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FSIS Docket Clerk
Department of Agriculture
Food Safety and Inspection Service
Room 2534 South Building
1400 Independence Avenue, S.W.
Washington, DC 20250-3700

UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD SAFETY AND INSPECTION SERVICE

Petition to issue regulations under the Poultry Products Inspection Act to regulate practices and actions that result in adulterated poultry products	Docket No. _____

I. INTRODUCTION

The United States Department of Agriculture (USDA) has been directed by Congress to promulgate regulations that will reduce poultry carcass adulteration. However, although USDA has repeatedly recognized that the inhumane treatment of poultry leads to adulteration, it has not promulgated any regulations to limit that adulteration. Thus, USDA is not fulfilling its mandate. Farm Sanctuary and the Animal Welfare Institute submit this petition for rulemaking, calling on USDA to begin the process of promulgating regulations to address bird handling and slaughter practices that result in adulteration as is its duty under the Poultry Products Inspection Act (PPIA), 21 U.S.C. § 451 et seq.

II. INTERESTS OF THE PETITIONERS

Since incorporating in 1986, Farm Sanctuary has worked to expose and stop cruel practices of animal agriculture through research and investigations, legal and institutional reforms, public awareness projects, youth education, and direct rescue and sanctuary efforts. Farm Sanctuary's three shelters in New York and California provide lifelong care for more than 1,000 abused and neglected farm animals, who have become ambassadors for farm animals everywhere by educating visitors about who farm animals are and how they suffer in modern farming.

Farm Sanctuary has more than 250,000 members and supporters, all of whom care about the humane treatment of animals. These members are concerned because many handling and slaughter practices are inhumane. Specifically, these members are concerned that Food Safety and Inspection Service (FSIS) regulations do not specifically define and prohibit inhumane practices and actions that lead to adulteration; thus, slaughter establishments are allowed to continue these practices.

Petitioner, the Animal Welfare Institute (AWI), a non-profit charitable organization, has been alleviating the suffering inflicted on animals by humans since 1951. AWI aims to improve the

welfare of animals used in agriculture through engagement with policymakers, scientists, industry, non-governmental organizations, farmers, veterinarians, teachers, and the public. Specifically, AWI seeks to abolish factory farms, support high-welfare family farms, achieve humane slaughter, and improve transport conditions for all animals raised for food. The organization monitors enforcement of U.S. humane slaughter laws, and lobbies for stronger regulation and increased enforcement. It also regularly comments on proposed changes to international standards for the slaughter of birds and mammals. AWI has conducted several comprehensive reviews of state and federal humane slaughter enforcement during the past decade. Headquartered in Washington, DC, AWI has members and supporters throughout the United States.

III. LEGAL BACKGROUND - The Poultry Products Inspection Act and Implementing Regulations

In response to concerns about widespread problems with unwholesome, adulterated, and mislabeled poultry products, Congress enacted the Poultry Products Inspection Act (PPIA) to "provide for the inspection of poultry and poultry products and otherwise regulate the processing and distribution of . . . poultry products which are adulterated or misbranded."[1] In enacting the PPIA, Congress declared that adulterated poultry products ". . . are injurious to the public welfare, destroy markets for wholesome, not adulterated, and properly labeled and packaged poultry products, and result in . . . injury to consumers."[2] To guard against these problems, Congress found that "[i]t is essential in the public interest that the health and welfare of consumers be protected by *assuring that poultry products distributed to them are . . . not adulterated . . .*" (emphasis added).[3]

Under the PPIA, Congress defined adulterated to include a poultry product:

- that "consists in whole or in part of any filthy, putrid, or decomposed substance or is for any other reason unsound, unhealthful, unwholesome, or otherwise unfit for human food";[4]
- that "has been prepared, packed, or held under insanitary conditions whereby it may have become contaminated with filth, or whereby it may have been rendered injurious to health";[5]
- "of any poultry which has died otherwise than by slaughter";[6]
- "if its container is composed, in whole or in part, of any poisonous or deleterious substance which may render the contents injurious to health."[7]

To prevent adulterated poultry products from entering into or burdening commerce, the PPIA requires ante-mortem inspection of poultry processing facilities where the Secretary deems it is necessary and post-mortem inspection of all processed poultry "whenever processing operations

[1] 21 U.S.C. § 452.
[2] 21 U.S.C. § 451.
[3] 21 U.S.C. § 451.
[4] 21 U.S.C. § 453(g)(3).
[5] 21 U.S.C. § 453(g)(4).
[6] 21 U.S.C. § 453(g)(5).
[7] 21 U.S.C. § 453(g)(6).

are being conducted."[8] During inspection, inspectors are required to condemn all adulterated poultry products.[9]

To prevent poultry processing facilities from producing adulterated poultry in the first place, Congress mandated that they "be operated in accordance with such sanitary practices" that will prevent adulterated products.[10] Recognizing that USDA would need to provide additional requirements to protect the public from adulterated poultry products, Congress directed the agency to promulgate regulations that are "necessary to carry out" the PPIA.[11] Thus, FSIS has issued a variety of regulations designed to prevent the production and distribution of adulterated products and otherwise achieve the goals of the PPIA. For example, PPIA regulations require FSIS inspectors to condemn a poultry carcass that shows evidence that it has certain diseases or conditions, including:[12] biological residues;[13] special diseases;[14] inflammatory processes;[15] death by methods other than from slaughter;[16] bad bruising;[17] contamination;[18] and overscalding.[19] To prevent facilities from producing adulterated poultry products, FSIS requires that facilities slaughter poultry "in accordance with good commercial practices in a manner that will result in thorough bleeding of the carcasses and ensure that breathing has stopped prior to scalding."[20]

FSIS has further explained that "[o]perations and procedures involving the processing, other handling, or storing of any poultry product must be strictly in accord with clean and sanitary practices and must be conducted in a manner that will result in sanitary processing, proper inspection, and the production of poultry and poultry products that are not adulterated."[21] FSIS has specified several sanitary practices that facilities must follow, including: using types of

[8] 21 U.S.C. § 455(a)-(b).
[9] 21 U.S.C. § 455(c).
[10] 21 U.S.C. § 456.
[11] 21 U.S.C. § 463(b).
[12] 9 C.F.R. § 381.71(a) ("Birds plainly showing on ante mortem inspection any disease or condition, that under §§ 381.80 to 381.93, inclusive, would cause condemnation of their carcasses on post mortem inspection, shall be condemned.").
[13] 9 C.F.R. § 381.80(b) ("All carcasses, organs, or other parts of carcasses of poultry shall be condemned if it is determined on the basis of a sound statistical sample that they are adulterated because of the presence of any biological residues.").
[14] 9 C.F.R. § 381.85 ("Carcasses of poultry showing evidence of any disease which is characterized by the presence, in the meat or other edible parts of the carcass, or organisms or toxins dangerous to the consumer, shall be condemned.").
[15] 9 C.F.R. § 381.86 ("Any organ or other part of a carcass which is affected by an inflammatory process shall be condemned and, if there is evidence of general systemic disturbance, the whole carcass shall be condemned.").
[16] 9 C.F.R. § 381.90 ("Carcasses of poultry showing evidence of having died from causes other than slaughter shall be condemned.").
[17] 9 C.F.R. § 381.71 (requiring that poultry be condemned when there is evidence that a bird carries certain diseases and conditions); *see also* 9 C.F.R. § 381.89 (requiring condemnation of all or parts of poultry that are "badly bruised").
[18] 9 C.F.R. § 381.91(a) ("Carcasses of poultry contaminated by volatile oils, paints, poisons, gases, scald vat water in the air sac system, or other substances which render the carcasses adulterated shall be condemned. Any organ or other part of a carcass which has been accidentally mutilated in the course of processing shall be condemned, and if the whole carcass is affected, the whole carcass shall be condemned.").
[19] 9 C.F.R. § 381.92 ("Carcasses of poultry which have been overscalded, resulting in a cooked appearance of the flesh, shall be condemned.").
[20] 9 C.F.R. § 381.65(b).
[21] 9 C.F.R. § 381.65(a).

equipment for processing and handling that allow cleaning and prevent adulteration;[22] protecting poultry products from adulteration during activities at processing facilities;[23] requiring employees to follow good hygiene practices in regard to cleanliness, clothing, and disease control;[24] developing, implementing, and maintaining "standard operating procedures for sanitation";[25] and taking corrective actions when facilities' sanitation procedures have failed to prevent direct contamination or adulteration.[26]

The PPIA prohibits any person from slaughtering or processing poultry in violation of the statutory or regulatory provisions.[27] The statute also requires that "[n]o establishment processing poultry or poultry products for commerce otherwise subject to this chapter shall process any poultry or poultry product except in compliance with the requirements of this chapter."[28] To ensure that people and facilities comply with the PPIA's provisions, Congress provided recordkeeping and enforcement requirements. The PPIA requires facilities to maintain records "as are properly necessary for the effective enforcement of this chapter in order to insure against adulterated or misbranded poultry products for the American consumer."[29] People who violate certain provisions of the PPIA, including the prohibition against slaughtering in a way that results in adulterated products and keeping records concerning adulterated products, may be fined up to $1,000 and imprisoned for up to a year.[30]

