HIGHLY PATHOGENIC AVIAN INFLUENZA
SECURE EGG SUPPLY PLAN

FAD PReP

Foreign Animal Disease
Preparedness & Response Plan

National Animal Health
Emergency Management System

USDA

APHIS

University of Minnesota
Center for Animal Health and Food Safety

the Center for Food Security & Public Health
Iowa State University

United States Department of Agriculture • Animal and Plant Health Inspection Service • Veterinary Services

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The Secure Egg Supply Plan is under ongoing review. It was last updated **December 2010**; please send questions or comments to:

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1. SECURE EGG SUPPLY PLAN

This *Highly Pathogenic Avian Influenza Secure Egg Supply Plan* (SES Plan) promotes food security and animal health through continuity of market planning prior to an outbreak of highly pathogenic avian influenza (HPAI). Continuity of market planning provides the capability to implement science-based risk assessments, risk management requirements, and surveillance requirements to protect food security and animal health before and during a foreign animal disease (FAD) outbreak.

The SES Plan also promotes U.S. Department of Agriculture (USDA) priorities for ensuring access to safe, nutritious, and balanced meals and helping rural communities continue to thrive economically in the event of a FAD outbreak.

The Egg Sector Working Group—the multidisciplinary team that prepared this SES Plan—includes the following members:

- University of Minnesota Center for Animal Health and Food Safety (CAHFS)
- Iowa State University Center for Food Security and Public Health (CFSPH)
- United Egg Producers (UEP)
- Egg sector veterinarians and officials
- The USDA Animal and Plant Health Inspection Service Veterinary Services (USDA APHIS VS) Centers for Epidemiology and Animal Health (CEAH) and National Center for Animal Health Emergency Management (NCAHEM).

This public-private-academic partnership makes specific recommendations that emergency response decision makers (such as Incident Commanders) can use to rapidly decide whether to provide or deny permits for the movement of eggs and egg products during an HPAI outbreak.

The SES Plan delineates a transparent process for the movement of eggs and egg products during an HPAI outbreak that does not endanger the health of uninfected flocks and offers a high degree of confidence that HPAI virus is absent from eggs or egg products humans consume. It supports a continuous supply of eggs for the U.S. public, facilitates market continuity for the egg sector and its customers, and fosters a high level of government, industry, and consumer confidence in FAD preparedness and response efforts.

A comprehensive preparedness and response plan is necessary because egg production facilities do not have the capacity to store eggs or egg products for a prolonged period. In addition, just-in-time supply practices mean that a brief interruption in movement can result in serious shortages of eggs to consumers. Historically, HPAI outbreaks involved extensive prohibitions on the movement of poultry, eggs, and egg products in geographical areas or broad jurisdictions as part of efforts to control and eradicate an outbreak.

Scientific studies of HPAI transmission dynamics, product-specific risk assessments, and the emergency management goal to better manage non-infected premises so as to not destroy eggs

from healthy flocks have provided new insights on how to effectively eradicate HPAI outbreaks while minimizing the disruption of egg movement in the food supply chain.

1.1 Benefits of the Secure Egg Supply Plan

The SES Plan benefits consumers, industry, and regulatory agencies as follows:

- Consumers
  - Ensures a continuous supply of fresh egg products.
  - Reduces work disruption and negative economic impacts for rural communities.
  - Continues food safety in the event of an HPAI outbreak.
- Industry
  - Enhances market continuity within and between States during an HPAI outbreak.
  - Supports regionalization, compartmentalization, and international trade.
  - Increases biosecurity, promoting flock health by excluding many pathogens.
  - Facilitates early detection of avian influenza in egg production flocks.
  - Prevents HPAI spread from an index outbreak to other egg production flocks.
- Regulatory agencies
  - Supports the *National HPAI Response Plan*.
  - Supports the National Response Framework and Incident Command System.
  - Furnishes information on biosecurity levels and diagnostic test results.
  - Sets guidelines for issuing permits to move eggs and egg products from Control Areas during an HPAI outbreak.

1.2 Science and Risk-Based Approach to HPAI Preparedness and Response

The SES Plan provides a high degree of confidence that eggs and egg products moved into market channels do not contain HPAI virus through a combination of

- egg premises biosecurity,
- epidemiologic assessment,
- monitoring of production parameters to ensure they are normal,
- real-time reverse transcriptase polymerase chain reaction (RRT-PCR) testing of chickens in each house, and
- holding washed and sanitized shell eggs for 2 days after production before entering market channels.

Through the application of risk assessment approaches described in this plan, animal health and food safety regulatory authorities may permit the movement of eggs off the farm and into market channels for human consumption. This section explains the scientific basis for this high degree of confidence.

First, we consider the results of a recent draft interagency risk assessment,[1] which analyzed two surveillance scenarios and demonstrated that increasing the surveillance effort reduced the relative risk of human exposure to HPAI in eggs. In the first scenario, the index case of HPAI infection in a commercial egg-laying facility was detected through passive surveillance. Assuming low situational awareness, disease detection was attributed to the detection of increased mortality by a poultry producer. In contrast, active surveillance with daily testing of pools of 5 dead birds via RRT-PCR was shown to result in detection 2 days earlier on average. Earlier intervention resulted in a 98 percent reduction in the probability that eggs moved into consumer market contain HPAI virus.

CEAH, in collaboration with the University of Minnesota, estimated the risk of transmission of HPAI to epidemiologically linked poultry premises through various egg products and associated materials in a series of proactive risk assessments. These risk assessments considered the active surveillance program described in the *Egg Movement Control Plan* (EMC Plan), which includes testing of pools of 5 randomly selected dead birds via RRT-PCR each day and monitoring of flocks for clinical signs of disease. The analytic models used to evaluate the spread and detection of HPAI infection are consistent with the approaches used in the FSIS-FDA-APHIS risk assessment. In general, the CEAH modeling approach considers the following factors:

- Characteristics of HPAI disease in infected hens and HPAI disease spread within an infected layer flock
- The likelihood that eggs laid by HPAI-infected chickens are contaminated with virus
- The variability in detecting HPAI infection with the active surveillance protocol, given the prevalence of HPAI disease in the pools of daily mortality.

The following facts should also be considered:

- H5N1 HPAI virus has never been found in eggs from infected hens[2]
- Currently, no compelling epidemiological evidence links the consumption of shell eggs or egg products to human illness caused by HPAI virus.[3]

[1] USDA Food Safety and Inspection Service (FSIS), Food and Drug Administration (FDA), and USDA APHIS, *Draft Interagency Risk Assessment for the Public Health Impact of Highly Pathogenic Avian Influenza Virus in Poultry, Shell Eggs, and Egg Products*, November 2008, http://www.fsis.usda.gov/Science/risk_assessments.

[2] Spickler, A. R., D. W. Trampel, and J. A. Roth (2008), "The onset of virus shedding and clinical signs in chickens infected with high pathogenicity and low pathogenicity avian influenza viruses," Avian Pathology 37:555-577, http://www.secureeggsupply.com/ or https://fadprep.lmi.org.

[3] USDA Food Safety and Inspection Service (FSIS), Food and Drug Administration (FDA), and USDA APHIS, *Draft Interagency Risk Assessment for the Public Health Impact of Highly Pathogenic Avian Influenza Virus in Poultry, Shell Eggs, and Egg Products*, November 2008 p. 12, http://www.fsis.usda.gov/Science/risk_assessments.

The SES Plan provides a higher degree of confidence that eggs moved into market channels do not contain HPAI virus than the scenarios analyzed in the Draft FSIS-FDA-APHIS risk assessment. Increased testing and holding time requirements further reduce that risk. Specifically, pools of 5 dead birds per 50 dead birds per house are tested via RRT-PCR each day, and washed and sanitized shell eggs are moved to marketing channels for human consumption 2 days after production, only after results from 2 consecutive days of diagnostic testing are available. The following inferences can be made regarding this protocol on the basis of the above risk assessment approaches.

- Given 2 consecutive days of testing, there is a 96 percent probability of detecting at least 1 infected bird in the target population of 50 dead birds with 40 percent HPAI prevalence.

- For washed and sanitized shell eggs from a flock infected with HPAI for 1 to 5 days before testing begins—which are moved into market channels 2 days after production so that results from 2 consecutive days of testing are available—there is a 95 percent chance that the number of contaminated eggs moved per day is less than or equal to 1 per flock.

The results of the FSIS-FDA-APHIS risk assessment, CEAH risk assessments, and facts listed above provide a high degree of confidence that when the SES Plan is followed, washed and sanitized eggs from farms with caged layers (with no evidence of infection) in an HPAI control zone are not contaminated with virus.

1.3 Six Safeguarding Components

Preparedness for and response to an HPAI outbreak are complex and multifaceted. Egg producers, processors, poultry disease experts, public health experts, and Federal and State officials have developed and agreed upon the guidelines and requirements in the SES Plan. This single, comprehensive scientific and risk-based plan makes specific recommendations on the movement of eggs and egg products on the basis of the following six components:

1.3.1 Response Component: The Egg Movement Control (EMC) Plan

The EMC Plan, the response component of the SES Plan, provides science-based guidelines for permitting the movement of products of the egg industry from operations in an HPAI Control Area while effectively managing the risk of spread of HPAI virus. The EMC Plan applies to all egg production facilities in an HPAI Control Area. Specific criteria must be fulfilled to qualify for movement permits. The EMC Plan, detailed in Section 2, is based on the following:

- Proactive product-specific risk assessments

- Daily RRT-PCR testing of samples from each flock on a farm

- Daily flock observation for abnormal clinical signs (mortality must be less than 3 times the past 7-day average or less than 0.03 percent)

- Sanitation practices performed daily by egg producers

- Application of product-specific biocontainment procedures, including a 2-day holding period to move shell eggs off the farm to market.

1.3.2 Preparedness Component: Proactive Risk Assessments

CEAH has conducted proactive risk assessments in collaboration with the University of Minnesota CAHFS and the Egg Sector Working Group to support permits for moving eggs and egg products quickly and safely during an outbreak.

1.3.3 Preparedness Component: Interagency Risk Assessment for the Public Health Impact of Highly Pathogenic Avian Influenza Virus in Poultry, Shell Eggs, and Egg Products

As noted, this risk assessment was conducted by FSIS in collaboration with the FDA and APHIS and released as a draft in November 2008. This quantitative risk assessment provides a science-based, analytical approach to collate and incorporate available data into a mathematical model, and it provides risk managers a decision-support tool to evaluate the effectiveness of interventions to reduce or prevent foodborne illness from HPAI in the United States.[4]

1.3.4 Preparedness Component: Comprehensive Literature Review

A review of scientific literature addressing avian influenza in chicken eggs is available in Spickler, A. R., D. W. Trampel, and J. A. Roth (2008), "The onset of virus shedding and clinical signs in chickens infected with high pathogenicity and low pathogenicity avian influenza viruses," *Avian Pathology* 37:555-577.[5]

1.3.5 Preparedness Component: Surveillance Guidelines

The recommendations for daily surveillance of poultry within an HPAI Control Area were based on information (from expert opinion and published research) prepared by the CEAH National Surveillance Unit, "Updated HPAI Surveillance/Egg Movement Guidelines" August 25, 2009 (Attachment A).

1.3.6 Preparedness Component: The Federal and State Transport (FAST) Eggs Plan

Participation in the FAST Eggs Plan is available on a voluntary basis to egg producers who wish to reduce the time required to meet the above criteria for moving whole shell eggs. Objectives of the FAST Eggs Plan are a) to minimize the risk of exposure of poultry flocks to HPAI and to thereby limit the spread of HPAI during an outbreak, and b) to provide a high level of confidence that whole shell eggs entering market channels for human consumption are free of HPAI virus.

During a response to an HPAI outbreak, animal health regulatory officials will need time to ascertain premises' biosecurity practices, determine exposure to dangerous contacts with infected

[4] USDA Food Safety and Inspection Service (FSIS), Food and Drug Administration (FDA), and USDA APHIS, *Draft Interagency Risk Assessment for the Public Health Impact of Highly Pathogenic Avian Influenza Virus in Poultry, Shell Eggs, and Egg Products*, November 2008, http://www.fsis.usda.gov/Science/risk_assessments/index.asp.

[5] Spickler, A. R., D. W. Trampel, and J. A. Roth (2008), "The onset of virus shedding and clinical signs in chickens infected with high pathogenicity and low pathogenicity avian influenza viruses," Avian Pathology 37:555-577, http://www.secureeggsupply.com/ or https://fadprep.lmi.org.

premises, and conduct daily surveillance of flocks in the Control Area. The components of the plan, detailed in Section 3, are as follows:

- Voluntary enrollment by egg premises before an outbreak occurs
- Audited minimum biosecurity standards for egg farms preapproved by the State Animal Health Official (SAHO) or the Area Veterinarian in Charge (AVIC)
- Location verification of participating farms
- Epidemiology data to identify potential exposure during an outbreak and to document flock production parameters
- Active surveillance in each layer house in a control area via daily RRT-PCR testing
- A secure website to share information with Incident Commanders and authorized personnel.

2. EGG MOVEMENT CONTROL (EMC) PLAN

The EMC Plan requires surveillance, biosecurity, and cleaning and disinfection (C&D) practices for moving different types of eggs and egg products within, out of, and into an HPAI control area. (Attachment C contains model C&D guidelines.) The EMC Plan also offers draft guidance for movement of eggs, egg products, and day-old chicks (see Table 2.2).

Efforts to control the spread of and eradicate HPAI may compete with the egg industry's real-time need to move eggs and associated egg products. These competing needs can be resolved, in part, by elevating awareness, establishing or reinforcing communication links between regulators and industry, identifying resources, identifying existing and elevated biosecurity practices, and developing plans in advance of an outbreak.

The Egg Sector Working Group has participated in a private-public-academic partnership to develop effective science-based solutions for market continuity in a Control Area during an HPAI outbreak. The outcome of this partnership is a set of specific science-based tools that decision makers (such as Incident Commanders) can use to evaluate the producer's biosecurity program, understand the product risk, and shorten the time needed for permitted movement of low-risk egg products or poultry.

2.1 Proactive Risk Assessments

CEAH conducted proactive risk assessments that considered product-specific biosecurity, C&D practices, and applicable Federal regulations. They evaluated the risk of HPAI transmission to other poultry associated with the movement of eggs and egg products. The EMC Plan and CEAH risk assessments should be utilized by decision makers to issue permits for movement of eggs and egg products in the event of an HPAI outbreak. Table 2.1 summarizes these proactive risk assessment; they are also listed in Table 2.2.

Table 2.1 Animal Health Risk by Commodity

Commodity	Risk Posed to Other Poultry
Pasteurized Liquid Eggs	Negligible
Non-pasteurized Liquid Eggs	Negligible
Washed and Sanitized Shell Egg (no poultry on destination premises)	Negligible
Washed and Sanitized Shell Egg (poultry on destination premises)	Low
Nest Run (unwashed) Eggs	Low
Egg-type Hatching Eggs	In progress
Egg-type Day-Old Chicks	In progress
Egg Shells	In progress
Inedible Eggs	In progress

2.2 Determination of Non-Infected Flocks through RRT-PCR Testing

The potential presence of infection will be monitored by requiring chickens from flocks that do not exhibit signs of the disease and that show no unexpected increase in mortality from each house on the farm to be tested daily and found negative for HPAI by the RRT-PCR or other suitable procedure as determined by the Incident Command (IC). The following criteria are used to monitor flocks and determine non-infection:

- The normal production parameters are daily mortality of less than 3 times the past 7-day average or less than 0.03 percent. The estimated probability of a false positive is 0.4 percent, and the average detection threshold is 0.09 percent. For example, a 100,000-bird house had a 30-per-day average (0.03 percent) mortality over the last 7 days, so to remain normal, the daily mortality must be less than 90 dead birds per day. If mortality is less than 90 dead birds per day, there is no mortality trigger because mortality is too low.

- A minimum of 5 dead or euthanized ill chickens (dead birds) per 50 dead birds (5-bird pool) from daily mortality from each house (flock) are placed in a leak-proof container (such as a heavy-duty plastic garbage bag) each morning. Each container is labeled with the farm of origin, house of origin, number of birds found dead in the house that day, and the premises identification. After samples have been taken, farm personnel dispose of the carcasses in accordance with a biosecure protocol. Daily surveillance consists of a RRT-PCR test from one 5-bird pool sample per 50 dead birds from each house on the premises. Two negative RRT-PCR 5-bird pools from each house on the premises on the first day of testing or two negative RRT-PCR 5-bird pools on consecutive days are necessary. On subsequent days, one 5-bird pool from each house on the premises must test negative by the RRT-PCR test.

- A State or Federal regulatory official or an IC-authorized person takes an “oropharyngeal” swab from each chicken. Five oropharyngeal swabs from 5 chickens are pooled in a tube containing brain-heart infusion (BHI) broth. Sample pooling is done per house. One BHI tube containing oropharyngeal samples (5 oropharyngeal swabs/BHI tube) will be submitted as directed by the IC to an authorized State veterinary diagnostic laboratory (VDL). These samples must be submitted on the day of sample collection by a State or Federal regulatory official or the IC-authorized person. The State VDL and IC establish the time of day by which samples must be submitted to an authorized VDL (for example, by 12:30 p.m.). VDL personnel perform RRT-PCR testing on these samples immediately upon receipt and electronically send test results to the IC by the end of each day. The IC reports the test result information to the farm manager as soon as it is available. If the RRT-PCR test on the dead bird pool is not negative or if the daily mortality spikes (over 3 times the 7-day average daily mortality), additional diagnostic testing is conducted.

2.3 Permit Guidance Criteria

This section presents permit guidance for egg industry products. Movement will be allowed by permit for flocks inside the Control Area that test negative for HPAI, including any unsold inventories on hand. Products of negligible risk will be quickly allowed to move both inside and out of the Control Area using permits and without the need for complete epidemiological investigation.

The RRT-PCR test indicates Notifiable Avian Influenza, or an influenza A virus of the H5 or H7 subtypes. However, the test is used in permitting guidance to identify HPAI, since HPAI has already been identified; HPAI is implied for subsequent RRT-PCR tests.

