



## **Sanitation Performance Standards Compliance Guide**



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## INTRODUCTION

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On October 20, 1999, the Food Safety Inspection Service (FSIS) published a final rulemaking in the Federal Register that establishes regulatory sanitation performance standards applicable to all official meat and poultry establishments. (FSIS Docket 96-037F; 64 FR 56400) Performance standards set forth requirements in terms of an objective to be achieved, but do not prescribe the means to achieve that objective. Therefore, to meet the sanitation performance standards, establishments may develop and employ sanitation or processing procedures customized to the nature and volume of their production.

In this document, FSIS presents or references methods already proven to be effective in maintaining sanitary conditions in meat and poultry establishments. Past FSIS regulations and guidance, as well as recommendations from the 1999 Food Code and other technical sources, are included or cited. Establishments that follow the guidance in this document can be fairly certain that they are meeting the sanitation performance standards. Establishments should keep in mind, however, that each processing environment is unique and that in some cases, the methods presented in this document may be inadequate to ensure sanitary conditions or prevent the adulteration of meat and poultry products.

Establishments in compliance with past FSIS requirements may not want to change their procedures for maintaining sanitation. Such establishments may use this document as a reference, as it contains the past regulatory requirements governing sanitation (in the Appendix 1), as well as other guidance. Establishments that choose to innovate or customize their sanitation procedures also may find this document useful as a starting point for designing their new sanitation procedures.

Finally, the specific sanitary practices described in this document are not requirements. Establishments must comply with the regulatory performance standards for sanitation cited below, but may do so by whatever means they determine to be appropriate. FSIS inspection personnel will verify that official establishments comply with the performance standards, regardless of whether the establishments follow the guidance in this document.

### 1.0 Format

Guidance for each performance standard is set forth as follows:



### **§ 416.2(b) Construction.**

(1) Establishment buildings, including their structures,

*The performance standard as stated in the regulations*

#### **Comments**

In a recent FSIS Directive to its inspectors

*Additional information concerning the performance standard*

#### **Food Code**

##### **6-201.11 Floors, Walls, and Ceilings.**

Except as specified under § 6-201.14, the floors, floor

*Relevant recommendations from the 1999 Food Code; we are including only sections that seem most applicable to most meat and poultry establishments; many establishments likely will find additional useful information in the Food Code that is not presented here*

#### **Other Sources of Guidance**

The 1999 National Building Code published by BOCA

*Applicable regulations of other Federal agencies and relevant recommendations from various technical sources*

## **2.0 Sources of Sanitation Information**

### **The Food Code**

The 1999 Food Code, published by the Food and Drug Administration, is a reference document for regulatory agencies responsible for overseeing food safety in retail outlets such as restaurants and grocery stores and institutions such as nursing homes and child care centers. It is neither federal law nor federal regulation and is not preemptive, but may



be adopted and used by agencies at all levels of government that have responsibility for managing food safety risks at retail. Although the Food Code specifically addresses retail and institutional food service operations, many of its recommendations are applicable to official meat and poultry establishments.

The Food Code is available for free in several electronic formats (HTML, PDF, and Word Perfect) on the Internet. The Internet address is:

<http://vm.cfsan.fda.gov/~dms/foodcode.html>

You also can purchase printed copies and CD-ROM and computer diskette versions of the 1999 Food Code from the National Technical Information Service (NTIS). You can order from NTIS on the Internet at:

<http://www.ntis.gov/index.html>

or by mail from:

U.S. Department of Commerce  
Technology Administration  
National Technical Information Service  
5285 Port Royal Road, Springfield, VA 22161  
(703) 605-6000, refer to report number PB99-115925

### **Other Codes**

In this guide, FSIS cites construction, plumbing, and sewage disposal guidance, standards, and codes developed other Federal agencies and by private standards organizations. FSIS does not require compliance with any of the private organizations' standards or codes and does not specifically endorse their use. However, these standards and codes provide useful information concerning construction, plumbing, and sewage disposal and, in many cases, compliance with them by meat and poultry establishments can ensure compliance with the sanitation performance standard regulations. Establishments, of course, may use other codes or information and should always comply with all applicable Federal, State, and local laws governing construction, plumbing, and sewage disposal. FSIS plans to reference additional codes and standards, as appropriate, in future versions of this compliance guide.

### **3.0 Comments on this Document**

FSIS will continue to update and revise this compliance guide as additional information becomes available and as sanitation technologies and requirements change. If you would like to suggest revisions or additions to this guide, please send any correspondence to:

Sanitation Performance Standards Compliance Guide  
c/o Matthew Michael  
RDAD, OPPDE



Food Safety Inspection Service  
U.S. Department of Agriculture  
300 12th St. SW  
Washington, DC 20250-3700

You also may email revisions and additions to the following address:  
[Matthew.Michael@usda.gov](mailto:Matthew.Michael@usda.gov)



## **THE PERFORMANCE STANDARDS FOR SANITATION**

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### **§ 416.1 General rules.**

Each official establishment must be operated and maintained in a manner sufficient to prevent the creation of insanitary conditions and to ensure that product is not adulterated.

#### **Comments**

Proper sanitation is a fundamental requirement under both the Federal Meat Inspection Act (FMIA) and the Poultry Products Inspection Act (PPIA). Meat and poultry products produced, packed, or held under insanitary conditions, where they may have become contaminated with filth or may have been rendered injurious to health, are adulterated.

#### **Food Code**

#### **Other Sources of Guidance**

### **§ 416.2 Establishment grounds and facilities.**

(a) Grounds and pest control. The grounds about an establishment must be maintained to prevent conditions that could lead to insanitary conditions, adulteration of product, or interfere with inspection by FSIS personnel. Establishments must have in place a pest management program to prevent the harborage and breeding of pests on the grounds and within establishment facilities. Pest control substances used must be safe and effective under the conditions of use and not be applied or stored in a manner that will result in the adulteration of product.

#### **Comments**

#### **Grounds**

Proper maintenance of the grounds about an establishment is essential for ensuring good sanitation. To keep vermin from breeding and to maintain sanitary conditions in general, an establishment should not allow trash to accumulate on its grounds, should store pallets and other equipment properly, and should keep its grounds drained. Actions an establishment needs to take will likely depend on the location of the establishment and the type of operations it conducts.

Under FSIS Directive 7640.1, "Inspection Duties Related to Facilities and Equipment, and Plant Operated Quality Control Programs," inspectors are directed to request from establishment management written designation of the official premises boundaries. Inspectors may use this information as reference when inspecting establishment grounds. Establishments should keep in mind, however, that they are responsible for preventing the



adulteration of product even if the cause of the adulteration originates from conditions outside the designated boundaries of the establishment.

### **Pest Control**

Meat and poultry establishments need to design and implement programs that ensure that product is not adulterated either by pests or by the products used to control them. Such a program should include not only the use of pesticides or other chemicals within or around an establishment, but also the maintenance of grounds to prevent harborage and breeding and measures to keep pests from entering establishment facilities. Pest control substances should be approved by EPA for use in food processing environments and be used in a manner that does not adulterate product or create insanitation. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA reviews pesticide formulation, intended use, and other information; registers all pesticides for use in the United States; and prescribes labeling, use, and other regulatory requirements to prevent unreasonable adverse effects on the environment, including humans, wildlife, plants, and property. Any meat or poultry establishment using a pesticide must follow the FIFRA requirements. For more information on the use of chemicals, see § 416.4(c) and Appendix 2 below.

### **Food Code**

#### **6-102.11 Surface Characteristics.**

(A) The outdoor walking and driving areas shall be surfaced with concrete, asphalt, or gravel or other materials that have been effectively treated to minimize dust, facilitate maintenance, and prevent muddy conditions.

(B) Exterior surfaces of buildings and mobile food establishments shall be of weather-resistant materials and shall comply with law.

(C) Outdoor storage areas for refuse, recyclables, or returnables shall be of materials specified under § 5-501.11 and 5-501.12.

#### **6-202.19 Outdoor Walking and Driving Surfaces, Graded to Drain.**

Exterior walking and driving surfaces shall be graded to drain.

#### **6-202.13 Insect Control Devices, Design and Installation.**

(A) Insect control devices that are used to electrocute or stun flying insects shall be designed to retain the insect within the device.

(B) Insect control devices shall be installed so that:

(1) The devices are not located over a food preparation area; and



(2) Dead insects and insect fragments are prevented from being impelled onto or falling on exposed food; clean equipment, utensils, and linens; and unwrapped single-service and single-use articles.

**7-202.12 Conditions of Use.**

Poisonous or toxic materials shall be:

(A) Used according to:

(1) Law and this Code,

(2) Manufacturer's use directions included in labeling, and, for a pesticide, manufacturer's label instructions that state that use is allowed in a food establishment,

(3) The conditions of certification, if certification is required, for use of the pest control materials, and

(4) Additional conditions that may be established by the regulatory authority; and

(B) Applied so that:

(1) A hazard to employees or other persons is not constituted, and

(2) Contamination including toxic residues due to drip, drain, fog, splash or spray on food, equipment, utensils, linens, and single-service and single-use articles is prevented, and for a restricted-use pesticide, this is achieved by:

(a) Removing the items,

(b) Covering the items with impermeable covers, or

(c) Taking other appropriate preventive actions, and

(d) Cleaning and sanitizing equipment and utensils after the application.

(C) A restricted use pesticide shall be applied only by an applicator certified as defined in 7 USC 136(e) Certified Applicator, of the Federal Insecticide, Fungicide and Rodenticide Act, or a person under the direct supervision of a certified applicator.

**7-206.11 Restricted Use Pesticides, Criteria.**

Restricted use pesticides specified under § 7-202.12(C) shall meet the requirements specified in 40 CFR 152 Subpart I - Classification of Pesticides.

**7-206.12 Rodent Bait Stations.**



Rodent bait shall be contained in a covered, tamper-resistant bait station.

#### **7-206.13 Tracking Powders, Pest Control and Monitoring.**

(A) A tracking powder pesticide may not be used in a food establishment.

(B) If used, a nontoxic tracking powder such as talcum or flour may not contaminate food, equipment, utensils, linens, and single-service and single-use articles.

#### **Other Sources of Guidance**

#### **§ 416.2(b) Construction.**

(1) Establishment buildings, including their structures, rooms, and compartments must be of sound construction, kept in good repair, and be of sufficient size to allow for processing, handling, and storage of product in a manner that does not result in product adulteration or the creation of insanitary conditions.

(2) Walls, floors, and ceilings within establishments must be built of durable materials impervious to moisture and be cleaned and sanitized as necessary to prevent adulteration of product.

(3) Walls, floors, ceilings, doors, windows, and other outside openings must be constructed and maintained to prevent the entrance of vermin, such as flies, rats, and mice.

(4) Rooms or compartments in which edible product is processed, handled, or stored must be separate and distinct from rooms or compartments in which inedible product is processed, handled, or stored, to the extent necessary to prevent product adulteration and the creation of insanitary conditions.

#### **Comments**

Here are some examples of noncompliance with these standards commonly reported by inspectors. They are not all inclusive; they represent noncompliance only with the performance standards in § 416.2(b), provisions (1) through (3).

Doors not closing tightly allowing the entrance of vermin, dirt, or dust;

Holes in ceilings or windows allowing the entrance of vermin, dirt, or dust;

Scaling rust or scaling paint in edible areas on ceilings or walls;

Walls in production area have mold growth.

(Section VI(B)(2))



In regard to § 416.2(b)(4), FSIS has allowed and will continue to allow edible and inedible products to be processed, handled, or stored in the same room or area, provided that measures are taken to prevent the adulteration of the edible product or insanitation that could lead to product adulteration. Typically, if an establishment processes, handles, or stores edible and inedible products in the same room or area, the products are separated by time and/or space and stringent controls are in place to prevent product adulteration.

### **Food Code**

#### **6-201.11 Floors, Walls, and Ceilings.**

Except as specified under § 6-201.14, the floors, floor coverings, walls, wall coverings, and ceilings shall be designed, constructed, and installed so they are smooth and easily cleanable, except that antislip floor coverings or applications may be used for safety reasons.

#### **6-201.12 Floors, Walls, and Ceilings, Utility Lines.**

(A) Utility service lines and pipes may not be unnecessarily exposed.

(B) Exposed utility service lines and pipes shall be installed so they do not obstruct or prevent cleaning of the floors, walls, or ceilings.

(C) Exposed horizontal utility service lines and pipes may not be installed on the floor.

#### **6-201.13 Floor and Wall Junctures, Covered, and Enclosed or Sealed.**

(A) In food establishments in which cleaning methods other than water flushing are used for cleaning floors, the floor and wall junctures shall be covered and closed to no larger than 1 mm (one thirty-second inch).

(B) The floors in food establishments in which water flush cleaning methods are used shall be provided with drains and be graded to drain, and the floor and wall junctures shall be covered and sealed.

#### **6-201.14 Floor Carpeting, Restrictions and Installation.**

(A) A floor covering such as carpeting or similar material may not be installed as a floor covering in food preparation areas, walk-in refrigerators, warewashing areas, toilet room areas where handwashing lavatories, toilets, and urinals are located, refuse storage rooms, or other areas where the floor is subject to moisture, flushing, or spray cleaning methods.

