



Equipment and Supply Solutions For A Worst-Case HPAI Outbreak

Combining lessons learned during the 2014-2015 highly pathogenic avian influenza (HPAI) response and projections for a worst-case scenario, the Animal and Plant Health Inspection Service (APHIS) has identified several ways to improve response capabilities and efficacy through advance planning.

I. Determine if current contracts are sufficient to meet worst-case outbreak needs

A review of the current supply, equipment, and personnel contracts revealed that, with few exceptions, they are sufficient to meet worst-case outbreak needs. APHIS Veterinary Services has contracts or agreements with vendors, suppliers, and third-party logistics providers (3PLs) for purchasing and stockpiling countermeasures in the event of animal disease emergencies, and there are indefinite-delivery-indefinite-quantity (IDIQ) contracts to meet surge demands. Additionally, 3PL contracts are in place to ensure seamless deployment of personnel, equipment, and supplies to meet response needs. Existing depopulation, decontamination, and disposal (3D) contracts will provide surge personnel and equipment to support states without sufficient 3D resources. Finally, we will establish blanket purchase agreements (BPAs) with various manufacturers and vendors to procure and replenish countermeasures.

The following solutions are either already extant or will be complete by Fall 2015:

- Blanket Purchase Agreement for Foam Concentrate.
- Blanket Purchase Agreement for CO₂ Carts.
- Partnerships with all-hazards response companies that can quickly deploy large numbers of trained personnel with equipment to help states without sufficient 3D resources
- 3PLs on contract to provide transportation services and cold storage as necessary.
- RFP to establish contracts with all additional hazard response companies.
- RFP for an AI vaccine.

II. Determine the time saved by prepositioning equipment close to areas at high risk for outbreak and, if warranted, plan to preposition equipment

An evaluation of the fall HPAI high risk areas and their proximity to National Veterinary Stockpile (NVS) storage depots revealed that staging equipment closer to these areas will save

significant time in responding to a new outbreak, thereby increasing the possibility of controlling the situation quickly and preventing it from becoming a major outbreak. Without staging equipment in high-risk geographic areas, it would take up to 24 hours from notification to move equipment from NVS storage depots to the scene of a new outbreak, which is in accordance with requirements in HSPD-9. Conversely, staging equipment close to high-risk geographic areas will result in a 1 to 4 hour response time to a new outbreak, which will confer a significant advantage in containing a new outbreak and keeping it from spreading.

Based on the projected decrease in response time of between 85% to 95%, the NVS plans to stage equipment in the five high-risk geographic regions.

III. Evaluate NVS resources and acquire additional supplies, as necessary, to meet projected worst-case scenario needs

Available supplies:

The National Veterinary Stockpile has significant quantities of supplies that can sustain a worst-case scenario response. Current resources include:

- 24-Hour Push Packs 600 personal protective equipment (PPE) kits (sufficient for 10 responders to change PPE 6 times a day for 10 days);
- Sufficient PPE (24 Hour Push Packs / Bulk PPE) for 1500 responders changing 6 times per day for 60 days without resupply;
- Significant quantities of response supplies in NVS contractor and government managed facilities in the Pacific, Great Lakes, and Southeast;
- Frequently used requested items are available from multiple vendors through GSA schedules;
- Existing USDA BPA with multiple vendors for foam concentrate.

Projection of worst-case scenario supply needs and comparison with current stockpile:

Veterinary Services evaluated supply demand history during the 2014-2015 HPAI outbreak and projected supply needs for a worst-case outbreak. They compared these projections with the supplies on hand in the NVS or available through BPAs, memoranda of understanding, etc., from suppliers and determined that there was a gap between current supplies on hand and the projected needs of a worst-case scenario.

The NVS acquired additional supplies to close this gap, including additional PPE suits, respirators, and gloves. The enhanced PPE inventory in the stockpile now has sufficient supplies to sustain a worst-case scenario response.

Supplies acquired:

Supplies added to the NVS include:

- Multiple models of N95 Respirators by 3M and Moldex
- Multiple models of N100 Respirators by 3M and Moldex
- Multiple models of ½ Face Respirators by North, MSA, 3M, and Survivair
- Multiple models of Full Face Respirators by North, MSA, and 3M
- Additional sizes of white Tyvek Protective Suits

IV. Identify solutions and sources for water supply issues

Obtaining the large quantities of water necessary for depopulation with foam, cleaning, and disinfection can sometimes be difficult and can adversely affect municipal water systems. During the fall and winter, freezing temperatures can further limit water supplies and pose an ice damage threat to equipment such as frac tanks / trucks, other water storage tanks, and foaming units. Therefore, it is critical to both identify additional sources of water and solutions to prevent water from freezing.

Obtaining sufficient water for operations is best achieved by first communicating with producers/owners to determine if there are water sources that are onsite/ offsite and available for use, then working with the State's Department of Agriculture and local municipalities to both identify water sources in the area and determine limits of these sources. In jurisdictions without an abundance of water, States should examine the feasibility of transporting water from neighboring states in preparation for the fall.

A number of solutions exist for preventing freezing of water in the fall and winter. Recommended approaches are:

- Heated Frac Tanks – tanks equipped with a small boiler trailer that keeps the water circulating and from freezing
- Insulated Tankers – keep the water from freezing thru heated steam tubes that encircle the tank to keep the water warmed. Normally referred to as Hot product tankers
- Power Blankets – encapsulate a frac tank to keep the contents above freezing
- Open Top Tanks – with heater units that keep the water warm and circulating
- Heated Vacuum Boxes – a small boiler attached to the box heats and circulates the water.
- Small Heat Pump Units – units mounted on trailers will keep temperature at a constant level above freezing. The heat pump is diesel powered, therefore, an anti-gel additive is essential to keep the diesel from freezing.
- HydroVac Units – have the ability to heat the water in their on board tanks.

- Anti-Freeze – Addition of propylene glycol to the water to lower the freezing point of the solution is an option, however antifreeze it is highly toxic to animals and can create an environmental hazard if spilled.

Regardless of the approach(s) used, it is important to note that the suppliers of the various solutions have finite amounts of equipment and resources; therefore, solutions should be put in place as early as feasible. Typically, the various units are placed on stand-by rates in case they are needed and once needed, they go to a full rate. Veterinary Services has identified a number of companies that can provide one or more of the above solutions to keep water from freezing.