IV. LEGAL GROUNDS FOR RELIEF

A. Overview of Poultry Slaughter and Condemnation in the United States

Poultry represented more than 98 percent of land animals commercially slaughtered for food in 2012.[31] USDA reported that 8.576 billion chickens and 250.19 million turkeys were slaughtered in 2012.[32] Out of all the birds slaughtered, USDA reported that 122.8 million pounds of poultry were condemned through ante-mortem inspection and that 402.5 million pounds of poultry were condemned through post-mortem inspection.[33] By species, 28.3 million chickens were condemned and 727,899 turkeys were condemned.[34]

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[22] 9 C.F.R. § 416.3(a) ("Equipment and utensils used for processing or otherwise handling edible product or ingredients must be of such material and construction to facilitate thorough cleaning and to ensure that their use will not cause the adulteration of product during processing, handling, or storage.").
[23] 9 C.F.R. § 416.3(d) ("Product must be protected from adulteration during processing, handling, storage, loading, and unloading at and during transportation from official establishments.").
[24] 9 C.F.R. § 416.5.
[25] 9 C.F.R. § 416.11 ("Each official establishment shall develop, implement, and maintain written standard operating procedures for sanitation (Sanitation SOP's) in accordance with the requirements of this part.").
[26] 9 C.F.R. § 416.15.
[27] 21 U.S.C. § 458.
[28] 21 U.S.C. § 459(a).
[29] 21 U.S.C. § 460(b)(1).
[30] 21 U.S.C. § 461(a).
[31] USDA, *Livestock Slaughter: 2012 Summary*, 6 (Apr. 2013), *available at* http://usda01.library.cornell.edu/usda/current/LiveSlauSu/LiveSlauSu-04-22-2013.pdf (reporting that the number of head slaughter during 2012 for each species was: 33 million cattle; 772,100 calves; 113.2 million hogs; and 2.18 million sheep).
[32] USDA, *Poultry Slaughter: 2012 Summary*, 5 (Feb. 2013), *available at* http://usda01.library.cornell.edu/usda/current/PoulSlauSu/PoulSlauSu-02-25-2013.pdf.
[33] *Id.* at 9, 11.
[34] *Id.* at 17.

FSIS inspectors condemned poultry carcasses during post-mortem inspection for several reasons, including bruises, cadavers, contamination, overscald, and other miscellaneous causes.[35] For each of these categories, the following numbers of birds were condemned in 2012:

- Bruises: 265,117 (Chickens); 2,255 (Turkeys)[36]
- Cadavers: 729,189 (Chickens); 18,736 (Turkeys)[37]
- Contamination: 1,821,342 (Chickens); 23,041 (Turkeys)[38]
- Overscald: 218,105 (Chickens); 6,047 (Turkeys)[39]
- Miscellaneous: 10,065,694 (Chickens); 183,554 (Turkeys)[40]

Poultry carcasses can also be downgraded and trimmed for broken bones. Birds presented at slaughter with dislocated or broken wings or legs are likely at a higher risk of being inhumanely handled and the carcass ultimately being condemned post-mortem than birds without broken bones. Moreover, animal injuries, such as abrasions, bruises and broken bones, pose a risk to food safety.[41]

B. FSIS Notices and Directives Acknowledge the Link between Inhumane Treatment and Adulterated Poultry Products.

Three FSIS documents—one notice published in the *Federal Register* and two directives—clearly show the link between inhumane handling and adulteration. In 2005, FSIS issued notice to slaughter establishments that the humane treatment of birds is a "high priority" and that inhumane treatment of birds causes adulterated poultry products.[42] Specifically, the agency explained that birds subjected to inhumane treatment are more likely to become bruised[43] or die by methods other than slaughter,[44] conditions that render poultry adulterated and subject to condemnation under the PPIA.

The agency also explained that slaughter establishments that treat birds humanely are more likely to comply with the regulatory requirement of Good Commercial Practices (GCP)[45] that include determining that the birds have been bled out entirely and have stopped breathing before entering the scalding tank. As a result of this acknowledgment of the link between cruelty and violation of regulatory requirements (for GCP), USDA has been monitoring poultry slaughter establishments according to a GCP protocol that includes certain requirements related to humane treatment.

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[35] *Id.*
[36] *Id.* at 15.
[37] *Id.*
[38] *Id.* at 17.
[39] *Id.*
[40] *Id.*
[41] A high percentage of poultry bruises harbor both aerobic and anaerobic microorganisms, including Staphylococcus. *See* P. McCarthy et al., *Microbiological Studies of Bruised Tissues,* 28 J. Food Sci. 245 (1963).
[42] *See* Treatment of Live Poultry Before Slaughter, 70 Fed. Reg. 56624 (Sept. 28, 2005).
[43] *Id.* (citing 9 C.F.R § 381.71).
[44] *Id.* (citing 21 U.S.C. § 453(g)(5) and 9 C.F.R. § 381.90).
[45] "Poultry must be slaughtered in accordance with good commercial practices in a manner that will result in thorough bleeding of the carcasses and ensure that breathing has stopped prior to scalding." 9 C.F.R. § 381.65(b).

After FSIS issued the 2005 humane handling notice, the agency instructed in-plant inspectors and District Veterinary Medical Specialists (DVMSs) to look for and identify types of handling and slaughter practices, including those that are inhumane, that lead to adulterated products. For example, a 2009 FSIS directive, which tells inspectors how to perform ante-mortem and post-mortem poultry inspection,[46] explains that during daily inspections, inspectors are to observe the areas of the slaughter establishment between the poultry receiving area and the pre-scald area to verify that facilities are employing good commercial practices which are designed to prevent adulteration.[47] Explicitly drawing the link between inhumane treatment and adulteration, FSIS stated that "employing humane methods of handling and slaughtering that are consistent with good commercial practices increases the likelihood of producing unadulterated product."[48] To ensure that facilities are employing good commercial practices, FSIS inspectors are to look for the following types of actions during operations:

1. Whether establishment employees are mistreating birds or handling them in a way that will cause death or injury or prevent thorough bleeding or result in excessive bruising. For example, whether:
    a) establishment employees are breaking the legs of birds to hold the birds in the shackle or squeezing them into a shackle or otherwise mishandling birds while transferring them from the coops to the shackles;
    b) in cold weather, birds are frozen inside the cages or frozen to the cages themselves; or
    c) the birds are dead from heat exhaustion. The main observable symptom of heat stress in poultry is heavy panting.
2. The handling and treatment of loose birds in the unloading and live hang areas. For example, are establishment employees driving over live birds with equipment or trucks;
3. Whether stunning equipment is functioning properly. For example, a post-stun posture that includes arched neck and wings tucked in is visual evidence of an effective stun;
4. Whether the bleeding equipment is functioning properly. For example, whether:
    a) birds are entering the scalder still breathing;
    b) there are increased numbers or clusters of cadavers at the inspection station; or
    c) there is other evidence that birds died other than by slaughter.
5. Whether there is an increased number of bruised wings or legs; or
6. Whether there are any other activities that will interfere with thorough bleeding of the birds, or could result in the birds still breathing at the time they enter the scalder.[49]

[46] USDA, Food Safety & Inspection Serv., Directive 6100.3, *Ante-Mortem and Post-Mortem Poultry Inspection*, rev. 1, at 4 (Apr. 30, 2009) (On the day of slaughter, inspectors are supposed to conduct an ante-mortem inspection during which they observe the birds before or after they are removed from transportation trucks. Inspectors are supposed to designate poultry as suspect or condemned based upon their conditions and whether they have diseases or conditions that warrant such action.).
[47] *Id*.
[48] *Id*. at 4.
[49] *Id*. at 4-5.

A separate FSIS directive for District Veterinary Medical Specialists explains the work methods for DVMSs to use when conducting visits to determine whether facilities are employing good commercial practices for poultry.[50] FSIS states that, "[t]he primary purpose of the assessment is to evaluate whether live birds are treated humanely, and whether slaughter procedures consistently result in thorough bleeding of the birds and cessation of breathing prior to scalding."[51] In this directive, FSIS instructs DVMSs to determine whether facilities are implementing the systematic approach recommended in the 2005 humane handling notice, reiterating that "poultry products are more likely to be adulterated, if among other circumstances, they are produced from birds that have not been treated humanely because such birds are likely to die from causes other than by slaughter."[52] DVMSs are instructed to look for a variety of conditions that can indicate whether a facility is complying with good commercial practices, including:

1. Do truck holding facilities provide protection or mitigation from adverse weather conditions?
2. Are unloading equipment and shackles, conveyors, and gates designed and operated in a manner to minimize injury to live birds?
3. Is stunning equipment, if used, functioning properly?
4. Is bleeding equipment functioning properly?
5. Are there increased numbers or clusters of cadavers at the inspection station?
6. Are live birds repeatedly seen entering the scalder?
7. Is there other evidence of death-other-than-by-slaughter?
8. Are any other activities interfering with thorough bleeding of the birds, or resulting in birds still breathing at the time they enter the scalder?
9. Is there evidence that plant quality control or supervisory personnel routinely monitor bird handling, facilities, and equipment?[53]

DVMSs are supposed to answer these questions to determine whether facilities are complying with good commercial practices.[54] Additionally, DVMSs are to meet with facilities during an exit interview to discuss findings and observations, including whether birds are being handled in accordance with good commercial practices.[55] In facilities that are not implementing a "systematic approach" as recommended in the 2005 humane handling notice, the DVMS is to recommend that they do. However, DVMSs currently have limited enforcement options for addressing situations where birds are not being handled in conjunction with good commercial practices. They can contact other FSIS personnel, handle the matter on a case-by-case basis, or contact state or local officials if required under state or local laws.[56]

[50] USDA, Food Safety & Inspection Serv., Directive 6910.1, *District Veterinary Medical Specialist: Work Methods*, rev. 1 (Dec. 7, 2009).
[51] *Id.*
[52] *Id.* at 14.
[53] *Id.* at 16-17.
[54] *Id.* at 16.
[55] *Id.* at 17-18.
[56] *Id.* at 19-20.