(B) If carpeting is installed as a floor covering in areas other than those specified under § (A) of this section, it shall be:



(1) Securely attached to the floor with a durable mastic, by using a stretch and tack method, or by another method; and

(2) Installed tightly against the wall under the coving or installed away from the wall with a space between the carpet and the wall and with the edges of the carpet secured by metal stripping or some other means.

#### **6-201.15 Floor Covering, Mats and Duckboards.**

Mats and duckboards shall be designed to be removable and easily cleanable.

#### **6-201.16 Wall and Ceiling Coverings and Coatings.**

(A) Wall and ceiling covering materials shall be attached so that they are easily cleanable.

(B) Except in areas used only for dry storage, concrete, porous blocks, or bricks used for indoor wall construction shall be finished and sealed to provide a smooth, nonabsorbent, easily cleanable surface.

#### **6-201.17 Walls and Ceilings, Attachments.**

(A) Except as specified in (B) of this section, attachments to walls and ceilings such as light fixtures, mechanical room ventilation system components, vent covers, wall mounted fans, decorative items, and other attachments shall be easily cleanable.

(B) In a consumer area, wall and ceiling surfaces and decorative items and attachments that are provided for ambiance need not meet this requirement if they are kept clean.

#### **6-201.18 Walls and Ceilings, Studs, Joists, and Rafters.**

Studs, joists, and rafters may not be exposed in areas subject to moisture. This requirement does not apply to temporary food establishments.

#### **6-202.15 Outer Openings, Protected.**

(A) Except as specified in (B) and under (C) of this section, outer openings of a food establishment shall be protected against the entry of insects and rodents by:

(1) Filling or closing holes and other gaps along floors, walls and ceilings;

(2) Closed, tight-fitting windows; and

(3) Solid self-closing, tight-fitting doors.



(B) Paragraph (A) of this section does not apply if a food establishment opens into a larger structure, such as a mall, airport, or office building, or into an attached structure, such as a porch, and the outer openings from the larger or attached structure are protected against the entry of insects and rodents.

(C) Except as specified in (B) and (D) of this section, if the windows or doors of a food establishment, or of a larger structure within which a food establishment is located, are kept open for ventilation or other purposes or a temporary food establishment is not provided with windows and doors as specified under (A) of this section, the openings shall be protected against the entry of insects and rodents by:

- (1) 16 mesh to 25.4mm (16 mesh to 1 inch) screens;
- (2) Properly designed and installed air curtains; or
- (3) Other effective means.

(D) Paragraph (C) of this section does not apply if flying insects and other pests are absent due to the location of the establishment, the weather, or other limiting condition.

#### **6-202.16 Exterior Walls and Roofs, Protective Barrier.**

Perimeter walls and roofs of a food establishment shall effectively protect the establishment from the weather and the entry of insects, rodents, and other animals.

#### **6-501.11 Repairing.**

The physical facilities shall be maintained in good repair.

#### **6-501.12 Cleaning, Frequency and Restrictions.**

(A) The physical facilities shall be cleaned as often as necessary to keep them clean.

(B) Cleaning shall be done during periods when the least amount of food is exposed such as after closing. This requirement does not apply to cleaning that is necessary due to a spill or other accident.

#### **6-501.13 Cleaning Floors, Dustless Methods.**

(A) Except as specified in (B) of this section, only dustless methods of cleaning shall be used, such as wet cleaning, vacuum cleaning, mopping with treated dust mops, or sweeping using a broom and dust-arresting compounds.

(B) Spills or drippage on floors that occur between normal floor cleaning times may be cleaned:



(1) Without the use of dust-arresting compounds; and

(2) In the case of liquid spills or drippage, with the use of a small amount of absorbent compound such as sawdust or diatomaceous earth applied immediately before spot cleaning.

### **Other Sources of Guidance**

The 1999 National Building Code from the Building Officials and Code Administrators (BOCA) International, Inc., and the 1999 Standard Building Code from the Southern Building Code Congress International (SBCCI) both provide minimum standards for the construction of many types of buildings.

These codes may be obtained from:

Building Officials and Code Administrators International, Inc.  
4051 W. Flossmoor Road, Country Club Hills, Illinois 60478-5795 USA.  
Telephone (main): (708) 799-2300  
Telephone (publications orders): 1-800-214-4321 ext.777  
FAX (publications orders): 1-800-214-7167  
Email: codes@bocai.org  
Internet home page: <http://www.bocai.org>

and:

Southern Building Code Congress International  
900 Montclair Road, Birmingham, AL 35213-1206  
Telephone: (205) 591-1853  
FAX: (205) 591-0775  
Email: info@sbcc.org  
Internet home page: <http://www.sbcc.org>

### **§ 416.2(c) Light.**

Lighting of good quality and sufficient intensity to ensure that sanitary conditions are maintained and that product is not adulterated must be provided in areas where food is processed, handled, stored, or examined; where equipment and utensils are cleaned; and in hand-washing areas, dressing and locker rooms, and toilets.

### **Comments**

Establishments should keep in mind that their lighting should be sufficient not only to allow their own employees to maintain sanitation and prevent product adulteration, but also to allow FSIS inspection personnel to verify that conditions are sanitary and product is not adulterated. This does not mean, however, that lighting sufficiency is to be determined subjectively, by the inspector. Establishments must determine which intensities and



qualities of light are appropriate in different processing environments. FSIS will direct its inspection personnel to make judgments accordingly.

Establishments also should keep in mind the specific lighting intensity requirements for inspector and reprocessing stations, in § 307.2 and 381.36 of the regulations, are still in effect.

### **Food Code**

#### **6-303.11 Intensity.**

The light intensity shall be:

(A) At least 110 lux (10 foot candles) at a distance of 75 cm (30 inches) above the floor, in walk-in refrigeration units and dry food storage areas and in other areas and rooms during periods of cleaning;

(B) At least 220 lux (20 foot candles):

(1) At a surface where food is provided for consumer self-service such as buffets and salad bars or where fresh produce or packaged foods are sold or offered for consumption;

(2) Inside equipment such as reach-in and under-counter refrigerators;

(3) At a distance of 75 cm (30 inches) above the floor in areas used for handwashing, warewashing, and equipment and utensil storage, and in toilet rooms; and

(C) At least 540 lux (50 foot candles) at a surface where a food employee is working with food or working with utensils or equipment such as knives, slicers, grinders, or saws where employee safety is a factor.

### **Other Sources of Guidance**

#### **§ 416.2(d) Ventilation.**

Ventilation adequate to control odors, vapors, and condensation to the extent necessary to prevent adulteration of product and the creation of insanitary conditions must be provided.

### **Comments**

In regard to condensation, keep in mind that some forms are unavoidable and acceptable within a food processing environment, since they will neither adulterate product nor create insanitary conditions. Other forms of condensation are expected, but must be controlled by



the establishment, and others are unacceptable at any time. Examples of different types of condensation and corresponding FSIS responses (from FSIS Notice 31-98) follow:

#### SITUATIONS INVOLVING CONDENSATION IN WHICH NO ACTION IS REQUIRED

In certain situations, condensation within an official establishment has no effect on product safety, sanitary conditions, or inspection. If inspection program personnel determine that such a situation exists, no action is necessary by him/her or the establishment. Some examples follow:

1. Condensation forms on the underside of a stainless steel vessel lid during cooking.
2. The packaging of packaged entrees or soups comes into contact with condensation which has formed as a result of freezing operations.
3. Condensation forms on the wall or ceiling of a loading dock where canned products are stored in wrapped boxes on palettes. (Although this situation may not threaten product safety or impede inspection, establishments should avoid allowing excessive condensation to form anywhere food is processed or stored.)

#### SITUATIONS IN WHICH CONDENSATION IS EXPECTED AND CONTROLLED BY THE OFFICIAL ESTABLISHMENT

In other situations, establishments expect condensation to form as a result of certain operations and take action to ensure that the condensation does not adulterate product or create insanitary conditions. Such actions must be documented in the establishment's Sanitation Standard Operating Procedures (Sanitation SOP's). Most often, establishments will control such condensation by cleaning and sanitizing, on a daily or as-needed basis, the surface(s) where the condensation is expected to form. Examples of such surfaces include:

1. The inside or outside of stainless production chutes.
2. Ceilings over open kettle cooking areas and over poultry chill vats.
3. The outside of stainless steel ice vats or ice chutes in chill areas.

#### SITUATIONS IN WHICH INSPECTION PROGRAM PERSONNEL MUST TAKE ACTION

In some situations, condensation clearly adulterates product, creates insanitary conditions, and/or interferes with inspection. Some examples follow:

1. Heavily beaded condensation forms on a ceiling or wall of a processing area that is not regularly cleaned and sanitized in accordance with the establishment's SSOP's (an insanitary condition is created that could lead to the adulteration of product).
2. Condensate from a cooler ceiling drips onto carcasses.



3. Condensate from refrigeration unit surfaces, which have not been cleaned and sanitized, drips onto exposed product.

4. Condensate from a loading dock ceiling or wall drips onto boxes of boneless beef, breaking down the packaging.

### **Food Code**

#### **4-301.14 Ventilation Hood Systems, Adequacy.**

Ventilation hood systems and devices shall be sufficient in number and capacity to prevent grease or condensation from collecting on walls and ceilings.

#### **6-202.12 Heating, Ventilating, Air Conditioning System Vents.**

Heating, ventilating, and air conditioning systems shall be designed and installed so that make-up air intake and exhaust vents do not cause contamination of food, food-contact surfaces, equipment, or utensils.

#### **6-304.11 Mechanical.**

If necessary to keep rooms free of excessive heat, steam, condensation, vapors, obnoxious odors, smoke, and fumes, mechanical ventilation of sufficient capacity shall be provided.

### **Other Sources of Guidance**

#### **§ 416.2(e) Plumbing.**

Plumbing systems must be installed and maintained to:

- (1) Carry sufficient quantities of water to required locations throughout the establishment;
- (2) Properly convey sewage and liquid disposable waste from the establishment;
- (3) Prevent adulteration of product, water supplies, equipment, or utensils, and maintain sanitary conditions throughout the establishment;
- (4) Provide adequate floor drainage in all areas where floors are subject to flooding-type cleaning or where normal operations release or discharge water or other liquid waste on the floor;
- (5) Prevent back-flow conditions in and cross-connection between piping systems that discharge waste water or sewage and piping systems that carry water for product manufacturing; and



(6) Prevent the backup of sewer gases.

### **Comments**

### **Food Code**

#### **5-201.11 Approved.**

(A) A plumbing system and hoses conveying water shall be constructed and repaired with approved materials according to law.

(B) A water filter shall be made of safe materials.

#### **5-202.11 Approved System and Cleanable Fixtures.**

(A) A plumbing system shall be designed, constructed, and installed according to law.

(B) A plumbing fixture such as a handwashing lavatory, toilet, or urinal shall be easily cleanable.

#### **5-202.13 Backflow Prevention, Air Gap.**

An air gap between the water supply inlet and the flood level rim of the plumbing fixture, equipment, or nonfood equipment shall be at least twice the diameter of the water supply inlet and may not be less than 25 mm (1 inch).

#### **5-202.14 Backflow Prevention Device, Design Standard.**

A backflow or backsiphonage prevention device installed on a water supply system shall meet American Society of Sanitary Engineering (A.S.S.E.) standards for construction, installation, maintenance, inspection, and testing for that specific application and type of device.

#### **5-202.15 Conditioning Device, Design.**

A water filter, screen, and other water conditioning device installed on water lines shall be designed to facilitate disassembly for periodic servicing and cleaning. A water filter element shall be of the replaceable type.

### **Other Sources of Guidance**

The 1997 International Plumbing Code from BOCA, 1997 Standard Plumbing Code from SBCCI, and the 1997 Uniform Plumbing Code from the International Association of Plumbing and Mechanical Officials (IAPMO) provide basic principles and minimum requirements for plumbing systems. Notably, these codes address some of the issues relevant to plumbing in



food processing facilities. For contact information for BOCA and SBCCI, see "Other Sources of Guidance" under "Construction" above. To obtain materials from IAPMO, contact:

International Association of Plumbing and Mechanical Officials  
20001 E Walnut Drive South  
Walnut CA 91789-2825  
Telephone: (909) 595-8449  
FAX (publications orders): (909) 598-4720  
Internet home page: <http://www.iapmo.org/iapmo/iapmo.html>

Also, The American Society of Mechanical Engineers (ASME) has published guidance regarding the "design, quality and performance of serving check backwater valves for use in building drainage systems." The document, entitled "Backwater Valves," is available from:

ASME International  
Three Park Avenue  
New York, NY 10016-5990  
Phone: 1-800-843-2763  
Fax: 1-973-882-1717  
Email: [infocentral@asme.org](mailto:infocentral@asme.org)  
Internet home page: <http://www.asme.org>

Finally, the Environmental Protection Agency (EPA) Office of Ground Water and Drinking Water (OGWDW) has published a document concerning the protection of potable water from contamination resulting from cross-connection. The document, entitled "Cross-Connection Control Manual," is available from OGWDW at the following address:

Office of Ground Water and Drinking Water (4601)  
401 M Street, SW  
Washington, DC 20460-0003  
Phone: 202-260-5543  
Internet home page: <http://www.epa.gov/safewater/about.html#fax>

### **§ 416.2(f) Sewage disposal.**

Sewage must be disposed into a sewage system separate from all other drainage lines or disposed of through other means sufficient to prevent backup of sewage into areas where product is processed, handled, or stored. When the sewage disposal system is a private system requiring approval by a State or local health authority, the establishment must furnish FSIS with the letter of approval from that authority upon request.

