

# Slaughter Food Safety Standard

## Objectives

After completion of this module, the participant will be able to:

1. List the three contaminants covered by the food safety standard in livestock slaughter.
2. Identify the carcass parts that must be free of the three contaminants covered by the livestock food safety standard.
3. Identify the location where FSIS verifies the food safety standard for livestock carcasses.
4. Identify the contaminant covered by the food safety standard in poultry slaughter.
5. Identify the location where FSIS verifies the food safety standard for poultry carcasses.
6. Describe how to perform the livestock zero tolerance verification task.
7. Describe how to perform the poultry zero tolerance verification task.
8. List the actions IPP take when they find a zero tolerance failure during the performance of the poultry and livestock zero tolerance verification tasks.
9. Document zero tolerance verification tasks in PHIS.
10. Describe the enforcement actions when repetitive zero tolerance noncompliance is documented in PHIS.

## Introduction

The Food Safety and Inspection Service (FSIS) published in FR 97-067N notification that the Agency views its “zero tolerance” for visible fecal material as a food safety standard. In slaughter establishments, fecal contamination of carcasses is the primary avenue for contamination by pathogens including Shiga toxin producing *E. coli* (STECs), *Salmonella*, and *Campylobacter*. These pathogens may reside in fecal material, both in the gastrointestinal tract and on the exterior surfaces of the animal or bird going to slaughter. Without proper handling and sanitary dressing of carcasses during slaughter, the edible portions of the carcass can become contaminated with bacteria capable of causing illness

in humans. The organisms may spread directly from carcass to carcass or indirectly by hands, utensils, or equipment.

Because fecal material is a vehicle for pathogens, and because virtually all slaughter establishments recognize that contamination of meat by pathogenic microorganisms from fecal material, ingesta, or milk is a food safety hazard that is reasonably likely to occur in the slaughter production process, IPP are to verify that slaughter establishments have implemented process controls that are effective in reducing the occurrence of pathogens. To determine the effectiveness of the establishment's controls, FSIS enforces a "zero tolerance" standard for visible fecal material on poultry carcasses and visible fecal, ingesta, or milk material on livestock carcasses, head, cheek, and weasand meat at inspected establishments that slaughter poultry or livestock at a specific point in the process.

Now let's discuss the slaughter food safety standard for livestock and poultry postmortem and how it is verified.

## **Enforcing Food Safety Standard for Livestock Postmortem**

**References:** FSIS PHIS Directive 6420.2, Regulations: 9 CFR 310.17(a), 310.18(a), and Part 417.

### **On-Line Livestock (Cattle including Veal, Swine, Sheep and Goat) Inspection**

**On-line IPP** verify the removal of contamination while examining heads, viscera, carcasses, and carcass parts during post-mortem inspection. If on-line IPP observe contamination on heads, viscera, carcasses and carcasses parts, IPP do not pass the carcass or part until all the contamination is promptly removed in a satisfactory manner. IPP verify that livestock slaughter establishments are complying with 310.17(a), and 310.18(a).

310.17(a) states:

*Lactating mammary glands and diseased mammary glands of cattle, sheep, swine, and goats shall be removed without opening the milk ducts or sinuses. If pus or other objectionable material is permitted to come in contact with the carcass, the parts of the carcass thus contaminated shall be removed and condemned.*

9 CFR 310.18(a) states:

*Carcasses, organs, and other parts shall be handled in a sanitary manner to prevent contamination with fecal material, urine, bile, hair, dirt, or foreign matter; however, if contamination occurs, it shall be promptly removed in a manner satisfactory to the inspector.*

On-line inspectors inspect carcasses and parts using the livestock inspection procedures outlined in FSIS Directive 6100.2. On-line IPP focus their attention on carcass by carcass or product examination and determine whether or not the establishment is meeting the regulatory requirements in the regulations referenced above.

### **Carcass Inspection**

On-line IPP in livestock establishments inspect each carcass to ensure each carcass and attached parts are free of fecal material, milk, ingesta, urine, bile, hair, dirt, or foreign matter contamination as part of the final rail post-mortem inspection. When on-line inspectors find feces, ingesta, or milk on livestock carcasses, the establishment reexamines and removes all contamination from the entire carcass. **On-line inspectors take a regulatory control action and stop the slaughter line unless:**

- The establishment has provided a rail-out loop; **and**
- The IIC has determined that the establishment's rail-out loop is adequate and operated in a manner to maintain sanitary conditions (i.e., prevents carcass-to-carcass contact or cross contamination due to carcasses accumulating on the rail-out loop)

**Note:** The rail-out loop allows the establishment to rail contaminated carcasses off-line for trimming of the carcass off-line. On-line IPP reinspect the railed out carcasses trimmed by the establishment after the establishment places them back on-line before the on-line inspection station.

Additionally, on-line inspectors are to notify the IIC or, if unavailable, other off-line IPP when they believe that:

- An establishment's slaughter or sanitary dressing processes are not under control, for example, when there is repetitive presentation of carcasses contaminated with fecal material, ingesta, or milk at the rail inspection station; or
- An establishment's rail-out procedure is inadequate to prevent carcass accumulation and cross-contamination of other carcasses.

### **Head Inspection**

IPP inspect heads that the establishment has prepared in a sanitary manner and are ready for inspection based on the method of presentation that has been approved by the FLS or IIC. The method may vary with the species of livestock. If the on-line head inspector finds contamination on any surface of the head during

inspection, the on-line head inspector is authorized to stop the line until such contamination is removed and the inspection is completed. Before inspecting and passing the head, the on-line head inspector verifies on-line that the establishment removes the contamination (on-line or off-line) in a safe and sanitary manner. On-line IPP also verify that the establishment properly disposes of heads that do not pass inspection.