Under FSIS Rules of Practice, a regulatory control action may be taken for product adulteration or misbranding under the PPIA.[57] However, FSIS may not take a withholding action or impose a suspension,[58] refuse to grant inspection,[59] or withdraw inspection unless the establishment actually produced and shipped adulterated product.[60] As a result, these enforcement options are not available for dealing with instances of adulterated or potentially adulterated poultry product due to the inhumane treatment of birds. On the other hand, all of these actions may be taken in response to an establishment's failure to handle or slaughter mammals humanely.[61]

C. GCP Inspections Document Need for New Regulations to Prevent Inhumane Handling.

In order to identify the most common humane handling problems at U.S. poultry slaughter plants, Farm Sanctuary submitted a Freedom of Information Act request for FSIS enforcement records related to good commercial practices. More than 1,600 pages were received responsive to the request. Analysis of the records for January 2011 through June 2012 showed that birds dying other than by slaughter and inadequate cutting were two of the most common problems, and together these two categories represented nearly half of all GCP violations cited during the 18-month period (see table below). Another commonly cited violation of good commercial practices was improper handling, which included improper carrying of birds, use of excessive force, and the placement of live birds in "dead on arrival" ("DOA") bins.

GCP enforcement records (Noncompliance Records and Memorandums of Interview) were received for 120 different poultry slaughter plants—or 40 percent of all federally inspected establishments—for the 18-month period. In addition, FSIS provided reports of DVMS Good Commercial Practices Verification Visits for 62 establishments—or 21 percent of federal poultry establishments—for the 18-month period. It is encouraging that some plants have been assessed for GCP and that FSIS inspection personnel at some plants have taken action in response to observed GCP violations. However, there was no documentation regarding GCP activities of any kind at approximately half of all federal poultry plants during the 18-month period, according to the records received from FSIS. This indicates inconsistency within FSIS field operations and demonstrates the need for clear regulatory standards to define what is expected from poultry slaughter plants in terms of how live birds are to be handled in order to prevent both unnecessary animal suffering and adulteration.

[57] 9 C.F.R. § 500.2.
[58] 9 C.F.R. § 500.3-.4.
[59] 9 C.F.R. § 500.7.
[60] 9 C.F.R. § 500.6.
[61] 9 C.F.R. § 500.2-.7.

Types of "Good Commercial Practices" Violations at Federal Poultry Plants (January 2011 – June 2012)		
Violation	**#**	**%**
Bird(s) drowning in scald tank (various causes, usually inadequate cutting)	149	35.4
Improper handling (live birds in DOA bin; loose birds; improper carrying; unacceptable euthanasia method; use of excessive force)	117	27.8
Inadequate cutting (bird removed from line before scald tank)	44	10.4
Cages or equipment in state of disrepair (with potential to injure birds)	36	8.5
Excessive number of dead-on-arrival birds	18	4.3
Improper functioning of live hang belt (resulting in suffocation of birds)	18	4.3
Improper shackling (by 1 leg or wing; excessive hang time resulting in injury)	12	2.9
Inadequate holding procedures (excessive holding time; lack of protection from heat & cold; inadequate ventilation)	10	2.4
Excessive number of broken wings/legs	10	2.4
Inadequate stunning (bird removed from line before scald tank)	7	1.7
TOTAL	421	100.1

D. Inhumane Treatment of Poultry during Processing Leads to Adulteration.

FSIS is right to link bad treatment of birds to carcass adulteration. From the on-farm catching process to post-slaughter scalding baths, birds are subjected to handling and slaughter practices and actions that often cause them to be injured and their products to become adulterated. Birds may die by methods other than slaughter, become badly bruised, otherwise injured, or contaminated. The following actions can cause adulteration.

Birds experience stress and may be seriously injured during the on-farm catching process. Chickens and turkeys are typically caught by one or both legs, then inverted—usually by only one leg—and carried by the catchers, three or more birds per hand. The catchers place the birds, often by throwing or shoving, into transport crates. Catching and crating in this manner results in injuries, such as bruising and dislocated or broken bones, especially when excessive force is used.[62] Birds may also be injured and die during transportation to the slaughter plant. In a recently published study conducted in Denmark, lung congestion (a condition generally associated with smothering or suffocation) was the most common pathological observation in dead-on-arrival chickens. Nearly three-quarters of the chickens examined were thought to have died as a result of adverse conditions during pre-slaughter handling and transport, such as overcrowding and heat stress.[63]

During the receiving process, the birds arrive at the slaughter establishment and sit in transportation crates. In the crates, birds are sometimes subjected to extreme temperatures,

[62] N.G. Gregory & L.J. Wilkins, *Skeletal Damage and Bone Defects During Catching and Processing*, in C.C. Whitehead (ed.), Bone Biology and Skeletal Disorders in Poultry(Abingdon, UK: Carfax Publishing) (1992); *See also* J. Metheringham & R. Hubrecht, *Poultry in Transit—A Cause for Concern?*, 152 Brit. Vet. J. 247 (1996); N.G. Gregory, *Animal Welfare and Meat Science* (Wallingford, UK: CABI Publishing) (1998).

[63] V.P. Lund et al., *Pathological Manifestations Observed in Dead-on-Arrival Broilers at a Danish Abattoir*, 54 Brit. Poult. Sci. 430 (2013).

causing them to suffer and sometimes die from heat exhaustion or freezing temperatures.[64] After sitting in the crates, workers remove birds by various methods, such as tipping over crates, dumping out birds, or using metal poles.[65] These methods can cause serious bruising and lacerations, as birds fall out of the crates, are piled on top of each other, and struggle violently.[66] Birds can also become contaminated in transportation crates as a result of defecation.[67]

After being removed from transportation crates, workers transfer the birds to the slaughter line. While the birds are still alive and conscious, workers grab and slam their legs into metal shackles and hang them upside down.[68] Because shackles do not always match the size of the birds' legs, workers are sometimes forced to break their legs to fit the shackles.[69] Additionally, birds often struggle violently in shackles, resulting in bruising, lacerations, and dislocations.[70] As birds vigorously struggle and move in shackles, they can experience "hemorrhaging in the leg, thigh and breast,"[71] and "a significant amount of bruising is also thought to occur during violent ante-mortem struggling, i.e., the time between live-bird hanging and bleeding."[72]

Bruises, in addition to being painful, cause adulteration. One study approximated that "one in five downgraded broiler carcasses results from surface trauma that manifests itself in a bruise."[73] According to U.S. Department of Agriculture Agricultural Marketing Service, in 1998, 27 percent of poultry carcasses were downgraded, and bruising was identified as the cause of 27 percent, or approximately one in four, of the downgrades.[74] Moreover, that year, an additional 26 percent of poultry carcass downgrades were for wing trim.[75] Wing flapping associated with shackling has been shown to be a contributing factor in red wingtip condition in broiler chickens and turkeys.[76] One study found the incidence of wingtip condition to be nine times greater in shackled broilers who flapped compared with a control sample.[77]