### **Comments**

### **Food Code**

### **4-204.17 Ice Units, Separation of Drains.**



Liquid waste drain lines may not pass through an ice machine or ice storage bin.

**5-402.10 Establishment Drainage System.**

Food establishment drainage systems, including grease traps, that convey sewage shall be designed and installed as specified under § 5-202.11(A).

**5-402.11 Backflow Prevention.**

(A) Except as specified in (B) and (C) of this section, a direct connection may not exist between the sewage system and a drain originating from equipment in which food, portable equipment, or utensils are placed.

(B) If allowed by law, a warewashing machine may have a direct connection between its waste outlet and a floor drain when the machine is located within 1.5 m (5 feet) of a trapped floor drain and the machine outlet is connected to the inlet side of a properly vented floor drain trap.

(C) If allowed by law, a warewashing or culinary sink may have a direct connection.

**5-402.12 Grease Trap.**

If used, a grease trap shall be located to be easily accessible for cleaning.

**5-402.13 Conveying Sewage.**

Sewage shall be conveyed to the point of disposal through an approved sanitary sewage system or other system, including use of sewage transport vehicles, waste retention tanks, pumps, pipes, hoses, and connections that are constructed, maintained, and operated according to law.

**5-402.15 Flushing a Waste Retention Tank.**

A tank for liquid waste retention shall be thoroughly flushed and drained in a sanitary manner during the servicing operation.

**5-403.11 Approved Sewage Disposal System.**

Sewage shall be disposed through an approved facility that is:

(A) A public sewage treatment plant; or

(B) An individual sewage disposal system that is sized, constructed, maintained, and operated according to law.

**5-403.12 Other Liquid Wastes and Rainwater.**



Condensate drainage and other nonsewage liquids and rainwater shall be drained from point of discharge to disposal according to law.

### **Other Sources of Guidance**

The plumbing codes listed above under "Other Sources of Guidance" for § 416.2(e) contain much information relative the proper disposal of sewage.

### **§ 416.2(g) Water supply and water, ice, and solution reuse.**

(1) A supply of running water that complies with the National Primary Drinking Water regulations (40 CFR Part 141), at a suitable temperature and under pressure as needed, must be provided in all areas where required (for processing product, for cleaning rooms and equipment, utensils, and packaging materials, for employee sanitary facilities, etc.). If an establishment uses a municipal water supply, it must make available to FSIS, upon request, a water report, issued under the authority of the State or local health agency, certifying or attesting to the potability of the water supply. If an establishment uses a private well for its water supply, it must make available to FSIS, upon request, documentation certifying the potability of the water supply, that has been renewed at least semi-annually.

2) Water, ice, and solutions (such as brine, liquid smoke, or propylene glycol) used to chill or cook ready-to-eat product may be reused for the same purpose, provided that they are maintained free of pathogenic organisms and fecal coliform organisms and that other physical, chemical, and microbiological contamination have been reduced to prevent adulteration of product.

(3) Water, ice, and solutions used to chill or wash raw product may be reused for the same purpose provided that measures are taken to reduce physical, chemical, and microbiological contamination so as to prevent contamination or adulteration of product. Reuse water which has come into contact with raw product may not be used on ready-to-eat product.

(4) Reconditioned water that has never contained human waste and that has been treated by an onsite advanced wastewater treatment facility may be used on raw product, except in product formulation, and throughout the facility in edible and inedible production areas, provided that measures are taken to ensure that this water meets the criteria prescribed in paragraph (g)(1) of this section. Product, facilities, equipment, and utensils coming in contact with this water must undergo a separate final rinse with non-reconditioned water that meets the criteria prescribed in paragraph (g)(1) of this section.

(5) Any water that has never contained human waste and that is free of pathogenic organisms may be used in edible and inedible product areas, provided it does not contact edible product. For example, such reuse water may be used to move heavy solids, flush the bottom of open evisceration troughs, or to wash antemortem areas, livestock pens, trucks, poultry cages, picker aprons, picking room floors, and similar areas within the establishment.



(6) Water that does not meet the use conditions of paragraphs (g)(1) through (g)(5) of this section may not be used in areas where edible product is handled or prepared or in any manner that would allow it to adulterate edible product or create insanitary conditions.

### **Comments**

FSIS has developed the following guidance for water, ice and solution reuse.

#### **ICE REUSE**

Ice from ice packed poultry may be reused to repack raw whole birds or parts. The following are recommended:

Establish a procedure to assure that ice is collected and held in a container that drains freely and in a sanitary manner. The procedure should address collection and washing of ice before it is reused.

Establish a procedure for identifying reused ice from fresh ice.

The ice or the product should be packaged in an impervious, sealed container, such as a plastic bag, to prevent direct contact between the product and ice.

Ice used on raw product should not be reused on any heat processed partially- or fully-cooked product.

The ice should be free of any observable foreign material as well as large particles of poultry meat and fat. If the ice is washed, continuous drainage should be maintained during the washing procedure.

Ice from damaged containers should not be used.

Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### **BRINE REUSE**

Brine may be reused to chill cooked product for various lengths of time based on the type of casing, salinity, and temperature.

Brine solution that is reused to chill raw or heat-treated, raw but not fully cooked product (example- e.g., smoked bacon) should be reconditioned in a manner to prevent the brine solution from becoming contaminated and adulterating the product.

Brine reuse to chill raw product should follow the same criteria as brine reused to chill heat-treated, not fully cooked product.

The following are recommended:



Establish procedures for monitoring the temperature, salinity, and free chlorine concentration of the brine being reused to chill heat-treated product.

Establish an ongoing microbiological plan to ensure that the brine solution is maintained pathogen free. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reused brine solution:

**Cooked Product**

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Plate Count	Daily	> 2500 cfu/ml
Total Coliform	Weekly	Positive
Fecal Coliform	Weekly	Positive

**Raw or Heat-Treated, Raw Not Fully Cooked Product (i.e. Bacon Bellies)**

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Plate Count	Daily	> 5000 cfu/ml
Total Coliform	Weekly	>10 cfu/ml
Fecal Coliform	Weekly	Positive

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Visible contamination defects should be removed from the product before it is placed in the brine solution.
- The solution should be kept free of visible meat and fat particles and other objectionable conditions by effective methods such as filtration, skimming, or overflow.
- When the brine solution is used without reconditioning for one shift or longer, the solution should be discarded at the following specified intervals, and all equipment, tanks, lines should be thoroughly cleaned and sanitized:

**Heat-Treated Product**

<u>Duration of Use</u>	<u>(Classes)</u>	<u>Additional Conditions</u>
One production shift	All Classes:	None
	No casing	
	Perforated casing	
	Edible casing	



	Semipermeable casing	
	Impermeable casing	
Up to 24 hours	All classes:	1. Minimum salt 5%
	No casing	(19' salimeter)
	Perforated casing	2. Maintain 40' F.
	Edible casing	or lower
	Semipermeable casing	
	Impermeable casing	
Up to 1 week	One class:	1. Minimum salt 9%
	Semipermeable casing	(32' salimeter)
	Impermeable casing	2. Maintain 28' F.
		or lower
Up to 4 weeks	One class:	1. Minimum salt 20%
	Semipermeable casing	(76' salimeter)
	Impermeable casing	2. Maintain 10' F.
		or lower

- Cooked product, for example frankfurters, cannot be chilled in a brine solution that has been used to chill raw or heat-treated, not fully cooked product, for example, bacon bellies. (Raw product may be chilled after cooked product).
- Products with semipermeable or impermeable casing that are being chilled in brine that is being reused for longer than 24 hours should be trimmed if they have broken casings or have been similarly exposed. The trimmings should be discarded as inedible.
- A free chlorine concentration of 1-5 ppm should be maintained in the reuse brine solution.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

COOK AND CHILL WATER REUSE



Water may be reused to cook product and to chill cooked product. The following are recommended:

- Establish procedures for monitoring the temperature of the cook or chill water, and free chlorine concentration of the chill water being reused to chill cooked product.
- Establish an ongoing microbiological plan to ensure that the continuous safety of reuse cook or chill water is maintained pathogen free. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reused cook and/or chill water:

Chill Water

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Plate Count	Daily	>500 cfu/ml
Total Coliform	Weekly	Positive
Fecal Coliform	Weekly	Positive
Turbidity	Weekly	>5 NTU

Cook Water

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Plate Count	Daily	>500 cfu/ml
Gas Forming Anaerobes	Weekly	Positive
Total Coliform	Weekly	Positive
Turbidity	Weekly	>5 NTU

- Initially, frequency of microbial testing would be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Visible contamination defects should be removed from the product before it is placed in the cook and/or chill water.
- The cook or chill water should be kept free of visible meat and fat particles and other objectionable conditions by effective methods such as filtration, skimming, or overflow.
- The chill water should be maintained at a temperature of 50' F. or less.
- The cook water should be maintained at a temperature of 150' F. or higher.
- A free chlorine concentration of 1-5 ppm should be maintained in the reuse chill water
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

PROPYLENE GLYCOL REUSE



Propylene glycol solution may be reused to chill raw product such as hamburger chubs, sausage chubs, and bagged poultry for up to an indefinite length of time. The following are recommended:

Establish procedures for monitoring the temperature, propylene glycol concentration, and free chlorine concentration of the propylene glycol solution being reused to chill raw product.

Establish an ongoing microbiological plan to ensure the continuous safety of the propylene glycol solution. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reused propylene glycol solution:

Analysis      Frequency      Action Level

Total Plate Count	Weekly	>500 cfu/ml
Total Coliform	Weekly	>10 cfu/ml
Fecal Coliform	Weekly	Positive

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Visible contamination defects should be removed from the product before it is placed in the propylene glycol solution.
- The propylene glycol solution should be kept free of visible meat and fat particles and other objectionable conditions by effective methods such as filtration, skimming, or overflow.
- The propylene glycol solution should be maintained at a temperature of 10' F. or less during production hours and 40' F. or less during nonproduction hours.
- The propylene glycol should be of a type that is authorized for use for immersion freezing of meat and poultry products.
- The product should be enclosed in a package that does not allow the propylene glycol solution directly or indirectly to contact it. It is recommended that product be enclosed within an impervious package.
- Products that are exposed to the propylene glycol solution should be appropriately handled as contaminated product. One appropriate way of handling the contaminated product would be to rewash the product by water spraying. All traces of refrigerant should be removed before product is passed for food. If all contamination cannot be removed by water washing or washing or trimming cannot remove all contamination, the affected portion should be condemned.
- The propylene glycol solution should be adequately removed from the packaged products after freezing and before placing into shipping containers by effective methods such as water spray washing equipment.
- A free chlorine concentration of 1-5 ppm is recommended to be maintained in the propylene glycol.



- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### CHILLER OVERFLOW WATER REUSE

Overflow water from the poultry chilling units may be reused to move heavy solids in eviscerating troughs (not to flush sides of trough), scald tank, feather flow-aways, picker aprons, and washing picking room floors. The following are recommended:

- Establish a procedure to assure that chiller overflow water is collected and used in a sanitary manner.
- Chiller overflow water added to the scald tank should be a minimum of 140° F.
- The use of chiller overflow water to rinse picker aprons and wash picking room floors should be used in a manner that prevents cross-contamination to other areas of the plant such as from that due to employee traffic.
- The chiller overflow water should be kept free of visible solids.
- The chiller overflow water is collected and handled in a sanitary manner.
- Establish an ongoing microbiological plan to ensure that the continuous safety of the chiller overflow reuse water is maintained pathogen free. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reused chiller overflow water:

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Coliforms	Weekly	Positive
Fecal Coliforms	Weekly	Positive
Salmonella	Weekly	Positive
Staphylococcus aureus (coagulase positive staphylococci)	Weekly	Positive

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### CONDENSER OR COMPRESSOR WATER REUSE

- Water from condensers or compressors may be reused in edible and inedible product areas providing that it is maintained pathogen free. The following are recommended:
- The reuse condenser or compressor water should be collected and handled in a sanitary manner.
- The reuse condenser or compressor water should be maintained in a manner that prevents the solution from becoming contaminated such as with coliforms, oil and grease, refrigerant, or heavy metals that can adulterate product.