On-line head inspectors notify the IIC or, if unavailable, other off-line IPP when they believe that the establishment's slaughter process is not under control (e.g., repeated presentation of heads contaminated with fecal material, ingesta, or milk during postmortem inspection). To determine the effectiveness of the establishment food safety system, off line IPP are to perform a livestock zero tolerance task, sanitary dressing procedure task, and verify other regulatory requirements as needed.

### **Weasand Meat Inspection**

While performing viscera inspection, if the on-line inspector finds contamination on weasand meat during the harvesting step, the on-line inspector is to verify the contamination is removed before the weasand meat can be passed. On-line viscera inspectors notify the IIC or other off-line IPP when they believe that the establishment's slaughter process on the table or at viscera inspection is not under control, e.g., repeated presentation of weasand meat, other parts, or carcasses contaminated with fecal material, ingesta, or milk for postmortem inspection. To determine the effectiveness of the establishment food safety system, off line IPP are to perform a livestock zero tolerance task, sanitary dressing procedure task, and verify other regulatory requirements as needed.

**Note:** On-line IPP who retain carcasses or carcass parts for veterinary disposition are not to authorize establishment trimming until final inspection by a Public Health Veterinarian (PHV) has been made per 9 CFR 310.3. IPP are to notify off-line IPP or PHV if there are any concerns over the identity, location, or sanitary handling of retained carcasses and associated parts. Retained carcasses and associated parts are identified using devices in 9 CFR 312.6(a). Requirements for inspection facilities, handling of contaminated or retained carcasses and parts, and the reinspection of livestock and poultry carcasses or parts to ensure such carcasses or parts are not adulterated or misbranded are specified in 9 CFR 307.2(g), 310.3, 310.17(a), 310.18(a), 318.2(b) and (d), 381.65(f) and 381.91. **Any retained carcass or part that passes inspection by the PHV is subject to reinspection and zero tolerance verification.**  
**Livestock (Cattle including Veal, Swine, Sheep and Goat) Food Safety Standard Verification**

**Off-line IPP** verify that an establishment has adopted controls in its food safety system that it can demonstrate are effective in reducing the occurrence of pathogens, including the controls that prevent contamination of carcasses and

carcass parts with fecal material, milk and ingesta. Off-line IPP follow instructions, perform verification or inspection tasks, and take enforcement actions as described in FSIS PHIS Directives 5000.1 and 5000.6. When off-line IPP verify the adequacy of the establishment's procedures in preventing the contamination of carcasses and head, cheek, and weasand meat with **fecal material, ingesta, or milk**, they follow the instructions and verification methods including performing Livestock Zero Tolerance tasks as outlined in FSIS Directive 6420.2.

IPP verify the food safety standard for visible fecal, milk, and ingesta contamination on livestock carcasses at or after the **postmortem rail inspection station** and before any additional trimming, washing, or application of carcass interventions by performing the Livestock Zero Tolerance verification task. The establishment's CCP for pathogen contamination or visible contaminants may be at other locations as supported by the hazard analysis. For example:

- The establishment may locate the CCP after the postmortem rail inspection station.
- In other cases, the establishment may have a CCP prior to the postmortem rail inspection station.

**Note:** Regardless of the location of the establishment's CCP, FSIS off-line IPP will verify compliance with the livestock zero tolerance food safety standard at or immediately after the rail inspection station and before any additional trimming, washing, or application of any interventions.

Head meat, cheek meat and weasand meat may be used in the production ground beef products. If the meat from these parts is contaminated; it represents a way of importing pathogens, including *E. coli* O157:H7, other Shiga toxin producing *E. coli* (STECs), and *Salmonella spp.*, into ground beef products. Hence, to reduce the possibility of *E. coli* O157:H7, other Shiga Toxin producing *E. coli* (STECs), and *Salmonella* contamination, establishments must also meet the food safety standard for no visible fecal, milk, or ingesta contamination on head meat, cheek meat, and weasand meat. This verification takes place after the establishment has implemented all of its controls and interventions, and at the point of final packaging or when product is placed in a container for storage which is considered to be the end of the harvesting process.

IPP verify hearts, oxtails, market heads, stomachs, intestines, livers, and other meat by-products not attached to the carcass are clean and harvested in a sanitary manner. These organs are not subject to zero tolerance verification unless they are attached to the carcass. When these carcass parts are contaminated, IPP verify other regulatory requirements such as sanitary dressing 9 CFR 416.1 and 416.4(d) and slaughter HACCP requirements in 9 CFR Part

417 to determine whether the establishment's control measures and sanitary dressing procedures prevent contamination during the production process.

Livestock heads, tails, or other parts attached to the carcass at the final rail are subject to zero tolerance verification and are inspected with the carcass when IPP perform the zero tolerance task.

Livestock parts separated from the carcass and not subject to livestock zero tolerance verification ***are subject to*** slaughter HACCP verification.

### **Livestock (Cattle including Veal, Swine, Sheep and Goat) Zero Tolerance Verification Task**

#### **Frequency of the Verification Task**

Off line IPP are to perform the Livestock Zero Tolerance Verification task on carcasses and head, cheek, and weasand meat at a minimum of **one time per slaughter shift**. Each livestock zero tolerance verification task includes examination of not only carcasses but also head, cheek and weasand meat. IPP may verify the slaughter food safety standard on carcasses and head, cheek, and weasand meat at the same or at different times during the shift.

IPP perform additional ***directed*** zero tolerance tasks whenever the establishment's slaughter process and sanitary dressing appear out of control. Off-line IPP make such a determination based on:

- Notification by on-line IPP that there is repetitive presentation of carcasses, heads or viscera contaminated with fecal material, ingesta, or milk during postmortem inspection;
- Observations or findings of insanitary dressing which confirm on-line IPP observations;
- Observations of insanitary dressing made on the slaughter or processing floor (e.g., head boning); or
- Previous findings of zero tolerance noncompliance.