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[64] *See, e.g.*, M. Petracci et al., *Preslaughter Mortality in Broiler Chickens, Turkeys, and Spent Hens Under Commercial Slaughtering*, 85 Poultry Sci. 1660 (2006) (confirming that heat stress from environmental conditions before slaughter can increase bird death); *see also* USDA, Food Safety & Inspection Serv., Directive 6100.3, *Ante-Mortem and Post-Mortem Poultry Inspection*, rev. 1, at 4 (Apr. 30, 2009).
[65] Sara Shields & Mohan Raj, *An HSUS Report: Welfare of Birds at Slaughter*, Humane Soc'y U.S., at 2 [hereinafter Shields & Raj HSUS Report] (citing S.M. Shane, *Future of Gas Stunning*, 6(4) WATT Poultry USA 16 (2005)).
[66] *Id.*
[67] I.V. Wesley, *Food Safety Issues and the Microbiology of Poultry*, Microbiologically Safe Food, 2009, at 178.
[68] Shields & Raj HSUS Report, *supra* note 65, at 2 (citing J.M. Sparrey & P.J. Kettlewell, *Shackling of Poultry: Is it a Welfare Problem*, 50 World's Poultry Sci. J. 167 (1994); N.G. Gregory & J.C., *Duration of wing flapping in chickens shackled before slaughter*, 121(24) Vet. Rec. 567 (1987)).
[69] *See, e.g.*, USDA, Food Safety & Inspection Serv., Directive 6100.3, *Ante-Mortem and Post-Mortem Poultry Inspection*, rev. 1, at 4 (Apr. 30, 2009) (directing inspectors to determine on ante-mortem inspection whether " . . . employees are breaking the legs of birds to hold the birds in the shackle or squeezing them into a shackle . . .").
[70] D.G. Satterlee, et al., *Struggling Behavior in Shackled Male and Female Broiler Chickens*, 79 Poultry Sci., 652 (2000).
[71] T. Hoen & J. Lankhaar, *Controlled Atmosphere Stunning of Poultry*, 78 Poultry Sci. 287 (1999).
[72] Satterlee, *supra* note 70, at 652-653.
[73] Satterlee, *supra* note 70, at 652.
[74] S.F. Bilgili, *Broiler Carcass Quality* 163 (1999), *available at* http://www.poultryscience.org/docs/pba/1952-2003/1999/1999%20Bilgili.pdf.
[75] *Id.*
[76] N.G. Gregory, et al., *Relationship between Wing Flapping at Shackling and Red Wingtips in Chicken Carcasses*, 124 Vet. Rec. 62 (1989).
[77] *Id.*

In addition to bruising and red wingtips, poultry carcasses may be downgraded or condemned due to broken or dislocated bones. Shackling resulted in broken and dislocated bones in 3 percent and 4.5 percent, respectively, of broilers studied by Gregory and Wilkins.[78] The researchers note that dislocations are important because they cause pain to the birds and lead to downgrading of the carcass through hemorrhage in the thigh muscles.[79] Animal welfare guidelines of the National Chicken Council (NCC) do not require that corrective action be initiated unless the level of broken or dislocated wings exceeds 5 percent.[80]

Throughout the shackling process, birds exhibit signs of serious stress[81] and pain.[82] For example, research shows that birds who are shackled for 60 seconds or longer produce significantly higher levels of stress hormones than birds who are not shackled.[83] These elevated levels of stress hormones negatively affect the poultry products, as studies have proven "the relationship between pre-slaughter stress and lower meat quality."[84] One study reported that:

> [B]irds [who] struggle before or during slaughter cause their muscles to run out of energy quicker, and rigor mortis forms much faster than normal. The texture of these muscles tends to be tough because energy was reduced in the live bird. A similar pattern occurs when birds are exposed to environmental stress (hot or cold temperatures) before slaughter.[85]

As a result, researchers have found that "[i]t is clearly important to limit this behavior in shackled fowl to reduce carcass downgrading and to maintain meat quality by reducing the incidences of bruises, red wing tips, and broken bones and by insuring greater muscle tenderness."[86]

The time interval between shackling and entering the waterbath varies between 15 and 120 seconds depending on the species and other factors. If the time between shackling and entering the bath is too brief, the bird will not "settle" on the line, increasing the chance of an improper stun; if the time is too long, the bird suffers increased pain and distress associated with

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[78] N.G. Gregory & L.J. Wilkins, *Broken Bones in Chickens: Effect of Stunning and Processing in Broilers*, 31 Brit. Poultry Sci. 53 (1990).
[79] *Id.*
[80] Nat'l Chicken Council, *National Chicken Council Animal Welfare Guidelines and Audit Checklist for Broilers*, , at 8, (2010) *available at* http://www.nationalchickencouncil.org/wp-content/uploads/2012/01/NCC-Animal-Welfare-Guidelines-2010-Revision-BROILERS.pdf.
[81] *See, e.g.*, Satterlee, *supra* note 70. ("Numerous factors present in commercial processing plants (e.g., rough shackling, plant noise, unevenness and bends in the conveyor line, temporary losses of visual contact between neighboring birds, and bright lights) have been qualitatively associated with the etiology of struggling behavior in shackled fowl (Gregory and Bell, 1987; Sparrey and Kettlewell, 1994).").
[82] S.J. Shields & A.B.M. Raj, *A Critical Review of Electrical Water-bath Stun Systems for Poultry Slaughter and Recent Developments in Alternative Technologies*, 13 J. Applied Animal W. Sci. 281 (Oct. 10, 2010) [hereinafter Shields & A.B.M. Raj].
[83] I. Bedanova, E. Voslarova, P. Chloupek et al., *Stress in Broilers Resulting from Shackling*, 86(6) Poultry Sci. 1065 (2007).
[84] *Id.*; *see also* G. Kannan, et al., *Effects of Crating and Transport on Stress and Meat Quality Characteristics in Broilers*, 76 Poultry Sci. 523 (1997).
[85] Julie K. Northcutt, *Factors Affecting Poultry Meat Quality*, Engormix (Jan. 12, 2009), http://en.engormix.com/MA-poultry-industry/meat-industry/articles/factors-affecting-poultry-meat-t1218/471-p0.htm.
[86] Satterlee, *supra* note 70.

inversion.[87] The stress induced by shackling and inversion "causes severe wing flapping which, in turn, increases the prevalence of dislocated joints and broken bones," according to the European Food Safety Authority.[88]

In most slaughter establishments, after birds are hung upside down and shackled, they move along the slaughter line to an electrical stunning bath, where their heads are dragged through a waterbath with an electrical current.[89] The electrical current is supposed to render them insensible and unconscious[90] and is the "most popular method of ensuring that birds are stunned and insensitive to pain during the bleed cut and bleeding [process]."[91] However, waterbath stunning is so inconsistent and unreliable that it is the opinion of the European Food Safety Authority that, unless numerous problems associated with waterbath stunning can be resolved, the method should not be used.[92]

According to the European Food Safety Authority, "When waterbath stunning is used, it is not possible to ensure that all birds are stunned."[93] With up to 20 birds in the waterbath at any one time, the amount of current delivered to each bird varies according to the electrical resistance or impedance of the individual bird.[94] Variation can be due to factors such as the number of birds in the waterbath; individual bird size, body muscle and fat content, and plumage condition; the depth of immersion; and the tightness of the shackles.[95] The effective electrical impedance can vary between 1000 and 2600 Ohms in broilers.[96] Moreover, the electrical conductivity of the water in the stunner bath may vary according to the presence of naturally occurring minerals in the water.[97] Recent scientific research has focused on the differences between varying levels of current and frequency electrical settings, finding that different settings produce problems with effective stunning and thus, carcass quality.[98]

Pre-stun shocks that induce wing flapping may cause birds to miss the waterbath partially or completely, causing birds to be inadequately stunned or to miss being stunned entirely.[99] Pre-

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[87] Eur. Food Safety Auth., *Scientific Opinion on the Electrical Requirements for Waterbath Stunning Equipment Applicable for Poultry*, (2012) [hereinafter European Food Safety Authority 2012]; *see also* Eur. Food Safety Auth., *Scientific Report of the Scientific Panel for Animal Health and Welfare on a Request from the Commission Related to Welfare Aspects of Animal Stunning and Killing Methods*, Eur. Food Safety Auth. (2004) [hereinafter Eur. Food Safety Auth. 2004].
[88] Eur. Food Safety Auth. 2004, *supra* note 87, at 125 (citing Gregory & Wilkens, 1990; Gregory et al., 1989).
[89] Shields & A.B.M. Raj, *supra* note 82.
[90] Mohan Raj, *Welfare During Stunning and Slaughter of Poultry*, 77 Poultry Sci. 1815 (1998).
[91] Hoen & Lankhaar, *supra* note 71; *see also* W.D. McNeal, et al., *Effects of Stunning and Decapitation on Broiler Activity During Bleeding, Blood Loss, Carcass, and Breast Meat Quality*, 82 Poultry Sci. 163 (2003) ("According to Heath et al. (1994) more than 92 percent of all poultry plants in the US subject poultry to electrical stunning . . .").
[92] Eur. Food Safety Auth. 2012, *supra* note 87 at 5.
[93] *Id.* at 4.
[94] Eur. Food Safety Auth. 2004, *supra* note 87, at 17.
[95] Shields & A.B.M. Raj, *supra* note 82; *see also* Eur. Food Safety Auth. 2012, *supra* note 87, at 17-18.
[96] Eur. Food Safety Auth. 2004, *supra* note 87, at 127 (citing Schutt-Abraham et al., 1987; Schutt-Abraham & Wormuth, 1991).
[97] Eur. Food Safety Auth. 2004, *supra* note 87, at 127.
[98] Shields & A.B.M. Raj, *supra* note 82.
[99] N.G. Gregory & J.C. Bell, *Duration of Wing Flapping in Chickens Shackled before Slaughter*, 121 Vet. Rec. 567 (1987); *see also* M.A. Rao, et al. *The Effect of Pre-stun Shocks in Electrical Water-bath Stunners on Carcass and Meat Quality in Broilers*, 22 Animal W. 79 (2013).

