



National Solid Wastes Management Association

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Via e-mail: cassidy.paul@epamail.epa.gov

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Re: Pre-Decisional Draft – Disposal of Domestic Birds Infected by Avian Influenza

Dear Mr. Cassidy:

The National Solid Wastes Management Association's (NSWMA) Landfill Institute and Medical Waste Institute are pleased to provide comments on the U.S. Environmental Protection Agency's (EPA) *Pre-Decisional Draft—Disposal of Domestic Birds Infected by Avian Influenza* (April 21, 2006). NSWMA's Landfill Institute represents private companies that own and operate municipal solid waste landfills (MSWLFs) in the United States. Institute members own approximately 400 active MSWLFs that represent more than half of the nation's landfill capacity. NSWMA's Medical Waste Institute represents private companies that own, operate, and manufacture an array of medical waste destruction technologies throughout the United States. These facilities may be required to accept and safely dispose of infected bird carcasses from an outbreak of the H5N1 virus.

NSWMA's Institutes appreciate the opportunity to provide comments on the pre-decisional draft document for the management and disposal of bird carcasses infected with the H5N1 virus.

General Comments

EPA's Role: The Homeland Security Presidential Directive 9 (HSPD-9, November 2005), "Federal Food and Agriculture Decontamination and Disposal Roles and Responsibilities," envisioned a critical role for EPA in preparing for and responding to an avian flu emergency. Because EPA's pre-decisional draft document on the *Disposal of Domestic Birds Infected by Avian Influenza* will be read in the context of the rules envisioned in the Homeland Security Directive, EPA's document should respond directly to the expectations raised in HSPD-9.

HSPD-9 clearly identifies two primary roles for EPA regarding infected animals:

1. Approval and analysis of pesticides, and
2. Extensive advice on the decontamination and disposal of infected birds, eggs, and associated wastes (e.g., bedding, treatment residue, wash water).

The expectation for EPA regarding disposal is substantial: "EPA also provides technical assistance in identifying, selecting and locating appropriate waste handling options, identifying and addressing related environmental and health concerns, and working with the waste management industry to identify special measures that may help protect their personnel and the integrity of their facilities. Although the responsibility for issuing permits and for monitoring and enforcing compliance of municipal solid waste and medical waste programs rests with the states, EPA can take steps to assist in reaching the desired levels of environmental quality" (HSPD-9 at ii).

Considering these needs and expectations, EPA's current draft should be redone to place it in the context of the Homeland Security Directive. The Institutes suggest the following:

- Shift the focus from repetition of general assertions to specific advice on environmental standards under which all media are protected for each of the decontamination and disposal options available not just those supported by the USDA;
- Eliminate value and cost judgments for which EPA data appears to be out-of-date, not supported by science, or inconsistent with location-specific realities;
- Provide real information to those who will be most directly impacted by an avian flu outbreak (i.e., state and local decision-makers, farmers, responders, waste management facilities) on what is safe, and how air, surface water, and groundwater can be protected; and
- Provide methods to ensure protection of human health for on- and off-site workers, as well as the general populace.

Specific Comments

SECTION 1

Purpose: The stated purpose of the document is to “provide guidance to state and local decision-makers by identifying considerations and potential options for the management of domesticated birds (and associated fecal material) infected by avian influenza virus H5N1.” NSWMA’s Institutes believe that the guidance does not satisfy this purpose because it does not discuss the pros and cons of the array of management technologies (e.g., rendering, municipal solid waste incinerators, medical waste combustors) that could be used to deactivate the H5N1 virus. A full array of waste management options needs to be included in the guidance along with advantages and disadvantages associated with each option. This information is extremely important with the large number of carcasses that may need to be managed in a major outbreak where no single option will be able to handle the disposal demands.

SECTION 2

Background: This section discusses the difference between low- and high-pathogenic viruses. From a practical standpoint, animal health officials often assume that the birds have the high-pathogenic virus because of the risk of mutation that could lead to a pandemic in birds or humans. A discussion of how local, state, and federal officials have managed infected carcasses with low- and high-pathogenic viruses should be added to the text.

Key Occurrences of HPAI in Domestic Populations: This section states that these “occurrences provide experience on how to successfully respond to an avian influenza outbreak and disposal of carcasses in a manner that is protective of human health and the environment.” The occurrences listed in the table do not necessarily show how to respond to an avian influenza outbreak. For example, the incidences listed were for viruses that had not “jumped” the species barrier, rather they were confined to avian flocks. This is not the case with the H5N1 virus, which has infected humans. The precautions to prevent workers from becoming infected with the H5N1 virus need to be addressed. In the case on the East Coast, workers were on-site composting chickens to deactivate the virus wearing normal clothing that would not protect them from a virus that can jump the species barrier (Tablante, Nathaniel L. and George W. Malone. 2005. In-House Composting of Poultry Mortalities Due to Catastrophic Disease). In addition, the Institutes do not believe that the incidents listed in the table were monitored for environmental impacts. For example, where was the decontamination water for equipment managed, were data collected on the air emissions during thermal destruction in the Texas incident, and has groundwater monitoring data been collected at on-site burial locations? Without these types of data, the guidance and EPA cannot be assured that human health and the environment are protected.