#### **Livestock Carcass Verification**

Off-line IPP verify zero tolerance on a pre-determined number of carcasses selected after postmortem inspection and at or after the postmortem rail inspection station but prior to additional trimming, washing, or application of interventions to the carcass. Off-line IPP verify the selected carcasses are not contaminated with visible fecal material, ingesta, or milk. If necessary, IPP retain

the selected carcasses to ensure the establishment does not continue to trim the carcasses while off-line IPP are completing their verification.

Off-line IPP follow the steps below when verifying the establishment's food safety system is controlling fecal material, ingesta, or milk contamination on livestock carcasses during the zero tolerance task.

1. Determine the expected slaughter volume for the shift (i.e., the total number of animals to be slaughtered on the shift).
2. Based on the expected slaughter volume for the shift, determine the number of carcass units (whole carcasses, carcass sides, or equal numbers of hind and forequarters) to be examined depending on what can be done safely and efficiently within a particular establishment and by using the following table. For example, if the table instructs IPP to examine 12 whole carcasses (12 carcass units), they could alternately examine 24 sides or 24 forequarters and 24 hind quarters.

Slaughter Volume (# of animals pershift)	# of Carcass Units (1 Unit = whole carcass)	# of Sides
100 or less	2	4
101 to 250	4	8
251 to 500	8	16
More than 500	12	24

**Note:** For each zero tolerance task performed, it is not necessary to examine all of these units at the same time.

3. Select the carcass units at or after the **postmortem rail inspection station** for examination on-line **regardless of the location of the establishment's CCP**. IPP select the carcass units for the slaughter food safety standard verification as follows:
  - After trimming of contamination identified by the on-line inspector,
  - After the on-line inspector completes carcass inspection,
  - Before washing of the carcass,
  - Before application of post final rail carcass antimicrobial interventions,
  - Before disassembly of the carcass, and
  - In a random manner.

**Note:** In certain situations, such as those related to worker safety, the IIC with concurrence of the FLS may develop appropriate alternative or temporary procedures with establishment management for carcass inspection to be properly and efficiently conducted until such deficiencies can be permanently addressed.

4. Examine the outside of the selected carcass units using the same method that on-line IPP use at the postmortem rail inspection station.

**Note:** For hide-on veal calves, IPP are to perform zero tolerance on all exposed (i.e., not covered by hide) and internal surfaces

5. Identify fecal material or ingesta using the color and texture characteristics, and milk using the color and consistency characteristics provided in Directive 6420.2 and Attachment 3 of this handout.
6. Keep the PHV-IIC or supervisor aware of the establishment's process control status as needed.

**Note:** IPP in one-inspector assignments perform livestock zero tolerance verification tasks when acting in the off-line inspector role, i.e., the IPP "changes" roles from "on-line inspector" to "verification inspector" when verifying the slaughter food safety standard. IPP use the same carcass selection criteria described above.

### **Head Meat, Cheek Meat, and Weasand Meat Verification**

As part of each Livestock Zero Tolerance verification task performed, off-line IPP also verify that head, cheek, and weasand meat are not contaminated with visible fecal material, ingesta, or milk when the product is ready for final packaging or to be placed in storage. Off-line IPP follow the steps below when verifying that head meat, cheek meat, and weasand meat are free of feces, ingesta, and milk during the zero tolerance task.

1. Review the HACCP plan.
2. Examine the same amount of product as the establishment has listed in the HACCP plan for its monitoring procedure.

**Note:** 9 CFR 417.5(a)(2) requires that the establishment maintain a written HACCP plan, including decision-making documents associated with the selection and development of the CCPs and critical limits, and documents that support both the monitoring and verification procedures selected and the frequency of those procedures. Because the establishment is required to have documents to support the monitoring procedures (amount of product examined), IPP should examine the same amount of product as the



establishment has listed in the HACCP plan for the monitoring procedure. If the establishment does not have documents supporting the monitoring procedures, sample size, and frequency, there is noncompliance with 9 CFR 417.5(a)(2).

3. Select product at the final packaging step or when the product is placed in a container for storage after all of the establishment controls and interventions.
4. Examine all outer surfaces of the product selected for fecal material, ingesta, or milk. Identify fecal material or ingesta using the color and texture characteristics, and milk using the color and consistency characteristics provided in Directive 6420.2 and Attachment 3 of this handout.

## Enforcing the Food Safety Standard for Poultry Postmortem

**References:** FSIS , FSIS Directive 6420.5, FSIS Regulation 381.65(f), and part 417.

### Verifying that Establishments Prevent Carcasses Contaminated with Feces from Entering the Chilling System

IPP inspect birds for wholesomeness and verify establishment systems are adequate and effective in controlling food safety hazards and producing safe wholesome product. FSIS enforces a food safety standard of zero for visible **fecal material** on poultry carcasses through postmortem inspection and reinspection activities at poultry slaughter establishments.

9 CFR 381.65(f) states:

*Official poultry slaughter establishments must develop, implement, and maintain written procedures to ensure that poultry carcasses contaminated with visible fecal material do not enter the chiller. Establishments must incorporate these procedures into their HACCP plans, Sanitation SOPs, or other prerequisite programs.*

IPP do not allow poultry carcasses with visible feces to enter the chiller or the chill step. FSIS views preventing carcasses with visible fecal contamination from entering the chilling tank as critical to preventing the cross-contamination of other carcasses.

**Note:** FSIS Directive 6420.5 and this handout provide instructions for conducting verification activities to determine whether an official establishment is complying with 9 CFR 381.65(f). This directive does not affect or change the requirements associated with the inspection, reinspection, or disposition of poultry carcasses observed to have pathological conditions per 9 CFR 381.81 to 381.93.

**Note:** Poultry major portions and parts are not subject to poultry zero tolerance verification but are subject to slaughter HACCP verification.

### **Poultry Zero Tolerance Verification Task**

IPP assigned to establishments that operate under Streamlined Inspection System (SIS), New Line Speed Inspection System (NELs), New Turkey Inspection System (NTIS), or Traditional Inspection systems are to perform scheduled and unscheduled Poultry Zero Tolerance verification tasks off line to verify that the establishment is preventing carcasses with fecal material from entering the chiller (9 CFR 381.65(f)).