Table 2.2 shows guidance for the permitting of egg products in the event of an HPAI outbreak. To maintain market continuity for the egg industry during an outbreak of HPAI, eggs and egg industry products must move in a manner that does not pose a risk to animal or human health. This table provides clear direction so that an informed, risk-based decision can be made about the permitting of that product.

Table 2.2 Permitting Guidance for Egg Industry Products during an HPAI Outbreak

Product:	(1) And the Proactive Risk Assessment is:	And Traceability Information (Premises ID, GPS Coordinates, other) is available:	(2) And Production Parameters are normal:	(3) And the following Biosecurity steps are in place:	(4) And the additional Product Specific Biosecurity steps are in place (see Section 2):	And the RRT-PCR result is negative:*	Action	(5) Permit Guidance to move off farm (not to market):	And the Premises Biosecurity is acceptable:	And the Epi Assessment is acceptable:	And the second RRT-PCR result is negative:*	Action	Permit Guidance (to move into market channel):
Pasteurized Liquid Egg	Negligible Risk	YES	YES	Truck & Driver Biosecurity	→	→	→	→	→	→	→	→	Issue PERMIT to Market
Non-pasteurized Liquid Egg	Negligible Risk	YES	YES	Truck & Driver Biosecurity	→	YES	→	Issue PERMIT to move to pasteurization	→	→	Non-pasteurized liquid eggs become pasteurized liquid eggs.		
Washed & Sanitized Shell Egg (to premises without poultry)	Negligible Risk	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander.	YES	→	Issue PERMIT to move off farm to a storage or holding area	YES	YES	YES	→	Issue PERMIT to market for eggs collected 2 days earlier
Washed & Sanitized Shell Egg (to premises with poultry)	Low Risk	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander. 2) Egg handling material used to transport eggs to breaking or further processing plants must be destroyed at the final destination or cleaned, sanitized and returned to the premises of origin without contacting materials going to other premises.	YES	→	Issue PERMIT to move off farm to a storage or holding area	YES	YES	YES	→	Issue PERMIT to market for eggs collected 2 days earlier
Nest Run Shell Eggs	Low Risk	YES	YES	Truck & Driver Biosecurity	1) Eggs moved directly to a premises without poultry for washing & sanitizing, breaking, or for processing. 2) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander. 3) Egg handing material destroyed at the destination plant or cleaned and sanitized. 4) Egg handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were moved from the farm and without contacting materials going to other premises. 5) New paper or fiber flats must be used for hand gathered eggs.	YES	→	No permit issued until 2 negative RRT-PCR tests	YES	YES	YES	→	Issue PERMIT to move for processing for eggs collected 2 days earlier (can move immediately to market after processing)

(1) Negligible Risk: The term "negligible risk" means there is an extremely low likelihood that moving the egg product will cause infection in another poultry production premises.
Low Risk: The term "low risk" means it is highly unlikely that moving the egg product will cause infection in another poultry production premises.

(2) Normal Production Parameters: Mortality <3 times past 7 day average or less than 0.03%. Estimated probability of a false positive is 0.4%. Average detection threshold is 0.09%. For example, a 100,000 bird house mortality was 30 per day average (0.03%) over the last 7 days. To be normal, mortality must be less than 90/day.If mortality is less than 90 per day, there is no mortality trigger because mortality is too low.

(3) Truck and Driver Biosecurity must include (see Attachment C, Cleaning and Disinfection Guidelines):
1. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
2. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
3. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

(4) Product Specific Biosecurity (see Section 2).

(5) This permit allows the product to move into, within, or out of the control area following guidelines in the Egg Movement Control (EMC) Plan. Interstate movement may require additional considerations.

* RRT-PCR testing is performed in accordance with guidance in Section 2.

Product:	(1) And the Proactive Risk Assessment is:	And Traceability Information (Premises ID, GPS Coordinates, other) is available:	(2) And Production Parameters are normal:	(3) And the following Biosecurity steps are in place:	(4) And the additional Product Specific Biosecurity steps are in place (see Section 2):	And the RRT-PCR result is negative:*	Action	(5) Permit Guidance to move off farm (not to market):	And the Premises Biosecurity is acceptable:	And the Epi Assessment is acceptable:	And the second RRT-PCR result is negative:*	Action	Permit Guidance (to move into market channel):
Egg-Type Hatching Eggs (moving inside the Control Area)	In progress	YES	YES	Truck & Driver Biosecurity	1) Egg handling materials must be destroyed at the hatchery or cleaned and sanitized. 2) Egg handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were shipped to the hatchery and without contacting materials going to other premises. 3) New paper or fiber flats must be used for hand gathered eggs.	YES	→						
Egg-Type Hatching Eggs (moving outside the Control Area)	In progress	YES	YES	Truck & Driver Biosecurity	1) Hatching eggs must be move directly and only to a hatchery or breaking operation 2) Chicks must be placed in a "post-hatch" quarantine for 30 days. Egg handling materials must be destroyed at the premises of destination or cleaned and sanitized. 3) Egg handling materials can be returned to the premises of origin after at least 24 have elapsed hours since materials were shipped to the hatchery and without contacting materials going to other premises. 4) New paper or fiber flats must be used for hand gathered eggs. 5) The State Animal Health Official of the state of destination must be faxed a copy of the restricted movement permit within 24 hours of issuance.	YES	→						
Egg-Type Day-Old Chicks	In progress	YES	YES	Truck & Driver Biosecurity	1) Must be placed under a 30 day quarantine. 2) The State Animal Health Official of the State of destination must be faxed a copy of the restricted movement permit within 24 hours of issuance.	YES	→						
Egg Shells	In progress	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander.	YES	→						
Inedible Eggs	In progress	YES	YES	Truck & Driver Biosecurity	1) Transport vehicle sealed by farm or company personnel under authorization of the Incident Commander.	YES	→						

The following subsections discuss truck and driver biosecurity and product-specific biosecurity. (Attachment C contains more detail.)

2.3.1 Product Summary: Pasteurized Liquid Eggs Movement

Risk Assessment for Pasteurized Liquid Eggs: Negligible

Liquid eggs pasteurized at the farm of origin or in a processing plant or other cooked or pasteurized eggs do not contain live avian influenza virus, represent negligible risk, and can move into market channels, provided that truck and driver biosecurity is acceptable to State and/or Federal officials.

USDA FSIS inspected pasteurized egg products, or precooked egg products produced by plants within a control area, are considered to be of negligible risk on the basis of USDA-APHIS CEAH risk assessment and may move within or out of the control area by permit (accompanied by documentation of origin of the products).

Permit Guidance for Pasteurized Liquid Eggs

- ☐ Is traceability information (premises ID, global positioning system [GPS] coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

Biosecurity: Truck and Driver Steps *

- ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
- ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the control area.

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE PASTEURIZED LIQUID EGGS TO MARKET .

2.3.2 Product Summary: Non-Pasteurized Liquid Eggs Movement

Risk Assessment for Non-Pasteurized Liquid Eggs: Negligible

Non-pasteurized liquid eggs originating from premises where RRT-PCR results are negative for HPAI and moving to premises for pasteurization represent a negligible risk, provided that truck and driver biosecurity is acceptable to State and Federal officials.

Non-pasteurized liquid egg products are considered to be of negligible risk on the basis of USDA-APHIS CEAH risk assessment and may move in officially FSIS-sealed vehicles (per 9 *Code of Federal Regulations* (CFR) Chapter III Part 590.410) from breaking operations within the Control Area directly to pasteurization plants inside or outside the Control Area by permit.

* See Attachment C.

Permit Guidance for Non-Pasteurized Liquid Eggs

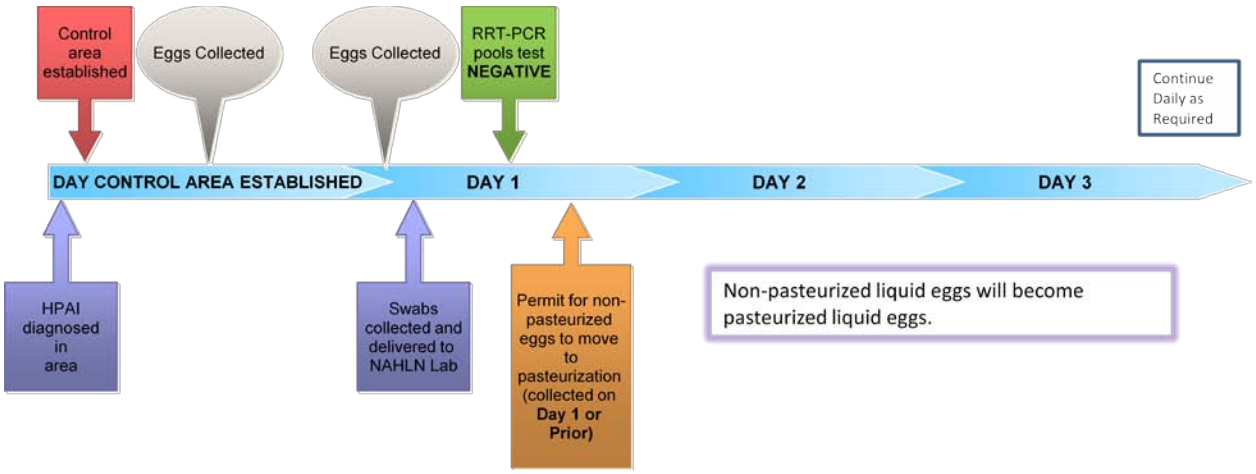
- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

  Biosecurity: Truck & Driver Steps*
  - ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
  - ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
  - ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- ☐ Is the RRT-PCR result negative for HPAI?

IF YES TO ALL OF THE ABOVE, ISSUE PERMIT TO MOVE NON-PASTEURIZED LIQUID EGG TO PASTEURIZATION.

Figure 2.1 Permitting of Non-Pasteurized Liquid Eggs



2.3.3 Daily Surveillance and 2-Day Holding of Whole Shell Eggs for Human Consumption

Daily surveillance consists of one RRT-PCR test for each pooled sample of 5 dead or euthanized sick chickens per 50 dead chickens from each house on the premises. A minimum of 5 dead chickens from daily mortality or from euthanized sick birds from each house (flock) must be tested each day. To move into market channels for human consumption, RRT-PCR tests on two consecutive pools must be negative for HPAI. Two negative RRT-PCR pools on the first day of testing or two negative RRT-PCR pools on consecutive days are sufficient to allow eggs stored for 2 days from the day of production to be moved to market for human consumption. On subsequent days, one pool from each house on the premises must test negative by RRT-PCR for HPAI.

* See Attachment C.

2.3.4 Product Summary: Washed and Sanitized Shell Eggs (to Premises without Poultry)

Risk Assessment for Washed and Sanitized Shell Eggs (Premises without Poultry): Negligible

Washed and sanitized shell eggs from all egg farms in an HPAI Control Area where RRT-PCR results are negative for HPAI that are moving to a premises without poultry represent a negligible risk if the criteria in the EMC Plan are followed.

Washed and sanitized—in a 100–200 parts per million (ppm) chlorine solution—shell eggs moving to a premises *without poultry* and destined for food service, retail marketing, further processing, or for breaking are considered to be of *negligible risk* on the basis of USDA-APHIS CEAH risk assessment and may be moved out of the Control Area by permit.

Permit Guidance for Washed and Sanitized Shell Eggs (Premises without Poultry)

- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

  Biosecurity: Truck & Driver Steps*
  - ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
  - ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
  - ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- ☐ Are the additional product-specific biosecurity steps in place?

  Biosecurity: Product-Specific Steps for Washed and Sanitized Shell Eggs (Premises without Poultry)

  - ✓ The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command.

- ☐ Is the RRT-PCR result negative for HPAI?

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE WASHED AND SANITIZED SHELL EGGS OFF THE FARM TO A STORAGE OR HOLDING AREA (PREMISES WITHOUT POULTRY).

- ☐ Are the premises'(origination/original location/farm of origin) biosecurity measures acceptable to State and/or Federal officials?
- ☐ Is the epidemiological assessment complete (farm of origin), and does it indicate no dangerous contacts with Iinfected pPremises?
- ☐ Is the second RRT-PCR test negative for HPAI?

* See Attachment C.

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE WASHED AND SANITIZED SHELL EGGS TO MARKET FOR EGGS PRODUCED 2 DAYS EARLIER .

Figure 2.2 depicts washed and sanitized shell eggs movement with two negative RRT-PCR tests and a 2-day hold.

2.3.5 Product Summary: Washed and Sanitized Shell Eggs (to Premises with Poultry)

Risk Assessment for Washed and Sanitized Shell Eggs (Premises with Poultry): Low

Whole shell eggs from all egg farms in an HPAI Control Area where RRT-PCR results are negative for HPAI that are moving to premises that contain poultry represent a low risk if the following product-specific criteria are met.

Washed and sanitized (100–200 ppm chlorine solution) shell eggs moving to premises *with poultry* are considered to be of *low risk* on the basis of the USDA-APHIS CEAH risk assessment and may be moved out of the Control Area by a permit.

Permit Guidance for Washed and Sanitized Shell Eggs (Premises with Poultry)

- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

  Biosecurity: Truck & Driver Steps*
  - ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
  - ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
  - ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- ☐ Are the additional product-specific biosecurity steps in place?

  Biosecurity: Product-Specific Steps for Washed and Sanitized Shell Eggs (Premises with Poultry)
  - ✓ The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command.
  - ✓ Egg-handling materials used in the transport of eggs to breaking or further processing plants must be destroyed at the final destination or cleaned, sanitized (following accepted procedures) and returned to the premises of origin without contacting materials going to other premises.

- ☐ Is the RRT-PCR result negative for HPAI?

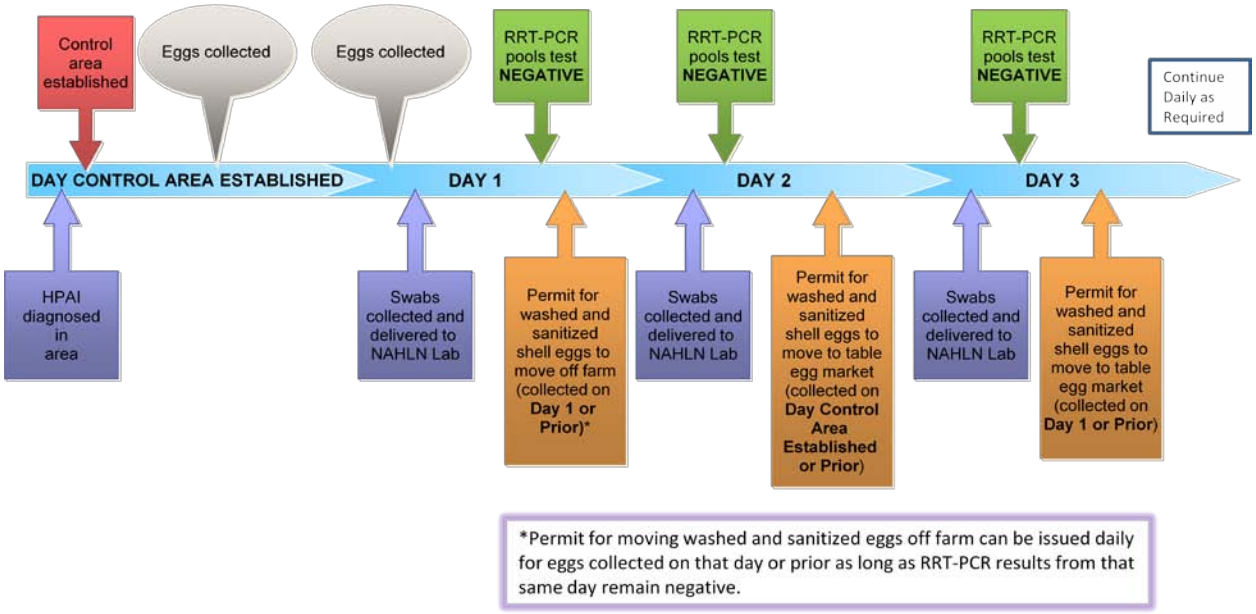
* See Attachment C.

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE WASHED AND SANITIZED SHELL EGGS OFF FARM TO A STORAGE OR HOLDING AREA (PREMISES WITH POULTRY).

- ☐ Are the premises' (farm of origin) biosecurity measures acceptable to State and Federal officials?
- ☐ Is the epidemiological assessment complete (farm of origin), and does it indicate no dangerous contacts with Iinfected Ppremises?
- ☐ Is the second RRT-PCR test negative for HPAI?

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE WASHED AND SANITIZED SHELL EGGS TO MARKET FOR EGGS PRODUCED 2 DAYS EARLIER.

Figure 2.2 Permitting of Washed and Sanitized Eggs (to Premises With or Without Poultry) to Market with a 2 Day Hold and 2 Negative RRT-PCR Tests



2.3.6 Product Summary: Nest Run Shell Eggs

Risk Assessment for Nest Run Shell Eggs: Low

Nest run eggs from egg farms in an HPAI Control Area that are moving to premises without poultry represent low risk if the following product-specific criteria are met.

Nest run shell eggs (not washed and sanitized) are considered to be of *low risk* on the basis of the USDA-APHIS CEAH risk assessment and may be moved out of the Control Area by a permit.

Permit Guidance for Nest Run Shell Eggs

- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

Biosecurity: Truck & Driver Steps*

- ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
- ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

☐ Are the additional product-specific biosecurity steps in place?

Biosecurity: Product-Specific Steps for Nest Run Shell Eggs

- ✓ Must be moved directly and only to a premises without poultry for washing and sanitizing, breaking, or for further processing.
- ✓ The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command.
- ✓ Egg-handling materials must be destroyed at the destination plant or cleaned and sanitized (following accepted procedures).
  Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were moved from the farm and without contacting materials going to other premises.
  New paper or fiber flats must be used for hand gathered eggs.

☐ Is the RRT-PCR result negative for HPAI?

☐ Are the premises' (farm of origin) biosecurity measures acceptable to State and Federal officials?

☐ Is the epidemiological assessment complete (farm of origin), and does it indicate no dangerous contacts with infected premises?

