public Safety Alerting Points (PSAPS) and emergency response agencies need to know locations of infected sites in order to plan response procedures accordingly, and should have the proper personal protective equipment and ability to decontaminate personnel and vehicles if called to a scene at infected premises. It is also important that first responders and others working an infected premise to know there may be confidentiality agreements in place between the TDA, USDA and producers, and these agreements must be honored at the State and Local levels. This will also be an issue in any public record requests from news media, public interest groups or individual citizens.

E. Recover

Recovery action necessary following an HPAI outbreak will depend on the extent of the outbreak, virus subtype and other factors. Basic recovery initiatives involve the following:

i. Partnerships with other agencies

Economic recovery will be a challenge requiring a whole community solution. Those agencies with expertise in economic recovery will have large roles to play. Coordination with federal agencies with expertise and resources for economic recovery will also be critical.

ii. Valuation/Indemnity

USDA has 100% Fair Market Value indemnity for flocks in states that participate in the NPIP AI monitored program and that have an approved H5/H7 Low Path AI containment and First Response Plan. Reimbursement will be for depopulation, disposal and C&D. Non participants will get 25% indemnity. All flocks must have a flock plan and compliance agreement prior to depopulation. Specific rules addressing appraisals, destruction, disinfection and claims are addressed in 9CRF 53.3-11 and 9CFR 56.8.

iii. Restocking

Restocking can occur 22 days after disinfection, if environmental testing is negative

iv. Strategic Vaccination

Vaccinations may be considered as part of the HPAI eradication effort. Many factors must be considered before vaccination will be implemented, including availability, resources, trade and economic impact, etc. USDA will determine if vaccination is an option.

v. Wildlife Management

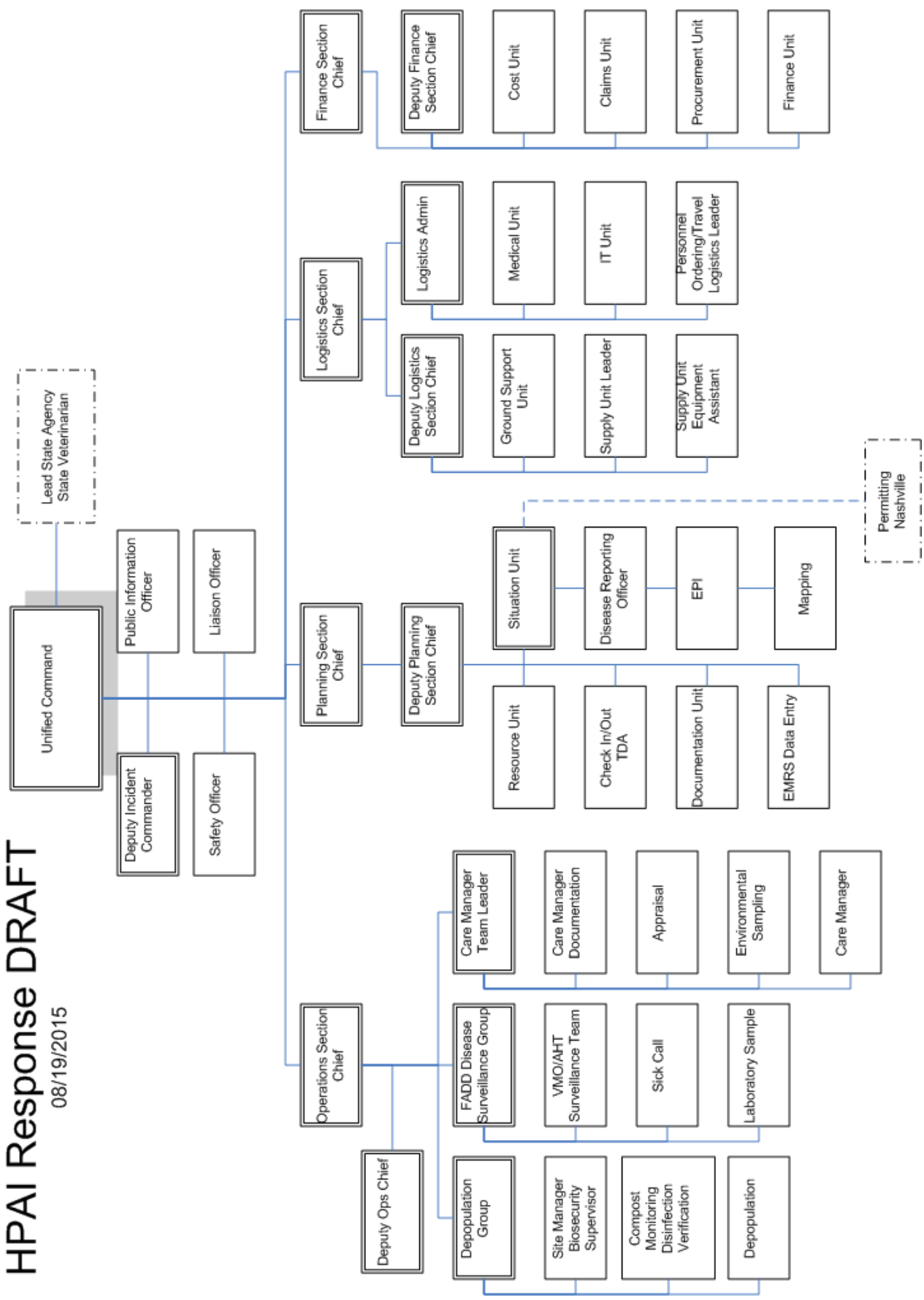
If it is determined that wildlife may play a role in the spread of the disease, Tennessee Wildlife Resources will lead wildlife surveillance and control in conjunction with Tennessee Department of Agriculture and in coordination with USDA Wildlife Services.