### **Frequency of the Verification Task**

**Off-line** IPP are to conduct **at least two** fecal contamination checks for each evisceration line for every shift (i.e., the number of checks will total at least 2 times the number of lines per shift) and as scheduled by the Public Health Veterinarian. For example, in a four evisceration line poultry slaughter establishment, IPP will perform and document 8 poultry zero tolerance verification checks for each shift. In establishments with multiple slaughter lines, IPP may need to schedule directed tasks in PHIS above the routine number of Poultry Zero Tolerance Verification Tasks assigned by PHIS to meet the two fecal contamination checks for each evisceration line for every shift requirement. For example, if the establishment has four lines and two routine zero tolerance verification tasks were already scheduled for the day, then at least six additional zero tolerance tasks should be performed as directed tasks.

### **Poultry Carcass Verification**

Off-line IPP are to verify the establishment's dressing process prevents poultry carcasses with visible fecal contamination from entering the chilling system (air, ice or tank chilling). Off-line IPP follow the steps below when performing poultry zero tolerance verification tasks.

1. Randomly select 10 carcasses using an established FSIS method after the final wash and prior to entering the air or tank chiller.
2. Examine the selected carcasses off line, at either:
  - The pre-chill testing station; or
  - Any location after final trim prior to the chiller tank in establishments operating under traditional inspection.

3. Examine the selected carcasses using the following inspection method:
  - For the outside back – While holding the carcass, with the back of the carcass toward the observer, start at the hock area and observe the hocks, back part of the legs, tail area, back of the carcass and top side of the wings.
  - For the outside front – Turn the carcass and observe the bottom side of the wings, breast, and front part of the legs
  - For the inside – Observe the inside surfaces of the carcass and the abdominal flaps and fat.
  - For the neck flap area – Observe the neck flap and the thoracic inlet area.
4. Identify fecal material using the color, consistency and composition characteristics provided in Directive 6420.5 and in Attachment 1 of this handout.

**Note:** For poultry carcasses ingesta found during zero tolerance or FPS verification is “extraneous material” that may contribute to development of insanitary conditions in the chiller; it is not a zero tolerance noncompliance. If ingesta is observed during the zero tolerance task, the establishment should be notified of the finding and remove it from the carcass or part. IPP are to evaluate any findings of ingesta contamination with respect to the establishment’s sanitary dressing and to consider the possible sources of the ingesta contamination when performing their verification activities.

## **Documentation of Livestock and Poultry Zero Tolerance Verification Results in PHIS**

IPP must verify either 9 CFR 310.18(a) or 9 CFR 381.65(f) while performing the zero tolerance task. IPP may also verify any of HACCP regulations in Part 417 while performing the task. After verifying the regulations, off-line IPP document the results in PHIS. IPP select the “review and observation” verification activity radio button on the “Activity” tab of the Inspection Results page for **each** zero tolerance task performed.

### **Documenting Compliance with the Zero Tolerance Task**

When IPP **do not** observe any fecal material, ingesta, or milk on livestock carcasses or on head, cheek, or weasand meat, or feces on poultry carcasses during the verification, and no other regulatory noncompliance is observed, they select the mandatory regulation and any HACCP regulations they verified on the

“Regulations” tab. IPP mark the zero tolerance task as ‘Inspection Completed’ at the bottom of the Inspection Results page.

### **Documenting Noncompliance with the Zero Tolerance Task**

If IPP find feces, ingesta, or milk on livestock carcasses or head meat, cheek meat, or weasand meat while performing the livestock zero tolerance verification task, **or** find feces on poultry carcasses while performing the poultry zero tolerance verification task, IPP are to:

- Verify regulatory requirements associated with 9 CFR 310.18(a), or 381.65(f) and any HACCP regulations verified during zero tolerance verification task,
- Notify the establishment that a zero tolerance noncompliance with 9 CFR 310.18(a) or 381.65(f) exists. If the zero tolerance finding is on a livestock carcass after the postmortem rail inspection station, or on a poultry carcass after the pre-chill testing station, **and** at or past the establishment’s zero tolerance CCP, IPP inform the establishment that a deviation from a critical limit has occurred,
- Document the noncompliance on an NR citing 9 CFR 310.18(a) or 381.65(f) **and** 9 CFR 417.2(c)(4) if a deviation from a critical limit has occurred (the establishment failed to adequately monitor at a CCP to ensure compliance with the critical limit),
- For poultry zero tolerance failures include a statement that the establishment is not preventing feces from entering the chiller on the NR,
- Document noncompliance with any additional HACCP regulations that were verified during the zero tolerance task on the same NR, and
- Select the mandatory 9 CFR 310.18(a) or 9 CFR 381.65(f) regulation plus any HACCP regulations that were verified while performing the task on the “Regulations” tab of the Inspection results page.

**Note:** When IPP determine zero tolerance noncompliance while performing the zero tolerance verification task, they are to perform a Slaughter HACCP Verification task to verify that the establishment performs corrective actions for the affected product in accordance with 9 CFR 417.3(a).

## HACCP System Verification after Positive Zero Tolerance Findings

After notifying the establishment of the zero tolerance noncompliance, off-line IPP are to:

- Schedule either a **directed** Slaughter HACCP or Operational SSOP Review and Observation verification task in PHIS,
- Indicate “zero tolerance noncompliance” as the reason for performing the directed task in PHIS, and
- Verify the establishment has performed all the required corrective actions in accordance with 9 CFR 417.3(a), 417.3(b), or 416.15(b) and 417.3(b) and is properly implementing its HACCP system.