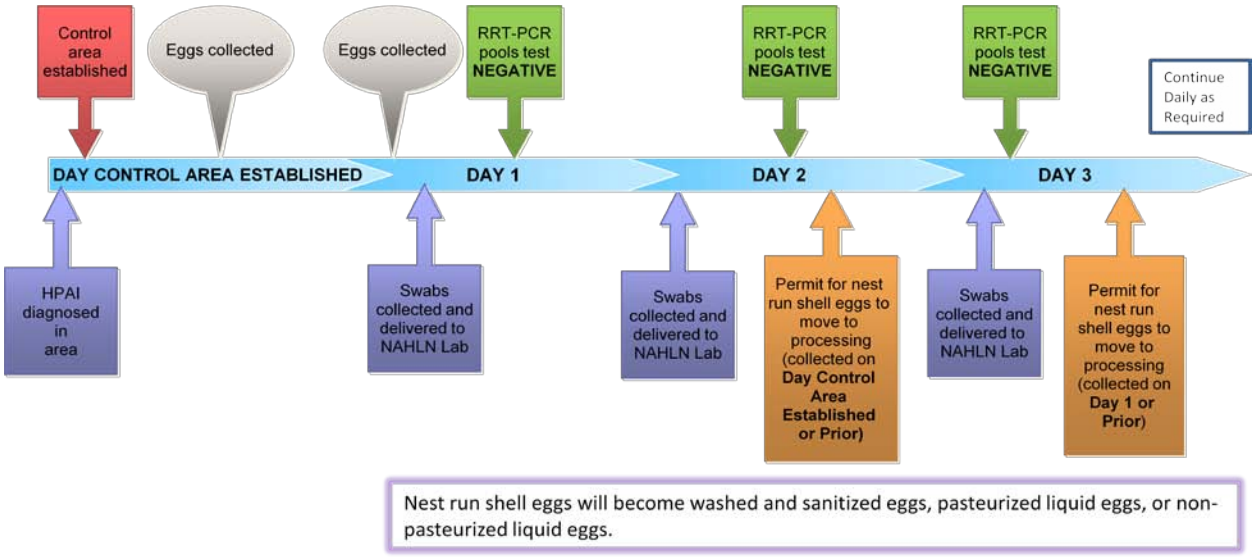
☐ Is the second RRT-PCR result negative for HPAI?

IF YES TO ALL OF THE ABOVE, ISSUE A PERMIT TO MOVE NEST RUN SHELL EGGS OFF THE FARM TO PROCESSING.

Figure 2.3 illustrates movement of nest run shell eggs.

* See Attachment C.

Figure 2.3 Permitting of Nest Run Shell Eggs



2.3.7 Product Summary: Egg-Type Hatching Eggs (Moving inside Control Area)

Risk Assessment for Egg-Type Hatching Eggs (Moving inside Control Area): In progress

Egg-type hatching eggs from source flocks testing negative for HPAI by daily mortality sampling may be moved to hatcheries within the Control Area with a permit.

Permit Guidance for Egg-Type Hatching Eggs (Moving inside Control Area)

☐ Is traceability information (premises ID, GPS coordinates, or other) available?

☐ Are flock production parameters normal?

☐ Are the following biosecurity steps in place?

Biosecurity: Truck & Driver Steps*

- ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
- ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

☐ Are the additional product-specific biosecurity steps in place?

Biosecurity: Product-Specific Steps for Egg-Type Hatching Eggs (Moving inside Control Area)

- ✓ Egg-handling materials must be destroyed at the hatchery or cleaned and sanitized (following accepted procedures).

* See Attachment C.

- ✓ Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were shipped to the hatchery; the 2 most recent RRT-PCR tests for all flocks on the premises were negative for HPAI and without contacting materials going to other premises.
- ✓ New paper or fiber flats must be used for hand gathered eggs.

☐ Is the RRT-PCR result negative for HPAI?

PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE HATCHING EGGS OFF THE FARM TO A HATCHERY (MOVING INSIDE CONTROL AREA).

FURTHER PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE HATCHING EGGS (MOVING INSIDE CONTROL AREA) TO PROCESSING.

2.3.8 Product Summary: Egg-Type Hatching Eggs (Moving outside Control Area)

Risk Assessment for Egg-Type Hatching Eggs (Moving outside Control Area): In progress

Egg-type hatching eggs from monitored premises tested negative for HPAI virus by daily mortality sampling may be moved out of the Control Area by permit.

Permit Guidance for Egg-Type Hatching Eggs (Moving outside Control Area)

☐ Is traceability information (premises ID, GPS coordinates, or other) available?

☐ Are flock production parameters normal?

☐ Are the following biosecurity steps in place?

Biosecurity: Truck & Driver Steps*

- ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
- ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

☐ Are the additional product-specific biosecurity steps in place?

Biosecurity: Product-Specific Steps for Egg-Type Hatching Eggs (Moving outside Control Area)

- ✓ Egg-type hatching eggs must then move directly and only to a hatchery or breaking operation.
- ✓ The chicks must be placed in a "post-hatch" quarantine for 30 days. Egg-handling materials must be destroyed at the premises of destination or cleaned and sanitized (following accepted procedures).
- ✓ Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were shipped to the hatchery; the 2 most recent RRT-PCR tests for all flocks on the premises were negative for HPAI and without contacting materials going to other premises.

* See Attachment C.

- ✓ New paper or fiber flats must be used for hand gathered eggs.
- ✓ The State Animal Health Official of the State of destination must receive a copy of the restricted movement permit within 24 hours of issuance, and a permit is required to move within and out of the Control Area.

☐ Is the RRT-PCR result negative for HPAI?

PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE HATCHING EGGS OFF THE FARM TO A HATCHERY (MOVING OUTSIDE CONTROL AREA).

FURTHER PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE HATCHING EGGS (MOVING OUTSIDE CONTROL AREA) TO PROCESSING.

2.3.9 Product Summary: Egg-Type Day-Old Chicks

Risk Assessment for Egg-Type Day-Old Chicks: In progress

Egg-type day-old chicks from monitored flocks tested negative for HPAI virus by daily mortality sampling may be shipped by permit within or out of the Control Area.

Permit Guidance for Egg-Type Day-Old Chicks

☐ Is traceability information (premises ID, GPS coordinates, or other) available?

☐ Are flock production parameters normal?

☐ Are the following biosecurity steps in place?

Biosecurity: Truck & Driver Steps*

- ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
- ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
- ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

☐ Is the RRT-PCR result negative for HPAI?

☐ Are the additional product-specific biosecurity steps in place?

Biosecurity: Product-Specific Steps for Egg-Type Day-Old Chicks

- ✓ Must be placed under a 30-day quarantine.
- ✓ The State Animal Health Official of the State of destination must be faxed a copy of the restricted movement permit within 24 hours of issuance.

PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE DAY-OLD CHICKS FROM THE HATCHERY TO THE FARM.

FURTHER PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG-TYPE DAY-OLD CHICKS.

* See Attachment C.

2.3.10 Product Summary: Egg Shells

Risk Assessment for Egg Shells: In progress

Broken egg shells from a farm or breaking plants in a Control Area may move by permit to approved waste disposal sites within or outside the Control Area. Broken egg shells on the farm or from breaking plants, pasteurization plants, or further processing plants may be moved by permit for drying using hot air to achieve conditions that will inactivate HPAI virus, disposal in an approved location, or for further processing using conditions that will inactivate the HPAI virus.

Permit Guidance for Egg Shells

- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

  Biosecurity: Truck & Driver Steps*
  - ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
  - ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
  - ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- ☐ Is the RRT-PCR result negative for HPAI?
- ☐ Are the additional product-specific biosecurity steps in place?

  Biosecurity: Product-Specific Steps for Egg Shells

  - ✓ Farm or company personnel under the authorization of the Incident Command shall seal the transport vehicle.

PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING OF EGG SHELLS OFF A FARM.

FURTHER PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING EGG SHELLS.

2.3.11 Product Summary: Inedible Eggs

Risk Assessment for Inedible Eggs: In Progress

Inedible eggs from graders or breaking plants in a Control Area may move by permit for pasteurization or to approved waste disposal sites within or outside the Control Area. The IC or designate evaluates and approves the risk assessment and risk mitigation procedures necessary to move products by permit. A permit must be issued by the IC and seals placed on the vehicle by a State or Federal regulatory official or an IC-authorized person. Then IC authorizes procedures to break the seals outside of the control area with proper documentation.

* See Attachment C.

Permit Guidance for Inedible Eggs

- ☐ Is traceability information (premises ID, GPS coordinates, or other) available?
- ☐ Are flock production parameters normal?
- ☐ Are the following biosecurity steps in place?

  Biosecurity: Truck & Driver Steps*
  - ✓ The cargo interior and exterior of the transport vehicle must be cleaned and disinfected.
  - ✓ The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected.
  - ✓ The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- ☐ Is the RRT-PCR result negative for HPAI?
- ☐ Are the additional product-specific biosecurity steps in place?

  Biosecurity: Product-Specific Steps for Inedible Eggs

  - ✓ Farm or company personnel under the authorization of the Incident Command shall seal the transport vehicle.

PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING INEDIBLE EGGS OFF A FARM.

FURTHER PERMIT GUIDANCE IS TO BE DETERMINED FOR MOVING INEDIBLE EGGS.

2.4 Response Zones and Premise Designations for the EMC Plan

Please refer to the APHIS Framework for Foreign Animal Disease Preparedness and Response (https://fadprep.lmi.org) for a complete description of response zones and premises. Figure 2.4 displays all the zones and premises in an outbreak response. Tables 2.3 and 2.4 provide brief definitions of all zones, areas, and premises. Table 2.3 is a compilation of zones and areas. Table 2.4 is a compilation of premises designations.

* See Attachment C.

Figure 2.4 Example Zones and Premises in Outbreak Response (Left: Circle; Right: Irregular)

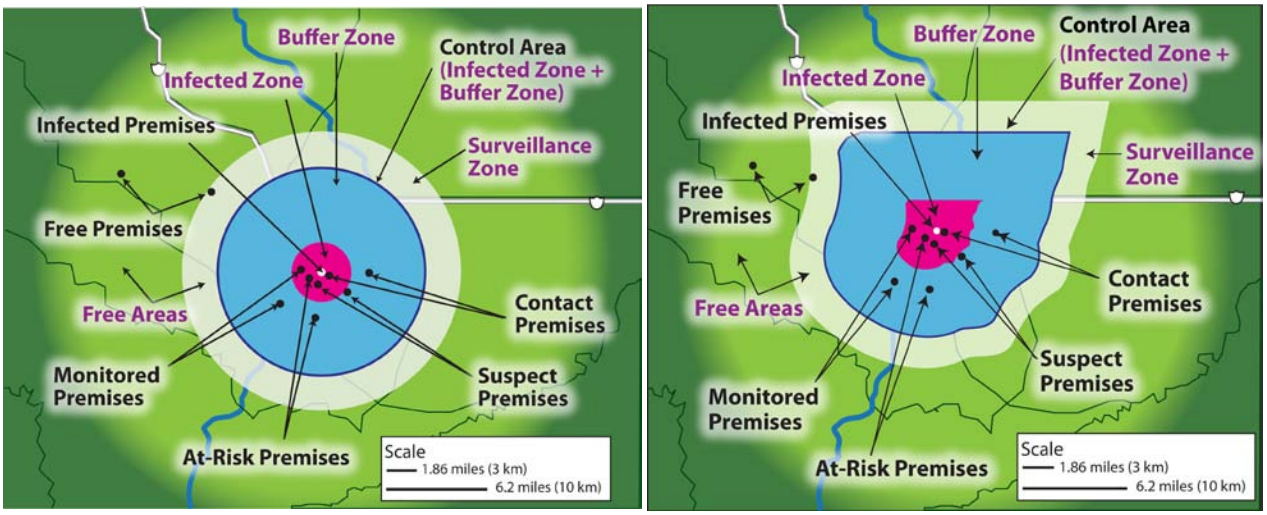


Table 2.3 Definition of Zones and Areas

Zone	Definition
Infected Zone (IZ)	Zone immediately surrounding the Infected Premises
Buffer Zone (BZ)	Zone immediately surrounding the Infected Zone
Control Area (CA)	Consists of an Infected Zone and a Buffer Zone
Surveillance Zone (SZ)	Zone established within and along the border of the Free Area, separating the remainder of the Free Area from the Control Area
Free Area (FA)	Includes a Surveillance Zone, but extends beyond the Surveillance Zone
Containment Vaccination Zone (CVZ)	Emergency Vaccination Zone within the Control Area
Protection Vaccination Zone (PVZ)	Emergency Vaccination Zone outside the Control Area

Table 2.4 Designations for Premises

Premises	Definitions	Zone
Infected Premises (IP)	Premises where presumptive positive case or confirmed positive case exists based on laboratory results, compatible clinical signs, case definition, and international standards.	Infected Zone
Contact Premises (CP)	Premises with susceptible animals that have been exposed directly or indirectly to animals, contaminated animal products, fomites, or people from an IP.	Infected Zone, Buffer Zone
Suspect Premises (SP)	Premises with susceptible animals under investigation for a report of compatible clinical signs for the FAD agent.	Infected Zone, Buffer Zone

Table 2.4 Designations for Premises

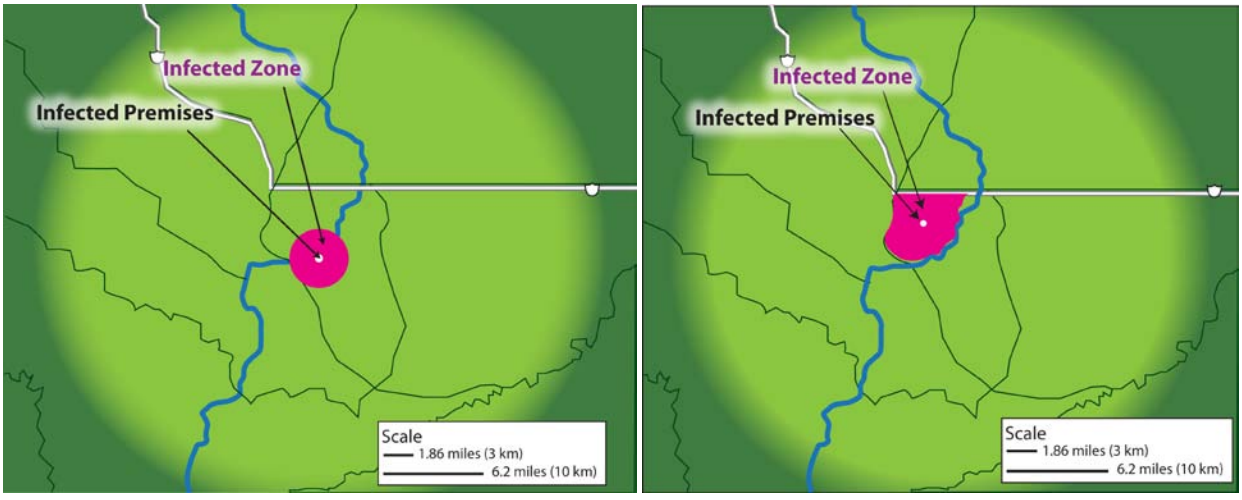
Premises	Definitions	Zone
At-Risk Premises (ARP)	Premises that have susceptible animals but none of those susceptible animals have clinical signs compatible with the FAD. Premises objectively demonstrate that they are not Infected Premises, Contact Premises, or Suspect Premises.	Infected Zone, Buffer Zone
Monitored Premises (MP)	Premises that objectively demonstrate that they are not Infected Premises, Contact Premises, Suspect Premises, or At-Risk Premises.	Infected Zone, Buffer Zone
Vaccinated Premises (VP)	Premises where emergency vaccination has been performed. This is a secondary premises designation.	Containment Vaccination Zone, Protection Vaccination Zone
Free Premises (FP)	Premises outside of the Control Area and are not Infected, Contact, Suspect, At-Risk, or Monitored Premises.	Surveillance Zone, Free Zone

2.4.1 Flocks That Are Determined to Be Infected Premises By Epidemiological Investigation and/or Diagnostic Testing

Definition of Infected Premises

Infected Premises (IP) are those where HPAI is presumed or confirmed on the basis of laboratory results, compatible clinical signs, case definitions, and international standards (Figure 2.5). All presumed and confirmed positive premises are classified as IP, as well as all other premises that meet the current case definition for HPAI.

Figure 2.5 Example Infected Premises Diagram
(Left: Circle; Right: Irregular)



Disposition of Infected Premises

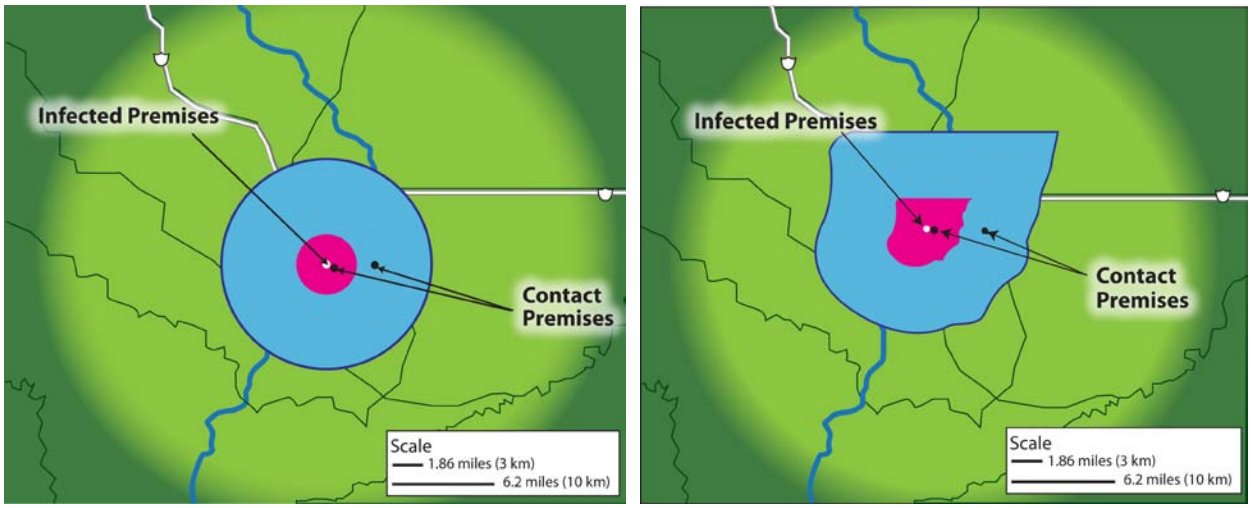
IP are quarantined immediately, and all susceptible birds and other susceptible livestock are depopulated and disposed of following proper biosecure procedures. No movement of susceptible species or their products (including shell eggs, hatching eggs, day-old chicks, broken egg shells, non-pasteurized liquid egg products, or pasteurized egg products) are allowed off the IP, except for disposal, and must be moved under permit.