- A free chlorine concentration of 1-5 ppm should be maintained in the reuse condenser or compressor water.
- An ongoing monitoring plan should be established to ensure that the continuous safety of the reuse condenser and compressor water is maintained pathogen free. The monitoring plan should cover the type and frequency of any physical, chemical, and microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reuse chill water:

<u>Analysis</u>	<u>Frequency</u>	<u>Action Level</u>
Total Plate Count	Weekly	>500 cfu/ml
Total Coliform	Weekly	Positive
Fecal Coliform	Weekly	Positive
Turbidity	Weekly no samples	> 5 NTU

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### REUSE WATER TO FLUME CHICKEN FEET (PAWS)

Poultry chiller overflow water and water used to flume chicken feet (paws) may be used to flume chicken feet including through an in-line paw chiller. The following are recommended:

- Potable water should be added periodically to prevent organic matter buildup.
- The chiller overflow water and paw flume water should be kept free of visible solids.
- A free chlorine concentration of 1-5 ppm should be maintained in the reuse water used to convey chicken feet (paws).
- An ongoing microbiological monitoring plan should be established to ensure and ensure the continuous safety of that the reuse chiller overflow water and paw flume water used to flume chicken paws is maintained pathogen free. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reuse chiller overflow water and paw flume water:

Analysis      Frequency      Action Level

Total Coliforms    Weekly    Positive



Fecal Coliforms Weekly Positive

Salmonella Weekly Positive

Staphylococcus aureus Weekly Positive  
(coagulase positive staphylococci)

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### REUSE WATER TO BE USED TO WASH LIVESTOCK PENS, TRUCKS, POULTRY CAGES, AND SIMILAR AREAS

Water from establishment's secondary and tertiary wastewater treatment facility or other processing water may be reused to wash livestock pens, trucks, poultry cages, and other similar areas. The following are recommended:

- Water from the establishment's wastewater treatment facility or other processing water to be used for washing should be kept free of visible solids.
- A free chlorine concentration of 1-5 ppm should be maintained in the reuse water.
- The water from the establishment's wastewater treatment facility or other processing water should be collected and handled in a sanitary manner.
- The establishment's wastewater treatment system must not be treating human waste. Human waste must be kept separate from plant waste and not be commingled at the wastewater treatment system.
- An ongoing microbiological monitoring plan should be established to ensure that the continuous safety of the reuse water from the establishment's wastewater treatment facility or other processing water are maintained pathogen free. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reuse water from the establishment's wastewater treatment facility or other processing water:

Analysis      Frequency      Action Level

Total Coliforms Weekly Positive

Fecal Coliforms Weekly Positive

Salmonella Weekly Positive

Staphylococcus Weekly Positive



aureus  
(coagulase positive staphylococci)

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing until system controls are re-established.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### REUSE WATER TO BE USED TO WASH INEDIBLE PRODUCT AREAS

Water from throughout the plant may be reused in inedible product areas (i.e. washing offal sump screen, flushing feather flow-away troughs, flushing eviscerating troughs that are covered with metal plates, etc.). The following are recommended:

- The reuse water should be used in a manner that prevents cross-contamination to other areas of the plant such as from that due to employee traffic.
- The reuse water to be used should not violate any OSHA requirements.
- The reuse water to be used in inedible areas under FDA jurisdiction, such as pet food areas, must also meet FDA requirements.
- The reuse water should be kept free of visible solids.
- The reuse water is collected and handled in a sanitary manner.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### REUSE WATER FROM AN ADVANCED WASTEWATER TREATMENT FACILITY

Reuse water from an advanced wastewater treatment facility may be used on edible product (but not in product formulation) and throughout the plant in edible and inedible production areas. The following are recommended:

- An advanced wastewater treatment facility should meet EPA requirements.
- The establishment's advanced wastewater treatment must not be treating human waste. Human waste must be kept separate from plant waste and not be commingled at the advanced wastewater treatment facility.
- The establishment should have qualified and trained personnel who monitor, regulate, and record the wastewater treatment system.
- The establishment should have a program in place that identifies, monitors, and records the treatment measures necessary for safe and effective operation of the wastewater treatment facility.
- The potable and reuse water lines should be identified and separated except at junctions where appropriate valves, etc. protect the potable water supply.
- Dual check valves, alarms, etc., should be in place in case the reuse water system malfunctions to prevent the reuse water from contaminating the potable water supply.
- A "Fail-Safe" system should be in place to prevent substandard reuse water from entering the "end use" part of the system and contaminating edible product.\* The



reuse water should be tested for heavy metals at least once a year and meet the appropriate EPA's Maximum Contaminant Levels (MCLs).

- A final potable water rinse should be applied to any edible product and any equipment that contacts reuse water.
- The "End Use" reused water should be monitored and tested daily to ensure that the reuse water meets the criteria for the intended use.
- The reuse water should meet the following "Safe for the Intended Use" EPA Criteria:

#### Microbiological analysis

Total Aerobic Plate Count  $\leq$  500 CFU/ML

Total Coliforms - None

E. coli - None

Chemical analysis

Total Organic Carbon (TOC)  $\leq$  100 MG/L

Physical analysis

Turbidity -  $\leq$  5% of samples analyzed  $\geq$  1 NTU by EPA nephelometry method or equivalent method; no samples  $>$  5 NTU

- The reuse water should be tested for heavy metals at least once a year and meet the appropriate EPA Maximum Contaminant Levels (MCL's).
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

#### REUSE WATER IN VAPOR LINES FROM DEODORIZERS

Water in vapor lines from deodorizers (condensers) used in preparation of lard and similar edible product may be reused for the same identical use. The following are recommended:

- The complete drainage and disposal of the reused water, effective cleaning of the equipment, and renewal with fresh potable water should be accomplished often enough to assure an acceptable supply of reuse water for the preparation of lard and similar edible product.
- The reuse water in vapor lines from deodorizers should be maintained in a manner that prevents the solution from becoming contaminated such as with coliforms, oil, or grease that can adulterate the product.
- An ongoing monitoring plan should be established to ensure that the continuous safety of the reuse water in vapor lines from deodorizers is maintained pathogen free. The monitoring plan should cover the type and frequency of any physical, chemical, and microbiological analysis, and action limits (upper/lower control limits), and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reuse water:

#### Analysis Frequency Action Level

Total Plate Count Weekly  $>$ 500 cfu/ml

Total Coliform Weekly Positive



Fecal Coliform Weekly Positive  
Turbidity Weekly No samples > 5 NTU

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Establish procedures to correct deficiencies that occur to prevent reoccurrence.
- Reuse Water From Single Or Multiple Point Sources Can Be Used For Single Or Multiple Point Sources In The Slaughter Process
- Reuse water from any slaughter process location(s) (e.g., scalding, inside/outside bird washer, chiller overflow water, etc) can be used at any location(s) in the slaughter process including for the chiller make-up water and for general sanitation purposes. For example, chiller overflow water and water from the final bird washer that are reconditioned and meet the criteria listed below can be reused in the scalding, throughout the eviscerating line, inside/outside bird washer, final bird washer, chiller make-up water and for general sanitation purposes. Consequently, since the reuse water is reconditioned to a higher standard since it can replace potable water used during the slaughter process, it needs to meet a higher water reuse standard than pathogen free. The following are recommended:
  - Establish procedures for monitoring turbidity and concentration of the water being reused during the slaughter process.
  - A free chlorine concentration of 1-5 ppm should be maintained in the reuse water.
  - The potable and reuse water lines should be identified and separated except at junctions where appropriate valves, etc, protect the potable water supply.
  - A system should be in place to prevent substandard reuse water from entering the "end use" part of the system and contaminate edible product.
  - Establish an ongoing microbiological plan to ensure the continuous safety of reuse water during the slaughter process. The monitoring plan should cover the type and frequency of any microbiological analysis, and action limits (upper/lower control limits) and actions taken to ensure product safety when those limits are exceeded. It is recommended that the establishment perform the following ongoing monitoring of the reconditioned water:

Analysis Frequency Action level

Total Plate Count Weekly >500 cfu/ml  
Total Coliform Weekly Positive  
Fecal Coliform Weekly Positive  
Turbidity Daily >5 NTU

- Initially, frequency of microbial testing should be at the highest level until control is established. Reduced testing may be appropriate once control has been established. However, loss of control may necessitate a return to increased testing frequency until system controls are re-established.
- Establish procedures to correct deficiencies that occur and to prevent reoccurrence.

Food Code



#### **5-101.11 Approved System.**

Drinking water shall be obtained from an approved source that is:

(A) A public water system; or

(B) A nonpublic water system that is constructed, maintained, and operated according to law.

#### **5-101.12 System Flushing and Disinfection.**

A drinking water system shall be flushed and disinfected before being placed in service after construction, repair, or modification and after an emergency situation, such as a flood, that may introduce contaminants to the system.

#### **5-102.11 Standards.**

Except as specified under § 5-102.12:

(A) Water from a public water system shall meet 40 CFR 141 - National Primary Drinking Water Regulations and state drinking water quality standards; and

(B) Water from a nonpublic water system shall meet state drinking water quality standards.

#### **5-102.12 Nondrinking Water.**

(B) Nondrinking water shall be used only for nonculinary purposes such as air conditioning, nonfood equipment cooling, fire protection, and irrigation.

#### **5-102.13 Sampling.**

Except when used as specified under § 5-102.12, water from a nonpublic water system shall be sampled and tested at least annually and as required by state water quality regulations.

#### **5-102.14 Sample Report.**

The most recent sample report for the nonpublic water system shall be retained on file in the food establishment or the report shall be maintained as specified by state water quality regulations.

#### **Other Sources of Guidance**

#### **§ 416.2(h) Dressing rooms, lavatories, and toilets.**



(1) Dressing rooms, toilet rooms, and urinals must be sufficient in number, ample in size, conveniently located, and maintained in a sanitary condition and in good repair at all times to ensure cleanliness of all persons handling any product. They must be separate from the rooms and compartments in which products are processed, stored, or handled.

(2) Lavatories with running hot and cold water, soap, and towels, must be placed in or near toilet and urinal rooms and at such other places in the establishment as necessary to ensure cleanliness of all persons handling any product.

(3) Refuse receptacles must be constructed and maintained in a manner that protects against the creation of insanitary conditions and the adulteration of product.

### **Comments**

### **Food Code**

#### **5-202.12 Handwashing Lavatory, Water Temperature, and Flow.**

(A) A handwashing lavatory shall be equipped to provide water at a temperature of at least 43°C (110°F) through a mixing valve or combination faucet.

(B) A steam mixing valve may not be used at a handwashing lavatory.

(C) A self-closing, slow-closing, or metering faucet shall provide a flow of water for at least 15 seconds without the need to reactivate the faucet.

#### **5-501.10 Indoor Storage Area.**

If located within the food establishment, a storage area for refuse, recyclables, and returnables shall meet the requirements specified under 6-101.11, 6-201.11 - 6-201.18, 6-202.15, and 6-202.16.

#### **5-501.13 Receptacles.**

(A) Except as specified in (B) of this section, receptacles and waste handling units for refuse, recyclables, and returnables and for use with materials containing food residue shall be durable, cleanable, insect- and rodent-resistant, leakproof, and nonabsorbent.

(B) Plastic bags and wet strength paper bags may be used to line receptacles for storage inside the food establishment, or within closed outside receptacles.

### **Other Sources of Guidance**

The Occupational Safety and Health Administration of the Department of Labor has promulgated regulations concerning toilet facilities in the workplace in 29 CFR 1910.141, "Sanitation." Paragraph (c)(1)(i) sets forth requirements for the number of toilet facilities in



all permanent places of employment. Official meat and poultry establishments are governed by these requirements:

**1910.141 (c)(1)(i)**

Except as otherwise indicated in this paragraph (c)(1)(i), toilet facilities, in toilet rooms separate for each sex, shall be provided in all places of employment in accordance with table J-1 of this section. The number of facilities to be provided for each sex shall be based on the number of employees of that sex for whom the facilities are furnished. Where toilet rooms will be occupied by no more than one person at a time, can be locked from the inside, and contain at least one water closet, separate toilet rooms for each sex need not be provided. Where such single-occupancy rooms have more than one toilet facility, only one such facility in each toilet room shall be counted for the purpose of table J-1.

<b>Number of employees</b>	<b>Minimum number of water Closets <sup>(1)</sup></b>
1 to 15 .....	1
16 to 35 .....	2
36 to 55 .....	3
56 to 80 .....	4
81 to 110 .....	5
111 to 150 .....	6
Over 150 .....	(2)

Footnote(1) Where toilet facilities will not be used by women, urinals may be provided instead of water closets, except that the number of water closets in such cases shall not be reduced to less than 2/3 of the minimum specified.

Footnote(2) 1 additional fixture for each additional 40 employees.

**§ 416.3 Equipment and utensils.**

(a) Equipment and utensils used for processing or otherwise handling edible product or ingredients must be of such material and construction to facilitate thorough cleaning and to ensure that their use will not cause the adulteration of product during processing, handling, or storage. Equipment and utensils must be maintained in sanitary condition so as not to adulterate product.

(b) Equipment and utensils must not be constructed, located, or operated in a manner that prevents FSIS personnel from inspecting the equipment or utensils to determine whether they are in sanitary condition.



(c) Receptacles used for storing inedible material must be of such material and construction that their use will not result in the adulteration of any edible product or in the creation of insanitary conditions. Such receptacles must not be used for storing any edible product and must bear conspicuous and distinctive marking to identify permitted uses.

### **Comments**

### **Food Code**

Multiuse

#### **4-101.11 Characteristics.**

Materials that are used in the construction of utensils and food-contact surfaces of equipment may not allow the migration of deleterious substances or impart colors, odors, or tastes to food and under normal use conditions shall be:

- (A) Safe;
- (B) Durable, corrosion-resistant, and nonabsorbent;
- (C) Sufficient in weight and thickness to withstand repeated warewashing;
- (D) Finished to have a smooth, easily cleanable surface; and
- (E) Resistant to pitting, chipping, crazing, scratching, scoring, distortion, and decomposition.

#### **4-101.16 Sponges, Use Limitation.**

Sponges may not be used in contact with cleaned and sanitized or in-use food-contact surfaces.

#### **4-101.18 Lead in Solder and Flux, Use Limitation.**

Solder and flux containing lead in excess of 0.2% may not be used as a food-contact surface.

#### **4-101.19 Wood, Use Limitation.**

(A) Except as specified in (B), (C), and (D) of this section, wood and wood wicker may not be used as a food-contact surface.