### Which Corrective Actions Requirements Must be Met?

**If controls in HACCP plan:** When the establishment has a zero tolerance CCP in a HACCP plan, IPP are to verify the establishment has met the **HACCP** requirements in while performing the directed (follow-up) Slaughter HACCP verification task. The establishment has, per **9 CFR 417.3(a)**:

- Identified and eliminated the cause of the deviation,
- Ensured that the CCP is under control after the action is taken (e.g., another zero tolerance failure is not likely to be detected if the task were performed again),
- Established measures to prevent recurrence, and
- Ensured that no product that is injurious to health enters commerce.
  - The sampled carcasses are restored to a wholesome, unadulterated condition before they continue on the line or re-enter the chiller (air or tank), and
  - The affected product (carcasses and parts) represented by the sample is safe, wholesome, and not adulterated. This usually involves isolating all product back to the establishment’s last acceptable zero tolerance check and restoring wholesomeness or another “supportable” action.

**If controls in SSOP:** For poultry establishments that have incorporated procedures for preventing carcasses with visible fecal material from entering the chiller into the Sanitation SOP, IPP are to verify the establishment has met the **SSOP** and the **HACCP unforeseen hazard** corrective action requirements while

performing the directed (follow-up) Operational SSOP Review and Observation verification task. The establishment has, per **9 CFR 416.15(b)**:

- Ensured appropriate disposition of contaminated product,
- Restored sanitary conditions, and
- Prevented recurrence of direct contamination or adulteration of products,

And, the establishment has, per **9 CFR 417.3(b)**:

- Segregated and held affected product,
  - The affected product usually involves isolating all product back to the establishment's last acceptable zero tolerance check or another "supportable" amount of product.
- Determined acceptability of affected product for distribution,
- Ensured that no product injurious to health enters commerce, and
- Performed a reassessment.

**If controls in Prerequisite Program:** For poultry establishments that have incorporated procedures for preventing carcasses with visible fecal material from entering the chiller into another prerequisite program, IPP are to verify the establishment has met the **HACCP unforeseen hazard** corrective action requirements while performing the directed (follow-up) Slaughter HACCP verification task. The establishment has, per **9 CFR 417.3(b)**:

- Segregated and held affected product,
  - The affected product usually involves isolating all product back to the establishment's last acceptable zero tolerance check or another "supportable" amount
- Determined acceptability of affected product for distribution,
- Ensured that no product injurious to health enters commerce, and
- Performed a reassessment.

## Verify the Establishment's HACCP System Implementation and Recordkeeping

IPP are to use the review and observation, recordkeeping, or both verification components during the Slaughter HACCP or Operational SSOP verification task to verify that the establishment is meeting the regulatory requirements.

IPP may directly observe carcasses (hands-on examination) at the establishment's zero tolerance CCP (9 CFR 417.8), or the point in the process identified in the Sanitation SOP or other prerequisite program; review the establishment's slaughter HACCP plan, Sanitation SOP, or other prerequisite program, and **observe establishment personnel:**

- Performing the establishment's zero tolerance monitoring procedure at the specified frequency in the plan (9 CFR 417.2 (c)(4), Sanitation SOP (416.13(b)) or other prerequisite program (417.5(a)(1)),
- Performing the establishment's verification, direct observation of monitoring procedure, observing the establishment employee conducting the zero tolerance monitoring procedure at the specified frequency (9 CFR 417.2(c)(7)), or

**Note:** The establishment's direct observation of the employee performing the zero tolerance check verifies the individual is finding and correctly identifying all feces, ingesta, or milk on carcasses or parts. Establishment verification procedures also verify carcasses found to be contaminated are restored to wholesome unadulterated state.

- Performing corrective actions (9 CFR 417.3 and/or 416.15)

**Note:** The establishment should start corrective actions upon being notified of the zero tolerance failure. For poultry carcass zero tolerance failures, the establishment's corrective actions are likely to address carcasses already in the chiller, about to enter the chiller, the chiller media (if the chiller is a tank), and the carcasses that have exited the chiller.

IPP may **review establishment records** related to its zero tolerance CCP, or the procedures for preventing poultry carcasses contaminated with fecal material from entering the chiller in the Sanitation SOP or other prerequisite program. IPP should seek the answers to the following questions.

1. Does the establishment have documentation that supports the location of the zero tolerance CCP, and the development of the monitoring and verification procedures and frequencies according to 9 CFR 417.5(a)(2) or support for the development of the monitoring and frequencies in the

Sanitation SOP or other prerequisite program according to 9 CFR 417.5(a)(1)?

2. Does the establishment have records that document the results of its zero tolerance monitoring and verification procedures?
3. Does the establishment document all corrective actions performed in accordance with 9 CFR 417.5(a)(3) or 416.16(a)?

**Note:** IPP are to refer to FSIS Directive 5000.1 for instructions on determining SSOP and HACCP noncompliance.

### **Documenting the Result of the Slaughter HACCP or Operational SSOP Review and Observation Verification Task in PHIS**

When the establishment is in compliance with the regulations, IPP select the mandatory HACCP regulations, or Sanitation SOP regulations, and any other regulation they verified on the “Regulations” tab and mark the task as ‘Inspection Completed’ at the bottom of the Inspection Results page.

If IPP find noncompliance with a HACCP regulation, Sanitation SOP regulation or any other regulatory requirement, they are to notify the establishment and document the noncompliance on an NR citing the appropriate regulation per FSIS Directive 5000.1. For instance, if a poultry establishment has incorporated procedures to prevent carcasses with visible fecal contamination from entering the chiller into the Sanitation SOP, and does not monitor the daily implementation of such procedures, the IPP would issue an NR citing 9 CFR 416.13(c) and 381.65(f).

If a poultry establishment does not have written procedures to prevent carcasses with visible fecal contamination from entering the chiller or has not incorporated the procedures into its HACCP system, IPP are to issue an NR citing 9 CFR 381.65(f).