2.4.2 Flocks That Are Determined to Be Contact Premises By Epidemiological Investigation

Definition of Contact Premises

Contact Premises (CP) are those with birds or other susceptible animals that have been exposed directly or indirectly to birds and other animals, conveyances, products, fomites, materials, people, or aerosol from an IP (Figure 2.6). The specific exposure factors to be considered must be appropriate to the epidemiology of HPAI.

Figure 2.6 Example Contact Premises Diagram
(Left: Circle; Right: Irregular)



The commercial layer industry HPAI CP include the following direct or indirect contact sources:

- Premises with susceptible birds exposed to poultry *manure* from an infected flock (virus in manure).
- Premises with susceptible birds exposed to *dead poultry* from an infected flock (virus in carcasses, etc.).
- Premises with susceptible birds exposed to *live poultry* from an infected flock (virus in birds and secretions and excretions).
- Premises with susceptible birds exposed to *eggs or egg-handling materials* from an infected flock (HPAI virus in and on eggs).

- Premises with susceptible birds with *unprotected exposure to equipment* that has been in contact with infected birds, manure, carcasses, or eggs. Unprotected means inadequate sanitation procedures for those items or people that come into contact with an infected flock.

- Premises with susceptible birds with *unprotected exposure to people* who have been in contact with infected birds, manure, carcasses, or eggs.

- Premises involved in depopulation of infected flocks.

Disposition of Contact Premises

CP are quarantined and subject to strict biosecurity measures, daily monitoring of mortality in each house, and intensive surveillance for HPAI viruses in each house by RRT-PCR testing (see Section 2.2) until the Incident Commander is convinced that no HPAI is present on the premises.

- Following complete epidemiological investigation, biosecurity assessments, and negative diagnostic testing for HPAI, CP can be redesignated as monitored premises (MP).

- CP with 75,000 hens or more are not depopulated until a diagnosis for HPAI has been confirmed by case definition or diagnostic testing.

- CP that are determined HPAI infected by case definition or diagnostic testing are depopulated immediately.

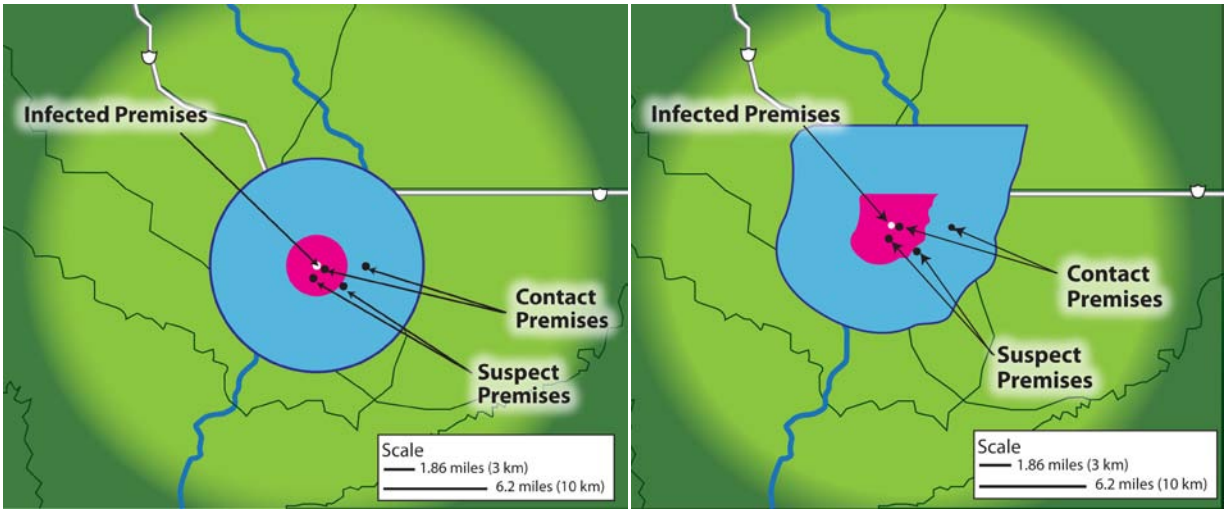
- Appropriate risk assessments direct movement from CP by permit. On the basis of USDA APHIS risk assessments, Incident Command may immediately permit movement of negligible risk products.

2.4.3 Flocks That Are Determined to Be Suspect Premises By Epidemiological Investigation

Definition of Suspect Premises

Suspect Premises (SP) are those where birds or other susceptible livestock are under epidemiological investigation for a report of clinical signs compatible with HPAI, but the case definition for HPAI has not been met, and HPAI has not been detected or confirmed by diagnostic testing. (Figure 2.7). SP can be located within any zone or free area.

Figure 2.7 Example Suspect Premises Diagram
(Left: Circle; Right: Irregular)



Disposition of Suspect Premises

SP are quarantined and subject to strict biosecurity measures, daily monitoring of mortality in each house, and surveillance for HPAI viruses in each house by RRT-PCR testing (see Section 2.2) until the conditions are met to redesignate the SP as IP or MP:

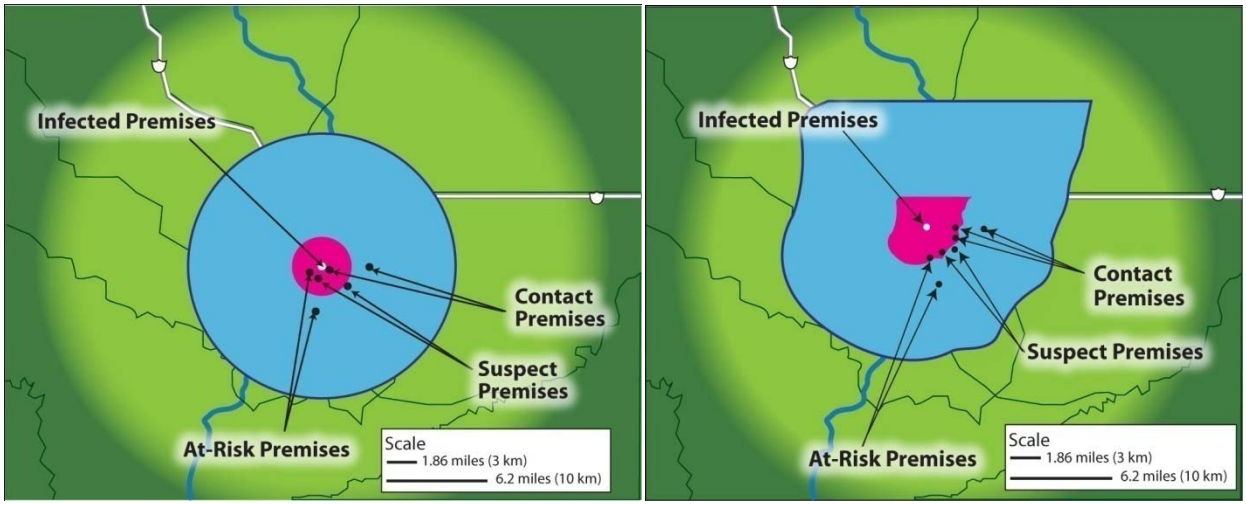
- SP must have complete epidemiological investigation and biosecurity assessments and test negative for HPAI before being redesignated MP (see Section 2.4.5).
- SP with 75,000 hens or more are not depopulated until a diagnosis of HPAI has been confirmed by case definition or diagnostic testing.
- SP determined HPAI infected by case definition or diagnostic testing are depopulated immediately.
- Appropriate risk assessments direct movement from SP by permit.

2.4.4 Flocks That Are Designated as At-Risk Premises Prior to Epidemiological Investigation

Definition of At-Risk Premises

At-risk premises (ARP) are those in the Control Area (Infected Zone or Buffer Zone) that have susceptible animals that do not have clinical signs (or epidemiological evidence) compatible with HPAI (Figure 2.8) ARP have not been subject to epidemiological investigation, biosecurity assessments, or diagnostic testing for HPAI to warrant a redesignation to CP or MP.

Figure 2.8 Example At-Risk Premises Diagram
(Left: Circle; Right: Irregular)



Disposition of At-Risk Premises

ARP are quarantined because they are within the Control Area, and animals susceptible to HPAI and products from those animals cannot be moved out of the Control Area without a permit from the Incident Commander. After complete epidemiological investigation, biosecurity assessments, and diagnostic testing for HPAI, ARP can be redesignated as CP, MP, or IP. ARP that seek to move susceptible animals or animal products out of the Control Area need to be MP.

Appropriate risk assessments direct movement from ARP by permit. On the basis of USDA APHIS risk assessments, Incident Command may immediately permit movement of negligible risk products.

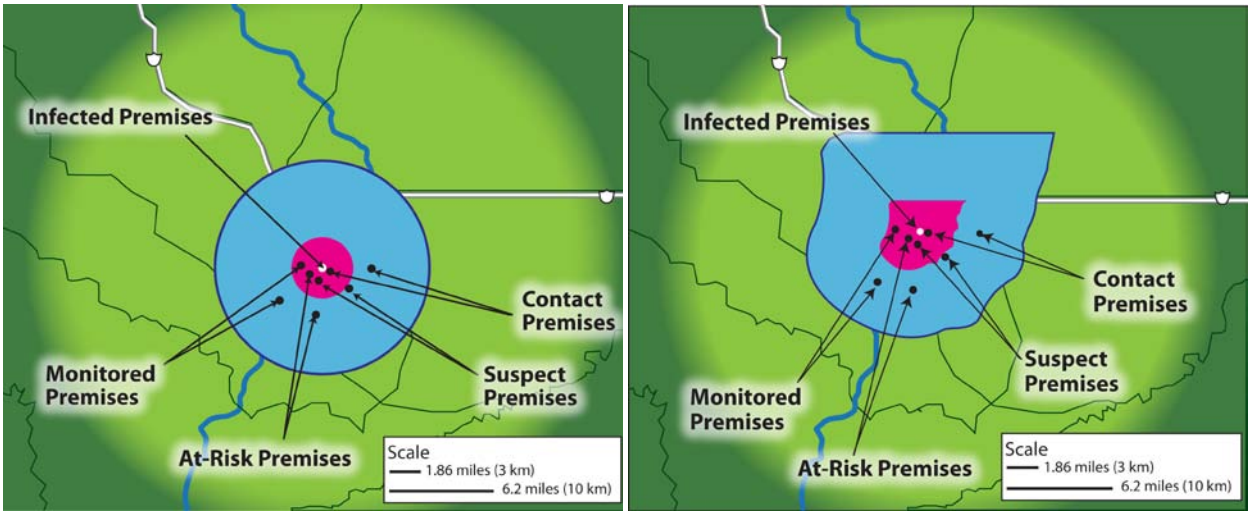
2.4.5 Flocks That Are Determined to Be Monitored Premises By Epidemiological Investigation

Definition of Monitored Premises

Monitored Premises (MP) are located in the infected zone or buffer zone, which constitute the Control Area (Figure 2.9). MP have susceptible animals that do not have clinical signs (or other epidemiological evidence) compatible with HPAI. MP objectively demonstrate the following:

- They do not meet the definitions for IP, CP, SP, or ARP by complete epidemiological investigation and questionnaire and diagnostic testing.
- Biosecurity measures and precautions have been taken to protect the premises against HPAI.
- Flock health parameters are normal (mortality less than 3 times the past 7-day average when mortality is less than 0.03 percent) by routinely sharing them with Incident Command.
- Surveillance requirements are negative for HPAI.

Figure 2.9 Example Monitored Premises Diagram
(Left: Circle; Right: Irregular)



Disposition of Monitored Premises

a. Premises located within the Control Area must only be designated MP by the Incident Commander or designee. The designation can be accelerated by biosecurity risk assessments prior to the incident, rapid epidemiological investigation and epidemiological questionnaire at the time of the incident, strategic placement of diagnostic sampling equipment prior to the incident, and tactical execution of diagnostic sample testing at the start of the incident.

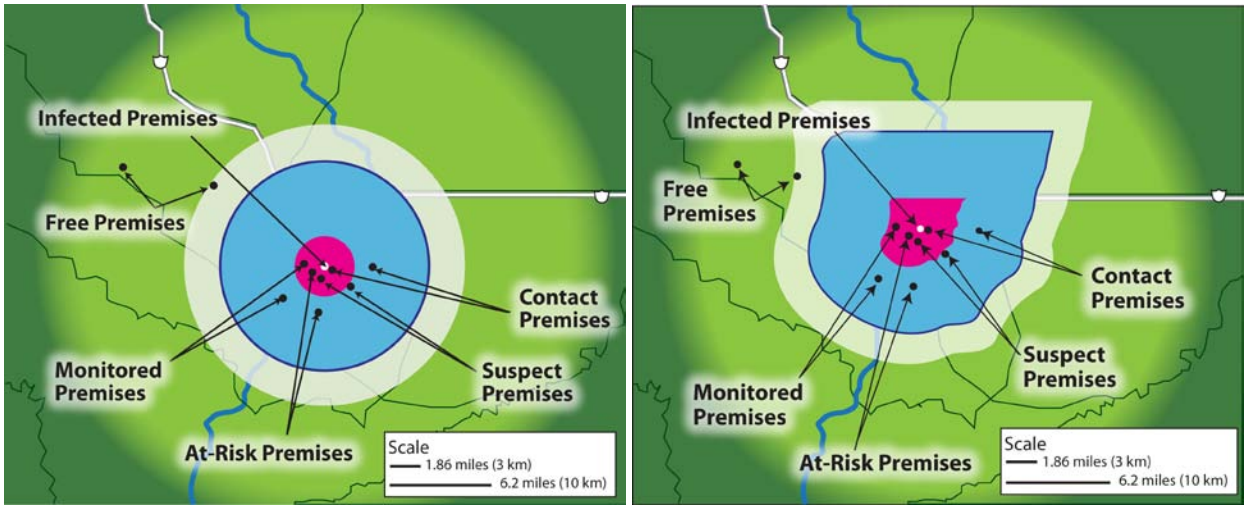
MP, depending upon their location, actual incident circumstances, and epidemiological considerations of the actual outbreak, are granted permits to move liquid egg product, further processed egg products, inedible egg, table eggs, nest run eggs, and broken egg shells, egg-type hatching eggs, and egg-type day-old chicks within, out of, and into a defined Control Area at the discretion of the Incident Commander or designee. Appropriate risk assessments direct movement from MP by permit with no delay for negligible risk products.

2.4.6 Flocks That Are Determined to Be Free Premises By Epidemiological Investigation

Definition of Free Premises

Free Premises (FP) consist of flocks outside of the Control Area (Infected and Buffer Zones) and are not considered CP, SP, ARP, or MP (Figure 2.10).

Figure 2.10 Example Free Premises Diagram
(Left: Circle; Right: Irregular)



Disposition of Free Premises

No special movement requirements are imposed on FP because they are not considered involved in the outbreak. Premises in a Free Surveillance Zone may be tested as necessary.

2.5 Determination of Release of Movement Restrictions

All premises within the Control Area will be eligible for release from movement restrictions as determined by the Incident Command. The criteria are as follows:

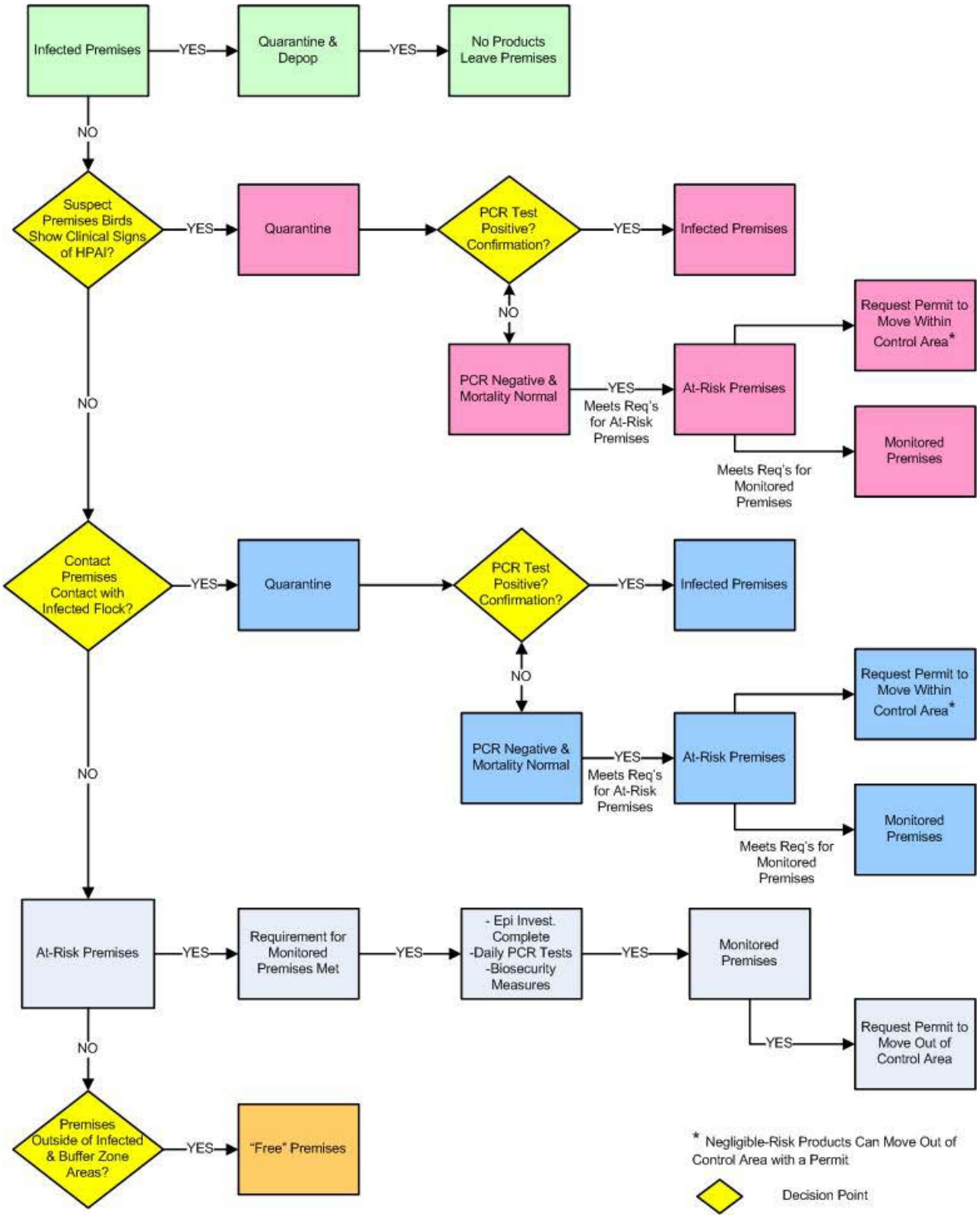
- All infected flocks in a Control Area have been depopulated. All depopulated flock premises have been cleaned and disinfected. A minimum of 42 days have passed, and~~or~~ environmental sampling has proven HPAI virus negative for the depopulated premises.