Appendices

A. Organizational Chart

B. Sample Epidemiological Questionnaire

A. Organizational Chart



B. Sample Epidemiological Questionnaire

This appendix contains a sample epidemiological questionnaire from the USDA *Secure Egg Supply (SES) Plan* that could be employed in the event of a highly pathogenic avian influenza (HPAI) outbreak.

This epidemiological questionnaire is only an example template, and is based on the movement of eggs and egg products. Based on the epidemiological situation or the types of premises involved in the actual outbreak, it may be appropriate to add other questions regarding other risk factors which may play a role in transmission.

Egg-Type Chickens HPAI Epidemiology Questionnaire

Date: _____

Business/farm name:

Primary contact:

Business address:

Business telephone number:

Cell telephone number:

Fax number:

Home telephone number:

E-mail address:

Secondary contact:

Business address:

Business telephone number:

Cell telephone number:

Fax number:

Home telephone number:

E-mail address:

Farm Address (911 and Animal Location):

City: Zip code:

County: Township:

Range: Section:

GPS coordinates (decimal degrees):

Premises identification number:

The purpose of this epidemiological questionnaire is to help the Incident Management Team determine a premises' classification: Contact Premises, At-Risk Premises, or Monitored Premises. Additional information will be considered (e.g., daily PCR testing and production data) when decisions regarding movement permits are made.

Employee Risk Factors

1. Do any of your personnel work at other poultry premises or have they visited other poultry premises, hatcheries, processing plants, or poultry slaughtering facilities within the past 21 days? ☐ Yes ☐ No

    a) If Yes, what premises?

    _____

2. Do any of your workers live with someone who works at another poultry farm, hatchery, processing plant, slaughter facility or rendering plant? ☐ Yes ☐ No

3. Have you hired new personnel during the past 21 days? ☐ Yes ☐ No

    a) If Yes, did they work for another poultry premises before you hired them? ☐ Yes ☐ No

    b) If Yes, where did they work prior to coming to your premises?

4. Has an employee from this premises visited a rendering plant within the past 21 days? ☐ Yes ☐ No

    a) If Yes, what plant?

    b) If Yes, did the person clean and disinfect his/her vehicle before returning to your premises? ☐ Yes ☐ No

    c) If Yes, did the person change outer clothes before returning to your premises? ☐ Yes ☐ No

    d) If Yes, did the person disinfect footwear or change into footwear dedicated to this premises upon return? ☐ Yes ☐ No

Biosecurity Risk Factors

5. Are you enrolled in the FAST Eggs Plan? ☐ Yes ☐ No

    a) If Yes, date of last audit _

6. Have migratory waterfowl been seen on the ground or water within 0.62m (1 km) of your buildings containing chickens in the last 21 days? ☐ Yes ☐ No

    a) If Yes, please describe:

7. Have free flying birds been observed in the chicken houses in the past 21 days? ☐ Yes ☐ No

8. Is feed protected from exposure to feces from wild birds, waterfowl, rodents and/or wild mammals? ☐ Yes ☐ No

9. Is water protected from exposure to feces from wild birds, waterfowl, rodents and/or wild mammals? ☐ Yes ☐ No

10. Which of the following describes this farm's usual carcass (daily mortality) disposal method? (Mark ALL that apply)

☐ Rendering	☐ on-farm	☐ off -farm
☐ Composting	☐ on-farm	☐ off -farm
☐ Burial	☐ on-farm	☐ off -farm
☐ Incineration	☐ on-farm	☐ off -farm
☐ Other (specify):		

11. Do you dispose of dead birds from other farms? ☐ Yes ☐ No

    a) If Yes, please provide more details.