**Note:** If IPP find zero tolerance failures on livestock carcasses past the final rail or on poultry carcasses, major portions, or parts at or beyond the pre-chill testing station while performing inspection tasks other than the zero tolerance task (**stumble-on occurrences**), they are to document the noncompliance under the appropriate PHIS task (Slaughter HACCP or Operational SSOP Review and Observation verification task). IPP are to verify that the establishment implements corrective action that meets the requirements of 417.3(a), 417.3(b), or 416.15(b) and 417.3(b) and that the establishment’s is properly implementing its HACCP system during the performance of this task. Off-line IPP may need to perform a **directed** instance of the routine verification task unless the verification task is already scheduled for that day and it has not been completed.



## Enforcement

### Association of Noncompliance

- If IPP find repeated zero tolerance noncompliance and determine that these findings are from the same cause, the current NR is to be associated with a most recent zero tolerance or related NR.
- For each NR, IPP are to use the NR reporting tools in PHIS to identify previous NRs that might be associated with the current NR. IPP are to refer to the PHIS Users Guide for instructions on how to use the PHIS tools for this purpose. When associating NRs for the same cause, IPP are to follow the methodology set out in FSIS PHIS Directive 5000.1
- If the findings do not show the same cause, IPP are not to associate the NRs.

**Note:** FSIS PHIS Directive 5000.1 and 6410.1 indicate noncompliance with SPS requirements can be associated to Sanitation SOP or HACCP noncompliance for the same cause including the zero tolerance NRs.

### The System Approach in Enforcement

When evaluating the overall effectiveness of the food safety system, IPP have access to the results of any establishment testing and of any monitoring activities that may have an impact on the establishment's hazard analysis (See FSIS Directive 5000.2 and FSIS Directive 5000.6). IPP are to review establishment testing results on at least a weekly basis while performing the PHIS "Review of Establishment Data" task.

When IPP have concerns about whether the documented zero tolerance noncompliance is repetitive and indicative a system failure, the IIC is to consider repeated and associated zero tolerance findings in NRs with other inspection results or establishment records support a need for additional enforcement actions.

The IIC is to factor in any trends of zero tolerance noncompliance with results from HACCP, SSOP, sanitary dressing, and SPS verification. IPP are to also compare any trends in noncompliance as they relate to FSIS and establishment testing. The IIC is to determine whether the findings show that there have been isolated incidents of zero tolerance noncompliance, or if the findings are evidence of a systemic problem with the food safety system. Such an evaluation is to consider the following:

1. Evidence or lack of evidence that the establishment has implemented all required parts of its HACCP system (e.g., HACCP, SSOP, sanitary dressing, or pre-requisite programs).
2. The rate of HACCP, SSOP, Sanitary Dressing or SPS noncompliance.
  - Compliance with HACCP (9 CFR 417) requirements,
  - Sanitation SOP compliance (FSIS PHIS Directive 5000.1),
  - Sanitation Performance Standard compliance (FSIS PHIS Directive 5000.1), and
  - Sanitary Dressing compliance (FSIS Directive 6410.1)
3. Any trend in the rate of noncompliance over time (increase or decrease).
4. Supporting documentation (9 CFR 417.5(a)(1)) or verification results (9 CFR 417.5(a)(2)) that the establishment's corrective actions and preventive measures (e.g., antimicrobial interventions) are effective or not effective .
5. Relevant laboratory testing results in conjunction with records such as:
  - Any other establishment testing data (FSIS Directive 5000.2 Rev. 2),
  - Generic *E. coli* (or other indicator organism) results from establishment testing or carcasses, or parts that indicate increasing microbial contamination, and
  - FSIS microbiological testing results (e.g. *Salmonella* test results and multiple positive STEC results in raw beef manufacturing trimmings from FSIS routine and follow-up sampling).
6. The association of zero tolerance and related NRs with evidence of inadequate implementation of the food safety system (HACCP, SSOP, Sanitary Dressing, and SPS) or laboratory testing can lead to a determination that the food safety system is less than adequate. If so, the IIC is to alert the Frontline supervisor (FLS) and follow the methodology set out in FSIS PHIS Directive 5000.1, Chapter VI, Rules of Practice 1. Enforcement Actions, to determine the appropriate enforcement action.

**Note:** Off-line IPP must be aware that zero tolerance noncompliance may be indicative of insanitary dressing procedures prior to final inspection or packaging. IPP need to consider what regulatory requirements can also be verified closer to the source or origin of the contamination.

## Attachment 1

### Identification of Feces for Poultry

To determine whether an establishment is preventing poultry carcasses with visible fecal material from entering the chilling tank (as required by 9 CFR 381.65(f)), inspection program personnel who examine carcasses must be able to properly identify feces.

Three factors—color, consistency, and composition—are essential in identifying fecal material on the inside or outside of poultry carcasses.

- The color of feces ranges from varying shades of yellow to green, brown, and white.
- The consistency of feces is characteristically semi-solid to a paste.
- The composition of feces may or may not include plant material. Inspection program personnel must take care to distinguish feces from ingesta.
- The color of ingesta varies with the diet.
- The consistency of ingesta is characteristically solid or granular; digestive fluids sometimes are present.
- The composition of ingesta is identifiable plant material.

(9 CFR 381.65(f) does not apply to ingesta. However, inspection program personnel who find ingesta during fecal contamination checks are to notify establishment management to remove ingesta from affected carcasses.)

## Attachment 2

### Livestock Carcass Examination

Based on the expected slaughter volume for that shift (number of animals), IPP determine the number of carcasses or carcass sides to be examined, using the following table.

Number of Animals Slaughtered	Number of carcasses to be Sampled	Number of sides to be Sampled
100 or fewer	2	4
101 to 250	4	8
251 to 500	8	16
More than 500	12	24

- a. Select the appropriate number of carcass units randomly.
- b. Examine the selected carcass units using the same systematic technique that inspection IPP use at the post-mortem rail inspection station.
- c. IPP performing zero tolerance verification may separately and independently examine the designated number of hind quarters and forequarters to verify the appropriate number of sides or carcasses.
- d. IPP may use the above table when slaughtering multiple livestock species provided carcasses are selected randomly.

