A Generic HACCP Model for New Poultry Inspection System (NPIS)

The United States Department of Agriculture (USDA) published the Pathogen Reduction/Hazard Analysis Critical Control Point (HACCP) Systems Final Rule in July 1996. The HACCP regulations (9 CFR Part 417) require establishments to develop and implement a system of controls designed to address safety hazards reasonably likely to occur in their production process. Therefore, this HACCP model's focus, and the focus of the other HACCP models, is on product safety, not product quality characteristics.

With the rule, FSIS made available a guidebook for the preparation of HACCP plans and a generic model for each food processing category defined in regulation (9 CFR 417.2(b)(1)). The guidebook and the generic models have been updated since their initial publication to be consistent with current science and policy. FSIS recommends you use of the updated Guidebook for the Preparation of HACCP Plans when developing an establishment-specific HACCP plan.

Generic models serve as useful examples of how to meet the regulatory requirements. Each model represents a food processing category. Each processing category may contain numerous products. Therefore, each single model represents a category of products and, as such, the models do not demonstrate unique products or novel processes. The generic models are not intended to be used "as is". FSIS recommends that establishments tailor the model(s) to fit the establishment's operation.

The model's critical control points (CCPs) do not necessarily apply to all operations or products in the product category. Products or operations may require fewer or more CCPs depending on the operation. The flow diagram demonstrates a general production process and should be modified to reflect the processes used at the establishment. The food safety critical limits selected must come from scientific documents or other reliable sources to meet regulatory validation requirements. Each model includes references for guidance on the selection of critical limits.

To select the model that will be most useful for the products produced, consider the production activity occurring (slaughter, cutting, grinding, smoking, cooking, etc.), the product (beef, pork, chicken, etc.), and the food safety characteristics of the final product produced (intact or non-intact, raw or ready-to-eat, requires refrigeration or is shelf-stable, etc.). Examine the list of processing categories (9 CFR 417.2(b)(1)) and group similar products according to the categories. Many similar products may be grouped under the same category and HACCP plan. Selection of the processing categories reveal which of the generic models might be useful.

Selecting the most appropriate model to work from will save the establishment time and personnel resources. Deciding on a generic model is an important achievement for your establishment.

The records produced while documenting a HACCP plan, including all documentation used to support the hazard analysis are HACCP records ((CFR 417.5(a)). The selection of processing categories and HACCP models are preliminary steps to completing a hazard analysis. The documents produced during the selection process are HACCP records. Ensure you maintain the documents produced while documenting a HACCP plan

For further assistance with developing HACCP plans see the Guidebook for the Preparation of HACCP Plans and the guidance materials available on the FSIS HACCP webpage.

EXAMPLE PRODUCT DESCRIPTION[1]

Process / Product Name: New Poultry Inspection System (NPIS)

Poultry Slaughter / Whole Carcasses, Parts, Other Intact Poultry Products

Process / product type name	Young Ready-to-Cook chicken, other types of whole dressed poultry carcasses (turkeys, ducks, geese), single ingredient intact poultry products, such as parts, giblets[2], paws, and turkey fries
Important product characteristics (A_w, pH, preservatives, etc.)	Not Applicable
How it is to be used	For further processing at this facility or another establishment or intended for cooking by end consumer
Packaging (durability and storage conditions)	Vacuum packaged, tray packs, giblets in plastic sealed containers, bulk pack boxes with liners.
Shelf life and at what temperature[3]	Refrigerated - 10 Days at 40ºF Frozen – 180 Days at <10°F
Where it will be sold (specify intended consumers, especially at-risk populations[4])	Sold direct to another establishment or to household consumers through retail outlets or distributed to hotels, restaurants, and institutions (HRI).
Labeling instructions	Product name, inspection legend and establishment number, handling statement, net weight statement, address line, nutrition facts, and safe handling instructions.
What special distribution controls are required?	Keep Refrigerated < 40°F Keep Frozen < 10°F

DATE: _____ APPROVED BY: _____

[1] Prior to developing the HACCP plan please read the FSIS Guidebook for the Preparation of HACCP Plans for detailed descriptions of the worksheets and hazard analysis. This information is best suited for establishments seeking assistance in understanding the requirements in Title 9 Code of Federal Regulations (9 CFR) Part 417. The HACCP model is for demonstration purposes only. The model does not represent requirements that must be met. Establishments are required to develop HACCP plans specific to their facilities, production practices, and products.

[2] For the purpose of this model, giblets refers to poultry hearts, livers and gizzards.

[3] Each establishment may have their own defined shelf life.

[4] At-risk populations include young children, elderly, and immunocompromised persons.