- All CP in a Control Area must have been depopulated or have been monitored for 42 days.

2.6 Premises Designations in Relation to the Movement of Egg Products

Figure 2.11 shows how premises are designated in the event of an HPAI outbreak.

Figure 2.11 Premises Designations in Relation to Moving Egg Industry Products



2.7 References

- USDA-APHIS. National Animal Health Emergency Management System (NAHEMS) Guidelines Response Strategies: Highly Contagious Foreign Animal Disease. January 2010.

- Egg Sector Working Group, University of Minnesota CAHFS, and CEAH. An Assessment of the Risk Associated with the Movement of Pasteurized Liquid Egg and Its Products Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak. October 12, 2007.

- Egg Sector Working Group, University of Minnesota CAHFS, and CEAH. An Assessment of the Risk Associated with the Movement of Nonpasteurized Liquid Egg (NPLE) and Its Products Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak. January 16, 2009.

- Egg Sector Working Group, University of Minnesota CAHFS, and CEAH. An Assessment of the Risk Associated with the Movement of Washed and Sanitized Shell Eggs Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak. October 10, 2009.

Electronic copies of these risk assessments are available for review and downloading at the following:

- Secure Egg Supply website: http://www.secureeggsupply.com/

- FAD PReP website: https://fadprep.lmi.org.

Or by contacting:

National Center for Animal Health Emergency Management
Veterinary Services
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4700 River Road, Unit 41
Riverdale, Maryland 20732-1231
Telephone: 301-734-8073
Fax: 301-734-7817
E-mail: FAD.PReP.Comments@aphis.usda.gov

3. FEDERAL AND STATE TRANSPORT (FAST) EGGS PLAN

3.1 Introduction

The FAST Eggs Plan was the result of a cooperative agreement between faculty at Iowa State University and USDA-APHIS. Developed by the Center for Food Security and Public Health at Iowa State University in collaboration with the egg industry, poultry veterinarians, and USDA-APHIS-VS, the FAST Eggs Plan facilitates business continuity by allowing movement of eggs and egg products from non-infected premises within an avian influenza Control Area. The objectives of the FAST Eggs Plan are as follows:

- Minimize the risk of exposure of poultry flocks to HPAI and thereby to limit the spread of HPAI during an outbreak.

- Provide a high degree of confidence that whole shell eggs entering market channels for human consumption are free of HPAI virus.

During a response to an HPAI outbreak, animal health regulatory officials will need time to ascertain premises' biosecurity practices, determine exposure to dangerous contacts with infected premises, and conduct daily surveillance of flocks in the Control Area. Egg producers voluntarily participate in the FAST Eggs Plan. Participation will reduce the time required to meet the required criteria for moving whole shell eggs into market channels. The plan has four components for an egg premises that chooses to enroll voluntarily prior to an outbreak:

- Audited minimum biosecurity standards preapproved by the SAHO and AVIC

- Location verification using GPS coordinates of participating farms

- Epidemiology questionnaire and data to identify potential exposure during an outbreak and to document flock production parameters

- Active surveillance program using RRT-PCR.

An SES data portal is also available for use during an HPAI outbreak by State and Federal regulatory officials to collect mortality data, monitor production parameters, record the results of the epidemiologic questionnaire, and record RRT-PCR results from *all* egg farms in a Control Area (with or without prior enrollment in the FAST Eggs Plan).

By enrolling prior to an outbreak, premises can get preapproval from the SAHO or AVIC for their biosecurity practices. The specific biosecurity practices can be audited and premises-specific GPS location data collected. Farm personnel can be trained to collect oropharyngeal samples and have an opportunity to complete at least one trial exercise to determine the time required to collect samples on the farm and to travel to a veterinary diagnostic laboratory. Farm managers can have prepositioned resources, including an instructional DVD and written materials describing oropharyngeal sample collection, BHI tubes, sampling swabs, veterinary diagnostic laboratory submission forms, directions to the veterinary diagnostic laboratory, and an SES data portal account where they can enter daily production data.

Egg producers can enroll through their State coordinator. Until a State coordinator is identified in each State with interested egg producers, the biosecurity checklist and an oropharyngeal swabbing video can be viewed at www.fasteggs.org to enhance preparedness efforts.

3.2 Biosecurity Checklist for Egg Production Premises and Auditors

The FAST Eggs Plan "Biosecurity Checklist for Egg Production Premises and Auditors" contains 45 important biosecurity measures that, if fully implemented, help reduce the risk of introducing HPAI virus onto egg production premises (see Attachment E). These biosecurity measures were based upon the input of a panel of poultry veterinarians (with expertise in egg production and avian influenza), as well as State and Federal epidemiologists, egg producers, universities, and regulatory agencies.

Implementation of these biosecurity measures prior to an outbreak will significantly reduce the likelihood that the HPAI virus will be introduced onto egg production premises:

- Voluntarily participating egg producers will provide "Yes" or "No" responses to biosecurity statements on the checklist. *"Yes" means that the biosecurity measure is part of a farm's written biosecurity plan* and the policy is enforced. "No" means that the biosecurity measure is not a company policy, and the premises do not qualify for the FAST Eggs Plan until the deficiency is corrected. To participate in the FAST Eggs Plan, egg production premises must utilize *all* biosecurity measures on the checklist.

- An *auditor* will be assigned to participating egg premises by the SAHO after consultation with the AVIC. An official auditor must be a State or Federal animal health official (or another individual) deemed qualified by the SAHO and AVIC.

- *Auditors confirm the validity of biosecurity statements* checked "Yes" and submit a written report of their findings to the SAHO, AVIC, and manager of the egg premises. The SAHO and AVIC use this information to determine whether the level of biosecurity is sufficient to qualify the premises for participation in the FAST Eggs Plan.

- An approved *audit, no more than 6 months old*, must be on file with the SAHO and AVIC for egg premises to participate in the FAST Eggs Plan. The SAHO and AVIC must decide whether the biosecurity level of egg production premises is sufficient to qualify the premises for participation in the FAST Eggs Plan (pass) or not (fail). If premises fail a biosecurity audit, the reasons for failure will be provided in writing to the farm manager. Farm managers then have the option of taking corrective action and requesting another audit.

- When possible, the *same auditor will visit the same egg production premises* on subsequent visits so that, over time, the auditor will become familiar with the egg operation and the farm manager will become familiar with the auditor.

- The *initial audit* will require an *on-site visit* to the egg production premises by the auditor. To protect the biosecurity of the egg operations, *auditors* will survey the outside areas on the premises and egg processing areas but *will not enter the chicken houses. Subsequent audits* will consist of a meeting between the auditor and the farm manager at an *off-site location* to

review records followed by a visual inspection of the outside areas of the premises by the auditor, who will remain inside a vehicle owned by the egg farm.

- *Audits are premises specific*. Premises vary in size, from a single, standalone chicken house to multiple chicken houses and out buildings at a modern in-line egg production complex. If a business produces eggs at multiple locations, each participating location must have a separate audit.

- *GPS location.* The longitude and latitude for each participating egg operation will be determined by a State or Federal employee currently trained to use a GPS receiver. A Premises Identification Number (PIN) may be assigned by the State in which the egg premises are located. Premises registration forms are available on each state's department of agriculture website.

- At least one animal health official from each State with participating egg producers will be expected to attend *annual training sessions at a USDA-approved training program for egg premises auditors* to (1) review the clinical signs and lesions associated with avian influenza; (2) discuss interpretation of data pertaining to feed consumption, water consumption, and egg production; and (3) promote uniformity of audits for the nation's egg industry.

A high level of biosecurity is necessary before approval to move eggs and egg products can be given, but **BIOSECURITY ALONE DOES NOT GUARANTEE APPROVAL**. Before Incident Commanders approve such movement, results of active and passive surveillance and other pertinent factors will be considered. Risk assessments conducted by the USDA-APHIS CEAH have stated that pasteurized eggs, pasteurized egg/cooked egg products, non-pasteurized liquid egg products destined for pasteurization, and washed and sanitized shell eggs can be moved with negligible risk of infecting other poultry. Incident Commanders may issue permits for movement of these products with only cleaning and disinfection of the conveyance required.

3.3 Location Verification of FAST Eggs Plan Premises Using GPS Coordinates

Egg production premises participating in the FAST Eggs Plan will be required to register with the State coordinator. The longitude and latitude for each participating egg operation will be determined by a State or Federal employee trained to use a GPS receiver. Participants may opt to register their premises in the FAST Eggs Plan online or by mailing or faxing forms to their State coordinator.

3.4 Epidemiology Questionnaire and Flock Data

In the event of an outbreak of HPAI, an epidemiology questionnaire, previously provided to managers of participating egg operations, will provide information that will allow foreign animal disease investigators to determine whether the FAST Eggs premises have been exposed directly or indirectly to birds and other animals, products, materials, people, or aerosol from the IP. A proposed version of the epidemiology questionnaire is available (in Attachment D).

In addition to the epidemiology questionnaire, participating facilities will be required at the start of an incident to submit daily information on mortality and egg production for the preceding

7 days for each chicken house on the premises. Participating premises managers will be required to report significant unexplained changes in feed consumption, water consumption, or behavior. This data will be submitted directly to the data portal daily and will be available to the Incident Commander while the FAST Eggs premises are in a Control Area.

3.5 Active Surveillance Program (RRT-PCR Testing)

Potential presence of H5 or H7 avian influenza virus infection on FAST Eggs Plan premises will be monitored by requiring chickens from each house on the farm to be tested each day and found to be negative by the RRT-PCR test. In addition, chickens in these flocks must be free of clinical signs of disease and the flocks must have no unexplained increase in mortality or decline in egg production or feed consumption.

A minimum of five dead chickens or euthanized sick chickens from daily mortality from each house (flock) will be placed in a leak-proof container (such as a heavy duty plastic garbage bag) each morning. Each container will be labeled with the farm of origin, house of origin, number of birds found dead in the house that day, and premises identification. After samples have been taken, farm personnel will dispose of the carcasses in accordance with a biosecure protocol.

An individual authorized by the IC will sample each chicken by swabbing the oropharynx of each dead chicken. One BHI tube containing oropharyngeal samples (5 oropharnygeal swabs/BHI tube) from each house on a premise will be submitted to an authorized VDL. The BHI broth in each tube submitted will be tested for avian influenza virus matrix genes via the RRT-PCR procedure. Samples for RRT-PCR testing must be submitted to the VDL on the same day the sample was collected. VDL personnel will perform RRT-PCR testing on these samples immediately upon receipt and electronically send test results to the IC by the end of each day. The IC will report test results to farm managers of the premises of origin as soon as possible.

Daily surveillance consists of one RRT-PCR test for each pooled sample of 5 dead or euthanized sick chickens per 50 dead chickens from each house on the premises. A minimum of 5 dead chickens from daily mortality or from euthanized sick birds from each house (flock) must be tested each day. To move into market channels for human consumption, RRT-PCR tests on two consecutive pools must be negative for HPAI. Two negative RRT-PCR pools on the first day of testing or two negative RRT-PCR pools on consecutive days are sufficient to allow eggs stored for 2 days from the day of production to be moved to market for human consumption. On subsequent days, one pool from each house on the premises must test negative by RRT-PCR for HPAI.

3.6 Secure Egg Supply Data Portal

Data from the biosecurity checklist, audits, and GPS coordinates can be entered into the database prior to the event. The responses to the epidemiology questionnaire, flock production data, and daily RRT-PCR test results are only entered at time of outbreak. This information will be stored in a database administered by each participating State with support from Iowa State University's CFSPH. All registered egg producers will have a unique login and password to access the data portal. In the event of an outbreak, the egg producer should complete the online epidemiology questionnaire and enter their premises-specific flock production data. ICs will be able to access

this information in the event of an HPAI outbreak to help determine issuance of movement permits.

3.7 Publications

A review of scientific literature addressing avian influenza in chicken eggs is available in the following paper: Spickler, A. R., D. W. Trampel, and J. A. Roth (2008), "The onset of virus shedding and clinical signs in chickens infected with high pathogenicity and low pathogenicity avian influenza viruses," *Avian Pathology* 37:555-577.

A summary of the need for and components of the FAST Eggs Plan is available in Trampel, D. W., J. T. Zack, T. Clouse, D. Bickett-Weddle, G. B. Brown, V. Rao, H. S. Hurd, G. I. Garris, and J. A. Roth (2009), "A federal and state transport plan for movement of eggs and egg products from commercial egg production premises in a high-pathogenicity avian influenza control area," *Journal of the American Veterinary Medical Association* 235:1412-1419.

On the basis of the science provided by the draft *Interagency Risk Assessment for the Public Health Impact of Highly Pathogenic Avian Influenza Virus in Poultry, Shell Eggs, and Egg Products* compiled by FSIS in 2008 and the daily RRT-PCR testing required as surveillance within an HPAI Control Area, the Egg Sector Working Group deemed the Geospatial Risk Estimate (GRE) described in the above publication unnecessary as a permitting decision tool.

4. SES PLAN: DEVELOPMENT AND REVIEW TEAM

The Secure Egg Supply Plan (SES Plan) reflects the time and effort of many individuals, groups, and associations. The individuals listed here, in alphabetical order, were among those involved in the development and review of the SES Plan.

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- Patricia Stonger, MA, Daybreak Foods, Inc.

- R. Alex Thompson, DVM, PhD, USDA, APHIS, Veterinary Services, Centers for Epidemiology and Animal Health, National Surveillance Unit

- Darrell Trampel, DVM, PhD, DACVP, Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University

- Ty J. Vannieuwenhoven, DVM, MPH, ACVPM, USDA, APHIS, Veterinary Services, Area Emergency Coordinator, Minnesota and Wisconsin

- Shauna Voss, DVM, Center for Animal Health and Food Safety (CAHFS), University of Minnesota

- Katherine Waters, DVM, MPH, ACVPM, Center for Animal Health and Food Safety (CAHFS), University of Minnesota

- J. Todd Weaver, DVM, DACVPM, USDA, APHIS, Veterinary Services, Centers for Epidemiology and Animal Health, Center for Animal Health Information and Analysis, Risk Analysis Team

- Jonathan Zack, DVM, USDA, APHIS, Veterinary Services, National Center for Animal Health Emergency Management, Preparedness and Incident Coordination

- Rosalind Zils, Supply Chain Manager, Cargill Kitchen Solutions

ATTACHMENT A. UPDATED HPAI SURVEILLANCE/EGG MOVEMENT GUIDELINES

Purpose: Update recommendations from APHIS NCAHEM's FAD PReP Response Strategies regarding sampling sizes, based on expert opinion and publications (see information sources at end of document).

Conclusion: We conclude that the existing sampling scheme 7.1.a (see information sources) recommending a single pool of five birds, selected from the daily dead and/or euthanatized sick birds from each house (flock), may not detect HPAI in houses with more than 100,000 birds at the 95% confidence level before disease transmission from the premises causes consequences.

Recommendations: Replace 7.1.a with the following sampling scheme:

✓ **Start sampling immediately upon declaration of the HPAI outbreak:**

Definition: *5-bird pool consists of samples taken from 5 dead or euthanatized sick birds out of the house's daily dead or sick birds.*

✓ **First day:** Test one (1) or two (2) 5-bird pools for every 50 dead or euthanatized sick birds (Dead) from each house on the premises.

✓ **Consecutive days:** Test daily, one (1) 5-bird pool for every 50 Dead birds from every house on the premises for the duration of the quarantine.

✓ **Eggs may be released from the premises during the quarantine after:**

The second day if every house on the premises receives one (1) negative RRT-PCR test result per 50 Dead birds per day for two (2) consecutive days—including test day—**and** continues to test one (1) 5-bird pool sample for the duration of the quarantine with negative test results**; OR**
on the first day if every house on the premises receives two (2) negative 5-bird pool RRT-PCR tests per 50 dead birds on the first day of testing (e.g., four 5-bird pools per 100 dead birds, six 5-bird pools per 150, etc.) **and** continues to test one (1) 5-bird pool sample each day for the duration of the quarantine with consecutive negative test results—including test day

Daily Probability of Detecting HPAI in Layer Houses*		
RRT-PCR Test Sensitivity 86.5 %		Target Population 50 Dead Birds
Consecutive Days Tested	Scheme # 1◊ One 5-Bird Pool** Per Day	Scheme #2◊◊ Two 5-Bird Pools** First Day
1	81 %	96%
2	96%	99%
3	99%	99%
4	99%	99%

* Probability of detecting at least one HPAI infected bird where the HPAI prevalence is 40 percent in the target population of the daily dead or euthanized sick birds.

** 5-bird pool has samples taken from five dead or sick birds and placed in one pool that is tested as a single sample.

◊ Scheme # 1: One 5-bird pool tested each day for the duration of outbreak.

◊◊ Scheme # 2: Two 5-bird pools tested first day then one 5-bird pool tested each day for duration of outbreak.