stun shocks are also painful to birds[100] and can have a significant effect on external carcass downgrading and internal meat quality.[101]

Birds can also miss the stunner if the height of the stunner is not adjusted properly or the bird is too small to reach the waterbath.[102] Electrical stunning baths are also subject to mechanical problems that can cause birds to be inadequately stunned.[103] When electrical stunning systems do not completely or adequately stun birds, some birds remain conscious or regain consciousness for subsequent handling and slaughter procedures, causing additional problems with struggling birds during the cutting and bleed out process.[104] Scientific studies provide data that support the opinion that a significant percentage of electrically stunned birds in the U.S. do not receive a current of sufficient magnitude to render them unconscious.[105] Using electric current higher than what is employed in U.S. poultry plants, researchers in the U.K. found that rhythmic breathing and corneal reflex returned 13 seconds after exiting the waterbath in 12 and 7 percent of birds, respectively.[106]

After birds are immobilized, a killing machine or worker is supposed to slit the jugular veins and carotid arteries on each bird's neck so they bleed out and die.[107] During bleeding, the birds lose up to half of their blood and suffer from brain failure and death.[108] Machines sometimes cut their necks too deeply, severing the spinal cord and making de-feathering difficult.[109] Machines may also cut their necks too shallowly, causing insufficient bleed out, which causes birds to die more slowly and results in discolored skin.[110] Equipment or consistency problems can cause birds to miss the mechanical slaughter machine altogether, requiring workers to kill birds by hand. [111]

Inadequately stunned birds may be able to avoid being cut by lifting their heads or flapping their wings.[112] Recently published research found that rhythmic breathing was present 8 seconds post-waterbath exit in 36 percent of birds who missed being cut, while a corneal reflex was observed at 13 seconds post-waterbath in 94 percent of birds missing the knife (using an average current

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[100] E.M.C. Terlouw, et al., *Pre-slaughter Conditions, Animal Stress and Welfare: Current Status and Possible Future Research*, 2 Animal Consortium 1501 (2008) (cited in Rao et al., 2013).
[101] Rao, *supra* note 99.
[102] Shields & A.B.M. Raj, *supra* note 82, at 288.
[103] McNeal, *supra* note 91.
[104] Shields & A.B.M. Raj, *supra* note 82; *see also* McNeal, *supra* note 91; *see also* Shields & Raj HSUS Report, supra note 65, at 3-5 (citing, e.g., A.B.M. Raj, M. O'Callaghan, & S.I. Hughes, *The Effects of Amount and Frequency of Pulsed Direct Current Used in Water Bath Stunning and of Slaughter Methods on Spontaneous Electroencephalograms in Broilers*, 15(1) Animal W. 19 (2006)).
[105] Shields & A.B.M. Raj, *supra* note 82, at 287.
[106] M.I. Anastasov & S.B. Wotton, *Survey of the Incidence of Post-Stun Behavioural Reflexes in Electrically Stunned Broilers in Commercial Conditions and the Relationship of Their Incidence with the Applied Water-Bath Electrical Parameters*, 21 Animal W. 247 (2012). The fact that the level of current used in the research was higher than what is typically used to electrically stun birds in the United States suggests that the percentage of birds showing post-stun behavioral reflexes would be higher in the U.S.
[107] A.R, Sams, *Poultry Meat Processing*, 22 (CRC Press, 2001).
[108] *Id*.
[109] *Id*.
[110] *Id*.
[111] McNeal, *supra* note 91; *see also* Lance A. Compa, *Blood, Sweat, and Fear: Workers' Rights in U.S. Meat and Poultry Plants*, Articles & Chapters, at 140, (2004), *available at* http://digitalcommons.ilr.cornell.edu/articles/331.
[112] F. Boyd, *Humane Slaughter of Poultry: The Case Against the Use of Electrical Stunning Devices*, 7 J. Agric. Environ. Ethics 221 (1994).

higher than that employed in U.S. slaughter plants).[113] When the birds' necks are not slit or are inadequately slit, they remain alive when they enter the hot water scalding bath and, consequently, die by drowning in scalding hot water.[114]

In electrical waterbath stunning, timing is crucial to ensure that both the stunning and bleed-out processes are effective. Sufficient time must be provided for a bird to lose enough blood to become irreversibly unconscious and die prior to immersion in the scald tank.[115] After the birds are cut and bled out, they are submerged in a hot water scalder to remove their feathers.[116] Scalding baths increase the risk of cross-contamination.[117] As birds enter the scalding water, large numbers of organisms on their bodies, including feces, salmonella, and campylobacter, are released into the water.[118] Live birds can become contaminated when they inhale these organisms in the baths.[119] When slaughter establishments keep the scalding baths at the temperatures that are necessary to prevent carcass discoloration, 122-127 °F, there is a high risk of cross-contamination of the organisms.[120]

Additional standard slaughter processes can contaminate poultry and poultry products.[121] Indeed, cross-contamination is "[t]he most difficult problem to control in poultry processing," and it "can arise from aerosols, process water and contact between carcasses and equipment or the hands of operatives."[122] For example, "[l]isteria contamination primarily is associated with the processing plant."[123] During the holding process in transportation crates, "[h]igh bird densities and high temperatures in the transport crates increase defecation and subsequent fecal contamination of the birds."[124] Thus, these practices can cause contamination even before the birds enter the slaughter process.

From the initial hanging process to the hot water scalding, birds move through the slaughter line at high speeds that allow facilities to process a large number of birds per minute. Up to 140-175 birds are processed per minute on the slaughter line at some facilities,[125] and recently proposed regulations would accelerate line speeds even further. Fast line speeds limit the amount of time

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[113] Anastasov & Wotton, *supra* note 106.
[114] Shields & A.B.M. Raj, *supra* note 82; *see also* Sams, *supra* note 107.
[115] Eur. Food Safety Auth. 2012, *supra* note 87.
[116] Sams, *supra* note 107.
[117] R. Takahashi et al., *Analysis of Campylobacter spp. Contamination in Broilers from the Farm to the Final Meat Cuts by Using Restriction Fragment Length Polymorphism of the Polymerase Chain Reaction Products*, 110 Int'l J. Food Microbiology 240 (2006) ("This stage is thought to be an important cross contamination point where spreading of campylobacters occurs.").
[118] G.C. Mead, *Problems of Producing Safe Poultry: Discussion Paper*, 86 J. Royal Soc'y Med. 39 (Jan. 1993); Takahashi, *supra* note 117; *see also* Wesley, *supra* note 67, at 179.
[119] Shields & Raj HSUS Report, *supra* note 65, at 8 (citing N.G. Gregory & P.E. Whittington, *Inhalation of Water During Electrical Stunning in Chickens*, 53(3) Res. Vet. Sci. 360 (1992)).
[120] Takahashi, *supra* note 117 ("This stage is thought to be an important cross-contamination point where spreading of campylobacters occurs."); *see also* Mead, *supra* note 118.
[121] Julie K. Northcutt, *Reference Guide for Solving Poultry Processing Problems*, http://www.caes.uga.edu/publications/pubDetail.cfm?pk_ID=7853.
[122] Mead, *supra* note 118.
[123] N.A. Cox, J.S. Bailey, M.E. Berrang, *The Presence of Listeria Monocytogenes in the Integrated Poultry Industry*, 6 J. Appl. Poultry Res. 116 (1997).
[124] Wesley, *supra* note 67, at 178.
[125] McNeal, *supra* note 91 ("Commercial processing plants presently slaughter up to 140 to 180 birds a minute.").

available to administer a back-up stun, or a back-up cut, if needed.[126] Because fast line speeds cause workers to struggle to adequately process poultry, birds are sometimes not properly stunned or slaughtered, and some are still alive when they reach the scalding tanks.[127] Indeed, reports indicate that at some slaughter establishments up to 3 percent of all birds may enter the scald tanks alive.[128] Additionally, according to a paper published in the Journal of the Royal Society of Medicine, high line speeds provide "little or no opportunity to sanitize implements after one bird has been dealt with and before another is ready," preventing workers from properly sanitizing areas to prevent the spread of contaminants after a contaminated bird passes through the slaughter line.[129]

E. Acts of Overt Abuse and Cruelty in Poultry Slaughter Establishments Also Result in Adulterated Products.

While not part of the standard poultry slaughter process, intentional acts of animal abuse and cruelty by workers do occur on a regular basis, and this behavior can cause injuries to the birds that result in adulteration. At a variety of slaughter establishments, workers and undercover investigators have reported examples of grotesque abuse and cruelty. The *New York Times* reported that an undercover investigator at a poultry slaughter establishment witnessed:

> 'hundreds' of acts of cruelty, including workers tearing beaks off, ripping a bird's head off to write graffiti in blood, spitting tobacco juice into birds' mouths, plucking feathers to 'make it snow,' suffocating a chicken by tying a latex glove over its head, and squeezing birds like water balloons to spray feces over other birds. He said the behavior was 'to alleviate boredom or vent frustrations,' especially when so many birds were coming in that they would have to work late.[130]