EXAMPLE LIST OF PRODUCT INGREDIENTS AND INCOMING MATERIAL [5]

Process / Product Name: NPIS Poultry Slaughter

Whole Carcasses, Parts, Other Intact Poultry Products

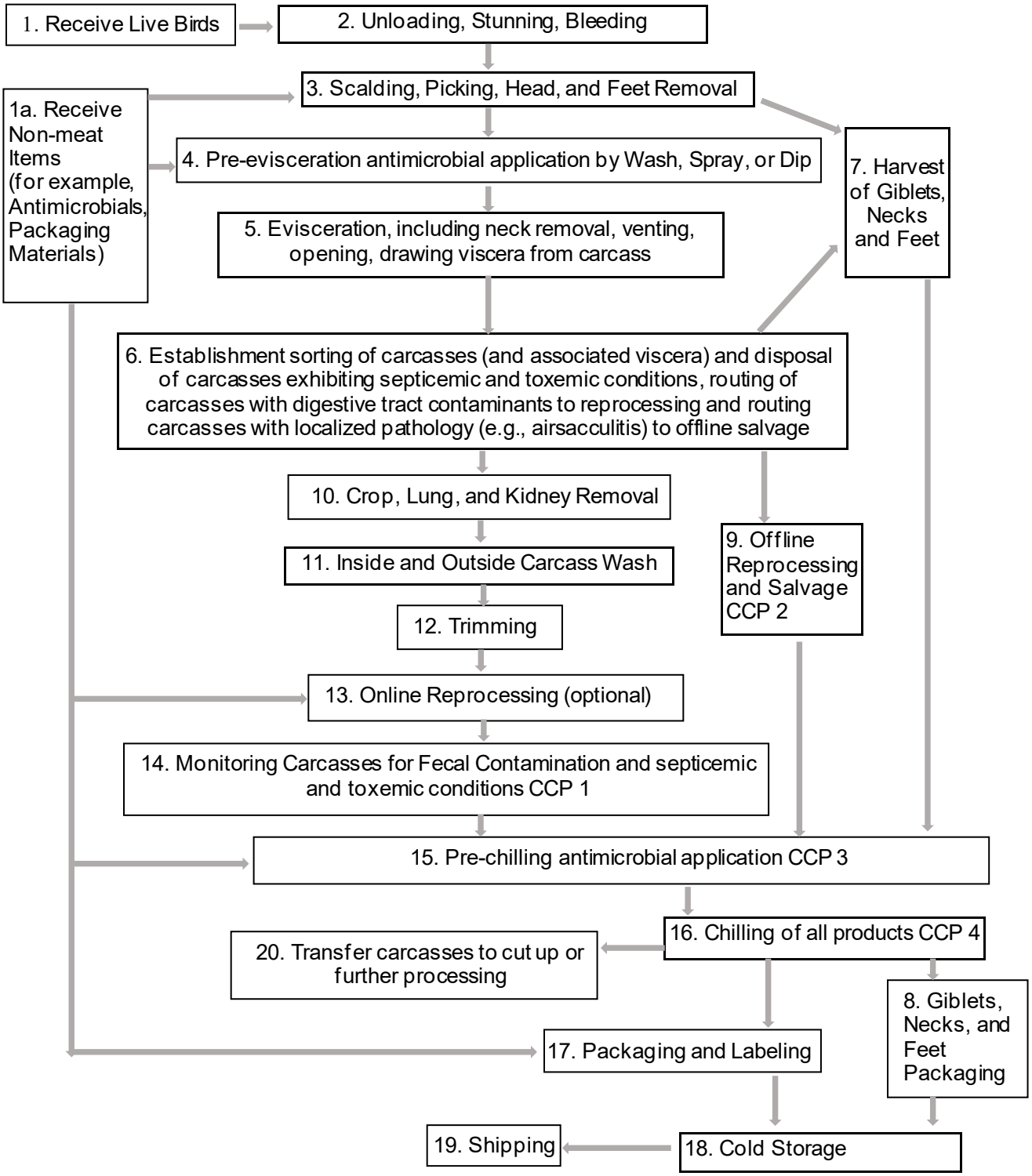
Poultry and poultry by-products	Live birds
Non-meat food ingredients	None
Antimicrobials[6] and processing aids	Chlorine, Organic acid[7]
Packaging material	Plastic vacuum bags, retail trays, cardboard boxes, plastic liners
Restricted ingredients or allergens	None
Other	None

DATE: _____ APPROVED BY: _____

[5] List all meat, non-meat ingredients, restricted ingredients (for example, nitrites), processing aids, packaging material used in production of this product. This is important to help identify any special ingredients or processes to address in the HACCP plan.
[6] FSIS and the Food and Drug Administration (FDA) have a memorandum of understanding (MOU) that establishes the working relationship followed when responding to notifications for the use of food additives intended for use in the production of FSIS regulated products. FSIS determines the suitability of the use of food ingredients used in the production of meat, poultry, and egg products. FSIS consults, as necessary, with FDA on the requirements under the Food, Drug & Cosmetic Act and its implementing regulations. See FSIS Directive 7120.1, Safe and Suitable Ingredients Used in Meat Poultry and Egg Products for the list of suitable ingredients.
[7] "Organic acid" is a placeholder for the product to be used by the establishment.