Assumptions:

- The producer detects, collects and places all dead birds into the target population from which the 5-bird pool is drawn.
- The risks of HPAI transmission become consequential if there are twenty (20) or more infected birds per a house.[1]
- All twenty (20) HPAI infected birds are included in each house's daily dead bird target population.
- NSU recommends and used the 95% probability of detecting at least one infected bird in the target population as the detection probability.
- The 5-bird pool RRT-PCR test sensitivity is 86.5%.

Existing Scheme:

7.1.a: A minimum of five chickens from the daily mortality and/or euthanatized sick birds from each house (flock) will be placed in a leak proof container (e.g., heavy duty plastic garbage bag) each morning.

This original plan recommended 5-bird sample size and was based on an estimated mortality rate of 0.00013 per day. In a house of 100,000 birds, the number from which to draw the sample is 13 dead birds per day.

Updated Background Information

Daily Mortality: The normal daily death rate ranges from 0.0001 (10/100K) birds to 0.00035 (35/100K) per house; thus, the number of dead birds per day varies from 5 to 100 birds. A daily mortality rate of 0.0005 (50/100K) is a threshold signal for producers to take "diagnostic action." Major factors influencing the mortality rate are: bird strain (death rate: 2.3 to 9.5% per year),

[1] An Assessment of the Risk Associated with the Movement on Nonpasteurized Liquid Egg (NPLE) and Its Products Into, Within, and Outside of a Control Area during a Highly Pathogenic Avian Influenza Outbreak (May 12, 2009).

bird age (0.0003 early in cycle, 0.0001 mid-cycle and 0.0003 at cycle end), and house construction design and age.

House Size: The number of birds per house varies from 50,000 to 350,000 birds. Fifteen years ago, the "normal" house size was 50,000 birds but in the last 5 years, 300,000 to 350,000 bird houses have become the norm.

Production Size: Eighty to 85% of the total U.S. egg production occurs on complexes that contain 50,000 to 6 million birds. The average number of houses per complex is 10 and a complex may consist of 15 or more houses.

Egg Storage: Most production units have the capacity to store eggs for two days, but a minority of premises (especially small producers or producers with older facilities) has a storage capacity of 5–7 days.

Consequence Threshold: When the number of infectious birds on a premises exceeds a predetermined number (consequence threshold), the risk of transmission is no longer negligible and related consequences result. This threshold has not been determined for all the transmission pathways, therefore the limit of infectious birds before detection is unknown. Therefore, risk assessments are needed to determine when the number of infectious birds in a house poses disease transmission risks.

Probability of Detection: The probability of detection depends on the number of daily HPAI infected dead birds (prevalence). For example, with the conservative assumption that only one infected bird exists and that the bird is clinically ill only houses with five or less dead birds per day would be detected by testing two consecutive pooled samples from the dead birds. If the goal is to detect infection when twenty infected birds are clinically ill, then houses that have 50 or less dead birds succeeds in meeting the 95% certainty requirement that falls within the two day storage capacity limit[2] when testing two consecutive pooled samples from the dead birds. Increased transmission rates result in more diseased (dead) birds per day; therefore, increasing the prevalence from which the pools are taken and the probability of detection. **However, the probability of detection is limited by the test sensitivity of the pooled sample.** For example, with a test sensitivity of 86.5 percent, one pool containing at least one known infected bird still has only 86.5% change of testing positive and thus only an 86.5% chance of detecting infection. Thus multiple 5-bird pool samples must be tested to exceed the required 95% confidence level even with the increased prevalence.

The samples are drawn from the daily dead or sick birds and not based on the number of birds in the house *per se*. In any size house, one sampling pool of 5 birds is required for each 50 dead or euthanized ill birds. Targeting the daily sick and dead birds reduces the sample size required for the 95% confidence level because the prevalence of HPAI infected birds should be higher in this group than in the house as a whole.

Frequency of Sampling: The RRT-PCR test sensitivity for 5-bird pool is 86.5%, thereby requiring at least two negative 5-bird pool tests out of each 50 Dead birds before achieving the

[2] If the HCD policy requirements are: pools consisting of five birds, 95 percent confidence level, and egg release within 2 days.

95% confidence level, where the prevalence in the target population of daily dead or euthanized birds is 40% or greater.

Conclusion: We recommend testing two 5-bird pools for every 50 dead birds the first day and releasing the eggs on receipt of negative test results, then one 5-bird pool for every 50 dead birds in each house on the premises and release eggs after any two consecutive day's negative tests.

Additionally, a "production alarm" should occur if the total daily number of dead birds suddenly becomes much larger (1.5 or twice normal); this should lead to on premises investigations by Incident Command staff to rule out HPAI, thus increasing the probability of detecting HPAI.

Information Sources: Personal communication between Dr. Alex Thompson (National Surveillance Unit) and Drs. Simon Shane (international poultry consultant), Gregg Cutler (private poultry veterinarian working in a three-person poultry practice in California), Ken Anderson (poultry scientist, North Carolina State University College of Agriculture and Life Sciences, Extension Poultry Science), and Dave Halvorson (poultry veterinarian, University of Minnesota, School of Veterinary Medicine). Additional sources of information were "The North Carolina Layer Performance and Management Test" (2009), the "United Egg Producers" Web site, and the APHIS National Avian Influenza Response Plan, June 29, 2007."

ATTACHMENT B. PERMITS

The following attachments are permits that will be used in the event of an HPAI outbreak to move product out of the HPAI Control Area if product-specific criteria are met:

- Permit for Movement of Non-Pasteurized Liquid Egg to Pasteurization
- Permit for Movement of Pasteurized Liquid Egg to Market
- Permit for Movement of Washed and Sanitized Shell Eggs to Premises Without Poultry (Other Than Directly to Market)
- Permit for Movement of Washed and Sanitized Shell Eggs to Premises With Poultry (Other Than Directly to Market)
- Permit for Movement of Nest Run Shell Eggs to Move to Off-Farm Location (Without Poultry) for Washing and Sanitizing, Breaking or Processing
- Permit for Movement of Washed and Sanitized Shell Eggs to Move to Table Egg Market.

ATTACHMENT B1. INITIAL PERMIT FOR MOVEMENT OF NON-PASTEURIZED LIQUID EGG TO PASTEURIZATION

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(pasteurization plant).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of negative RRT-PCR test for notifiable avian influenza: _____ (This permit allows movement of product until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the non-pasteurized liquid egg are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the non-pasteurized liquid egg are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B1S. SUBSEQUENT PERMIT FOR MOVEMENT OF NON-PASTEURIZED LIQUID EGG TO PASTEURIZATION

PERMIT NUMBER:XX.1 **DATE OF PERMIT:**

***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(pasteurization plant).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.

- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of shipment: _____.

Date of negative RRT-PCR test for notifiable avian influenza: _____ (This permit allows movement of product until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters for the flock of origin of the non-pasteurized liquid egg are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B2. INITIAL PERMIT FOR MOVEMENT OF PASTEURIZED LIQUID EGG TO MARKET

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(any market).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the pasteurized liquid egg are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the pasteurized liquid egg are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue the initial permit if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B2S. SUBSEQUENT PERMIT FOR MOVEMENT OF PASTEURIZED LIQUID EGG TO MARKET

PERMIT NUMBER: XX.1 **DATE OF PERMIT:**

***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(any market).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.

Date of shipment:_____.

I certify that the production parameters for the flock of origin of the pasteurized liquid egg are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue the initial permit if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B3. INITIAL PERMIT FOR MOVEMENT OF WASHED AND SANITIZED SHELL EGGS TO PREMISES WITHOUT POULTRY (OTHER THAN DIRECTLY TO MARKET)

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(premises without poultry).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of negative RRT-PCR test for notifiable avian influenza:_____ (This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B3S. SUBSEQUENT PERMIT FOR MOVEMENT OF WASHED AND SANITIZED SHELL EGGS TO PREMISES WITHOUT POULTRY (OTHER THAN DIRECTLY TO MARKET)

PERMIT NUMBER: XX.1 **DATE OF PERMIT:**

***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(premises without poultry).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of shipment:_____.

Date of negative RRT-PCR test for notifiable avian influenza:_____ (This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B4. INITIAL PERMIT FOR MOVEMENT OF WASHED AND SANITIZED SHELL EGGS TO PREMISES WITH POULTRY (OTHER THAN DIRECTLY TO MARKET)

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(premises with poultry).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- Egg-handling material used to transport eggs to breaking or further processing plants must be destroyed at the final destination or cleaned, sanitized (following accepted procedures) and returned to the premises of origin without contacting materials going to other premises.
- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of negative RRT-PCR test for notifiable avian influenza:_____ (This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B4S. SUBSEQUENT PERMIT FOR MOVEMENT OF WASHED AND SANITIZED SHELL EGGS TO PREMISES WITH POULTRY (OTHER THAN DIRECTLY TO MARKET)

PERMIT NUMBER: XX.1 **DATE OF PERMIT:**

***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(premises with poultry).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- Egg-handling material used to transport eggs to breaking or further processing plants must be destroyed at the final destination or cleaned, sanitized (following accepted procedures) and returned to the premises of origin without contacting materials going to other premises.
- This permit is only valid if accompanied by a negative RRT-PCR test for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of shipment: _____.

Date of negative RRT-PCR test for notifiable avian influenza: _____ (This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if a copy of the current negative RRT-PCR test results for this flock is attached.

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue the initial permit as soon as negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B5. INITIAL PERMIT FOR NEST RUN EGGS TO MOVE TO OFF-FARM LOCATION (WITHOUT POULTRY) FOR WASHING AND SANITIZING, BREAKING, OR PROCESSING

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(off-site location for washing and sanitizing, breaking, or processing).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- The eggs must be moved directly to a premises without poultry for washing and sanitizing, breaking, or for processing.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- Egg-handling materials must be destroyed at the destination plant or cleaned and sanitized (following accepted procedures).
- Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were moved from the farm and without contacting materials going to other premises.
- New paper or fiber flats must be used for hand gathered eggs.
- This permit is only valid if accompanied by **TWO** consecutive negative RRT-PCR tests for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Dates of negative RRT-PCR tests for notifiable avian influenza: _____, _____
(This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if copies of the two current negative RRT-PCR tests results for this flock are attached.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the nest run eggs are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the nest run eggs are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue the initial permit as soon as two consecutive negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B5S. SUBSEQUENT PERMIT FOR NEST RUN EGGS TO MOVE TO OFF-FARM LOCATION (WITHOUT POULTRY) FOR WASHING AND SANITIZING, BREAKING, OR PROCESSING

PERMIT NUMBER: XX.1 **DATE OF PERMIT:**

***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(off-site location for washing and sanitizing, breaking, or processing).

- The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The truck's tires and wheel wells must be cleaned and disinfected when leaving premises within the Control Area.
- The eggs must be moved directly to a premises without poultry for washing and sanitizing, breaking, or for processing.
- Transport vehicle must be sealed by farm or company personnel under authorization of Incident Commander.
- Egg-handling materials must be destroyed at the destination plant or cleaned and sanitized (following accepted procedures).
- Egg-handling materials can be returned to the premises of origin after at least 24 hours have elapsed since these materials were moved from the farm and without contacting materials going to other premises.
- New paper or fiber flats must be used for hand gathered eggs.
- This permit is only valid if accompanied by **TWO** consecutive negative RRT-PCR tests for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory.)

Date of shipment:_____.

Dates of negative RRT-PCR tests for notifiable avian influenza:_____, _____
(This permit allows movement of eggs until the next day's RRT-PCR test results are available).

This permit is valid ONLY if copies of the two current negative RRT-PCR tests results for this flock are attached.

I certify that the production parameters for the flock of origin of the nest run eggs are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue the initial permit as soon as two consecutive negative RRT-PCR test results have been received if the premises is compliant with the Egg Movement Control Plan. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B6. INITIAL PERMIT FOR WASHED AND SANITIZED SHELL EGGS TO MOVE TO TABLE EGG MARKET

PERMIT NUMBER: XX.0 **DATE OF PERMIT:**

***xx is premises number, initial permits will be numbered zero and subsequent permits 1, 2, 3 and so on.**

Shipment is permitted from _____(farm name)

to _____(table egg market).

- The premises' biosecurity measures must be acceptable to state and/or federal officials.
- The epidemiological assessment must be complete and indicate no dangerous contacts with infected premises.
- Flock production parameters must be normal.
- This permit is only valid if accompanied by **TWO** consecutive negative RRT-PCR tests for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory).

Date of FIRST negative RRT-PCR test for notifiable avian influenza: _____.

Date of SECOND negative RRT-PCR test for notifiable avian influenza: _____.
(This permit allows movement of eggs packed a minimum of two days prior to the date of the most recent negative RRT-PCR test).

This permit is valid ONLY if copies of the two consecutive negative RRT-PCR tests results for this flock are attached.

I certify that the production parameters (as reported by the farm manager) for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Incident Commander Printed Name and Signature Date (mm/dd/yyyy)

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range on the date of shipment.

/

Farm Manager Printed Name and Signature Date of shipment (mm/dd/yyyy)

The Incident Command Post may issue this permit to move to market after all required information is known, including the receipt of two negative, consecutive RRT-PCR test results, evidence of acceptable biosecurity, a complete epidemiological assessment, and current production parameters. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT B6S. SUBSEQUENT PERMIT FOR WASHED AND SANITIZED SHELL EGGS TO MOVE TO TABLE EGG MARKET

PERMIT NUMBER: XX.1 **DATE OF PERMIT:**
***xx is premises number, subsequent permits should be renumbered, 2, 3, 4 and so on.**

Shipment is permitted from _____(farm name)

to _____(table egg market).

- ❖ The premises' biosecurity measures must be acceptable to state and/or federal officials.
- ❖ The epidemiological assessment must be complete and indicate no dangerous contacts with infected premises.
- ❖ Flock production parameters must be normal.
- ❖ This permit is only valid if accompanied by **TWO** consecutive negative RRT-PCR tests for HPAI conducted on a pooled sample of oropharyngeal swabs from 5 dead birds out of every 50 dead birds from each house on the premises. (The test must be conducted by a National Animal Health Laboratory Network laboratory).

Date of shipment: _____.

Date of FIRST negative RRT-PCR test for notifiable avian influenza: _____.

Date of SECOND negative RRT-PCR test for notifiable avian influenza: _____.
(This permit allows movement of eggs packed a minimum of two days prior to the date of the most recent negative RRT-PCR test).

This permit is valid ONLY if copies of the two consecutive negative RRT-PCR tests results for this flock are attached.

I certify that the production parameters for the flock of origin of the washed and sanitized shell eggs are within normal range today.

/

Farm Manager Printed Name and Signature Date (mm/dd/yyyy)

Emergency Contact Information

The Incident Command Post may issue this permit to move to market after all required information is known, including the receipt of two negative, consecutive RRT-PCR test results, evidence of acceptable biosecurity, a complete epidemiological assessment, and current production parameters. Subsequent permits for movement of this product may be issued by the farm manager unless a significant change in production parameters occurs, the flock is found to have a positive RRT-PCR result for HPAI, or some other significant event occurs such as the onset of obvious clinical signs of HPAI or a determination is made that the flock is a Contact Premises.

On an ongoing basis, the ICP will monitor RRT-PCR results from each flock and will review flock production parameters to confirm the flock continues to be eligible for this permit.

ATTACHMENT C. CLEANING AND DISINFECTION GUIDELINES

Table of Contents

These model procedures demonstrate how minimum biosecurity requirements can be met. Individual companies or locations may adapt the procedures to fit their particular needs while still meeting or exceeding the minimum criteria.

Contributors

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Dr. Will Hueston—Univ. of MN	Dr. Darrell Trampel—Iowa State
Dr. Brendan Lee—Univ. of MN	Pat Stonger—Daybreak Foods, Inc.
Lolita Luchsinger—Cargill	Rosalind Zils—Cargill
Dr. Sasidhar Malladi—Univ. of MN	

Employee Protection Procedure

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

These procedures recommend minimum steps for employee protection while working with at-risk or potentially infected poultry. Alternative procedures achieving this objective may be used as required under specific circumstances.

All employees must follow good manufacturing practices, good agricultural practices, and the company-established personnel hygiene and safety program as they relate to personal protective equipment (PPE), biosecurity, and cleaning and disinfection (C&D) protocols.

Recommended Resources

Please see the Occupational Safety and Health Administration (OSHA) Quick Card, *Protect Yourself—Avian Flu—Poultry Employees*, at the OSHA website: www.osha.gov/OshDoc/data_AvianFlu/poultry_employees.pdf,

or

The Centers for Disease Control and Prevention (CDC) *Interim Guidance for Protection of Persons Involved in U.S. Avian Influenza Outbreak Disease Control and Eradication Activities* at the CDC website: www.cdc.gov/flu/avian/professional/protect-guid.htm.

Moving Hatching Eggs Out of an AI Control Area

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

1. Sanitize Hatching Eggs must be sanitized at the breeder premises with an U.S. Environmental Protection Agency (EPA)-registered disinfectant against avian influenza:

2. Pack the hatching eggs in new disposable materials or plastic materials previously cleaned and disinfected at the hatchery.

3. Clean and disinfect the egg truck inside and outside the cargo area. Use cleaners and disinfectants according to manufacturer directions.

4. *Truck driver*: follow all company driver biosecurity procedures and policies.

5. Document the truck cleaning on the sanitation report.

6. *Truck driver*: drive to the breeder farm by the shortest possible distance in the avian influenza (AI) Control Area and avoid known infected premises by the most distance possible.

7. *Truck driver*: at the breeder farm, stay in the cab while the farm personnel load the eggs. If you must load the truck, wear protective coveralls, boots, and head cover while outside the cab and remove them immediately before reentering the cab.

8. *Farm personnel*: use disposable footwear covers or take similar biosecurity measure before entering trailer to load eggs.

9. *Farm personnel*: disinfect the outside of the truck at the farm entrance before departure. The truck should be disinfected again at an official station upon exiting the Control Area or as the Incident Command System (ICS) requires.

10. *Truck driver*: drive directly back to the hatchery by the same route without stopping at other breeder houses. The truck will be unloaded, cleaned, and disinfected before proceeding to another breeder house.