People for the Ethical Treatment of Animals (PETA) has documented hundreds of examples of cruelty at the Pilgrim's Pride slaughterhouse in Moorefield, West Virginia,[131] at a Butterfield slaughterhouse in Missouri,[132] an Arkansas Butterball plant,[133] and a Perdue slaughterhouse in

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[126] Federation of Veterinarians of Europe, *Welfare of Animals at Slaughter and Killing*, FVE/06/033 at 7-8 (Oct. 2007).
[127] *See, e.g.*, Shields & Raj HSUS Report, *supra* note 65, at 6 (explaining that high "line speeds can prevent the detection of live birds exiting the killing machine") (citing A.B.M. Raj, *Stunning and Slaughter of Poultry* (2004). In: G.C. Mead (ed.), *Poultry Meat Processing and Quality* (Cambridge, U.K. Woodhead Publishing Ltd.)).
[128] Alfred Almanza, *Setting the Record Straight on the Proposed Chicken Inspection Policy* (Apr. 13, 2012), http://www.huffingtonpost.com/alfred-v-almanza/chicken-inspection-new-policy_b_1424136.html; S. Shane, *Future of Gas Stunning*, 6(4) WATT Poultry USA 16 (2005).
[129] Mead, *supra* note 118.
[130] Donald G. McNeil, Jr., *KFC Supplier Accused of Animal Cruelty*, N.Y. Times, July 20, 2004, *available at* http://www.nytimes.com/2004/07/20/business/20chicken.html?pagewanted=all.
[131] *See, e.g.*, Eyewitness Testimony of Investigator for People for the Ethical Treatment of Animals, http://www.kentuckyfriedcruelty.com/u-pilgrimspride.asp (last visited Dec. 11, 2013); *see also* McNeil, *supra* note 130.
[132] People for the Ethical Treatment of Animals, *Undercover Investigations: If This Is the Best, What's the Worst?*, [hereinafter If This Is the Best, What's the Worst?] http://www.kentuckyfriedcruelty.com/u-georges.asp (last visited Dec. 11, 2013).
[133] People for the Ethical Treatment of Animals, *PETA's Butterball Investigators' Statements* (2006), http://www.peta.org/features/PETAs-Butterball-Investigators-Statements.aspx.

Maryland.[134] At the Pilgrim's Pride slaughterhouse, workers abused birds by slamming them into walls, twisting their necks to kill them, squeezing feces out of them, crushing and beating them, using them as footballs, and spraying them with spray paint. An investigation of the Butterfield slaughterhouse in Missouri showed "live birds were being thrown by workers and crushed by metal dumping machines. Birds were often impaled by mangled transport cages."[135] At the Butterball plant, investigators documented numerous acts of cruelty over a period of several months where workers strangled birds, slammed birds into shackles, and kicked them in the head, breaking their necks and crushing their skulls. Investigators in the Perdue slaughterhouse in Maryland noted numerous examples of abuse inflicted on birds. The investigators documented that birds screamed and struggled violently throughout the slaughter process, and birds dumped from the transport crates onto conveyor belts had visible broken legs and wings.

Mercy for Animals conducted an undercover investigation at House of Raeford slaughter establishments in Raeford, NC, and found shocking examples of inhumane and cruel treatment.[136] The investigator worked in the live hang area of the slaughter establishment and found:

> Turkeys with broken wings and legs, bloody open wounds, tumors and other untreated injuries being slaughtered for human consumption . . . A worker violently punching live, shackled turkeys for 'fun' . . . Employees forcefully shoving their hands into the cloacae (vaginal cavities) of live chickens . . . Turkeys and chickens being thrown across the facility and up into the air . . . Workers ripping the heads off live turkeys . . .Birds being crushed to death under the wheels of trucks . . . Conscious turkeys having their throats slit.[137]

Some of these investigations have revealed that standard practices and management decisions contribute to this abuse and cruelty, indicating systemic slaughter establishment problems. For example, a former worker at a Tyson slaughterhouse reported that during his five years of work, he documented many ways that birds died from methods other than slaughter, including systemic problems with practices and management that lead to bird trauma or death.[138] He explained how very high slaughter-line speeds prevented some birds from being slaughtered before scalding, resulting in disfigured birds.[139] He also reported that management at the facility ordered workers to operate the slaughter line in inappropriate ways that resulted in the improper deaths of birds, including one supervisor who ordered workers to continue operating a slaughter machine that had malfunctioned and was causing hundreds of birds to be inappropriately killed.[140] He also

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[134] People for the Ethical Treatment of Animals, *Undercover Investigations: Cruelty at a Perdue Plant in Showell, Maryland*, http://www.kentuckyfriedcruelty.com/u-cok_perdue.asp (last visited Dec. 11, 2013).
[135] If This Is the Best, What's the Worst?, *supra* note 132.
[136] Mercy for Animals, *Undercover Turkey Slaughterhouse Investigation* (2007), http://www.mercyforanimals.org/hor/.
[137] *Id*.
[138] United Poultry Concerns, *Formal Complaint, Whistleblower Tells of Deliberate Torture of Birds at Tyson Plant* (Feb. 24, 2003), http://www.upc-online.org/broiler/022403tysons.htm; Stephanie Simon, *A Killing Floor Chronicle*, L.A. Times, Dec. 8, 2003, *available at* http://articles.latimes.com/2003/dec/08/nation/na-virgil8.
[139] *Id*.
[140] *Id*.

documented egregious examples of animal abuse and cruelty, including an employee who shoved a dry ice bomb up a bird's rectum and caused the bird to explode and blow apart.[141] Practices such as high line speeds also pose a significant problem and contribute to abuse toward birds by preventing workers from taking adequate breaks, forcing some workers to resort to urinating or defecating on the slaughter establishment floor[142] or resulting in workers taking out their frustrations on the birds.[143] For example, at a Tyson slaughter establishment in Heflin, Alabama, "on nine separate days, PETA's investigator saw workers urinating in the live-hang area, including on the conveyor belt that moves birds to slaughter."[144]

F. FSIS Has Recognized a Need to Identify and Prohibit Specific Actions that Result in Adulteration.

Under similar circumstances, FSIS has recognized that regulations were necessary to identify and prohibit certain actions that result in adulteration. To uphold the PPIA requirement that slaughter establishments must not produce poultry products in insanitary conditions,[145] FSIS issued regulations that identify sanitation performance standards and prohibit specific problematic actions that result in insanitary practices.[146] The sanitation regulations dictate certain standards for facilities, equipment, employee hygiene, and other slaughter practices to ensure that poultry products are not produced in insanitary conditions or are adulterated,[147] and require that facilities adopt and implement sanitation operating procedures to prevent adulterated products.[148] FSIS has gone so far as to issue a sanitation performance standards compliance guide to assist facilities in complying with these requirements.[149] Through regulations and guidance, FSIS recognized that regulations prohibiting certain practices are sometimes necessary to uphold the PPIA's requirements. In that case, FSIS determined that the prohibition against insanitary conditions were, and are, insufficient to prevent adulterated products and that additional guidance and regulations are necessary to prevent the actions that lead to insanitary conditions.

G. Current Regulations Are Insufficient to Meet the Objectives of the PPIA.

FSIS's "Good Commercial Practices" are not clearly defined and are minimally and inconsistently enforced, because they do not have the full force of regulation. Furthermore,

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[141] *Id.*

[142] *The Speed Kills You: The Voice of Nebraska's Meatpacking Workers*, Nebraska Appleseed, Oct. 2009, 13-14, http://boldnebraska.org/uploaded/pdf/the_speed_kills_you_030910.pdf ("Almost ten years after Nebraska leadership took action to create the Nebraska Meatpacking Industry Workers Bill of Rights, many workers still describe having no choice but to urinate in their pants on the line because they are not allowed bathroom breaks.").

[143] *See, e.g.*, McNeil, *supra* note 130 (explaining how workers engaged in cruel behaviors out of frustration).

[144] *See* People for the Ethical Treatment of Animals, *Tyson Workers Torturing Birds, Urinating on Slaughter Line* https://secure.peta.org/site/Advocacy?cmd=display&page=UserAction&id=1121, (last visited Dec. 9, 2013), (regarding undercover investigation of Tyson Foods).

[145] The PPIA regulations require that: "[o]perations and procedures involving the processing, other handling, or storing of any poultry product must be strictly in accord with clean and sanitary practices and must be conducted in a manner that will result in sanitary processing, proper inspection, and the production of poultry and poultry products that are not adulterated." 9 C.F.R. § 381.65(a).

[146] 21 U.S.C. § 456; *see generally* 9 C.F.R. § 416.

[147] *See, e.g.*, 9 C.F.R. § 416.3; 9 C.F.R. § 416.5.

[148] *See, e.g.*, 9 C.F.R. § 416.12.

[149] USDA, Food Safety & Inspection Serv., *Sanitation Performance Standards Compliance Guide* (Oct. 13, 1999).

several forms of adulteration or potential adulteration, including contamination, bruising and broken bones, are not addressed by the current GCP regulation, 9 C.F.R. § 381.65(b), which is limited to the cessation of breathing prior to scalding. GCP audits currently being conducted by FSIS personnel extend well beyond live birds entering the scald tank.