EXAMPLE PROCESS FLOW CHART[8]

NPIS Poultry Slaughter / Whole Carcasses, Parts, Other Intact Poultry Products



[8] This is an example flow diagram. Establishments' flow diagrams for the same product may be different. Establishments determine which steps are included in their process. The steps must represent all relevant hazards in the hazard analysis. Step 6, Establishment Sorting of Carcasses (and associated viscera), is represented in this model by a single box in the flow chart. Establishments use different approaches and a variety of processing techniques leading up to their sorting activity (9 CFR 381.76 (b)(6)(ii)(A)). Therefore, step 6 may represent a number of different carcass preparation practices.

EXAMPLE POULTRY SLAUGHTER HAZARD ANALYSIS[9]

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Ingredient / Process Step	**Potential Hazards (introduced or controlled) at this step[10]**	**Is the Potential Food Safety Hazard Reasonably Likely to Occur (RLTO)? (Yes or No)[11]**	**Justification / Basis for Decision[12]**	**If yes in Column 3 (hazard RLTO), What Control Measures Can Be Applied to Prevent, Eliminate, or Reduce the Hazard to Acceptable Levels[13]**	**Is this Step a Critical Control Point (CCP)?[14]**
1. Receive Live Birds	B: Pathogens *Salmonella, Campylobacter*	Yes	Live birds may have pathogens on feathers, skin, feet, and in the digestive tract.	The hazard is controlled at later steps with visual examination for contaminants, antimicrobial application and chilling (CCPs 1 and 2, CCP 3, CCP 4).	No

[10] Refer to FSIS Meat and Poultry Hazards and Controls Guide and DRAFT FSIS Compliance Guideline For Controlling Salmonella and Campylobacter in Raw Poultry for suggested practices and controls.

[10] Hazards are grouped into three categories: Biological (B), Chemical (C), and Physical (P). Biological hazards are living organisms. Chemical hazards may be naturally occurring in foods, used, or added during the processing of foods, or administered to live animals. Physical hazards are a component of a food that is unexpected, such as plastic, glass, metal, or bone in a boneless product. See the Guidebook for the Preparation of HACCP Plans for more information about hazards identification.

[12] Place the justification for your decision in column 4. Include control measures in column 4 for hazards not reasonably likely to occur and place them in column 5 for hazards reasonably likely to occur. If a hazard is reasonable likely to occur, then a CCP must be addressed at this step or a later step. See FSIS Meat and Poultry Hazards and Controls Guide for a list of frequently used controls.

[13] Scientific references are important in making decisions, providing justifications, and validating the HACCP system. When scientific references are used for decisions, the referenced article must be part of the HACCP records. If the scientific justification is from FSIS, then list the document name. If justification is not from an FSIS program, then HACCP system design must be supported by documentary evidence – that is, the theoretical principles, expert advice from processing authorities, scientific or technical data, peer-reviewed journal articles, pathogen modeling programs, or other information demonstrating that particular process control measures can adequately prevent, reduce, or eliminate specific hazards. These non-FSIS supporting documents must be kept for the life of the HACCP plan.

[14] Because the results obtained under prerequisite programs could affect decisions made in the hazard analysis, an establishment is required to maintain records associated with these programs as supporting documentation for its hazard analysis (9 CFR 417.5(a)). When an establishment determines that a potential hazard is not reasonably likely to occur because the implementation of a prerequisite program (e.g., Sanitation SOP, written sanitary dressing procedures incorporated into prerequisite programs, purchase specifications, antimicrobial interventions) prevents conditions that make the potential hazard likely, that prerequisite program then becomes part of the HACCP system and as a result, must be validated. This means that establishments must maintain scientific or technical support for the design of those prerequisite programs used to support decisions in the hazard analysis and must collect in-plant validation data to support that the programs are implemented as designed (see FSIS Compliance Guideline HACCP Systems Validation, page 5).