11. *Truck driver*: if delivering hatching eggs on a day on which hatching or chick processing operations are performed, only enter the hatchery after these operations have been completed.

12. Transfer hatching eggs into setters or move unwashed materials originating from the breeder flock only after hatching or chick processing operations on the same day.

13. Clean and disinfect egg contents leaked onto hatchery floors as soon as possible.

14. Wash hands with soap or apply a hand sanitizer before entering the hatcher room or chick processing rooms. Take precautions to prevent the transfer of microbial contamination into chick processing rooms via shoes.

    Sanitize hatching eggs with an EPA-registered disinfectant for avian influenza according to the manufacturer directions for application on hatching eggs or by formaldehyde fumigation immediately after collection. Please see http://www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

Moving Newly Hatched Chicks Out of an AI Control Area

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

1. Clean and disinfect the chick truck inside and outside the cab and cargo area with products approved for that purpose and according to the manufacturer directions. (See http://www.epa.gov/pesticides/factsheets/avian_flu_products.htm.)

2. Place the chicks in new cardboard boxes or plastic boxes that have been cleaned and disinfected at the hatchery.

3. *Truck driver*: Drive the truck from the Control Area with no stops inside the Control Area, and avoid known infected premises by the most distance possible.

4. *Truck driver*: The outside of the truck should be disinfected at an official station upon exiting the Control Area or per ICS requirements.

5. At the farm manager's discretion, the truck may be redisinfected upon arrival at the brooder house.

6. *Truck driver*: Wear protective coveralls, boots, and head cover when outside the cab, and remove them immediately before reentering the cab. Do not enter the brooder house.

7. *Truck driver*: Return the truck directly to the hatchery by the same route through the Control Area, avoiding known infected premises by the most distance possible.

8. Remove plastic chick boxes before cleaning the truck and immediately clean and disinfect them in the hatchery wash room.

9. Clean and disinfect the truck (step 1) upon return to the hatchery and after the chick boxes have been removed.

Cart and Pullet Truck

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Truck Sanitation Protocol

1. Remove trash from tractor cab and sweep out dry soil and debris. Clean the entire interior of the tractor cab using an appropriate detergent.

2. Remove all racks from the truck.

3. Pre-rinse all areas of the truck and remove visible organic matter. A pressurized water source may work best for this task. (Remove accumulated ice if operating in winter weather conditions.)

4. Thoroughly clean all truck surfaces, paying particular attention to the truck bed, undercarriage, and wheels. Application of detergent foam followed by a high-pressure rinse may be most effective.

5. Apply an approved disinfectant to all truck surfaces following the safety precautions of the disinfectant manufacturer.[1]

6. Return vehicle to a clean area or site for next use.

7. Document all actions taken on the sanitation report.

Cart Sanitation Protocol

1. Remove all racks from the truck.

2. Pre-rinse all areas of the truck and remove visible organic matter. A pressurized water source may work best for this task.

3. Thoroughly clean all cart surfaces, paying particular attention to the cages, cartwheels, and undercarriage of the carts. Application of detergent foam followed by a high-pressure rinse may be most effective.

[1] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

4. Wet down all surfaces of carts with an approved disinfectant following the safety precautions of the disinfectant manufacturer.[2]

5. If possible, allow the interior of the trailer to dry before returning cleaned and disinfected carts.

6. Document all actions taken on the sanitation report.

Sanitation Report and Review

1. *Truck driver*: review the sanitation report for accuracy and completeness and inspect the sanitary conditions of all truck components before returning to pullet farm.

2. *Truck driver*: take a copy of the completed sanitation report with the truck when returning to the pullet farm.

3. *Supervisor or designee*: when the truck arrives at the pullet or layer farm, review the sanitation report and inspect the truck, noting any details on form.

4. If areas are found unacceptable, take corrective actions to make them acceptable. Note any corrective action taken on the form.

5. *Supervisor or designee*: sign the form, verifying that everything was acceptable before the truck is allowed to be used at the farm.

6. *Supervisor or designee*: file completed and signed forms at the pullet farm.

[2] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

Spent Hen Truck and Trailer

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Truck Driver

Any driver involved with the cleaning procedures must wear protective coveralls, boots and head covering which must be removed before entering cab.

Spent Hen Cart Sanitation

1. Remove all carts from the trailer.

2. Pre-rinse all areas of the carts and remove all visible organic matter. A pressurized water source may work best for this task.

3. Thoroughly clean all cart surfaces, paying particular attention to the cages, cart wheels, and undercarriages. Application of detergent foam followed by a high-pressure rinse may be most effective.

4. Wet down all surfaces of carts with an approved disinfectant following the safety precautions of the disinfectant manufacturer.[3]

5. Return carts to cleaned trailer.

6. Document all actions taken on sanitation report.

Trailer Interior Sanitation Protocol

1. After all carts have been removed from the trailer, remove all manure, eggs, feathers, and other debris from the interior of the trailer.

2. Wash the entire trailer floor, walls, and decking using a detergent solution or foam according to manufacturer recommendation, followed by a clean water rinse.

3. Wet down all surfaces of the trailer interior with an approved disinfectant following the safety precautions of the disinfectant manufacturer.[4]

[3] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

[4] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

4. Allow the interior of the trailer to dry; place the cleaned, disinfected carts back into it.

5. Document all actions taken on the sanitation report.

6. Make a copy of the sanitation report (documenting both cart and trailer sanitation) available to the next location that will utilize this equipment.

Manure Truck and Driver

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Manure Truck Drivers

1. Remain in the truck or tractor at the pullet or layer farm. Remain in the truck cab during manure loading, removal, and vehicle C&D when at the farm or site.

2. During a site dump, a designated unloading person at the site should allow the driver to remain in the cab.

3. Wear dedicated clothing and equipment if involved in the loading, collection, removal, or vehicle cleaning. Record these activities with the date, time, and your name.

4. If spreading manure, wear disposable plastic boots (at a minimum) and leave them outside the vehicle.

5. Before entering your personal vehicle and leaving the farm, shower (if possible), change clothes and shoes, and clean the interior of your personal vehicle.

Manure Vehicle (Truck Driver, Farm Manager, or Designee)

1. Adapt the following steps depending on whether the manure is dry, wet, point dumping, or spreading.

2. Clean and disinfect the manure hauling vehicle before arriving at the designated location for the first time.

3. At the farm or site entrance and exit, clean and disinfect the undercarriage and tires using a portable sprayer or similar suitable equipment.

4. Unload the manure at the designated dump point.

5. At the end of the work day, if the truck will not be returning to the same farm or site, clean it (steps 6–8).

6. Remove all visible organic matter. A pressurized wash may work best.

7. Thoroughly clean the inside and outside of the vehicle and spreader or trailer with foam or spray detergent and a designated brush.

8. Rinse with water.

Shell Egg Truck Exterior/Interior Wash Procedure

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Truck Sanitation Procedure

1. Clean the interior of the trailer to remove organic material.

2. Apply an appropriate disinfectant selected from EPA-registered materials to the interior of the trailer, being sure to cover all surfaces. A portable mister may work well for this purpose.

3. Allow surfaces to air dry for 20 minutes.

4. If the driver leaves the cab, disinfect all surfaces in the cab, including the steering wheel, dash, floorboards, and seats. Apply an appropriate disinfectant selected from EPA-registered materials using a clean rag or sponge.[5]

5. *Truck driver*: Proceed to the nearest preapproved truck wash to clean the exterior and undercarriage of the truck and trailer.

6. *Truck driver*: Identify the truck wash and sign the cleaning certificate.

[5] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

Shell Egg Wash Procedure

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Pre-Operation

1. Confirm the equipment is clean and ready for operation.

2. Ensure that the water levels are correct, wash water is at the target temperature (above 90 °F), chemical supply lines for detergents and sanitizers are connected, concentrations are at supplier recommendations, and the fresh water supply line is open.

3. Sign the operation log, noting the date and time, temperature of wash and rinse, detergent concentration, and chlorine concentration in rinse.

Operation

1. After completing all pre-operation checks, introduce eggs into the washing system.

2. Maintain the operating log, noting the temperature of wash and rinse waters; detergent, chlorine, or other disinfectant concentrations; and condition of wash water for excessive foaming and egg buildup. **Note: systems where detergent is manually added require more frequent monitoring of detergent or chemical strengths than those featuring online monitoring of concentration. Chlorine in the rinse must be at or above 100 ppm and less than 200 ppm.**

3. Make corrections as required to operate the system in established ranges for temperature and chemical concentrations. Note corrective actions in the operating log.

4. At mid-shift, drain the wash water tank and perform mid-shift cleaning.

5. Repeat pre-operational checks before starting operations.

6. See also: 7 *Code of Federal Regulations* (CFR) 56.77(f) (1–15) or 9 CFR 590.515 and 516.

Additional procedures and documentation may be required when operating or receiving flocks in a Control Area defined by the State Veterinarian's office or APHIS veterinary representative.

Additional Procedures

1. Segregate eggs from the Control Area.

2. Schedule washing of eggs from the Control Area for the end of the shift or day.

3. Dispose of any disposable egg-handling materials used to convey the eggs from the Control Area.

4. Wash and disinfect plastic flats, pallets, and reusable egg-handling materials and segregate them for return to the farm of origin.

Egg Packing Materials: Flats, Pallets, Dividers, and Tic-Tacs, Constructed of either Plastic or Wood

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

These procedures recommend minimum steps for C&D of plastic, washable, egg-handling materials. Alternative procedures achieving the C&D objectives may be used as required under specific circumstances.

Disinfectants

Follow the manufacturer directions for concentration and contact time of disinfectants.[6] Apply them to clean surfaces. Evaluate drying time after disinfectant application to ensure prescribed contact time is achieved.

Mechanical Washing and Sanitation of Plastic (Impervious Surface) Egg-Handling Materials

Pre-Operation

1. Confirm equipment is clean and ready for operation.

2. Ensure that water levels are correct, wash water is at target temperature (above 90 °F), chemical supply lines for detergents and sanitizers are connected, concentrations are at (equipment) supplier recommendations, and the fresh water supply line is open.

3. Sign the operation log, noting the date and time, temperature of wash and rinse, detergent concentration, and chlorine concentration in rinse.

Operation

1. After completing all pre-operation checks, introduce washable flats, pallets, and dividers (tic-tacs) into the washing system.

[6] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

2. Maintain the operating log, noting the temperature of wash and rinse waters, detergent and chlorine concentrations, and condition of wash water for excessive foaming and egg buildup. **Note: systems where detergent is manually added require more frequent monitoring of detergent or chemical strengths than those featuring online monitoring of concentration. Chlorine in rinse must be at or above 50 ppm and less than 100 ppm.**

3. Visually inspect the egg-handling materials after C&D to confirm they are free of egg or other organic soiling. If not clean, use a brush on observed areas and repeat cleaning and sanitation cycle to completely remove observed organic matter.

4. Make corrections as required to operate the system in established ranges for temperature and chemical concentrations. Note corrective actions in the operating log.

5. At mid-shift, drain wash water tank and perform mid-shift cleaning.

6. Repeat pre-operational checks before starting operations.

Manual C&D of Plastic (Impervious Surface) Egg-Handling Materials

Pre-Operation

1. Assembled appropriate equipment (PPE, brushes, high-pressure washer, and low-pressure spray or foaming equipment for sanitizer application) and prepare detergent and sanitizer solutions following manufacturer directions.[7]

2. Maintain the operating log, noting the temperature of wash and rinse waters and detergent and sanitizer concentrations.

Operation

1. Dry clean by brushing or scraping to remove accumulated organic matter and soil.

2. Wash with a detergent solution, using brushes or high-pressure washer, and rinse with clean water.

3. Inspect for cleanliness and repeat the wash procedure if not clean.

4. Apply sanitizing solution and allow sanitized surfaces to dry.

[7] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

Manual C&D of Wood-Based (Porous Surface) Egg-Handling Materials

Pre-Operation

1. Assemble appropriate equipment (PPE, brushes, high-pressure washer, and low-pressure spray or foaming equipment for sanitizer application) and prepare detergent and sanitizer solutions following manufacturer directions.[8]

2. Maintain operating log, noting the temperature of wash and rinse waters and detergent and sanitizer concentrations.

Operation

1. Dry clean by brushing or scraping to remove accumulated organic matter and soil.

2. Wash with detergent solution using brushes or high-pressure washer and rinse with clean water.

3. Inspect for cleanliness and repeat wash procedure if not clean.

4. Apply sanitizing solution and allow sanitized surfaces to dry.

Post-Operation Handling of Cleaned and Disinfected Egg-Handling Materials

1. Place cleaned and disinfected egg-handling materials on a clean pallet. Clearly label them and as cleaned and disinfected, including the date and time. Additional labeling may be required when the materials are to be returned to the farm of origin.

2. Store cleaned and disinfected materials in a dry area, separate from those used for incoming shell eggs and unwashed egg-handling materials.

Additional Procedures and Documentation Required when Operating in Control Area or Receiving Eggs from Flocks in a Control Area defined by either State Veterinarian Office and/or APHIS veterinary representative.

1. Procedures for maintaining materials by flock of origin.

2. Documentation confirming segregation of materials and return to origin if used.

3. Every location or company will provide C&D procedures for non-washable materials in case of a disease outbreak, such as AI or Newcastle disease virus.

4. Each company will develop their own copyable C&D report form, including a checklist.

[8] Lombardi and others report that citric acid (1 percent), calcium hypochlorite (750 ppm), acetic acid (5 percent), and iodine/acid-based disinfectants are effective on wood surfaces. See M.E. Lombardi et al., *Inactivation of Avian Influenza Virus Using Common Detergents and Chemicals*, Avian Diseases, No. 52, 2008, pp. 118–123.

Paper Flats and Corrugated Cases

At the receiving plant, segregate all paper flats and corrugated egg-handling materials moving from Control Areas under permit, and dispose of them by incineration or other approved methods suitable for local circumstances.

Egg Shells

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Egg Shells

Procedures

1. Produce, collect, and handle shells consistent with good manufacturing practices.
2. Clean and maintain all transport vehicles following protocols for C&D of exteriors and interiors (and cab interior if drivers are allowed outside of the cab during loading or unloading of the wet shells):
3. Remove all debris and organic material through physical cleaning and high-pressure washing.
4. Wash with an approved detergent and rinse with potable water.
5. Apply an approved disinfectant, following label instructions.[9]
6. Clean the cab interior with approved disinfectants.

Documentation

Dryer log and supporting information needed.

[9] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

CIP Requirements—Tankers, Lines and Silos

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

These procedures recommend minimum steps for C&D of plastic, washable, egg-handling materials. Alternative procedures achieving the C&D objectives may be used as required under specific circumstances.

Purpose

To establish minimal requirements to clean egg tankers, lines, and silos in relation to time, temperature, concentration, and flow. Procedures require appropriate system design to wet all surfaces and maintain design velocity, temperature, and chemical strengths.

Procedure

1. Prepare the clean-in-place (CIP) system as defined for the plant.

2. Execute the CIP, meeting the minimal time, temperature, concentration, and flow requirements outlined in the tables below.

Tankers

Process	Time	Temperature	Concentration	Flow
Pre-rinse	5.0 minutes	Ambient		
Caustic wash	7.0 minutes	150˚ F	1.5–2.5%	70 gal/min
Rinse	3.0 minutes	Ambient		
Sanitizer	2.0 minutes	Ambient	1500–2500 ppm	

Lines

Process	Time	Temperature	Concentration	Flow
Pre-rinse	5.0 minutes	Ambient		
Caustic wash	10.0 minutes	150˚ F	1.5–2.5%	≥ 5 ft/sec
Rinse*	5.0 minutes	Ambient		
Sanitizer	2.0 minutes	Ambient	1500–2500 ppm	

* Apply an acid rinse as needed to remove mineral buildup (minimum 5,000 ppm).

Silos

Process	Time	Temperature	Concentration	Flow
Pre-rinse	5.0 minutes	Ambient		
Caustic wash	15.0 minutes	150˚ F	1.5–2.5%	70 gal/min
Rinse*	5.0 minutes	Ambient		
Sanitizer	2.0 minutes	Ambient	1500–2500 ppm	

* Apply an acid rinse as needed to remove mineral build-up (minimum 5,000ppm).

3. Visually inspect the vessel at the completion of CIP.
4. Document the steps of the CIP on the egg products CIP log (see below).

Responsibility

Employee title	Responsibility
Processing Employee	Perform the CIP and complete the documentation as defined.
Processing Supervisor	Review documentation to ensure all parameters are met.

Documentation

Egg products CIP log

CIP charts

Egg Products CIP Log

Plant: _____ **Date:** _____

Vessel ID	Time CIP (start)	Time CIP (end)	Inspection	Initial

Perform a concentration check once per shift on the (1) silo, (2) tanker, and (3) line.

Shift 1

Vessel	Caustic concentration	Sanitizer concentration	Initial
Tanker			
Line			
Silo			

Shift 2

Vessel	Caustic concentration	Sanitizer concentration	Initial
Tanker			
Line			
Silo			

Shift 3

Vessel	Caustic concentration	Sanitizer concentration	Initial
Tanker			
Line			
Silo			

Supervisor Review: _____

Tanker Exterior Wash Procedure

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

These procedures recommend minimum steps for C&D of plastic, washable, egg-handling materials. Alternative procedures achieving the C&D objectives may be used as required under specific circumstances.

Tanker Wash Procedure

1. Make sure that all openings on the tanker are closed tightly.
2. Clean the undercarriage and tires with a high-pressure washer and appropriate detergent to remove dirt or ice.
3. Foam the entire exterior of the tanker, undercarriage of the trailer, and tires with a soft, metal-type, general purpose foaming cleaner. Follow the manufacturer recommended procedures for this product.
4. Let foam sit on all areas for 5 to 10 minutes.
5. Rinse with a quaternary ammonium or chlorine sanitizer after foam.[10]
    a. Minimum sanitizer concentration for quaternary sanitizer is 200 ppm (or per manufacturers recommendation)
    b. Minimum sanitizer concentration for chlorine 50 ppm.
6. Check the concentration of the sanitizer on every tanker and record the results on the exterior wash certificate.
7. After all areas are rinsed with sanitizer, complete the exterior wash certificate.
8. Give one copy of the exterior wash certificate to the driver and file the other copy with the tanker unloading paperwork.