FSIS's statistics show that millions of chickens and turkeys were condemned as adulterated in 2012, highlighting the need for more stringent regulations to eliminate this source of adulterated products.[150] In its 2005 notice, FSIS recognized that "[m]any poultry operations may not be aware of industry guidelines pertaining to the treatment of poultry at slaughter."[151] If slaughter establishments are not even aware of these guidelines, FSIS cannot expect slaughter establishments to adopt them or change their practices, further indicating that the current protocol for addressing animal handling is insufficient.

V. REQUEST FOR RELIEF: Promulgate Humane Poultry Regulations Under the PPIA

A. New Regulations Must Identify and Prohibit Standard Slaughterhouse Practices and Acts of Abuse and Cruelty that Result in Adulteration.

FSIS itself has identified inhumane handling of birds as a cause of adulteration. The agency must now regulate a solution to that problem. Without regulation, the solution will not be clearly recognized and implemented by industry or enforced by agency inspection personnel. Moreover, interested parties—including consumers—that have a stake in how the government oversees poultry production should be afforded an opportunity to contribute to the determination of how "good commercial practices" for poultry handling is defined. Therefore, FSIS should adopt poultry handling regulations that identify and prohibit practices that lead to adulteration and should require compliance from all FSIS-inspected facilities.[152] Without issuing regulations to address this problem, FSIS will fail to meet its mandate. [153]

B. Regulations Should Be Applied to All Regulated Poultry Slaughterhouses.

Under the PPIA, slaughter establishments, including certain ritual, custom, retail, and other slaughter establishments, are exempt from some PPIA requirements.[154] However, these exemptions are limited and are not applicable to the PPIA requirements that relate to prohibiting adulterated products. For example, ritual slaughter operations for religious purposes are only exempt from the PPIA "to the extent that the Secretary determines necessary to avoid conflict with such requirements while still effectuating the purposes of this chapter."[155] Ritual slaughter operations are required to follow the PPIA regulations unless they apply for and obtain an exemption from specific regulations.[156] Indeed, kosher slaughter establishments can be shut

[150] USDA, *Poultry Slaughter: 2012 Summary*, at 5 (Feb. 2013), *available at* http://usda01.library.cornell.edu/usda/current/PoulSlauSu/PoulSlauSu-02-25-2013.pdf.
[151] USDA, Food Safety & Inspection Serv., Treatment of Live Poultry before Slaughter, 70 Fed. Reg. 56624-01 (Sept. 28, 2005).
[152] 21 U.S.C. § 463(b).
[153] 9 C.F.R. § 381.65(a).
[154] *See*, *e.g.*, 21 U.S.C. § 464 (a)(3); 21 U.S.C. § 464(c)(1)(B) (defining the various types of exemptions under the PPIA).
[155] 21 U.S.C. § 464(a)(3).
[156] 9 C.F.R. § 381.11 (exemptions based on religious dietary laws).

down for failing to comply.[157] Similarly, custom exempt facilities must still comply with sanitation requirements and must not produce adulterated food.

FSIS's handbook addressing PPIA exemptions states that:

> The Act does not exempt any person slaughtering or processing poultry from the provisions requiring the manufacturing of poultry products that are not adulterated and not misbranded. Thus, all businesses slaughtering or processing poultry for use as human food, including exempt operations, must produce poultry product that is not adulterated or misbranded.[158]

Thus, all FSIS-inspected facilities must be required to comply with the newly promulgated regulations.

C. Regulations Should Build On FSIS's Work-to-Date on Inhumane Poultry Slaughter.

It is clear from enforcement records obtained through the Freedom of Information Act that GCP audits are not being conducted at an adequate level or consistently throughout all FSIS field operations. Comprehensive regulations that define and codify GCP guidelines, based on the best available science, would increase enforcement actions and provide the poultry slaughter industry with clear guidance for what is expected in terms of humane handling of birds at slaughter.

FSIS should promulgate comprehensive regulations regarding poultry slaughter which address all areas where animals might suffer injuries that will increase the likelihood of the carcass becoming adulterated, from gathering on farms through to and including the full slaughter process, as discussed in section IV D. Moreover, regulations should address all methods of poultry slaughter that have been approved by FSIS, including electrical waterbath stunning, controlled atmosphere stunning/killing, and low atmosphere pressure stunning.

Within the comprehensive review and promulgation of regulations, we recommend the following:

1. Update and Codify Good Commercial Practices in Regulation.

FSIS's statutory mandate under PPIA is to prevent adulteration. Currently, USDA audits poultry slaughter establishments for GCP using the National Chicken Council's animal welfare guidelines and audit checklist.[159] However, USDA has not recognized NCC guidelines as representing good commercial practices for poultry slaughter. Moreover, USDA has not conducted an independent, scientific assessment of the validity of these guidelines in terms of reducing animal suffering or product adulteration. In fact, the NCC industry standards are

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[157] *See* 21 U.S.C. § 464(a)(3).

[158] USDA, Food Safety & Inspection Serv., *Guidance for Determining Whether a Poultry Slaughter or Processing Operation is Exempt from Inspection Requirements of the Poultry Products Inspection Act* (Apr. 2006).

[159] Nat'l Chicken Council, *National Chicken Council Animal Welfare Guidelines and Audit Checklist for Broilers*, (2010), *available at* http://www.nationalchickencouncil.org/wp-content/uploads/2012/01/NCC-Animal-Welfare-Guidelines-2010-Revision-BROILERS.pdf.

primarily based on commercial objectives, not animal welfare or food safety; thus, they allow for higher rates of adulteration than several third-party animal welfare certification programs, national standards for several major U.S. trading partners, and the international animal welfare guidelines of the World Organization for Animal Health ("OIE").

For example: 1) NCC does not require action on DOAs until the level exceeds 0.5 percent, while the American Humane Certified,[160] Certified Humane,[161] and Freedom Foods[162] certification programs require action at 0.2 to 0.3 percent.[163] 2) NCC allows birds with dislocated or broken legs or wings to be shackled, while OIE recommends that they be humanely killed.[164] 3) NCC guidelines do not address live hang time duration, electrical current levels, minimum stunning duration, or maximum interval between stunning and neck cutting, all of which have both humane and adulteration consequences.[165] 4) NCC guidelines allow plant holding times up to 15 hours, far above what is recommended by animal welfare certification programs and the OIE. Long holding times increase injuries and DOAs, and they also increase live weight shrinkage, all of which increases adulteration rates.[166]

Thus, FSIS should update its GCP standards based on the best science. As a starting point, the promulgated regulations should require:

a) All establishment personnel working with live poultry are trained in proper handling procedures prior to first coming in contact with any bird and at least every six months thereafter. This training should be recorded, and the record made available to inspection personnel.
b) Holding time at the slaughtering establishment is kept to a minimum and must not exceed six hours. Birds being held for slaughter must be protected from extremes of temperature and humidity.
c) Transport crates and holding and shackling areas are maintained in good repair to prevent injury and pain to birds.
d) Loose birds are handled with a minimum of excitement and discomfort. Injured or sick birds must be humanely euthanized, and no live birds are to be placed in the DOA bin.

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[160] American Humane Association, *Animal Welfare Standards for Broiler Chickens* (Feb. 23, 2012), *available at* http://humaneheartland.org/index.php?option=com_content&view=article&id=3&Itemid=106&jsmallfib=1&dir=JSROOT/Animal+Welfare+Standards+Full+Standards.

[161] Humane Farm Animal Care, *Animal Care Standards February 2009 - Chickens, available at* http://www.certifiedhumane.org/uploads/pdf/Standards/English/Std09.Chickens.2J.pdf.

[162] RSPCA, *Welfare Standards for Chickens* (Apr. 2011) *available at* http://www.freedomfood.co.uk/media/9303/chickens.pdf.

[163] Recently published research studying the condition of flocks of broilers arriving at a slaughter plant in Denmark documented a mortality rate of 0.3 percent, reinforcing the position that a DOA rate of 0.5 percent is excessive. V.P. Lund et al., *Pathological Manifestations Observed in Dead-on-Arrival Broilers at a Danish Abattoir*, 54 Brit. Poult. Sci. 430 (2013).

[164] World Organisation for Animal Health (OIE), *Chapter 7.5, Slaughter of Animals, available at* http://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/2010/en_chapitre_1.7.5.htm.

[165] Nat'l Chicken Council, *National Chicken Council Animal Welfare Guidelines and Audit Checklist for Broilers*, (2010), *available at* http://www.nationalchickencouncil.org/wp-content/uploads/2012/01/NCC-Animal-Welfare-Guidelines-2010-Revision-BROILERS.pdf.