[15] To develop an effective CCP, see the FSIS Guidebook for the Preparation of HACCP Plans for a CCP decision tree and guidance on how to control, reduce, or eliminate a hazard.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
				Truck Sanitation SOP for cage cleaning between flocks. Pre-Harvest Controls. Feed Withdrawal Standard Operating Procedure (SOP).	
	C: Drug residues	No	Low risk per FSIS Compliance Guide for Residue Prevention.[15] Growers required to follow best pre-harvest practices, which include appropriate withdrawal requirements when antibiotics are prescribed.		
	P: Foreign objects in the gizzards of live birds	No	Establishment historical data[16] (that is, giblet quality monitoring) demonstrates low risk of foreign objects in gizzards after processing. Foreign Material SOP.[17] Gizzard quality checks after chilling, which include monitoring for foreign objects, such as wire.		
1a. Receive Non-meat Items (for example,	B: None				
	C: Inappropriate chemical or	No	Establishment historical data shows low risk of receipt of inappropriate		

[16] If the scientific justification is from FSIS, then list the document name. If justification is not from an FSIS program, then scientific or technical support is needed, and these non-FSIS supporting documents must be kept for the life of the HACCP plan.

[17] Note: this "historical data" must be supported with evidence from the establishment through the establishment's history or validation data with reference to the actual SOP or prerequisite program. When historical data is not available (for example, a HACCP plan for a new process or product), then system design must be supported by other documentary evidence. Such as the FSIS Meat and Poultry Hazards and Controls Guide which states "monitor giblets for foreign materials" is a frequently used control for foreign material hazards in poultry slaughter..

[17] This Foreign Material SOP (prerequisite program) should have details on how this procedure is preventing the hazard from occurring (such as metal prevention controls) as well as the on-going verification procedures. These controls should be evident within the written document upon review. The Foreign Material SOP and plant data related to on-going verification activities then become part of recordkeeping and historic data.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
Antimicrobials, Packaging Materials)	concentration received		chemicals and inappropriate chemical compounds Letters of Guarantee from suppliers. Identify and list all approved chemicals used in the operations. Check each chemical at receiving to assure that it is on the list at the correct concentration and is appropriately labeled. Safety Data Sheets (SDS)		
	P: None				
2. Unloading, Stunning, Bleeding	B: Pathogens *Salmonella, Campylobacter*	Yes	Live birds may have pathogens on feathers, skin, feet, and in the digestive tract.	The hazard is controlled at later steps with visual examination for contaminants, antimicrobial application and chilling (CCPs 1 and 2, CCP 3, CCP 4). Proper application of stunning methods and maintenance of stunning equipment to reduce involuntary voiding of feces. Employee hygienic practices. Air flow directed away from further processes.	No
	C: None				
	P: None				
3. Scalding, Picking, Head and Feet Removal	B: Pathogens *Salmonella, Campylobacter*	Yes	Scald water and picking machinery can increase pathogen cross-contamination. Pathogens can contaminate muscles of carcasses that are mutilated during picking.	The presence of pathogens is controlled at later steps with antimicrobial application and chilling (CCP 3, CCP 4). Scalder operational procedures for freshwater intake and overflow, agitation of scald water.	No

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
				Multi-stage scald tanks with counter current water flow to result in lower bacterial levels where the birds exit the scalder compared to where the birds enter the scalder. Optional use of brushes to remove dirt and debris from birds prior to scalding. Water pH maintained either above or below optimum pH for *Salmonella* and *Campylobacter* growth. Antimicrobials, acidifiers and anti-foam chemicals applied in the scald water as part of a multi-hurdle approach to reduce enteric pathogens.[18] Prerequisite program to monitor antimicrobial and any other chemical concentrations. Trim mutilated portions from carcasses later in the process. Written Sanitation SOP for equipment cleaning and sanitation to prevent product contamination.	
	C: Antimicrobial, defoamer, or pH modifier not appropriately mixed to meet	No	Establishment historical data shows low risk of chemical contamination by use of defoamers and pH boosters in scalders.		

[18] Provide reference for scientific support and validation for effective concentrations and support for critical operational parameters that reduce biological hazards. FSIS Directive 7120.1, Safe and Suitable Ingredients Used in Meat, Poultry and Egg Products contains the list of substances that may be used in the production of meat and poultry products. The list contains the allowable amounts and the intended use of the approved antimicrobials. The list (Directive 7120.1) can be used as supporting documentation for chemical hazard controls (safety and suitability). Directive 7120.1 cannot be used as support for the control of biological hazards because the antimicrobial concentration needed to control bacteria is different from the concentrations required for safety and suitability.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
	Generally Recognized as Safe (GRAS) parameters		Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: None				
4. Pre-evisceration antimicrobial application by Wash, Spray, or Dip	B: Pathogens *Salmonella, Campylobacter*	Yes	Pathogens introduced on live birds present on carcass skin and in the digestive tracts	The hazard is controlled at later steps with visual examination, antimicrobial application and chilling (CCPs 1 and 2, CCP 3, CCP 4). Pre-evisceration wash, spray, or dip applies an approved antimicrobial solution as part of a multi-hurdle approach to reduce enteric pathogens. Prerequisite program to monitor antimicrobial concentration and method of application.	No
	C: Antimicrobial application not within GRAS limits	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: None				

