RISK ANALYSIS FOR MOVEMENT: “A Risk Analysis to Evaluate Proposed Control Measures for the Managed Movement of Manure from Egg-Layer Operations during an Outbreak of Highly Pathogenic Avian Influenza.” Submitted for review; available upon request.

Definition: Heat-treated manure has been dried by heat application under operational conditions where the dryer outlet air temperature is 70º C (158º F) with a resident time of 15 minutes or longer. These conditions may be achieved in different types of heat-drying systems (e.g., rotary driers, belt-driers, etc.). Similar virus inactivation may be achieved with different time/temperature combinations; however, other combinations would require reevaluation of risk.

Heat-treated manure moving from premises within an HPAI Control Area to an off-site location for spreading or storage represents a negligible risk, provided that the permit guidance below has been met. Heat-treated manure may move off-site for spreading or storage within or out of the Control Area by permit.

PERMIT GUIDANCE:

1. Heat-treated manure is moving from a premises that meets the criteria for a Monitored Premises designation and has a national premises identification number.
2. Truck & driver biosecurity is implemented.
3. Manure is heat-treated to recommended standards.
4. Product-specific biosecurity is implemented.
5. Manure is moved directly and only to an off-site location without poultry on-site.
6. RRT-PCR testing with negative test results in accordance with the recommended protocol.

1. Heat-treated manure is moving from a premises that meets the criteria for a Monitored Premises designation and has a national premises identification number.

- A Monitored Premises (MP) objectively demonstrates that it is not an Infected Premises, Contact Premises, or Suspect Premises. Only At-Risk Premises are eligible to become Monitored Premises. Monitored Premises meet a set of defined criteria in seeking to move susceptible animals or products out of the Control Area by permit. For the Secure Poultry Supply Plans, the following criteria must be met:
  - Pre-movement RRT-PCR testing is negative,
  - Epidemiological questionnaire is completed,
  - No unexplained mortality, no unexplained clinical signs, and no unexplained changes in production parameters, and
  - Biosecurity measures are acceptable to state and federal authorities.
- For permitted movement through EMRS, an accurate national premises identification number (i.e., 7-character alphanumeric code as described in 9 CFR § 71.1, not the state ID) or other acceptable ID system for movement is required.
2. **Truck & driver biosecurity is implemented.**

- The risks of spreading virus to and from the premises associated with manure trucks or other manure vehicles (including possible transportation of insects or other fomites) must be managed in accordance with specific industry and commodity recommendations.
  - Dedicated vehicles for the premises of origin should be used. If dedicated vehicles are not used, vehicles are required to have been C&D prior to entering the premises of origin.
  - After loading manure, C&D of the vehicle tires and undercarriages must occur at or in very close proximity to the poultry premises within the Control Area.
  - Vehicle windows should be kept closed at all times while on the poultry farm in order to prevent flies from getting into vehicles. Use insecticide, according to label directions, inside vehicles as needed to avoid the transporting of flies off the farm.
  - After manure delivery, dedicated vehicles may be C&D depending on risk of contact with poultry and poultry products within a Control Area prior to returning to the poultry premises of origin. If a shared vehicle is used, C&D of the vehicle tires and undercarriage must occur after manure delivery.
  - Clean & disinfect the inside of the vehicles daily with an approved aerosol disinfectant. Spray the floors, pedals, and bottoms of feet with disinfectant after every stop.

- The risks of spreading virus to and from the premises associated with truck cargos must be managed in accordance to specific industry and commodity recommendations.
  - The vehicle beds containing manure, or which previously contained manure, must be covered securely to prevent manure spillage and to prevent/minimize dust/particulate matter during transport off farm on any and all roadways.

- The risks of spreading virus to and from the premises associated with manure truck drivers must be managed in accordance with specific industry and commodity recommendations.
  - Dedicated drivers for the premises of origin should be used.
  - Drivers are not to exit the vehicle on the farm or at the destination site. If exiting the vehicle cannot be avoided, drivers must follow personal protective equipment (PPE) procedures:
    - Drivers must use hand sanitizer before leaving or reentering the vehicle; don C&D boots before exiting cab; remove boots prior to contact with floorboard when reentering the cab; spray soles of shoes, pedals and floorboard with disinfectant. Leave contaminated PPE at the sequestration/destination site.
  - Drivers must never enter poultry barns.
  - Drivers must shower and change clothes before visiting a poultry premises other than the farm of origin.
3. Manure is heat-treated to recommended standards.

- Commercial processing conditions involve heating the manure such that the dryer outlet temperature is 70°C (158°F) or more, the dryer outlet moisture content is less than 15%, and a mean resident time in the dryer greater than 15 minutes is achieved. Manure exit temperature also should be recorded.
- The incident command may approve other heat drying conditions that are shown to achieve an equivalent level of HPAI virus inactivation.
- Heat-treated manure is isolated without the addition of or contact with fresh manure.

4. Product-specific biosecurity is implemented.

- Dedicated equipment should be used on the origin premises for handling heat-treated manure. If this is not possible and equipment used to move processed manure is also used to move fresh manure, equipment must be dry cleaned of manure and debris, and if possible C&D or heat treated prior to being used to move processed manure. The farm manager or other designated employee must sign off that the equipment has been cleaned and verify the cleanliness of the equipment prior to use for moving processed manure.
- Farm workers that handle heat-dried manure should handle the heat-dried manure first before handling any fresh manure.

5. Manure is moved directly and only to an off-site location without poultry on-site.

6. RRT-PCR testing with negative test results in accordance with the recommended protocol.

- Two 11-bird pooled samples per 50 dead birds from every house on the premises of origin must be tested before the initial movement. The two pooled samples can be collected on the same day or on two consecutive days. Daily testing using a pooled sample of 11 swabs per 50 dead birds per house must be performed for subsequent movements. If enough dead birds for an 11-bird pooled sample are not present, the available dead birds are tested.