[166] S.F. Bilgili, *Slaughter Quality as Influenced by Feed Withdrawal*, 58 World's Poult. Sci. J. 123 (2002). *See also* C.E. Lyon et al., *Effect of Feed Withdrawal on Yields, Muscle pH, and Texture of Broiler Breast Meat*, 70 Poult. Sci. 1010 (1991).

e) For systems using live hang, birds are transferred from transport crates to shackles with a minimum of excitement and discomfort to the animal. All birds must be carried and shackled by both legs, and the duration between hanging on shackles and stunning is kept to a minimum and is between 15 and 60 seconds.

f) For electrical stunning systems, waterbaths are adequate in size and depth for the type and number of birds being slaughtered. The design must allow for the height to be adjusted according to bird size to ensure that the heads of all birds are properly immersed, up to the base of the wings. The design must also ensure that birds are calm as they enter the bath and do not receive pre-stun shocks.

g) For electrical stunning systems, an interval of no more than 10 seconds between stunning and neck cutting. There must be an adequate interval between cutting and scalding to allow for sufficient blood loss that results in death.

h) No conscious or live birds are allowed to enter the scalding tank. To decrease the incidence of cadaver birds, at least one back-up cutter must be present at all times that the slaughter line is operating. In addition, a worker should be permanently stationed at the entrance to the scald tank to identify and remove any conscious birds from the line.

i) Handling and slaughter is performed in a manner that minimizes bruises, broken legs, and broken wings. There should be 2 percent or less broken or dislocated wings.

j) All birds with dislocated or broken legs or wings must be humanely killed rather than shackled for slaughter, consistent with the recommendations of the World Organization for Animal Health.

2. Update and Codify the April 2009 Directive[167] in Regulation.

Inspectors should not just look to see whether establishments are engaging in the practices covered by the directive; regulations must explicitly prohibit the mistreatment of birds. It makes no sense for a legal requirement—the elimination of adulteration from ill treatment—to be treated in the observational manner spelled out in the 2009 directive. For example, if employees are "breaking the legs of birds to hold the birds in the shackle" or birds are "frozen inside the cages or frozen to the cages themselves" or employees are "driving over live birds with equipment or trucks," FSIS is right to note that this as a violation of the PPIA. Thus, regulations must explicitly spell out as prohibitions the practices acknowledged in the directive to cause cruelty and adulteration.

Individuals, slaughter establishments, and facilities that are subject to the PPIA's requirements must be prohibited from engaging in abuse and cruelty that results in adulterated products, including: 1) kicking, hitting, mutilating, or torturing poultry; 2) breaking the legs or other bones

[167] USDA, Food Safety & Inspection Serv., Directive 6100.3, *Ante-Mortem and Post-Mortem Poultry Inspection*, rev. 1, at 4 (Apr. 30, 2009) (On the day of slaughter, inspectors are supposed to conduct an ante-mortem inspection during which they observe the birds before or after they are removed from transportation trucks. Inspectors are supposed to designate poultry as suspect or condemned based upon their conditions and whether they have diseases or conditions that warrant such action.).

of poultry; 3) driving over poultry with trucks or other equipment; 4) contaminating poultry with paint, human waste, or other substances; 5) otherwise injuring poultry outside normal protocols; 6) killing poultry outside of approval protocols (e.g., throwing live birds into bins with dead birds); or 7) mistreating the carcass of a dead bird.

3. Update and Codify the December 2009 DVMS Directive[168] in Regulation.

As noted, the goal of the directive is to encourage DVMSs "to evaluate whether live birds are treated humanely, and whether slaughter procedures consistently result in thorough bleeding of the birds and cessation of breathing prior to scalding."[169] Instead, the tacitly acknowledged requirements for operation in accordance with the legal requirements of the PPIA must be stated explicitly as requirements in regulation. All of the questions (e.g., whether equipment is causing unnecessary bird injuries, whether stunning equipment is working, whether there is evidence of death other-than-by-slaughter) are focused on issues where, if the answer is "no," the plant is in violation of the PPIA.

4. All Plants Should Be Required to Implement a Systemic Approach to Animal Handling.

The December 2009 directive states that DVMSs are to meet with facilities during an exit interview to discuss findings and observations, including whether birds are being handled in accordance with good commercial practices.[170] In facilities that are not implementing a "systematic approach" as recommended in the 2005 humane handling notice, the DVMS is to recommend that they do so.

Such a systemic approach should be required, and should be aligned to all promulgated regulations. The plan should include conducting an assessment of where handling problems may occur and developing and implementing a written plan to address each potential problem identified. Components of a written good commercial practices handling plan should include, but may not be limited to:

a) Training of employees in the proper handling of live birds;
b) Methods of catching birds that minimize excitement, discomfort, and injury;
c) Maintenance of transport cages to minimize discomfort and injury to the birds;
d) Provisions for protection from extremes of weather (heat or cold) during transport;
e) Provisions for adequate ventilation and protection from inclement weather and extremes of temperature and humidity in holding areas;
f) Procedures for the removal and, if relevant, the shackling of birds that minimize excitement, discomfort, and injury;
g) Procedures for handling loose birds in the unloading and live hang areas;

[168] USDA, Food Safety & Inspection Serv., Directive 6910.1, *District Veterinary Medical Specialist: Work Methods*, rev. 1 (Dec. 7, 2009).
[169] *Id.*
[170] *Id.* at 17-18.

h) Methods of humane euthanasia of ill, injured, or condemned birds;
i) Procedures to minimize the occurrence of pre-stun shocks;
j) Procedures for monitoring of birds for effective stunning;
k) Procedures for monitoring of birds for effective cutting;
l) Procedures to address inadequate stunning and miscuts; and
m) Procedures for monitoring of birds to ensure no live birds enter the scalding tank.

The written good commercial practices handling plan should be dated and signed upon initial acceptance by FSIS officials and upon any modification. Every establishment should reassess the adequacy of the good commercial practices handling plan at least annually and whenever any changes occur that could affect the analysis of potential problems or the handling plan. The written plan should be available for official review and copying.

5. The Systemic Approach Should Be a Regulatory Requirement Under PPIA (Precautionary Principle).

FSIS should prohibit practices and actions that lead to adulteration at all times, even if an individual instance of non-compliance would not result in adulterated products. FSIS relies on a similar precautionary principle to implement the PPIA requirement that facilities operate in accordance with sanitary practices.[171] Under sanitary requirements, slaughter establishments are required to implement sanitary practices at all times to avoid adulterated and contaminated poultry products even if failure to follow these practices would not necessarily result in adulteration all of the time.[172] Facilities must do so even if an individual instance of non-compliance with a sanitary practice would not result in adulteration.[173] This demonstrates that the sanitary regulations are based on preventative and precautionary principles that err on the side of safety by prohibiting insanitary conditions that are known to result in adulterated products some of the time. Because adulteration from insanitary practices parallels adulteration from inhumane practices, FSIS should prohibit these inhumane practices at all times, relying on a similar precautionary principle.

D. FSIS Should Promulgate Regulations That Spell Out Penalties for Violations of Good Commercial Practices.

The current scheme for preventing instances of inhumane slaughter of birds falls far short of HMSA enforcement efficacy, in part because FSIS Rules of Practice[174] do not allow for issuance of suspensions, withdrawal of inspection, or refusal to grant inspection for violations of poultry good commercial practices. Violations are merely documented in Noncompliance Records (NRs) or Memorandums of Interview (MOIs) with no further consequences. As a result, establishments

[171] 21 U.S.C. § 456 (requiring that facilities operate in accordance with sanitary practices to prevent against adulterated products).
[172] 21 U.S.C. § 456; *see also* 9 C.F.R. § 416.1 (requiring "each official establishment must be operated and maintained in a manner sufficient to prevent the creation of insanitary conditions and to ensure that product is not adulterated").
[173] For example, one of the sanitary regulations requires that employees "adhere to hygienic practices while on duty to prevent adulteration of product." 9 C.F.R. § 416.5.
[174] 9 C.F.R. Part 500.

are likely to take GCP violations less seriously than those that may result in stronger enforcement actions, such as suspension. For example, one federal poultry establishment received a total of 28 NRs/MOIs for GCP violations, most of which represented serious incidents involving live birds entering the scalding tank, within one recent 18-month period. FSIS should therefore revise its Rules of Practice to allow for the issuance of a suspension or withdrawal of inspection for repeated or egregious violations of poultry good commercial practices.

VI. CONCLUSION

Currently, billions of birds are killed and tens of billions of pounds of poultry products are consumed each year in the United States. Scientific research and industry studies demonstrate that the process by which birds are slaughtered can lead to adulteration. Moreover, undercover investigations in the nation's poultry plants have documented incidents of intentional cruelty to birds that result in both animal suffering and product adulteration. FSIS has acknowledged the causal connection between inhumane handling and slaughter of birds and adulterated poultry products. In recent years FSIS has taken action to regulate humane handling and slaughter of poultry by conducting Good Commercial Practices audits and issuing Noncompliance Records and Memorandums of Interview for observed deficiencies. However, FSIS has not updated PPIA regulations consistent with the agency's current enforcement practices, and GCP-related activities are both infrequent and uneven among FSIS field offices. The PPIA grants FSIS the authority to promulgate regulations concerning handling practices that have the potential to result in product adulteration. Given that FSIS is charged with ensuring that poultry slaughterhouses operate in a manner that prevents adulteration, the agency must meet its statutory obligations under the PPIA by promulgating regulations to limit the inhumane handling of birds at slaughter.