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
5. Evisceration[19], including neck removal, venting, opening, drawing viscera from carcass	B: Pathogens *Salmonella, Campylobacter*	Yes	Pathogens introduced on live birds present on carcass skin and in the digestive tracts.	The hazard is controlled at later steps with visual examination, antimicrobial application and chilling (CCPs 1 and 2, CCP 3, CCP 4). Written procedures to prevent contamination of carcasses and parts by enteric pathogens and fecal contamination throughout the slaughter and dressing operations incorporated as a prerequisite program to meet 9 CFR 381.65(g) requirements.[20] These requirements include sampling and analysis for microbial organisms to monitor and maintain process control.	No
	C: None				
	P: Foreign Material	No	Foreign materials could be introduced from broken machinery parts, broken shackles, and insanitary overhead structures. Foreign Material SOP. Preventive equipment and evisceration line maintenance to prevent metal or plastic contamination. Routine cleaning of shackle rails and overhead structures.		

[19] DRAFT FSIS Compliance Guideline for Controlling Salmonella and Campylobacter in Raw Poultry provides guidance on how to control pathogens throughout the slaughter operation.

[20] The required written procedures to prevent contamination may also include: a preventive equipment maintenance program to ensure machinery functions as intended to prevent contamination with digestive tract contents throughout the evisceration process; programs to ensure the proper application of antimicrobials (for example, antimicrobial concentration and method of application); employee hygienic practices and an operational sanitation SOP.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
6. Establishment sorting and disposal of carcasses exhibiting septicemic and toxemic conditions, routing of carcasses with digestive tract contaminants to reprocessing, and routing carcasses with localized pathology (e.g., airsacculitis) to offline salvage	B: Pathogens *Salmonella, Campylobacter,* *Septicemic or toxemic conditions*	Yes	Carcasses affected with septicemic or toxemia conditions may harbor pathogens. Carcasses with digestive tract contaminants may harbor pathogens.	The monitoring for and disposal of septicemic and toxemic conditions and the monitoring for digestive tract contents are verified at a later step **CCP 1 Monitoring Carcasses for Fecal Contamination and septicemic and toxemic conditions.** The presence of pathogens is address at a later step **CCP 3 Pre-chilling antimicrobial application**. Written sorting procedures to ensure that poultry carcasses affected with septicemic or toxemic conditions do not enter the chiller, and to dispose of carcasses and parts exhibiting condemnable conditions, and to route carcasses with digestive tract contamination to offline reprocessing (9 CFR 381.76(b)(6)(ii)).	No
	C: None				
	P: None				
7. Harvest Giblets, Necks and Feet	B: Pathogens: *Salmonella, Campylobacter*	Yes	Delayed separation from inedible items may result in pathogen outgrowth.	The presence of pathogens is addressed at a later step with **CCP 3 Pre-chilling antimicrobial application**. The outgrowth of pathogens is addressed at a later step with **CCP 4 Chilling**. Chilling time and temperature critical limits monitored through a CCP to ensure that giblets, necks, and feet temperatures	**No**

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
				are promptly reduced to temperatures that prevent pathogen outgrown.[21] Antimicrobial added to immersion chiller media or applied through a spray or dip. Written procedures to prevent contamination of carcasses and parts by enteric pathogens and fecal contamination throughout the slaughter and dressing operations incorporated as a prerequisite program to meet 9 CFR 381.65(g) requirements.	
	C: Inappropriate concentration of antimicrobial	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: Foreign material (rocks, wires, other building materials etc.) from birds pecking at litter during live production	No	Establishment historical data (giblet quality monitoring) demonstrates low risk of foreign objects in gizzards after processing. Foreign Material SOP. Giblet quality checks after chilling, which include monitoring for foreign objects, such as wire, that may be lodged in gizzards.		