12. Have you introduced chicks onto this farm in the last 21 days? ☐ Yes ☐ No

    a) Was the breeding flock serologically tested for avian influenza? ☐ Yes ☐ No

13. Did any birds move off this farm and then return to the farm (e.g., markets, shows, farmers' market, fair) in the past 21 days? ☐ Yes ☐ No

    a. If Yes, please describe:

Trace Back Information

In the last 21 days, did the following movements **ONTO** the farm occur? If yes, please provide as much accurate information as possible for each unique source. You can add more rows by 'right clicking' in the box and selecting "Insert > Insert Rows Below".

14. Eggs (e.g., sideloading) ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel entered chicken house? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

Movements ONTO the farm (continued)

15. Live Birds (including replacement pullets or backfilling pullets) ☐ Yes ☐ No ☐ Don't know

Source/ name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)	Were the chickens RRT-PCR tested for avian influenza prior to moving onto your farm? (Yes/No)

Additional Comments: _

16. Feed trucks ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

17. Fresh litter/bedding ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing/ (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

Movements ONTO the farm (continued)

18. Personnel or equipment used to handle/haul manure and/or used litter?
☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing/ (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

19. Catch/vaccination/beak trim crews ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

20. Off-site Renderer ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

a) Did the driver leave the vehicle while on this premises? ☐ Yes ☐ No ☐ Don't know

b) If Yes, what area of the premises did he or she enter?

c) Was driver required to wear outer clothes and foot wear provided by this premises? ☐ Yes ☐ No ☐ Don't know

Additional Comments: _

Movements ONTO the farm (continued)

21. Company veterinarian/service technician ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

_____

_____

22. Non-company veterinarian/consultant ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

_____

_____

23. Service personnel (e.g., construction, gas, plumbing, pest control) ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

_____

_____

Movements ONTO the farm (continued)

24. Customer/buyer/dealer ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

25. Other poultry producer ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

26. Any other visitor (friend/neighbor) ☐ Yes ☐ No ☐ Don't know

Source/name	Truck and equipment C&D before entering? (Yes/No)	Truck and equipment C&D when leaving? (Yes/No)	Personnel enter bird housing? (Yes/No)	Entered in visitor log? (Yes/No)

Additional Comments: _

Trace Forward Information

In the last 21 days, did the following movements **OFF** the farm occur? If yes, please provide as much accurate information as possible for each unique off-farm location. You can add more rows by 'right clicking' in the box and selecting "Insert > Insert Rows Below".

27. Eggs ☐ Yes ☐ No ☐ Don't know

Destination/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)	Personnel enter bird housing? (Yes/No)

Additional Comments: _

_____

_____

28. Live Birds ☐ Yes ☐ No ☐ Don't know

Off-farm location/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)

Additional Comments: _

_____

_____

29. Feed trucks (that haul feed originating on your premises and deliver feed to off-farm locations. This question does not refer to feed trucks that bring feed onto your premises from other off-farm locations which was previously covered in question 15). ☐ Yes ☐ No ☐ Don't know

Off-farm location/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)	Personnel enter your bird housing? (Yes/No)

Additional Comments: _

_____

_____

Movements OFF the farm (continued)

30. Farm personnel or equipment used to haul manure/used litter to off-farm locations. ☐ Yes ☐ No ☐ Don't know

Off-farm location/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)	Personnel enter your bird housing? (Yes/No)

Additional Comments: _

_____

_____

31. Farm personnel or equipment used for catch/vaccination/beak trim at off-farm locations. ☐ Yes ☐ No ☐ Don't know

Off-farm location/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)

Additional Comments: _

_____

_____

32. Farm personnel or equipment used for off-farm carcass disposal. ☐ Yes ☐ No ☐ Don't know

Off-farm location/ name	Truck and equipment C&D when leaving? (Yes/No)	Truck and equipment C&D before returning? (Yes/No)	Personnel enter your bird housing? (Yes/No)

Additional Comments: _

_____

_____