(B) Hard maple or an equivalently hard, close-grained wood may be used for:



(1) Cutting boards; cutting blocks; bakers' tables; and utensils such as rolling pins, doughnut dowels, salad bowls, and chopsticks; and

#### **4-101.111 Nonfood-Contact Surfaces.**

Nonfood-contact surfaces of equipment that are exposed to splash, spillage, or other food soiling or that require frequent cleaning shall be constructed of a corrosion-resistant, nonabsorbent, and smooth material.

#### **Single-Service and Single-Use**

#### **4-102.11 Characteristics.**

Materials that are used to make single-service and single-use articles:

(A) May not:

- (1) Allow the migration of deleterious substances, or
- (2) Impart colors, odors, or tastes to food; and

(B) Shall be:

- (1) Safe, and
- (2) Clean.

#### **Durability and Strength**

#### **4-201.11 Equipment and Utensils.**

Equipment and utensils shall be designed and constructed to be durable and to retain their characteristic qualities under normal use conditions.

#### **4-201.12 Food Temperature Measuring Devices.**

Food temperature measuring devices may not have sensors or stems constructed of glass, except that thermometers with glass sensors or stems that are encased in a shatterproof coating such as candy thermometers may be used.

#### **Cleanability**

#### **4-202.11 Food-Contact Surfaces.**

(A) Multiuse food-contact surfaces shall be:



- (1) Smooth;
- (2) Free of breaks, open seams, cracks, chips, inclusions, pits, and similar imperfections;
- (3) Free of sharp internal angles, corners, and crevices;
- (4) Finished to have smooth welds and joints; and
- (5) Except as specified in (B) of this section, accessible for cleaning and inspection by one of the following methods:
  - (a) Without being disassembled,
  - (b) By disassembling without the use of tools, or
  - (c) By easy disassembling with the use of handheld tools commonly available to maintenance and cleaning personnel such as screwdrivers, pliers, open-end wrenches, and Allen wrenches.

(B) Subparagraph (A)(5) of this section does not apply to cooking oil storage tanks, distribution lines for cooking oils, or beverage syrup lines or tubes.

#### **4-202.12 CIP (Clean-in Place) Equipment.**

(A) CIP equipment shall meet the characteristics specified under 4-202.11 and shall be designed and constructed so that:

- (1) Cleaning and sanitizing solutions circulate throughout a fixed system and contact all interior food-contact surfaces, and
- (2) The system is self-draining or capable of being completely drained of cleaning and sanitizing solutions; and

(B) CIP equipment that is not designed to be disassembled for cleaning shall be designed with inspection access points to ensure that all interior food-contact surfaces throughout the fixed system are being effectively cleaned.

#### **4-202.16 Nonfood-Contact Surfaces.**

Nonfood-contact surfaces shall be free of unnecessary ledges, projections, and crevices, and designed and constructed to allow easy cleaning and to facilitate maintenance.

#### **4-202.18 Ventilation Hood Systems, Filters.**

Filters or other grease extracting equipment shall be designed to be readily removable for cleaning and replacement if not designed to be cleaned in place.



## **Functionality**

### **4-204.11 Ventilation Hood Systems, Drip Prevention.**

Exhaust ventilation hood systems in food preparation and warewashing areas including components such as hoods, fans, guards, and ducting shall be designed to prevent grease or condensation from draining or dripping onto food, equipment, utensils, linens, and single-service and single-use articles.

### **4-204.12 Equipment Openings, Closures and Deflectors.**

(A) A cover or lid for equipment shall overlap the opening and be sloped to drain.

(B) An opening located within the top of a unit of equipment that is designed for use with a cover or lid shall be flanged upward at least 5 millimeters (two-tenths of an inch).

(C) Except as specified under (D) of this section, fixed piping, temperature measuring devices, rotary shafts, and other parts extending into equipment shall be provided with a watertight joint at the point where the item enters the equipment.

(D) If a watertight joint is not provided:

(1) The piping, temperature measuring devices, rotary shafts, and other parts extending through the openings shall be equipped with an apron designed to deflect condensation, drips, and dust from openings into the food; and

(2) The opening shall be flanged as specified under (B) of this section.

### **4-204.15 Bearings and Gear Boxes, Leakproof.**

Equipment containing bearings and gears that require lubricants shall be designed and constructed so that the lubricant cannot leak, drip, or be forced into food or onto food-contact surfaces.

### **4-204.18 Condenser Unit, Separation.**

If a condenser unit is an integral component of equipment, the condenser unit shall be separated from the food and food storage space by a dustproof barrier.

### **4-204.120 Equipment Compartments, Drainage.**

Equipment compartments that are subject to accumulation of moisture due to conditions such as condensation, food or beverage drip, or water from melting ice shall be sloped to an outlet that allows complete draining.

## **Acceptability**



#### **4-205.10 Food Equipment, Certification and Classification.**

Food equipment that is certified or classified for sanitation by an American National Standards Institute (ANSI)-accredited certification program will be deemed to comply with Parts 4-1 and 4-2 of this chapter.

#### **Location**

#### **4-401.11 Equipment, Clothes Washers and Dryers, and Storage Cabinets, Contamination Prevention.**

(A) Except as specified in (B) of this section, equipment, a cabinet used for the storage of food, or a cabinet that is used to store cleaned and sanitized equipment, utensils, laundered linens, and single-service and single-use articles may not be located:

- (1) In locker rooms;
- (2) In toilet rooms;
- (3) In garbage rooms;
- (4) In mechanical rooms;
- (5) Under sewer lines that are not shielded to intercept potential drips;
- (6) Under leaking water lines including leaking automatic fire sprinkler heads or under lines on which water has condensed;
- (7) Under open stairwells; or
- (8) Under other sources of contamination.

#### **Installation**

#### **4-402.11 Fixed Equipment, Spacing or Sealing.**

(A) Equipment that is fixed because it is not easily movable shall be installed so that it is:

- (1) Spaced to allow access for cleaning along the sides, behind, and above the equipment;
- (2) Spaced from adjoining equipment, walls, and ceilings a distance of not more than 1 millimeter or one thirty-second inch; or
- (3) Sealed to adjoining equipment or walls, if the equipment is exposed to spillage or seepage.



(B) Table-mounted equipment that is not easily movable shall be installed to allow cleaning of the equipment and areas underneath and around the equipment by being:

- (1) Sealed to the table; or
- (2) Elevated on legs as specified under 4-402.12(D).

#### **4-402.12 Fixed Equipment, Elevation or Sealing.**

(A) Except as specified in (B) and (C) of this section, floor-mounted equipment that is not easily movable shall be sealed to the floor or elevated on legs that provide at least a 15 centimeter (6 inch) clearance between the floor and the equipment.

(B) If no part of the floor under the floor-mounted equipment is more than 15 centimeters (6 inches) from the point of cleaning access, the clearance space may be only 10 centimeters (4 inches).

(D) Except as specified in (E) of this section, table-mounted equipment that is not easily movable shall be elevated on legs that provide at least a 10 centimeter (4 inch) clearance between the table and the equipment.

(E) The clearance space between the table and table-mounted equipment may be:

- (1) 7.5 centimeters (3 inches) if the horizontal distance of the table top under the equipment is no more than 50 centimeters (20 inches) from the point of access for cleaning; or
- (2) 5 centimeters (2 inches) if the horizontal distance of the table top under the equipment is no more than 7.5 centimeters (3 inches) from the point of access for cleaning.

### **Equipment**

#### **4-501.11 Good Repair and Proper Adjustment.**

(A) Equipment shall be maintained in a state of repair and condition that meets the requirements specified under Parts 4-1 and 4-2.

(B) Equipment components such as doors, seals, hinges, fasteners, and kick plates shall be kept intact, tight, and adjusted in accordance with manufacturer's specifications.

(C) Cutting or piercing parts of can openers shall be kept sharp to minimize the creation of metal fragments that can contaminate food when the container is opened.

#### **4-501.12 Cutting Surfaces.**



Surfaces such as cutting blocks and boards that are subject to scratching and scoring shall be resurfaced if they can no longer be effectively cleaned and sanitized, or discarded if they are not capable of being resurfaced.

#### **Other Sources of Guidance**

#### **§ 416.4 Sanitary operations.**

(a) All food-contact surfaces, including food-contact surfaces of utensils and equipment, must be cleaned and sanitized as frequently as necessary to prevent the creation of insanitary conditions or the adulteration of product.

(b) Non-food-contact surfaces of facilities, equipment, and utensils used in the operation of the establishment must be cleaned and sanitized as frequently as necessary to prevent the creation of insanitary conditions or the adulteration of product.

(c) Cleaning compounds, sanitizing agents, processing aids, and other chemicals used by an establishment must be safe and effective under the conditions of use. Such chemicals must be used, handled, and stored in a manner that will not adulterate product or create insanitary conditions. Documentation substantiating the safety of a chemical's use in a food processing environment must be available to FSIS inspection personnel for review.

(d) Product must be protected from adulteration during processing, handling, storage, loading, and unloading at and during transportation from official establishments.

#### **Comments**

In regard to the use of cleaners, sanitizers, and other chemicals, please refer to Appendix 2 of this document.

#### **Food Code**

#### **Objective**

#### **4-601.11 Equipment, Food-Contact Surfaces, Nonfood-Contact Surfaces, and Utensils.\***

(A) Equipment food-contact surfaces and utensils shall be clean to sight and touch.

(B) The food-contact surfaces of cooking equipment and pans shall be kept free of encrusted grease deposits and other soil accumulations.

(C) Nonfood-contact surfaces of equipment shall be kept free of an accumulation of dust, dirt, food residue, and other debris.

#### **Frequency**



**4-602.11 Equipment Food-Contact Surfaces and Utensils.**

(A) Equipment food-contact surfaces and utensils shall be cleaned:

- (1) Except as specified in (B) of this section, before each use with a different type of raw animal food such as beef, fish, lamb, pork, or poultry;
- (2) Each time there is a change from working with raw foods to working with ready-to-eat foods;
- (3) Between uses with raw fruits and vegetables and with potentially hazardous food;
- (4) Before using or storing a food temperature measuring device; and
- (5) At any time during the operation when contamination may have occurred.

(B) Subparagraph (A)(1) of this section does not apply if the food-contact surface or utensil is in contact with a succession of different raw animal foods each requiring a higher cooking temperature as specified under 3-401.11 than the previous food, such as preparing raw fish followed by cutting raw poultry on the same cutting board.

(C) Except as specified in (D) of this section, if used with potentially hazardous food, equipment food-contact surfaces and utensils shall be cleaned throughout the day at least every 4 hours.

(D) Surfaces of utensils and equipment contacting potentially hazardous food may be cleaned less frequently than every 4 hours if:

- (1) In storage, containers of potentially hazardous food and their contents are maintained at temperatures specified under Chapter 3 and the containers are cleaned when they are empty;
- (2) Utensils and equipment are used to prepare food in a refrigerated room or area that is maintained at one of the temperatures in the following chart and:
  - (a) The utensils and equipment are cleaned at the frequency in the following chart that corresponds to the temperature:

<b>Temperature</b>	<b>Cleaning Frequency</b>
5.0°C (41°F) or less	24 hours
>5.0°C - 7.2°C (>41°F - 45°F)	20 hours
>7.2°C - 10.0°C (>45°F - 50°F)	16 hours



>10.0°C - 12.8°C (>50°F - 55°F)	10 hours
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and

(b) The cleaning frequency based on the ambient temperature of the refrigerated room or area is documented in the food establishment.

(4) Temperature measuring devices are maintained in contact with food, such as when left in a container of deli food or in a roast, held at temperatures specified under Chapter 3;

(5) Equipment is used for storage of packaged or unpackaged food such as a reach-in refrigerator and the equipment is cleaned at a frequency necessary to preclude accumulation of soil residues;

(6) The cleaning schedule is approved based on consideration of:

(a) Characteristics of the equipment and its use,

(b) The type of food involved,

(c) The amount of food residue accumulation, and

(d) The temperature at which the food is maintained during the operation and the potential for the rapid and progressive multiplication of pathogenic or toxigenic microorganisms that are capable of causing foodborne disease.

;or,

(7) In-use utensils are intermittently stored in a container of water in which the water is maintained at 60°C (140°F) or more and the utensils and container are cleaned at least every 24 hours or at a frequency necessary to preclude accumulation of soil residues.

(E) Except when dry cleaning methods are used as specified under 4-603.11, surfaces of utensils and equipment contacting food that is not potentially hazardous shall be cleaned:

(1) At any time when contamination may have occurred;

**4-602.12 Cooking and Baking Equipment.**

(A) The food-contact surfaces of cooking and baking equipment shall be cleaned at least every 24 hours. This section does not apply to hot oil cooking and filtering equipment if it is cleaned as specified in Subparagraph 4-602.11(D)(6).

**4-602.13 Nonfood-Contact Surfaces.**



Nonfood-contact surfaces of equipment shall be cleaned at a frequency necessary to preclude accumulation of soil residues.

### **Methods**

#### **4-603.11 Dry Cleaning.**

(A) If used, dry cleaning methods such as brushing, scraping, and vacuuming shall contact only surfaces that are soiled with dry food residues that are not potentially hazardous.

(B) Cleaning equipment used in dry cleaning food-contact surfaces may not be used for any other purpose.