[22] The FSIS Compliance Guide: Modernization of Poultry Slaughter Inspection: Chilling Requirements describes how establishments can meet the poultry chilling regulatory requirements.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
8. Giblet, Necks, and Feet Packaging	B: Pathogen growth *Salmonella, Campylobacter*	No	Product is promptly packaged and placed in storage coolers or freezers to prevent product temperatures that promote pathogen outgrowth		
	C: None				
	P: None				
9. Offline Reprocessing and Salvage	B: Pathogens *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination. Disease conditions may harbor pathogens.	Digestive tract contaminants are addressed at this step with **CCP 2: Poultry parts contaminated with visible fecal material do not enter the chilling system.** The hazard is controlled through visual examination of parts and removal of contaminants. The presence of pathogens is addressed with **CCP 3 Pre-chilling antimicrobial application.** Offline reprocessing procedures incorporated into HACCP system as a prerequisite program to comply with 9 CFR 381.91(b)(2). Written procedures to remove localized disease conditions (for example, airsacculitis, inflammatory processes) and verify that establishment employees appropriately implement the procedures in a sanitary manner. Antimicrobial solution applied to salvaged carcasses and parts.	**Yes** **CCP 2**
	C: Inappropriate concentration of antimicrobial	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification		

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
			procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: None				
10. Crop, Lung, and Kidney Removal	B: Pathogens *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination. Crop removal may cause ingesta contamination, which increases the risk for pathogens. Kidneys with disease conditions, including airsacculitis, are required to be removed from carcasses.	The hazard is controlled at a later step with visual examination, antimicrobial application and chilling (CCP 1, CCP 3, CCP 4). Written procedures to prevent contamination of carcasses and parts by enteric pathogens and fecal contamination throughout the slaughter and dressing operations incorporated as a prerequisite program to meet 9 CFR 381.65(g) requirements.	No
	C: None	No			
	P: None	No			
11. Inside and Outside Carcass Wash	B: Pathogens *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination.	The hazard is controlled at a later step with visual examination, antimicrobial application and chilling (CCP 1, CCP 3, CCP 4). Written program to monitor that the carcass wash functions as intended (for example, nozzles properly applying wash at appropriate pressures).	No
	C: Inappropriate concentration of antimicrobial	No	Establishment historical data shows low risk of inappropriate chemical application.		

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
			Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: None	No			
12. Trimming	B: Pathogens *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination.	The hazard is controlled at later steps through subsequent visual examination, antimicrobial application and chilling (CCP 1, CCP 3, CCP 4). Employee hygienic practices. Operational Sanitation SOPs.	No
	C: None				
	P: None				
13. Online Reprocessing (Optional)	B: Pathogens *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination.	The hazard is controlled at later steps through subsequent visual examination, antimicrobial application and chilling (CCP 1, CCP 3, CCP 4). Online reprocessing procedures incorporated into HACCP system as a prerequisite program to meet 9 CFR 381.91(b)(1) requirements.	No
	C: Inappropriate concentration of antimicrobial	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals		

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
			are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: None				
14. Monitoring Carcasses for Fecal Contamination and septicemic and toxemic conditions.	B: Pathogens *Salmonella, Campylobacter* *Septicemic and toxemic conditions*	Yes	Fecal material carries pathogens. Septicemic and toxemic conditions may carry pathogens.	Digestive tract contaminants and septicemic and toxemic conditions are addressed with **CCP 1 Monitoring Carcasses for Fecal Contamination and septicemic and toxemic conditions.** **No (zero) fecal contamination to enter chilling system.** Monitoring for fecal contamination prior to the pre-chill antimicrobial application to ensure that poultry carcasses contaminated with visible fecal material do not enter the chiller (9 CFR 381.65(f)). **Examine carcasses for evidence of septicemia or toxemia.** Monitoring for and disposing of carcasses exhibiting septicemic or toxemic conditions (9 CFR 381.76(b)(6)(ii)(A)). Written procedures to prevent contamination of carcasses and parts by enteric pathogens and fecal contamination throughout the slaughter and dressing operations incorporated as a prerequisite program to meet 9 CFR 381.65(g) requirements. The use of the approved on-line reprocessing system is optional. When the on-line reprocessing system is operating, the prerequisite program used to monitor reprocessing (Monitoring	**Yes** **CCP 1**

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
				Online Reprocessing) is required.	
	C: None				
	P: None				
15. Pre-chilling Antimicrobial Application	B: Pathogen Outgrowth *Salmonella, Campylobacter*	Yes	Carcasses accidentally contaminated with digestive tract contents (feces and ingesta) at higher risk for pathogen contamination.	**CCP 3 Pre-chilling antimicrobial application.** Application of organic acid solution to carcasses, parts, giblets, necks and feet.	**Yes** **CCP 3**
	P: None				
	C: Inappropriate concentration of antimicrobial applied	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
16. Chilling	B: Pathogen Outgrowth *Salmonella, Campylobacter*	Yes	Delayed chilling may result in pathogen outgrowth.	Pathogen outgrowth is controlled with **CCP 4 Chilling**. Apply chilling procedures to lower internal temperatures of carcasses, parts, giblets, necks and feet. Written chilling procedures that address, at a minimum, the potential for pathogen outgrowth, the conditions affecting carcass chilling, and when the chilling process is complete (9 CFR 381.66(b)(ii)(3))[22]	**Yes** **CCP 4**

[22] The FSIS Compliance Guide: Modernization of Poultry Slaughter Inspection: Chilling Requirements describes how establishments can meet the poultry chilling regulatory requirements.