SECTION 4

Critical Factors: The critical factors listed in this section are from the USDA, which tries to control and prevent further spread of avian influenza in the poultry industry. USDA's mandate is not necessarily concerned about the environment. Unlike EPA, that agency's interests are in protecting food supplies and working with the agriculture industry. Factors such as air, water, and soil contamination, as well as protection of human health are one of EPA's priorities. EPA needs to include other critical factors that it believes will best protect the environment and public health. In addition, this section states that USDA's preference is for the on-site management of poultry carcasses. Because this document represents EPA's understanding of how to dispose of carcasses, USDA's preferences should only be presented as background information. EPA should evaluate all of the disposal methods because in a major outbreak all disposal options may be needed without regard to individual agency preferences. Since decision-makers may use this guidance, EPA should be presenting management options that are both protective of the environment and human health and based on the best available science.

SECTION 5

Management Options: This section states that the "common methods used to manage animal carcasses and associate materials include composting, burial, air curtain incineration, and isolation." As stated above, these are not the only management options available. According to the World Organization for Animal Health (2002), the following disposal technologies are available: rendering, incineration (fixed incinerators, air curtain incinerators, and municipal incinerators), pyre burning, composting, burial (mass burial and on-farm burial), mounding, commercial licensed landfill, and fermentation. Considering the number of carcasses that may need to be disposed of (tens of millions), EPA's guidance should present all available options because state and local decision-makers as well as public health officials need to have as many viable options for disposal as possible. Also, as discussed previously, the management options provided in the guidance document are USDA's, which may have different priorities than protection of the environment and human health. EPA's guidance should address all management options and assess the advantages and disadvantages of each management option for how well it protects human health and the environment. Americans may potentially be faced with a deadly virus (H5N1) that has jumped from animals to humans and could if given sufficient opportunity mutate and cause a pandemic in humans.

On-Site Composting: This section states that on-site composting "limits the risks of groundwater and air pollution contamination, the potential for farm-to-farm transmission, and transportation costs and tipping fees associated with off-site disposal." Where is the data that supports these assumptions? None of the data that the Institutes have seen shows that on-site composting limits groundwater and air pollution. In fact, monitoring of air, surface water, and groundwater from on-site composting operations probably has not been performed. Unless EPA has data that supports this assumption, it should not be including it in the guidance document especially when dealing with the H5N1 virus. Also, statements regarding transportation costs and tipping fees at off-site disposal

facilities are very site specific. A local municipal solid waste (MSW) landfill meeting the Subtitle D criteria may be the least costly with the greatest environmental protections especially if on-site workers must be health and safety trained to deal with birds contaminated with the H5N1 virus.

This section also states that “there is the benefit of producing a useable product, compost” from on-site composting. As discussed above, where is the data that supports this assumption? If supporting data does not exist for the H5N1 virus, statements in the guidance document should be removed. In cases reviewed by Dr. Tablante (USDA contractor), the avian flu compost was never land applied because of the liability risks. Considering that the H5N1 virus is highly pathogenic and can jump the specie barrier, it is unlikely that a farmer will want to dispose of the compost on-site because of the liability potential and concerns of local health officials and local populace (which occurred with the DELMARVA case referenced).

In addition, this section states that on-site composting “minimizes odors, flies, and other vector.” Where is the data that supports this assumption? Composting large quantities of poultry will not minimize odors. In fact, this may create odors worse than those already created by poultry farms. EPA should not make these assumptions unless it has data to verify them.

On-Site Burial: This section states that on-site conditions “need to be assessed to ensure there will not be contamination of groundwater or surface water by either the H5N1 virus or conventional pollutants.” How does one assess these risks when poultry are to be disposed of within 24 hours of being euthanized? In order to properly assess the on-site disposal site, the poultry farmer would need to have performed the assessment prior to the poultry becoming infected. This is unlikely to occur because of the costs involved and activities required to perform such an assessment. The only management options that are permitted and can ensure protection of human health and the environment are MSW landfills, waste-to-energy facilities, and medical waste facilities.

This section further states that the “potential land use of the property should be considered” when using on-site disposal. As stated above, this evaluation would have to be performed prior to any poultry becoming infected. Once poultry are infected, little time is available to make this assessment. Again, the assessment of future land use will not take place prior to infection because of the costs involved.

On-Site Incineration: The guidance document states that on-site incinerators are appropriate “in some cases” when on-site composting or on-site burial may not be applicable. The EPA should include a discussion of the circumstances when this is an appropriate technology for poultry carcass disposal. The guidance should also include references for this assumption.

As stated above, evidence is not provided in the document that shows that on-site incinerators are better or worse for the environment and human health than any other option. Testing results from on-site incinerators is not provided so that a local or state

decision-maker can make an appropriate choice and comparison. Some in the medical field do not agree that an air curtain incinerator is a viable option because apparently one case study showed that air-curtain incinerators aerosolized the virus creating an air vector. EPA needs to thoroughly investigate all the options provided in the guidance without relying on a single source (e.g., USDA, incinerator manufacturer).