#### **4-603.12 Precleaning.**

(A) Food debris on equipment and utensils shall be scrapped over a waste disposal unit, scupper, or garbage receptacle or shall be removed in a warewashing machine with a prewash cycle.

(B) If necessary for effective cleaning, utensils and equipment shall be preflushed, presoaked, or scrubbed with abrasives.

#### **4-603.14 Wet Cleaning.**

(A) Equipment food-contact surfaces and utensils shall be effectively washed to remove or completely loosen soils by using the manual or mechanical means necessary such as the application of detergents containing wetting agents and emulsifiers; acid, alkaline, or abrasive cleaners; hot water; brushes; scouring pads; high-pressure sprays; or ultrasonic devices.

(B) The washing procedures selected shall be based on the type and purpose of the equipment or utensil, and on the type of soil to be removed.

#### **4-701.10 Food-Contact Surfaces and Utensils.**

Equipment food-contact surfaces and utensils shall be sanitized.

#### **4-702.11 Before Use After Cleaning.**

Utensils and food-contact surfaces of equipment shall be sanitized before use after cleaning.

#### **4-703.11 Hot Water and Chemical.**

After being cleaned, equipment food-contact surfaces and utensils shall be sanitized in:



(A) Hot water manual operations by immersion for at least 30 seconds and as specified under § 4-501.111;

(B) Hot water mechanical operations by being cycled through equipment that is set up as specified under §§ 4-501.15, 4-501.112, and 4-501.113 and achieving a utensil surface temperature of 71°C (160°F) as measured by an irreversible registering temperature indicator; or

(C) Chemical manual or mechanical operations, including the application of sanitizing chemicals by immersion, manual swabbing, brushing, or pressure spraying methods, using a solution as specified under § 4-501.114 by providing:

(1) Except as specified under Subparagraph (C)(2) of this section, an exposure time of at least 10 seconds for a chlorine solution specified under § 4-501.114(A),

(2) An exposure time of at least 7 seconds for a chlorine solution of 50 mg/L that has a pH of 10 or less and a temperature of at least 38°C (100°F) or a pH of 8 or less and a temperature of at least 24°C (75°F),

(3) An exposure time of at least 30 seconds for other chemical sanitizing solutions, or

(4) An exposure time used in relationship with a combination of temperature, concentration, and pH that, when evaluated for efficacy, yields sanitization as defined in Subparagraph 1-201.10(B)(70).

### **Drying**

#### **4-901.11 Equipment and Utensils, Air-Drying Required.**

After cleaning and sanitizing, equipment and utensils:

(A) Shall be air-dried or used after adequate draining as specified in § (a) of 21 CFR 178.1010 Sanitizing solutions, before contact with food; and

(B) May not be cloth dried except that utensils that have been air-dried may be polished with cloths that are maintained clean and dry.

#### **4-901.12 Wiping Cloths, Air-Drying Locations.**

Wiping cloths laundered in a food establishment that does not have a mechanical clothes dryer as specified in § 4-301.15(B) shall be air-dried in a location and in a manner that prevents contamination of food, equipment, utensils, linens, and single-service and single-use articles and the wiping cloths. This section does not apply if wiping cloths are stored after laundering in a sanitizing solution as specified under § 4-501.114.

### **Lubricating and Reassembling**



#### **4-902.11 Food-Contact Surfaces.**

Lubricants shall be applied to food-contact surfaces that require lubrication in a manner that does not contaminate food-contact surfaces.

#### **4-902.12 Equipment.**

Equipment shall be reassembled so that food-contact surfaces are not contaminated.

### **Storing**

#### **4-903.11 Equipment, Utensils, Linens, and Single-Service and Single-Use Articles.**

(A) Except as specified in (D) of this section, cleaned equipment and utensils, laundered linens, and single-service and single-use articles shall be stored:

- (1) In a clean, dry location;
- (2) Where they are not exposed to splash, dust, or other contamination; and
- (3) At least 15 cm (6 inches) above the floor.

(B) Clean equipment and utensils shall be stored as specified under (A) of this section and shall be stored:

- (1) In a self-draining position that allows air drying; and
- (2) Covered or inverted.

(C) Single-service and single-use articles shall be stored as specified under (A) of this section and shall be kept in the original protective package or stored by using other means that afford protection from contamination until used.

(D) Items that are kept in closed packages may be stored less than 15 cm (6 inches) above the floor on dollies, pallets, racks, and skids that are designed as specified under § 4-204.122.

#### **4-903.12 Prohibitions.**

(A) Except as specified in (B) of this section, cleaned and sanitized equipment, utensils, laundered linens, and single-service and single-use articles may not be stored:

- (1) In locker rooms;
- (2) In toilet rooms;



- (3) In garbage rooms;
- (4) In mechanical rooms;
- (5) Under sewer lines that are not shielded to intercept potential drips;
- (6) Under leaking water lines including leaking automatic fire sprinkler heads or under lines on which water has condensed;
- (7) Under open stairwells; or
- (8) Under other sources of contamination.

#### **Other Sources of Guidance**

#### **§ 416.5 Employee Hygiene.**

(a) Cleanliness. All persons working in contact with product, food-contact surfaces, and product-packaging materials must adhere to hygienic practices while on duty to prevent adulteration of product.

(b) Clothing. Aprons, frocks, and other outer clothing worn by persons who handle product must be of material that is disposable or readily cleaned. Clean garments must be worn at the start of each working day and garments must be changed during the day as often as necessary to prevent contamination or adulteration of product.

(c) Disease control. Any person who has or appears to have an infectious disease, open lesion, including boils, sores, or infected wounds, or any other abnormal source of microbial contamination must be excluded from any operations which could result in product adulteration until the condition is corrected.

#### **Comments**

#### **Food Code**

##### **2-301.11 Clean Condition.**

Food employees shall keep their hands and exposed portions of their arms clean.

##### **2-301.12 Cleaning Procedure.**

(A) Except as specified in (B) of this section, food employees shall clean their hands and exposed portions of their arms with a cleaning compound in a lavatory that is equipped as specified under § 5-202.12 by vigorously rubbing together the surfaces of their lathered hands and arms for at least 20 seconds and thoroughly rinsing with clean water. Employees



shall pay particular attention to the areas underneath the fingernails and between the fingers.

(B) If approved and capable of removing the types of soils encountered in the food operations involved, an automatic handwashing facility may be used by food employees to clean their hands.

### **2-301.14 When to Wash.**

Food employees shall clean their hands and exposed portions of their arms as specified under § 2-301.12 immediately before engaging in food preparation including working with exposed food, clean equipment and utensils, and unwrapped single-service and single-use articles and:

(A) After touching bare human body parts other than clean hands and clean, exposed portions of arms;

(B) After using the toilet room;

(C) After caring for or handling service animals or aquatic animals as specified in § 2-403.11(B);

(D) Except as specified in §2-401.11(B), after coughing, sneezing, using a handkerchief or disposable tissue, using tobacco, eating, or drinking;

(E) After handling soiled equipment or utensils;

(F) During food preparation, as often as necessary to remove soil and contamination and to prevent cross contamination when changing tasks;

(G) When switching between working with raw food and working with ready-to-eat food; and

(H) After engaging in other activities that contaminate the hands.

### **2-301.15 Where to Wash.**

Food employees shall clean their hands in a handwashing lavatory or approved automatic handwashing facility and may not clean their hands in a sink used for food preparation, or in a service sink or a curbed cleaning facility used for the disposal of mop water and similar liquid waste.

### **2-301.16 Hand Sanitizers.**

(A) A hand sanitizer and a chemical hand sanitizing solution used as a hand dip shall:



(1) Comply with one of the following:

(a) Be an approved drug that is listed in the FDA publication Approved Drug Products with Therapeutic Equivalence Evaluations as an approved drug based on safety and effectiveness; or

(b) Have active antimicrobial ingredients that are listed in:

(i) The FDA monograph for OTC Health-Care Antiseptic Drug Products as an antiseptic handwash, or

(ii)

and

(2) Comply with one of the following:

(a) Have components that are exempted from the requirement of being listed in federal food additive regulations as specified in 21 CFR 170.39 - Threshold of regulation for substances used in food-contact articles; or

(b) Comply with and be listed in:

(i) 21 CFR 178 - Indirect Food Additives: Adjuvants, Production Aids, and Sanitizers as regulated for use as a food additive with conditions of safe use, or

(ii) 21 CFR 182 - Substances Generally Recognized as Safe, 21 CFR 184 Direct Food Substances Affirmed as Generally Recognized as Safe, or 21 CFR 186 - Indirect Food Substances Affirmed as Generally Recognized as Safe for use in contact with food; and

(3) Be applied only to hands that are cleaned as specified under § 2-301.12.

(B) If a hand sanitizer or a chemical hand sanitizing solution used as a hand dip does not meet the criteria specified under Subparagraph (A)(2) of this section, use shall be:

(1) Followed by thorough hand rinsing in clean water before hand contact with food or by the use of gloves; or

(2) Limited to situations that involve no direct contact with food by the bare hands.

(C) A chemical hand sanitizing solution used as a hand dip shall be maintained clean and at a strength equivalent to at least 100 mg/L chlorine.

### **Fingernails**

#### **2-302.11 Maintenance.**



(A) Food employees shall keep their fingernails trimmed, filed, and maintained so the edges and surfaces are cleanable and not rough.

(B) Unless wearing intact gloves in good repair, a food employee may not wear fingernail polish or artificial fingernails when working with exposed food.

### **Jewelry**

#### **2-303.11 Prohibition.**

While preparing food, food employees may not wear jewelry on their arms and hands. This section does not apply to a plain ring such as a wedding band.

### **Outer Clothing**

#### **2-304.11 Clean Condition.**

Food employees shall wear clean outer clothing to prevent contamination of food, equipment, utensils, linens, and single-service and single-use articles.

### **Food Contamination Prevention**

#### **2-401.11 Eating, Drinking, or Using Tobacco.**

(A) Except as specified in (B) of this section, an employee shall eat, drink, or use any form of tobacco only in designated areas where the contamination of exposed food; clean equipment, utensils, and linens; unwrapped single-service and single-use articles; or other items needing protection cannot result.

(B) A food employee may drink from a closed beverage container if the container is handled to prevent contamination of:

- (1) The employee's hands;
- (2) The container; and
- (3) Exposed food; clean equipment, utensils, and linens; and unwrapped single-service and single-use articles.

#### **2-401.12 Discharges from the Eyes, Nose, and Mouth.**

Food employees experiencing persistent sneezing, coughing, or a runny nose that causes discharges from the eyes, nose, or mouth may not work with exposed food; clean equipment, utensils, and linens; or unwrapped single-service or single-use articles.

### **Hair Restraints**



## **2-402.11 Effectiveness.**

(A) Except as provided in (B) of this section, food employees shall wear hair restraints such as hats, hair coverings or nets, beard restraints, and clothing that covers body hair, that are designed and worn to effectively keep their hair from contacting exposed food; clean equipment, utensils, and linens; and unwrapped single-service and single-use articles.

### **Other Sources of Guidance**

### **§ 416.6 Tagging insanitary equipment, utensils, rooms or compartments.**

When a Program employee finds that any equipment, utensil, room, or compartment at an official establishment is insanitary or that its use could cause the adulteration of product, he will attach to it a "U.S. Rejected" tag. Equipment, utensils, rooms, or compartments so tagged cannot be used until made acceptable. Only a Program employee may remove a "U.S. Rejected" tag.

### **Comments**

### **Food Code**

### **Other Sources of Guidance**

For Further Information Contact:

Food Safety and Inspection Service  
Regulations and Petitions Policy Staff  
1400 Independence Ave. SW  
Washington, DC 20250  
Telephone: 202-720-5627  
Fax: 202-690-0486  
E-mail:

- [FSIS.Regulations@fsis.usda.gov](mailto:FSIS.Regulations@fsis.usda.gov) - General questions concerning policy and regulations may be sent to this address.
- [FSIS.RegulationsComments@usda.gov](mailto:FSIS.RegulationsComments@usda.gov) - Comments on FSIS regulations and notices may be sent to this address. (For more information on e-rulemaking, or to view all open regulations, go to [Regulations.gov](http://Regulations.gov))

Send mail to webmaster with questions or comments about this web site.

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## APPENDIX 1: PAST SANITATION REGULATIONS

As stated in the introduction, meat and poultry establishments that follow the guidance in this document, including the past sanitation regulations, can be fairly certain that they are meeting the new sanitation performance standards. Because the past sanitation regulations have been removed from the Code of Federal Regulations, we are presenting them here as a reference only. Compliance with these specific regulations is no longer required. Also, keep in mind that because FSIS has rescinded all of the following regulations requiring prior approval of equipment, blueprints, chemical uses, etc., the mailing addresses listed for applications for prior approval are no longer valid.

The past regulations are preceded by a table showing the correlation between past requirements and the new performance standards.