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
	C: Inappropriate concentration of antimicrobial	No	Establishment historical data shows low risk of inappropriate chemical application. Written chemical mixing procedures and documented verification procedures to ensure that critical operating parameters are maintained. Chemicals are properly used to meet the chemical manufacturer's recommendations and GRAS parameters.		
	P: Foreign Material	No	Foreign material contamination from overhead structures and immersion chilling system moving parts. Foreign Material SOP. Carcasses monitored 2 times per shift for extraneous material contaminants after chilling.		
17. Packaging and Labeling	B: Pathogens Outgrowth: *Salmonella, Campylobacter*	No	Pathogen outgrowth may result if temperatures are not maintained at levels to prevent multiplication. Product is promptly packaged and placed in storage coolers or freezers to prevent product temperatures that promote pathogen outgrowth.		
	C: None				
	P: None				
18. Cold Storage	B: Pathogen Outgrowth *Salmonella, Campylobacter*	No	Pathogen outgrowth may result if temperatures are not maintained at levels to prevent multiplication. Written product storage procedures to maintain product at temperatures that		

Step	Hazard	RLTO	Justification / Basis	Controls	CCP
			will prevent pathogen outgrowth (9 CFR 381.66(b)(1)(ii)).		
	C: None				
	P: None				
19. Shipping	B: Pathogen Outgrowth *Salmonella, Campylobacter*	No	Pathogen outgrowth may result if temperatures are not maintained at levels to prevent multiplication during shipping. Products shipped on refrigerated transport vehicles.		
	C: None				
	P: None				
20. Transfer Carcasses to Cut up or Further Processing	B: Pathogen Outgrowth *Salmonella, Campylobacter*	No	Pathogen outgrowth may result if temperatures are not maintained at levels to prevent multiplication during transfer. Product is promptly transferred to prevent product temperatures that promote pathogen outgrowth.		
	C: None				
	P: None				

EXAMPLE NPIS Young Chicken Slaughter HACCP Plan[23]									
Critical Control Point (CCP)	**Significant Hazard(s)**	**Critical Limits for Each Control Measure**	**Monitoring Procedures**				**Corrective Action[24]**	**Verification**	**Records**
			What	**How**	**Frequency**	**Who**			
CCP 1 **Monitoring Carcasses for Fecal Contamination and septicemic and toxemic conditions.**	Pathogens: *Salmonella, Campylobacter* Carcasses affected with septicemic or toxemia conditions may harbor pathogens	No (zero) fecal contamination to enter chilling system No (zero) carcasses with septicemic or toxemic conditions to enter chilling system.	Visual examination for fecal material, and septicemic and toxemic conditions	Examine the inside and outside surfaces of 10 carcasses for fecal contaminants, and septicemic and toxemic conditions.	One 10-bird check for each production line per hour at random times selected during the production hour.	Designated employees	If a deviation from the critical limit occurs, the production supervisor will, per 9 CFR 417.3(a): 1. Hold all product produced after the last acceptable check until appropriate disposition taken (no product injurious to health will enter commerce); 2. Determine and eliminate the cause of the deviation; 3. Restore process control; 4. Take measures to prevent recurrence.	Observe the person who monitors the CCP once each day of slaughter operations. Records reviewed once a week 9 CFR 417.4(a)(2)(iii).	Zero Fecal Check Form Corrective Action Log Sep/Tox Log

[24] This information is best suited for establishments seeking assistance in understanding the requirements in Title 9 Code of Federal Regulations (9 CFR) Part 417. The HACCP model is for demonstration purposes only. The model does not represent requirements that must be met. Establishments are required to develop HACCP plans specific to their facilities, production practices, and products.

[25] Each establishment must develop written corrective action procedures in response to a deviation from the critical limit to determine what to do with the affected product (from the last acceptable check), to eliminate the cause of the deviation, to bring the CCP back into control, and to prevent future deviations (CFR 417.3).