## Attachment 3

### Identification of Contaminants for Livestock

To verify the proper removal of contamination from carcasses or carcass parts, IPP assigned to verify that the sanitary dressing procedures are effective must be able to properly identify feces, ingesta, or milk. IPP are to verify the presence of feces, ingesta, or milk by color, texture, and consistency.

The actual appearance of feces and ingesta reflect the diet, age of the animal, type of animal (functioning rumen; non-ruminant) and regional feeding practices. Therefore, the descriptions below are guidelines and are not absolute. The PHV-IIC in each official establishment is the final arbiter regarding any disputed findings of feces, ingesta, or milk representing a zero tolerance noncompliance.

#### A. Livestock Feces and Ingesta

IPP are to identify foreign material as feces or ingesta based on two factors: color and texture.

Livestock Feces and Ingesta Contamination Identification Chart				
	Cattle		Swine	Sheep and Goat
Color	Cattle; and Heavy Calf (ruminating)	Calf (non ruminating)	Yellow, tan, brown, or green.	Green, brown, to black
	Yellow, green, or brown	White, yellow, tan		
Texture	Fibrous or plant-like texture; may include grain particles depending on diet.	Pasty	May include identifiable grain particles or fibrous plant material.	Fibrous or plant-like; feces or ingesta may also be tarry.
Size:	The size or quantity of feces or ingesta is largely unimportant in identifying fecal or ingesta contamination. However, as size decreases, color and texture become more difficult to discern.			

**NOTE:** Bile is a contaminant on carcasses and parts per 9 CFR 310.18 but is not counted as a zero tolerance defect.

## **B. Milk**

Inspection program personnel are to identify foreign material as milk based on two factors: color and consistency.

Milk, if present, tends to be found on the midline, during or after removal of mammary glands (udder) from lactating animals.

<b>Criteria for Identification of Milk on Livestock Carcasses</b>			
	<b>Beef</b>	<b>Swine</b>	<b>Sheep and Goat</b>
<b>Color</b>	clear to white to light yellow		
<b>Consistency</b>	watery to ropy or curdy		

## **Workshop: Food Safety Standard in Slaughter**

Refer to the handout to complete the following questions.

1. What contaminants are covered by the food safety standard in livestock slaughter?
2. What parts must be free of these contaminants?
3. At what location will FSIS verify the food safety standard for livestock carcasses?
4. Where will FSIS verify the food safety standard for head meat, cheek meat, and weasand meat in livestock slaughter operations?
5. If a livestock slaughter establishment has a CCP for visible contaminants for livestock carcasses at the final washer, where would FSIS verify compliance with the food safety standard?
6. A GS-7 inspector is performing on-line inspection at the rail inspection station in a large beef slaughter establishment. He notices a fecal smear on the hindquarter of a carcass. The establishment has a rail-out procedure.
  - a. What action would he take?
  - b. What action would he take if the establishment had no rail-out procedure?
  - c. What is expected of the establishment?
  - d. Would a Noncompliance Record (NR) be completed by the on-line inspector? By the off-line inspector if he or she was functioning as the on-line inspector?

- e. If the GS-7 found repeated instances of contaminated carcasses during his time at the rail inspection station, what would he do?
- 
- 7. A GS-8 off-line slaughter inspector is assigned to a large beef slaughter establishment that kills 2000 head per shift. He is performing a Livestock Zero tolerance verification task to verify compliance with the slaughter food safety standard.
    - a. How many **sides** would be selected for examination?
    - b. Where, and with what technique, would the sample sides be examined?
    - c. If ingesta were found on one carcass side, what action would he take?
- 
- 8. What contaminants are covered by the food safety standard in poultry slaughter?
- 
- 9. At what location will FSIS verify the food safety standard for poultry slaughter?
- 
- 10. If the establishment has a CCP at the antimicrobial rinse after the pre-chill FPS inspection location and just prior to the chiller, where would FSIS verify compliance with the slaughter food safety standard?



11. A new GS-8 off-line slaughter inspector is assigned to a large poultry slaughter operation that has 4 lines and slaughters 160,000 per shift. The establishment has two shifts.
- a. How many fecal contamination checks would need to be performed for one shift including all lines?
  - b. How many birds are examined at each check?
  - c. How are the birds selected at the pre-chill inspection station?
  - d. If she found identifiable fecal material, what actions would she take?
  - e. If she does not find any fecal material in any of the checks, what actions would she take?
12. While performing a Poultry Zero tolerance task to verify the slaughter food safety standard on line 2, the IPP found feces on chicken carcass, verified the establishment corrective actions, and documented noncompliance on an NR. About an hour after the establishment performed corrective actions and restarted line 2; he notices feces on a carcass on line 2 after the washer and prior to the chiller. The establishment tells him since this fecal contamination finding was not part of the Poultry Zero tolerance verification task, his finding was not a slaughter food safety standard (zero tolerance) failure.
- Note:** The establishment has incorporated written procedures that prevent poultry carcasses contaminated with visible fecal material from entering the chiller into a HACCP plan).
- a. Is the establishment correct?

- b. Is there noncompliance? If so, what inspection task should be used to document the noncompliance?
  - c. If you determine that there is noncompliance with the regulatory requirements, what regulations should be cited on the NR?
13. How do off-line IPP determine the amount of product to inspect when performing the Livestock Zero Tolerance verification task in a livestock slaughter establishment to verify that the meat from heads, cheeks, and weasands are not contaminated with fecal material, ingesta, or milk?

## Zero Tolerance Verification Task Hands-on Exercise

### General Instructions

- Read the General information and answer the question,
- Schedule the directed poultry fecal zero tolerance verification tasks on the task calendar,
- Read each scenario and document the result of the poultry zero tolerance verification task in PHIS based on the findings, and
- Schedule a Slaughter HACCP verification task to document your verification of the establishment compliance with all parts of 417.3(a) and that the establishment is properly implementing its slaughter HACCP system.