SUBJECT	PERFORMANCE STANDARDS	PAST REGULATION(S)
General sanitation	§ 416.1	§§ 308.3(a),(g), 308.7, 381.45, 381.57, and all other provisions not listed below.
Establishment grounds and pest management	§ 416.2(a)	§§ 308.3 (h), 308.13, 381.49(b), 381.56(a), 381.59, and 381.60.
Establishment Construction	§ 416.2(b)	§§ 308.3(e),(f),(h), 381.46, 381.47 and 381.48.
Light	§ 416.2(c)	§§ 308.3(b), 381.52(a) and (b).
Ventilation	§ 416.2(d)	§§ 308.3(b) and (g), 308.8(b), 381.52(a) and (c).
Plumbing	§ 416.2(e)	§§ 308.3(c), 381.47(b), 381.49(a),(b) and (c).
Sewage disposal	§ 416.2(f)	§§ 308.4(c) and 381.49(c)(4).
Water supply and water, ice, and solution reuse	§ 416.2(g)	§§ 308.3(d), 381.50 and 381.53(k) and FSIS policy.
Dressing rooms, lavatories, and toilets	§ 416.2(h)	§§ 308.4(a),(b),(d), 381.47(h), 381.51 and 381.53(c).
Equipment and utensils	§ 416.3	§§ 308.5(a) and (g), 308.6, 308.8(c), 308.16, 381.53(a)(1),(f),(g),(h),(i),(j),(k),(l),(m), 381.54, 381.55 and 381.56(b).



SUBJECT	PERFORMANCE STANDARDS	PAST REGULATION(S)
Food-contact surface cleaning and sanitation	§ 416.4(a)	§§ 308.3(d)(4), 308.7, 308.8(a), 381.57 and 381.58.
Non-food-contact surface cleaning and sanitation	§ 416.4(b)	§§ 308.3(d)(4), 308.7, 308.8(a), 381.57 and 381.58.
Cleaning compounds and sanitizers	§ 416.4(c)	§ 381.60.
Operational sanitation	§ 416.4(d)	§§ 308.3(g), 308.7, 308.8(a), 308.9, 308.10, 308.11, 308.12, 381.47(e), 381.53(d),(e), and (g)(4).
Employee hygiene	§ 416.5(a)	§§ 308.8(c),(e), 381.47(i), 381.51(g), 381.61(b),(c), and (d).
Employee clothing	§ 416.5(b)	§§ 308.8(d) and 381.61(b).
Employee disease	§ 416.5(c)	§§ 308.14 and 381.61(a).
Tagging insanitary equipment, rooms, or compartments	§ 416.6	§§ 308.15 and 381.99.

## **PART 308--SANITATION**

- Sec. 308.1 Examination and specifications for equipment and sanitation prior to granting inspection.
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- 308.15 Tagging insanitary equipment, utensils, rooms or compartments.
- 308.16 Sanitation requirements for electrical stimulating (EST) equipment.

**Sec. 308.1 Examination and specifications for equipment and sanitation prior to granting inspection.**

Prior to the inauguration of inspection, an examination of the establishment and premises shall be made by a Program employee and the requirements for sanitation and the necessary facilities for inspection shall be specified by him in accordance with the regulations in this part and part 307 of this subchapter.

**Sec. 308.2 Drawings and specifications to be furnished in advance of construction.**

Drawings and specifications as prescribed in Sec. 304.2 of this subchapter for remodeling any official establishment, or part thereof, and for any new structures to be used in an official establishment, or part thereof, shall be submitted to the Administrator and approval obtained for the plans in advance of construction.

**Sec. 308.3 Establishments; sanitary condition; requirements.**

(a) Official establishments shall be maintained in sanitary condition, and to this end the requirements of this section shall be complied with. The provisions of part 416 of this chapter also apply.

(b) There shall be abundant light, of good quality and well distributed, and sufficient ventilation for all rooms and compartments to insure sanitary condition.

(c) There shall be an efficient drainage and plumbing system for the establishment and premises, and all drains and gutters shall be properly installed with traps and vents approved by the circuit supervisor.

(d)(1) The water supply shall be ample, clean, and potable, with adequate facilities for its distribution in the plant and its protection against contamination and pollution. Every establishment shall make known and, whenever required by the circuit supervisor, shall afford opportunity for inspection of the source of its water supply, the storage facilities, and the distribution system. Equipment using potable water shall be so installed as to prevent back-siphonage into the potable water system. Nonpotable water is permitted only in those parts of official establishments where no edible product is handled or prepared, and then only for limited purposes such as on ammonia condensers not connected with the potable water supply, in vapor lines serving inedible product rendering tanks, in connection with equipment used for hashing and washing inedible products preparatory to tanking, and in sewer lines for moving heavy solids in the sewage. Nonpotable water is not permitted for washing floors, areas, or equipment involved in trucking materials to and from edible product departments nor is it permitted in hog scalding vats, dehairing machines, or vapor



lines serving edible product rendering equipment, or for cleanup of shackling pens, bleeding areas, or runways within the slaughtering department. In all cases, nonpotable waterlines shall be clearly identified and shall not be cross-connected with the potable water supply unless this is necessary for fire protection and such connection is of a type with an adequate break to assure against accidental contamination, and is approved by local authorities and by the circuit supervisor.

(2) The circuit supervisor may permit the reuse of water in vapor lines leading from deodorizers used in the preparation of lard and similar edible product and in equipment where such water is used to thermally process canned product packed in hermetically sealed containers, provided:

(i) The reuse is for the identical original purpose.

(ii) All pipelines, reservoirs, tanks, cooling towers, and like equipment employed in handling the reused water are so constructed and installed so they can be cleaned and drained, and are kept clean.

(3) Approval for the reuse of water other than as specified in paragraph (d)(2) of this section or in Sec. 318.305(h) shall be obtained from the Administrator in specific cases.

(4) An ample supply of water at not less than 180 deg.F. shall be furnished and used for the cleaning of inspection equipment and other equipment, floors, and walls which are subject to contamination by the dressing or handling of diseased carcasses, their viscera, and other parts. Whenever necessary to determine compliance with this requirement, conveniently located thermometers shall be installed by the operator of the official establishment to show the temperature of the water at the point of use.

(5) Hot water for cleaning rooms and equipment other than those mentioned in paragraph (d)(4) of this section shall be delivered under pressure to sufficient convenient outlets and shall be of such temperature as to accomplish a thorough cleanup.

(e) The floors, walls, ceilings, partitions, posts, doors, and other parts of all structures shall be of such materials, construction, and finish as will make them susceptible of being readily and thoroughly cleaned. The floors shall be kept watertight. The rooms and compartments used for edible product shall be separate and distinct from those used for inedible product.

(f) Rails should be located and passageway space provided so that exposed product does not come in contact with posts, walls, and other fixed parts of the building, or with barrels, boxes, and other containers trafficked through holding and operating areas. Exposed product shall not be placed or stored beneath carcasses in coolers or holding areas.

(g) The rooms and compartments in which any product is prepared or handled shall be free from dust and from odors from dressing and toilet rooms, catch basins, hide cellars, casing rooms, inedible tank and fertilizer rooms, and livestock pens.



(h) Every practicable precaution shall be taken to exclude flies, rats, mice, and other vermin from official establishments. The use of poisons for any purpose in rooms or compartments where any unpacked product is stored or handled is forbidden, except under such restrictions and precautions as are prescribed by the regulations in this part or by the circuit supervisor in specific cases. The use of insecticides, rodenticides, and similar pest control substances in hide cellars, inedible product departments, outbuildings, or similar places, or in storerooms containing canned or tierced products is not forbidden but only those approved by the Administrator may be used.<sup>1</sup> So- called rat viruses shall not be used in any part of an establishment or the premises thereof.

(i) Dogs and cats shall be excluded from the interior of official establishments; however, dogs may be permitted on the outer premises for guard purposes.

<sup>1</sup> A list of approved pest control substances is available upon request to the Scientific Services, Meat and Poultry Inspection, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250.

**Sec. 308.4 Sanitary facilities and accommodations; specific requirements.**

Adequate sanitary facilities and accommodations shall be furnished by every official establishment. Of these, the following are specifically required:

(a) Dressing rooms, toilet rooms, and urinals shall be sufficient in number, ample in size, and conveniently located. The rooms shall be provided with facilities to provide abundant light of good quality and well distributed. They shall be properly ventilated, and meet all requirements of the regulations in this part as to sanitary construction and equipment. They shall be separate from the rooms and compartments in which products are prepared, stored, or handled. Where both sexes are employed, separate facilities shall be provided.

(b) Acceptable lavatories, including running hot and cold water, soap, and towels, shall be placed in or near toilet and urinal rooms and also at such other places in the establishment as may be essential to assure cleanliness of all persons handling any product.

(c) Toilet soil lines shall be separate from house drainage lines to a point outside the building and drainage from toilet bowls and urinals shall not be discharged into a grease catch basin.

(d) Properly located facilities shall be provided for cleansing and disinfecting utensils and hands of all persons handling any product.

**Sec. 308.5 Equipment and utensils to be easily cleaned; those for inedible products to be so marked; evaluation of equipment and utensils; PCB-containing equipment.**



(a) Equipment and utensils used for preparing or otherwise handling any edible product or ingredient thereof in any official establishment shall be of such material and construction as, in the judgment of the Administrator, will facilitate their thorough cleaning and insure cleanliness in the preparation and handling of all edible products and otherwise avoid adulteration and misbranding of such products. In addition to these requirements, equipment and utensils shall not in any way interfere with or impede inspection procedures. Receptacles used for handling inedible material shall be of such material and construction that, in the judgment of the Administrator, their use will not result in adulteration of any edible product or in insanitary conditions at the establishment, and they shall bear conspicuous and distinctive marking to identify them as only for such use and shall not be used for handling any edible product.

(b) When equipment or utensils for use in preparing or handling product are proposed for use in an official establishment, the operator of the establishment shall so notify the Administrator, and thereafter shall submit to the Administrator such information as the Administrator specifies in each case as necessary to determine whether the equipment or utensils meet the criteria specified in paragraph (a) of this section. The required information shall include, but may not be limited to, assembly type drawings and a list showing the materials of which parts are made. The Administrator will evaluate the model of equipment or utensil and determine whether it is acceptable for its proposed use under the criteria set forth in paragraph (a) of this section.

(c) The Administrator will, from time to time, prepare a listing by name and model number of equipment and utensils that have been evaluated and found to be acceptable for their proposed use in accordance with this section. A copy of such listing can be obtained from Technical Services, Meat and Poultry Inspection Program, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250.

(d) The Administrator may disapprove for use in official establishments particular models of equipment or utensils that he finds do not meet the requirements of paragraph (a) of this section or that he cannot evaluate because of lack of sufficient information. Further, he may prescribe such conditions for the use of particular models of equipment or utensils, either on a trial or permanent basis, as he finds necessary to prevent adulteration or misbranding of product.

(e) Nothing in this section shall affect the authority of Program inspectors to reject specific equipment or utensils under Sec. 308.15 of the regulations in this subchapter.

(f) Before approval of any model or specific item of equipment or utensil is finally denied, or is granted only with conditions, the applicant shall be given notice and opportunity to present his views to the Administrator. If the applicant does not accept the Administrator's determination, a hearing in accordance with the applicable rules of practice will be held to resolve such dispute. This shall not preclude rejection of the equipment or utensils under Sec. 308.15 or this section pending the outcome of the presentation of views or hearing.

(g) New or replacement equipment or machinery (including any replacement parts) brought onto the premises of any official establishment shall not contain liquid



polychlorinated biphenyls (PCBs) in concentrations above 50 parts per million by weight of the liquid medium. This provision applies to both food processing and nonfood processing equipment and machinery, and any replacement parts for such equipment and machinery. Totally enclosed capacitors containing less than 3 pounds of PCBs are exempted from this prohibition.

**Sec. 308.6 Scabbards for knives.**

Scabbards and similar devices for the temporary retention of knives, steels, triers, etc., by workers and others at official establishments shall be constructed of rust-resisting metal or other impervious material, shall be of a type that may be readily cleaned, and shall be kept clean.

**Sec. 308.7 Rooms, compartments, etc., to be clean and sanitary.**

Rooms, compartments, places, equipment, and utensils used for preparing, storing, or otherwise handling any product, and all other parts of the establishment, shall be kept clean and in sanitary condition. There shall be no handling or storing of materials which create an objectionable condition in rooms, compartments, or places where any product is prepared, stored, or otherwise handled.

**Sec. 308.8 Operations, procedures, rooms, clothing, utensils, etc., to be clean and sanitary.**

(a) Operations and procedures involving the preparation, storing, or handling of any product shall be strictly in accord with clean and sanitary methods.

(b) Rooms and compartments in which inspections are made and those in which livestock are slaughtered or any product is prepared shall be kept sufficiently free of steam and vapors to enable Program employees to make inspections and to insure clean operations. The walls, ceilings, and overhead structure of rooms and compartments in which product is prepared, handled, or stored shall be kept reasonably free from moisture to prevent dripping and contamination of product.

(c) Butchers and others who dress or handle diseased carcasses or parts shall, before handling or dressing other carcasses or parts, cleanse their hands with liquid soap and hot water, and rinse them in clean water. Implements used in dressing diseased carcasses shall be thoroughly cleansed with hot water having a minimum temperature of 180 deg.F. or in a disinfectant approved by the Administrator,<sup>2</sup> followed by rinsing in clean water. The employees of the establishment who handle any product shall keep their hands clean, and in all cases after visiting the toilet rooms or urinals shall wash their hands before handling any product or implements used in the preparation of product.

(d) Aprons, frocks, and other outer clothing worn by persons who handle any product shall be of material that is readily cleansed. Clean garments shall be worn at the start of each working day and the garments shall be changed during the day when required by the inspector in charge.