Critical Control Point (CCP)	Significant Hazard(s)	Critical Limits for Each Control Measure	Monitoring Procedures				Corrective Action	Verification	Records
			What	How	Frequency	Who			
CCP 2 **Poultry parts contaminated with visible fecal material do not enter the chilling system**	Pathogens: *Salmonella, Campylobacter*	No (zero) fecal contamination to enter chilling system. 9 CFR 381.65(f)	Visual examination for fecal material.	Examine parts for fecal contamination prior to when the parts enter the chilling system. Examine up to 10 parts for fecal contamination prior to chilling. If less than 10 parts are available examine all available parts.	One check for each production line per hour at random times selected during the production hour.	Designated employees	If a deviation from the critical limit occurs, the production supervisor will, per 9 CFR 417.3(a): 1. Hold all product produced after the last acceptable check until appropriate disposition taken (no product injurious to health will enter commerce); 2. Determine and eliminate the cause of the deviation; 3. Restore process control; 4. Take measures to prevent recurrence.	Observe the person who monitors the CCP once each day of slaughter operations. Records reviewed once a week 9 CFR 417.4(a)(2)(iii).	Zero Fecal Check Form Corrective Action Log

Critical Control Point (CCP)	Significant Hazard(s)	Critical Limits for Each Control Measure	Monitoring Procedures				Corrective Action	Verification	Records
			What	How	Frequency	Who			
CCP 3 Pre-chilling antimicrobial applications[25]	Pathogens: *Salmonella, Campylobacter*	600-700 ppm organic acid solution[26]	Antimicrobial Solution concentration and method of application to carcasses, salvaged parts, reprocessed carcass parts, giblets, necks and feet.	Measure the concentration of the antimicrobial solution at the point of application. (for example, 600-700 ppm organic acid solution) using titration kit supplied by chemical manufacturer.	Twice per shift	Designated employees	If antimicrobial concentration wash exceeds critical limits, then all product from the last acceptable check will be retained and evaluated for further disposition. If a deviation from the critical limit occurs, the production supervisor will, per 9 CFR 417.3(a): 1. Hold all product produced after the last acceptable check until appropriate disposition taken (no product injurious to health will enter commerce); 2. Determine and eliminate the cause of the deviation; 3. Bring the CCP under control; 4. Take measures to prevent recurrence.	Randomly, once per day, an employee observes the measurement of the concentration of the antimicrobial solution at the point of application. Records Reviewed once a week (9 CFR 417.4(a)(2)(iii)).	Organic Acid Spray Concentration Form. Corrective Action Log

[26] If an establishment implements a process consistent with the process specifications described in the scientific support, and the scientific support contains microbiological data specifying the level of pathogen reduction achieved by the intervention strategy for the target pathogen identified in the hazard analysis, the in-plant validation data collected during the 90 day initial validation period will consist of data on quantifiable characteristics of the critical operational parameters, such as pressure, temperature, and concentration. However, if an establishment implements different critical operational parameters in the process from the scientific support, or the scientific support identified does not contain microbiological data, then the establishment should collect in-plant data demonstrating the critical operational parameters that it has implemented can all be met AND should collect in-plant microbiological validation data or identify scientific support with microbiological data that demonstrates the effectiveness of those implemented critical operational parameter (FSIS Compliance Guideline HACCP Systems Validation, page 27).

[27] Scientific or technical support is required to validate the critical limits and critical parameters (for example, time of exposure) of the organic acid spray. They are part of the hazard analysis and need to be maintained for the life of the HACCP plan (see FSIS Compliance Guideline HACCP Systems Validation); FSIS Directive 7120.1 Safe and Suitable Ingredients Used in the Production of Meat, Poultry, and Egg Products contains approved substances for use in poultry; however, each establishment must validate their own process.

Critical Control Point (CCP)	Significant Hazard(s)	Critical Limits for Each Control Measure	Monitoring Procedures				Corrective Action	Verification	Records
			What	How	Frequency	Who			
CCP 4 **Chilling of all Products**	Pathogen Outgrowth: *Salmonella, Campylobacter*	Carcass temperature of 45 degrees or less within 6 hours. Parts, giblets, feet, and necks chilled to 44 degrees or less within 4 hours from the time they are removed from the inedible viscera.	Carcass internal temperature. Parts, Giblets, Feet, and Necks internal temperature.	Handheld properly calibrated thermometer inserted into the thickest portion of the breast muscle of the carcass, or thickest portion of the part, giblet, neck or foot.	Check 10 carcasses for each production hour at random times selected during the production hour. Check up to 10 parts, giblets, necks or feet each production hour at random times selected during the production hour. If 10 units are not available at this time all units are checked.	Designated employees	If a deviation from the critical limit occurs, the production supervisor will, per 9 CFR 417.3(a): 1. Hold all product produced after the last acceptable check until appropriate disposition taken (no product injurious to health will enter commerce); 2. Determine and eliminate the cause of the deviation; 3. Bring the CCP under control; 4. Take measures to prevent recurrence.	Observe the person who monitors the CCP once each day the establishment slaughters. Once per week, supervisor will calibrate thermometer per manufacturer's procedures. Records reviewed once a week (9 CFR 417.4(a)(2)(iii)).	Carcass, Parts, Giblets, Necks and Feet Chilling Form Thermometer Calibration Form Corrective Action Log