### Establishment Information

You are **Cindy Soundly** the off line IPP assigned to Novosibar which is a poultry slaughter establishment. Novosibar operates two 8 hour shifts, 5 days a week. The establishment has 4 evisceration lines but only two lines are operating on the day shift today. You decide to schedule one poultry zero tolerance task as routine and the remainder as directed.

**Note:** The establishment has incorporated written procedures that prevent poultry carcasses contaminated with visible fecal material from entering the chiller into its HACCP plan, i.e., it has zero tolerance CCP).

How many directed instances of the routine poultry zero tolerance task should be scheduled for today?

### Schedule Poultry Zero Tolerance Tasks in PHIS

Add the one routine task and the number of directed poultry zero tolerance verification tasks that should be scheduled for today to the task calendar.

**Use the PHIS Quick Reference GUIDE as needed.**

## **Poultry Zero Tolerance Verification Task Scenarios**

### **Scenario 1: The Routine and One of the Directed Task Findings**

At approximately 8:10 a.m., you randomly selected 10 birds from line 1 for the routine task and at approximately 8:40 a.m. you randomly selected 10 birds from line 2 for the first directed task. You examined the carcasses at the pre-chill finished product standards station. You did not observe any identifiable fecal material on the poultry carcasses during your verification, and no other regulatory noncompliance was observed.

### **Scenario 2: Second Directed Task Findings**

At approximately 11:25 a.m., you randomly selected 10 birds from line 1. You examined the carcasses at the pre-chill finished product standards station. In the neck area of the 3rd carcass selected, you observed a ½ inch by ¼ streak of yellowish granular material. In the same area of 8<sup>th</sup> carcass selected, you observed a ¾ inch by ¼ streak of greenish granular material. You determine that these defects are ingesta and notify the kill floor supervisor, Mr. Hurbert Jones. The ingesta was trimmed from the carcasses. You did not observe any identifiable fecal material on the poultry carcasses and no other regulatory noncompliance was observed.

### **Scenario 3: Third Directed Task Findings**

At approximately 1:00 p.m., you randomly selected 10 birds from line 2. You examined the carcasses at the pre-chill finished product standards station. On the outside back of the 7th carcass selected, you observed a ½ inch by ¼ brown pasty smear with plant material. You determine that the defect is fecal material. You notify the establishment kill floor supervisor, Mr. Hurbert Jones, and the evisceration supervisor, Jane Fontana, of the fecal contamination. Mr. Jones is shown the contamination and states “this is ingesta not feces”. Your supervisor PHV-IIC, Dr. Phyllis Isaacs, is shown the carcass and confirms the fecal contamination finding. You observe Ms. Fontana remove the contaminated carcass and take it to reprocessing where it was rinsed with 20-30 ppm chlorinated water.

You stay in the area while the establishment performs corrective actions on the remaining affected product. Ms. Fontana determined that the vent machine was out of adjustment and the following corrective actions were taken.

- Maintenance stopped the line to readjust the vent machine;
- All product between the vent machine (after it was readjusted) and the chiller was retained for reconditioning and reprocessing;
- The overflow in the chill system for the carcasses was increased;
- The level of chlorine in the chiller was increased from 20 ppm to 40 ppm;
- All surfaces of the carcasses from the last acceptable monitoring check (approximately 40 minutes of production) were rinsed with 20-30 ppm chlorinated water; and
- After the line was restarted, a QC technician sampled and examined carcasses entering the chill system for visible fecal material.

## Scenario 4: The Slaughter HACCP Verification Task

### Schedule the Slaughter HACCP Verification Task

Since the establishment has a zero tolerance CCP in their HACCP plan, and IPP find identifiable fecal material on a carcass or carcass part while performing a Poultry Zero Tolerance task, IPP are to perform a **directed** Slaughter HACCP verification task to verify the establishment has performed all required HACCP corrective actions per 9 CFR 417.3(a) and is properly implementing its Slaughter HACCP system.

Schedule a directed Slaughter HACCP verification task. Use “zero tolerance noncompliance” as the justification.

### Task Findings

You directly observed some of the establishment’s corrective actions at the time the establishment implemented them (see scenario #3 above). Near the end of the shift, you review the establishment’s corrective action record in the HACCP coordinator’s office. In addition to the corrective actions you observed above, you find the following entries.

- Maintenance personnel will inspect the functioning of the vent machine at first break; lunch and second break for each shift and make adjustments as needed. The result of each check will be documented on the fecal monitoring record.
- Three fecal checks instead one check were performed per clock hour for the remainder of the shift. The additional fecal checks were documented on the fecal monitoring record.

You ask the HACCP coordinator for the fecal monitoring record for the shift. He gives you all of the monitoring records for the shift which includes the chlorine log for the chilling CCP. You note that the establishment documented 6 fecal checks

for the last 2 hours for the shift. In addition, you see that the establishment has documented the vent machine check for the second break. You decide to review all the monitoring entries on the both the fecal and chlorine records. The establishment is monitoring at the frequency stated in the HACCP plan and the results are within the critical limit for each CCP.

**Note:** Before this task can be completed, you must verify the monitoring, verification, corrective action, and recordkeeping requirements at all CCPs for the specific production.

## **Document the Inspection Results of the Zero Tolerance Tasks and Slaughter HACCP Verification Task in PHIS**

Working independently, log back into the PHIS computer and document the inspection results, you will:

- Document the inspection result for each of the poultry zero tolerance verification task. Include any inspector notes.
- If noncompliance is found, document the noncompliance on an NR,
- Finalize the NC and complete the NR, if possible,
- Complete the Task, if possible, and
- Document the result of the Directed Slaughter HACCP Verification Task

**Use the PHIS Quick Reference Guide as needed.**