This section also states that the residue from on-site incinerators can be disposed of on-site. This material will likely be placed in an unlined, unregulated hole in the ground. EPA needs to provide guidance in the document on how on-site burial sites should be constructed because unburned hydrocarbons from the fuel will likely be present that could contaminate groundwater, surface water, and air. In addition, the guidance should discuss appropriate tests that need to be conducted on the residue and disposal site (e.g., groundwater monitoring, air monitoring).

On-Site Isolation: This section states that exterminated poultry can be left in-place to rot and that this will deactivate the avian influenza virus. Further, the document recommends that a “covering to prevent the spread of the virus and control odors, as well as prevent vectors” should be placed on top of the carcasses. What are the references for the assumptions made in this section? The Institutes do not believe that simply covering the infected poultry will prevent odors, kill viruses, and control vectors, especially if it is for only one day. EPA needs to investigate whether or not this option is protective of human health and the environment before suggesting it as a viable option. Also, the guidance needs to contain language about the proper testing and disposal of any residues from on-site isolation. The document suggest that residues can simply be disposed of in an on-site trench. EPA needs to investigate whether or not an unlined, unregulated trench for the disposal of untested residue is protective of human health and the environment.

Cleaning and Disinfection: This section states that disinfection techniques should be done on farm structures, poultry houses, equipment, and clothing, but does not provide any information about which disinfection products and techniques are appropriate for the H5N1 virus. Considering the pathogenic potential of the H5N1 virus, this information should be included in the guidance document. Also, worker health and safety needs to be addressed in this section or a separate section so that workers are protected. Finally, this section should address the proper management and disposal of any wash water/materials that result from the disinfection process. Does EPA believe that disposing of the disinfection material on the ground constitutes proper disposal?

Transportation: This section states that transporting infected poultry off-site for disposal will require “having a designated government representative accompany these vehicles for biosecurity reasons.” What is the rationale for such a requirement? The guidance needs to be more precise when dealing with major outbreaks. A single farm may have 3 million birds that need to be transported, which would take approximately 500 truckloads. Because it is unlikely that a single large shipment would occur all at once, a government official would have to accompany each shipment. The appropriateness and need for such a requirement should be addressed in the document considering that other hazardous wastes are not treated in this manner.

Other Management Options: This section states that “as a general matter, however, the off-site options can increase the potential spread of the virus, can be more expensive, and may run into public acceptance concerns.” Statements such as this should not be in the guidance because they are unsubstantiated. Off-site disposal may not be more expensive if locally available sites are nearby, all on-site disposal options are fully evaluated for protecting the health and safety of the public and the environment, and on-site worker training is accounted for. Each outbreak will require an assessment and determination of the most appropriate disposal options, whether on- or off-site. Also, past cases have not shown that the public’s acceptance of a disposal option favors on-site disposal over off-site disposal. In fact, there may be more favorable acceptance of off-site disposal options with the public because an MSW landfill or incinerator may be more protective of the environment and human health. The document needs to address all disposal options fairly. EPA recommendations should be based on more than anecdotal information and methodologies that appear to favor the interest of the agricultural business in absence of other considerations. EPA’s job is to protect the environment and human health based on scientific evidence. In addition, the guidance should include methods on how to perform off-site transportation and disposal in a manner that will limit the risk of spreading the virus.

Off-Site Landfills: This section states that an off-site landfill can accept the carcasses “based upon their permit.” Most permitted MSW landfills do not currently have permits that will allow them to accept infected birds. In order for an MSW landfill to accept infected poultry, the landfill will have to have its permits modified. EPA should provide guidance and assistance on how to fast-track these modifications in an emergency situation and potentially how to include this kind of disposal in a permit in advance of an emergency.

SECTION 6

Summary: The summary needs to be rewritten to include all potentially available disposal options and not single out those supported by the USDA. Also, the document needs to include a critical consideration of the environmental contamination and effects on human health from depopulation, disposal, and disinfection methods. What is especially lacking in the guidance is the potential risks to air, surface water, and groundwater associated with each management option.

APPENDIX C

The scenario appears not to follow this document or USDA guidelines. If flock infection and mortality can be 100 percent within 48 hours and laboratory confirmation may take 7 days, what is the timeframe for imposing a quarantine? Is it based on a qualitative assessment by a farmer or state veterinarian? Because the USDA guidelines require disposal to commence within 24 hours and a press release does not occur until after laboratory confirmation some 7 days later, how will the public’s perception of the flurry of activity at the site (e.g., responders in biohazard suits, truck deliveries, smoke,

increased odors) be explained? Finally, what are USDA's guidelines for quarantine zones?

The Institutes thank EPA for the opportunity to comment on the proposed language for the management and disposal of infected poultry with avian influenza H5N1. The Institutes and their members are prepared to assist the agency as it addresses these comments and develops the final document. If you have any questions or concerns about our comments, please contact either Ed Repa at 202-364-3773 (erepa@envasns.org) or Alice Jacobsohn at 202-364-3724 (alicej@envasns.org).

Sincerely,

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