[10] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

Tanker Exterior Cleaning Certificate

Must be used during elevated or highest biosecurity conditions

Date: _____ Company Location:_____

Time: _____

Supplier: _____

Truck Line: _____

Trailer number or license plate number of trailer: _____

Inedible Egg

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

Procedures

1. Produce, collect, and handle inedible liquid egg consistent with good manufacturing practices.

2. Maintain inedible egg at temperatures less than 45 °F until pasteurized and dried or otherwise heat-treated.

3. Clean and maintain all process lines, centrifuges, bins, trucks, and dryers following protocols for CIP of liquid process systems, including the interior and exterior of tankers, hand-cleaning where applicable. Clean and disinfect the interiors of trucks transporting inedible eggs in barrels or similar containers following procedures for cleaning interiors of trucks transporting nest run shell eggs.

4. At the drying facility, pasteurize the inedible liquid egg.[11]

5. For inedible liquid egg with solids less than 25 percent, process with a minimum hold time of 188 seconds at 60 °C (140 °F).[12]

6. Maintain pasteurized inedible egg under refrigeration until dried and packaged.

7. Maintain dried, inedible egg following good manufacturing process.

8. Applications of inedible egg may include a thermal heating or cooking preparation procedure for feeding to animals. Thermal treatments exceeding 70 °C (158 °F) should be acceptable.[13]

[11] For additional information, see World Organisation for Animal Health (OIE), "Procedures for the inactivation of the AI virus in eggs and egg products" (Article 10.4.25), *Terrestrial Animal Health Code*, 2010, http://www.oie.int/eng/normes/mcode/en_chapitre_1.10.4.htm.

[12] OIE standards for inactivation of AI virus in egg products are generally less severe than the minimum pasteurization times at temperature for inactivation of *Salmonella sp.* That relationship suggests that alternative pasteurization processes for inedible egg would be adequate if those processes are documented as rendering the product free of *Salmonella sp.*

Documentation

Pasteurization log and supporting information.

[13] For additional information, see World Organisation for Animal Health (OIE), "Procedures for the inactivation of the AI virus in eggs and egg products" (Article 10.4.25), *Terrestrial Animal Health Code*, 2010, http://www.oie.int/eng/normes/mcode/en_chapitre_1.10.4.htm.

For All Truck Drivers

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

1. Do not leave the cab, or the cab interior must be cleaned and disinfected.
2. If leaving the cab, wear protective coveralls, boots, and head cover while outside the cab and remove them immediately before reentering the cab.

Loading Docks Receiving Shell Eggs from Control Areas

Company name:	**Facility location:**
Employee signature:	**Supervisor or trainer signature:**
Time of the day:	**Date:**

These procedures are recommended for managing and C&D of loading docks receiving shell eggs moving under permit from an AI Control Area.

General

This recommendation assumes that the following C&D procedures are incorporated into the loading dock management and C&D procedure:

- Egg Packing Materials: Plastic Flats, Pallets, Dividers, and Materials Constructed of Wood (Pallets, Divider Board, Tic-Tacs)
- Shell Egg Truck Exterior/Interior Wash Procedure
- Moving Hatching Eggs Out of an AI Control Area.

This recommended procedure may be used for loading docks that may have dual use for receiving eggs for processing or hatching and shipping processed product from the premises. The procedure is also recommended for loading docks dedicated to raw materials (shell eggs for processing or eggs for hatching).

Procedure

1. During an emergency where an AI Control Area has been established, do not accept deliveries of eggs from a Control Area unless the shipment is conducted as allowed by permit by relevant veterinary authorities.
2. *Originating farm or facility*: do not load the eggs for shipment until a permit to move is obtained and a scheduled receiving time is provided by the receiving premises.
3. *Receiving premises*: schedule arrival of eggs under permit for the end of a processing day so that they may be processed as the “last eggs” handled that day before full C&D of the processing premises and equipment.
4. *Receiving premises*: receive the eggs at the scheduled delivery time:
    - Leave the eggs arriving at the premises on the unopened truck until authorized by the receiving premises to approach the loading dock.

- Before unloading, review and verify the documentation of the origin and quantity of eggs contained in the permit for movement.
- Off load the eggs and move them to segregated storage or, preferably, immediately process them (convert to liquid egg for pasteurization, wash, and sanitize or cook).

5. Clean and disinfect the shell egg truck following the procedure cited above before leaving the premises.
6. Clean and disinfect the egg-handling materials following the procedure cited above.
7. Clean the loading dock area, receiving storage areas, and connecting passages.
   - Assemble appropriate equipment (PPE, brushes, high-pressure washer, and low-pressure spray or foaming equipment for sanitizer application) and prepare detergent and sanitizer solutions following manufacturer directions.[14]
   - Maintain the operating log, noting the temperature of the wash and rinse waters and detergent and sanitizer concentrations.
   - Dry clean by brushing or scraping to remove accumulated organic matter and soil.
   - Wash with detergent solution using brushes or high-pressure washer and rinse with clean water.
   - Inspect for cleanliness and repeat wash procedure if not clean.
   - Apply sanitizing solution and allow sanitized surfaces to dry.

[14] EPA, *Registered Antimicrobial Products with Label Claims for Avian (Bird) Flu Disinfectants*, March 13, 2008, www.epa.gov/pesticides/factsheets/avian_flu_products.htm.

ATTACHMENT D. EPIDEMIOLOGICAL QUESTIONNAIRE

SES PLAN
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 mailing address (911): _____

City: _____ Zip code: _____

County: _____ Township: _____

Range: _____ Section: _____

GPS coordinates (decimal degrees): _____

Premises identification number: _____

Number of chickens on premises: _____

The purpose of this epidemiological questionnaire is to help provide a premises designation: Contact Premises, At-Risk Premises, or Monitored Premises.

A. Trace Back Information. In the last 21 days, did the following movements **onto** the farm occur? Please provide as much accurate information as possible for each unique source.

1. Eggs ☐ Yes ☐ Don't know ☐ No

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)

2. Birds (including placements, chicks, pullets, backfilling, etc.) ☐ Yes ☐ Don't know ☐ No

If yes,

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 birds RRT-PCR tested for avian influenza (or was the breeding flock tested) prior to moving these birds onto your farm? (Yes/No)

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

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)

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

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)

5. Manure ☐ Yes ☐ Don't know ☐ No

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)

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

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)

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

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)

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

If Yes,

a. What area of the premises did he enter? _____

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

8. Company vet/service tech ☐ Yes ☐ Don't know ☐ No

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)

9. Noncompany vet/consultant ☐ Yes ☐ Don't know ☐ No

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)

10. Construction or service person (e.g., gas, plumbing, pest control) ☐ Yes ☐ Don't know ☐ No

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)

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

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)

12. Other producer ☐ Yes ☐ Don't know ☐ No

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)

13. Nonbusiness visitor (friend/neighbor) ☐ Yes ☐ Don't know ☐ No

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)

B. Trace Forward Information. In the last 21 days, did the following movements **off** the farm occur? Please provide as much accurate information as possible for each unique destination.

1. Eggs ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

2. Birds (including placements, chicks, pullets, backfilling, etc.) ☐ Yes ☐ Don't know ☐ No

If yes,

Destination/ 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 birds RRT-PCR tested for avian influenza (or was the breeding flock tested) prior to moving these birds off your farm? (Yes/No)

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

Destination/ 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)

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

Destination/ 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)

5. Manure ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

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

Destination/ 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)

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

Destination/ 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)

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

If Yes,

a. What area of the premises did he enter? _____

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

8. Company vet/service tech ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

9. Noncompany vet/consultant ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

10. Construction or service person (e.g., gas, plumbing, pest control) ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

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

Destination/ 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)

12. Other producer ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

13. Nonbusiness visitor (friend/neighbor) ☐ Yes ☐ Don't know ☐ No

Destination/ 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)

C. 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

   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

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

   If Yes, what plant? _____
   If Yes, did the person clean and disinfect his vehicle? ☐ Yes ☐ No
   If Yes, did the person change outer clothes? ☐ Yes ☐ No
   If Yes, did the person disinfect footwear or change into footwear assigned to this premises upon return? ☐ Yes ☐ No

D. Biosecurity Risk Factors

1. Have migratory waterfowl been seen on the property in the last 21 days? ☐ Yes ☐ No

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

3. Is feed and water protected from exposure to feces from wild birds and waterfowl? ☐ Yes ☐ No

4. Is feed and water protected from exposure to feces from rodents and wild mammals? ☐ Yes ☐ No

5. Which of the following **best** describes this farm's usual carcass (daily mortality) disposal method?
   - ☐ Rendering
   - ☐ Composting on site
   - ☐ Burial on site
   - ☐ Incineration on site
   - ☐ Other (specify: _____)

6. Do you dispose of dead birds for other farms? ☐ Yes ☐ No

7. Have you maintained all requirements since your last regular biosecurity audit? ☐ Yes ☐ No

   If no, what requirements have not been met?

8. What additional biosecurity measures have been implemented? (For example, once the premises has been determined to be within a Control Area, all poultry-related vehicles, including feed trucks, must now be cleaned and disinfected prior to entry to the premises.)

_____

_____

_____

_____

_____

_____

ATTACHMENT E. BIOSECURITY CHECKLIST

E1.1 Farm Identification and Location

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 mailing address (911): _____

City: _____ Zip code: _____

County: _____ Township: _____

Range: _____ Section: _____

GPS coordinates (decimal degrees): _____

Premises identification number: _____

E1.2 Premises Biosecurity Practices

Farm outside areas

Auditor	Farm manager		
	Yes	No	
			1. Footwear disinfection stations, site-provided footwear, or site-provided foot covers are available outside all external entrances and everyone is required to clean and disinfect their footwear or wear site-provided footwear or footwear covers prior to entering chicken houses, processing areas, and office areas. If footbaths are used, they must be changed at least daily or more often if the footbath collects dirt, egg contents, or manure.
			2. **External entrances are kept locked** to chicken houses and the processing plant during nonbusiness hours.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

E1.3 People

a) Managers, Veterinarians, Chicken House Workers, Egg Processing Area Workers, Service Crews, Office Workers, USDA and FDA Employees (includes crews for pullet placement, vaccination, and spent hen removal)

Auditor	Farm manager		
	Yes	No	
			3. **Biosecurity Training Logbook** is available in the farm manager's office documenting 4, 5, 6, and 7 below.
			4. A written biosecurity plan.
			5. Employees receive biosecurity training when hired.
			6. Employees receive annual biosecurity training.
			7. Farm policy requires that employees **do not own** other birds—including pet birds, domestic chickens, fighting chickens, ducks, geese, waterfowl, exotic birds, quail, partridge, or pheasants.

Auditor	Farm manager		
	Yes	No	
			8. Employees **sign a document** when hired and during annual biosecurity training sessions stating that they avoid contact with other birds not owned by the business—including pet birds, domestic chickens, fighting chickens, ducks, geese, waterfowl, exotic birds, quail, partridge, or pheasants. In the event that contact is made with any of the above, employees agree that they will comply with a two day waiting period prior to any entry into any portion of the egg farm to include the barns, processing plant and office.
			9. Hand washing or hand-sanitizing stations are available and **everyone (including visitors and contractors) is required to wash/sanitize their hands** before entering and after leaving chicken houses or egg processing areas.
			10. Farm policy **prohibits exposure to equipment** from other farms that has not been washed and disinfected.
			11. Farm policy requires personnel who have visited a rendering plant to shower and change clothes before entering the farm or any of its buildings.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

Truck Drivers, Trucks, and Trailers (feed mill trucks, egg deliveries, spent hens, carcass disposal, trash, supplies)

Auditor	Farm manager		
	Yes	No	
			12. If drivers are required to make multiple stops at more than one individual farm in any given day, they are **prohibited from entering chicken houses or egg processing areas.** An egg processing area is a location where eggs are washed and sanitized.
			13. Farm policy requires cleaning and disinfection of vehicles and containers from a rendering plant before they enter an egg layer premises.

Farm manager's comments: _____

_____

Auditor's comments: _____

Visitors and contractors (pest control experts, electricians, plumbers, carpenters)

Auditor	Farm manager		
	Yes	No	
			14. **Visitors Logbook** records the a) visitor's name, b) company, c) time of entry, d) statement confirming no contact with premises containing birds or rendering activities during the preceding two days, e) time of leaving, and f) a contact telephone number.
			15. Visitors and contractors who have had **contact with birds** during the preceding two days are **prohibited from entering** chicken houses or egg processing areas.
			16. **Clean coveralls** (or disposable suits), **disinfected boots** (or shoe covers), and **hairnets are available** and required for visitors and contractors to wear before entering barns, egg processing areas, or other work areas.

Farm Manager's Comments: _____

Auditor's Comments: _____

E1.4 Chickens

a) Pullets Entering Premises, Transport Trucks, and Equipment

Auditor	Farm manager		
	Yes	No	
			17. Prior to departure for the initial loading and at the end of each day, if the pick-up and delivery sites have changed, pullet delivery **trucks are cleaned and disinfected.** Pullet delivery trucks making subsequent trips between the same pullet house and layer house do not have to be cleaned and disinfected between each trip.
			18. Pullet delivery trucks and equipment must be cleaned and disinfected before being used to transport spent hens.
			19. Pullets are sourced from an NPIP participating hatchery.
			20. Before admittance to any pullet farm, pullet-moving equipment is cleaned and disinfected.
			21. Cleaned and disinfected equipment used in the transportation of pullets is held under conditions which **prevent exposure to wild birds**.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

Laying Hens and Chicken Houses

Auditor	Farm manager		
	Yes	No	
			22. **Signs warning people not to enter** the farm or any of its buildings because of disease control (No Admittance—Biosecurity Zone) are posted at all entrances to chicken houses.
			23. **Visitors do not enter** chicken houses unless absolutely necessary.
			24. **Houses are bird-proofed** against wild or free-flying birds.
			25. **Dogs are not allowed** in chicken houses and egg processing areas.
			26. **Cats are not allowed** in chicken houses and egg processing areas.
			27. **Records of daily feed consumption** are available for each flock since placement in the chicken house.
			28. **Records of daily water consumption** are available for each flock since placement in the chicken house.

Auditor	Farm manager		
	Yes	No	
			29. **Records of daily egg production** are available for each flock since placement in the chicken house.
			30. **Records of daily mortalities** are available for each flock since placement in the chicken house.
			31. Dead chickens are collected and removed from the house each day.
			32. **Disposal of dead chickens** does not expose chickens in other houses to potential pathogens.
			33. If mortality rates in a chicken house are elevated from an unknown cause, dead chickens are submitted to the farm veterinarian, a qualified veterinarian, or a veterinary diagnostic laboratory to obtain a diagnosis.
			34. All flocks on the premises are **tested as required by** the National Poultry Improvement Plan's **"U. S. H5/H7 Avian influenza Monitored" program** (CFR 146.23). A flock is composed of all table-egg laying chickens in one house.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

Spent Hens leaving Premises

Auditor	Farm manager		
	Yes	No	
			35. Spent hen removal crews are prohibited from entering other chicken houses or egg processing areas.
			36. Before entering the premises, chicken transport equipment is cleaned and disinfected (carts, loaders, ramps).
			37. **After a chicken house is depopulated**, chicken transport **equipment is cleaned and disinfected** (carts, loaders, ramps) at a non-bird containing premises.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

E1.5 Pest Control

Auditor	Farm manager		
	Yes	No	
			38. Backyard poultry are prohibited from the premises and control measures to discourage the presence of wild and migratory birds are in place.
			39. Procedures are in place to **prevent the accidental entrance of wildlife** and to remove them from chicken houses and egg processing areas should they gain entrance.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

E1.6 Equipment and Egg-handling Materials

Auditor	Farm manager		
	Yes	No	
			40. Equipment and tools brought to the farm are **cleaned and disinfected** prior to use on the farm.
			41. Only clean, sanitized, and disinfected plastic egg flats or new disposable egg flats are allowed on the premises.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

_____

E1.7 Feed and Water

Auditor	Farm manager		
	Yes	No	
			42. **Feed bins are secured** to prevent contamination by wild birds or rodents.
			43. **Spilled feed is cleaned up promptly** to prevent attracting wild birds and rodents.
			44. **Water sources are secure** and cannot be accessed by free-flying birds or rodents.

Farm Manager's Comments: _____

_____

Auditor's Comments: _____

_____

E1.8 Manure Removal

Auditor	Farm manager		
	Yes	No	
			45. Manure **trucks never go from one poultry farm to a**nother on the same day. However, if required, the manure trucks must be washed with detergent and disinfected prior to arrival at the next farm.

Farm manager's comments: _____

_____

Auditor's comments: _____

_____

Signature (farm owner/manager): _____

Date: _____

Signature (auditor): _____

Date: _____

ATTACHMENT F. ABBREVIATIONS

AI	Avian influenza
APHIS	Animal and Plant Health Inspection Service
AVIC	Area Veterinarian-in-Charge
BHI	brain-heart infusion
C&D	cleaning and disinfection
CAHFS	Center for Animal Health and Food Safety
CEAH	Centers for Epidemiology
CFSPH	Center for Food Security and Public Health
EMC	Egg Movement Control
EPI	Epidemiological
FAD PReP	Foreign Animal Disease Preparedness and Response Plan
FAD	foreign animal disease
FAST	Federal and State Transport
FDA	Food and Drug Administration
FSIS	Food Safety and Inspection Service
GPS	global positioning system
GRE	Geospatial Risk Estimate
HPAI	highly pathogenic avian influenza
IC	Incident Command
IP	infected premises
NAHEMS	National Animal Health Emergency Management System
NCAHEM	National Centers for Animal Health Emergency Management
PIN	Premises Identification Number

PPM	parts per million
RRT-PCR	real-time reverse transcriptase-polymerase chain reaction
SAHO	State Animal Health Official
SES	Secure Egg Supply
TDD	telecommunications device for the deaf
USDA	U.S. Department of Agriculture
USDA-APHIS-VS	United States Department of Agriculture Animal and Plant Health Inspection Service Veterinary Services
VDL	veterinary diagnostic laboratory