(e) Such practices as spitting on whetstones; spitting on the floor; placing skewers, tags, or knives in the mouth; inflating lungs or casings with air from the mouth; or testing with air from the mouth such receptacles as tierces, kegs, or casks, containing or intended as containers of any product, are prohibited. Only mechanical means may be used for such testing. Care shall be taken to prevent the contamination of product with perspiration, hair, cosmetics, medications, and similar substances.

(f) Equipment or substances which generate gases or odors shall not be used in official establishments except as permitted by the regulations in this part or by the circuit supervisor in specific cases in which he determines that such use will not result in adulteration of any product.

<sup>2</sup> A list of approved disinfectants is available upon request to the Scientific Services, Meat and Poultry Inspection, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250.

#### **Sec. 308.9 Protective handling of products.**

Products shall be protected from contamination from any source such as dust, dirt, or insects during storage, loading, or unloading at and transportation from official establishments.

#### **Sec. 308.10 Slack barrels and similar containers and means of conveyance used for product; paper in contact with product.**

(a) When necessary to avoid contamination of product with wood splinters or similar contaminants, slack barrels and similar containers and the cargo space of trucks, railroad cars, or other means of conveyance shall be lined with suitable material of good quality before packing.

(b) Slack barrels and similar containers and trucks, railroad cars, and other means of conveyance in which any product is transported shall be kept in a clean and sanitary condition.

(c) Paper used for covering or lining slack barrels and similar containers and the cargo space of trucks, railroad cars, or other means of conveyance shall be of a kind which does not tear during use but remains intact when moistened by the product and does not disintegrate.

#### **Sec. 308.11 Burlap wrapping for meat.**

Since burlap used without any other material as a wrapping for meat deposits lint on the meat and does not sufficiently protect it from outside contamination, the use of burlap as a wrapping for meat will not be permitted unless the meat is first wrapped with a good



grade of paper or cloth of a kind which will prevent contamination with lint or other foreign matter.

**Sec. 308.12 Second-hand tubs, barrels, and other containers.**

Second-hand tubs, barrels, and boxes intended for use as containers of any product shall be inspected when received at the official establishment and before they are cleaned. Those showing evidence of misuse rendering them unfit to serve as containers for food products shall be rejected. The use of those showing no evidence of previous misuse may be allowed after they have been thoroughly and properly cleaned. Steaming, after thorough scrubbing and rinsing, is essential to cleaning tubs and barrels.

**Sec. 308.13 Inedible operating and storage rooms; outer premises, docks, driveways, approaches, pens, alleys, etc.; flybreeding material; other conditions.**

All operating and storage rooms and departments of official establishments used for inedible materials shall be maintained in acceptably clean condition. The outer premises of every official establishment, including docks and areas where cars and vehicles are loaded, and the driveways, approaches, yards, pens, and alleys, shall be properly paved and drained and kept in clean and orderly condition. All catch basins on the premises shall be of such construction and location and shall be given such attention as will insure their being kept in acceptable condition as regards odors and cleanliness. Catch basins shall not be located in departments where any product is prepared, handled, or stored. The accumulation on the premises of official establishments of any material in which flies may breed, such as hog hair, bones, paunch contents, or manure, is forbidden. No other conditions that may result in adulteration of product or interfere with inspection shall be allowed in any official establishment or on its premises.

**Sec. 308.14 Employment of diseased persons.**

No operator of an official establishment or other person preparing product in an official establishment shall employ, in any department where any product is handled or prepared, any person showing evidence of a communicable disease in a transmissible stage, or known to be a carrier of such a disease, or while affected with boils, sores, infected wounds, or other abnormal sources of microbiological contaminants.

**Sec. 308.15 Tagging insanitary equipment, utensils, rooms or compartments.**

When, in the opinion of a Program employee, any equipment, utensil, room, or compartment at an official establishment is unclean or its use would be in violation of any of the regulations in this subchapter, he will attach a "U.S. Rejected" tag thereto. No equipment, utensil, room, or compartment so tagged shall again be used until made acceptable. Such tag so attached shall not be removed by anyone other than a Program employee.

**Sec. 308.16 Sanitation requirements for electrical stimulating (EST) equipment.**



(a) Hide-on stimulation. Automatic and manually operated equipment may be used to apply electrical stimulation to the hide-on surface of slaughtered carcasses provided no opening cuts other than the stick wound or foot removal have been made in the carcass. If the hide is penetrated by electrodes, the penetrated tissue shall be trimmed. Disinfection of electrodes between each hide-on carcass stimulation is not necessary.

(b) Hide-off stimulation. (1) Automatic or manually operated equipment may be used to apply electrical stimulation to carcasses after complete hide removal. Partially skinned carcasses shall not be stimulated.

(2) If stimulation is applied before the carcass has been inspected, the carcass contact surfaces of the equipment shall be disinfected with a disinfectant approved by the Administrator<sup>3</sup> before stimulation of the next carcass. In the event that carcass contact surfaces of the equipment cannot be cleaned and disinfected between carcass stimulations, those surfaces shall be immediately removed from contact with the exposed carcass and cleaned and disinfected before carcass contact is resumed.

(3) If stimulation is applied after the carcass has been inspected, carcass contact surfaces of the equipment need not be disinfected with a disinfectant approved by the Administrator before stimulation of the next carcass. Carcass contact surfaces shall be maintained in a clean and sanitary condition.

(c) Preventing product contamination. Carcass contamination of edible tissue by stomach contents, feces and/or urine is unacceptable. To prevent such occurrences, any of the following optional procedures may be used before stimulation to prevent this contamination:

(1) Leave the sphincter muscles intact;

(2) Cut the rectum and the urethra free from surrounding tissue and securely tie each off;

(3) Partially open the mid-line and/or saw the brisket to reduce pressure on the visceral organs; or

(4) Any other pressure-relieving or discharge-restricting alternative acceptable to the Administrator. Alternatives should be presented in writing, through the inspector-in-charge, to the Program for approval.

(d) Cleaning. All equipment must be thoroughly cleaned at least daily.

<sup>3</sup> A list of approved disinfectants is available upon request from the Facilities, Equipment and Sanitation Division, Technical Services, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250.

## **Subpart H--Sanitation**



**Sec. 381.45 Minimum standards for sanitation, facilities, and operating procedures in official establishments.**

The provisions of Secs. 381.46 and 381.61, inclusive, and part 416 of this chapter shall apply with respect to all official establishments.

**Sec. 381.46 Buildings.**

(a) General. The buildings shall be of sound construction and kept in good repair.

(b) Outside openings. (1) The doors, windows, skylights, and other outside openings of the plant, except in receiving rooms and feeding rooms, shall be protected by properly fitted screens or other suitable devices against the entrance of flies and other insects.

(2) Outside doors, except in receiving rooms and feeding rooms, shall be so hung as to be close fitting when closed. Doors shall be provided with self-closing devices where necessary to prevent the entry of vermin into processing and storage rooms.

**Sec. 381.47 Rooms and compartments.**

(a) General. Rooms or compartments used for edible poultry products shall be separate and distinct from inedible products departments and from rooms where live poultry is held or slaughtered. Separate rooms shall be provided when required for conducting processing operations in a sanitary manner; and all rooms shall be of sufficient size to permit the installation of the necessary equipment for processing operations and the conduct of such operations in a sanitary manner.

(b) Refuse rooms. A separate refuse room, or other equally adequate facilities, shall be provided in official establishments where accumulations of refuse occur. Refuse rooms shall be entirely separate from other rooms in the establishment, have tight-fitting doors, be properly ventilated, and have adequate drainage and cleanup facilities, and the floors and walls to a height of 6 feet above the floor shall be impervious to moisture, and walls above that height, and ceilings shall be moisture resistant.

(c) Rooms for holding carcasses for further inspection. Rooms or other acceptable facilities in which carcasses or parts thereof are held for further inspection shall be in such numbers and such locations as the needs of the inspection in the establishment may require. These rooms or facilities shall be equipped with hasps for locking.

(d) Coolers and freezers. Coolers and freezers shall be of such size and capacity as are required for compliance with the provisions set forth in Sec. 381.66. Freezing rooms, other than those for plate freezers or liquid freezing, shall have forced air circulation, and freezers and coolers shall be equipped with floor racks, pallets or other means which will assure that the poultry products will not be adulterated.



(e) Rooms for mechanical deboning of raw poultry. Rooms or compartments where mechanical equipment for deboning of raw poultry is operated shall be maintained at 50 deg.F. or less.

(f) Storage and supply rooms. The storage and supply rooms shall be kept in good repair, dry, orderly, and sanitary.

(g) Boiler room. The boiler room shall be a separate room where necessary to prevent dirt and objectionable odors entering from it into any room where dressed poultry or other poultry products are processed, otherwise handled, or stored.

(h) Toilet rooms. Toilet rooms, opening directly into rooms where poultry products are exposed shall have self-closing doors and shall be ventilated to the outside of the building.

(i) Lunch rooms. Lunches and snacks shall not be eaten in processing, packing, or supply rooms. If needed, separate rooms or areas shall be provided in establishment where employees eat their lunches.

#### **Sec. 381.48 Floors, walls, ceilings, etc.**

(a) Floors. All floors in rooms where exposed poultry products are processed or handled shall be constructed of, or finished with, materials impervious to moisture, so they can be readily and thoroughly cleaned. The floors in killing, ice cooling, ice packing, eviscerating, cooking, boning, and cannery rooms shall be graded for complete runoff with no standing water.

(b) Walls, posts, partitions, doors. All walls, posts, partitions, and doors in rooms where exposed poultry products are processed or otherwise handled shall be smooth and constructed of materials impervious to moisture to a height of 6 feet above the floor to enable thorough cleaning. All surfaces above this height must be smooth and finished with moisture-resistant material.

(c) Ceilings. Ceilings must be moisture resistant in rooms where exposed poultry products are processed or otherwise handled, and finished and sealed to prevent collection of dirt or dust that might sift through from the floor above or fall from collecting surfaces on equipment or exposed poultry product.

#### **Sec. 381.49 Drainage and plumbing.**

(a) General. There shall be an efficient draining and plumbing system for the plant and premises.

(b) Outside premises. The drainage system must permit the quick runoff of all water from buildings, and of surface water around the official establishment and on the premises; and all such water shall be disposed of in such a manner as to avoid the development of insanitary conditions at the establishment.



(c) Drainage of sewage and plant wastes. (1) All drains and gutters shall be properly installed with approved traps and vents. The sewer system shall have adequate slope and capacity to remove readily all waste from the various processing operations and to minimize or, if possible, prevent stoppage and surcharging of the system. When the sewage disposal system is a private system which is required to be approved by a State or local health authority, the applicant shall furnish the Administrator a letter from the proper health authority indicating that the sewage disposal system is acceptable to such authority.

(2) Interceptor traps which are connected with the sewer system shall be suitably located, and not near any edible poultry products department or in any area where edible poultry products are unloaded from or loaded into any means of conveyance. To facilitate cleaning, such traps shall have inclined bottoms and be provided with suitable covers.

(3) Each floor drain shall be equipped with a deep seal trap, and the plumbing shall be installed so as to prevent sewage from backing up and flooding the floor, except that floor drains in areas not regularly washed down will be acceptable without deep seal traps: Provided, That such drains are connected to secondary drainage systems discharging into a safe sink or basin (air gap) that is properly trapped and vented: And provided further, That such drains accomplish the objectives and intent of this paragraph.

(4) Toilet soil lines shall be separate from house drainage lines to a point outside the buildings unless an automatic backwater check valve is installed to prevent backflow. Drainage from toilet bowls and urinals shall not be discharged into a grease catch basin, nor shall such drainage be permitted to enter the sewer lines at a point where there might be a possibility of such drainage backing up and flooding the floor of the building.

**Sec. 381.50 Water supply.**

(a) General: Except as provided in paragraph (e) of this section, the water supply shall be ample, clean, and potable with adequate pressure and facilities for its distribution in the official establishment and its protection against contamination and pollution. A water report, issued under the authority of the State health agency, certifying to the potability of the water supply, shall be obtained by the applicant and furnished to the Administrator whenever such report is required by the Administrator in specific cases.

(b) An adequate supply of hot water to enable proper cleaning shall be available.

(c) Hose connections with steam and water mixing valves or hot water hose connections shall be provided at convenient locations throughout the plant for cleaning purposes.

(d) The refuse rooms shall be provided with adequate facilities for washing refuse cans and other equipment in the rooms.

(e) Nonpotable water is permitted only in those parts of official establishments where no poultry product is processed or otherwise handled and then only for limited purposes such as on condensers not connected with the potable water supply, in vapor lines serving



inedible product rendering tanks, and in sewer lines for moving heavy solids in the sewage. Nonpotable water is not permitted for washing floors, areas, or equipment, nor is it permitted in boilers, scalders, chill vats, or icemaking machines. In all cases, nonpotable water lines shall be clearly identified and shall not be cross connected with the potable water supply unless this is necessary for fire protection. Any such connection must have an adequate break to assure against accidental contamination, and must be approved by local authorities and by the Administrator. Any untested water supply in an official establishment shall be treated as a nonpotable supply.

(f) The circuit supervisor may permit the reuse of water in equipment where such water is used to thermally process canned product packed in hermetically sealed containers, provided:

(1) The reuse is for the identical original purpose.

(2) All pipelines, reservoirs, tanks, cooling towers, and like equipment employed in handling the reused water are so constructed and installed so they can be cleaned and drained, and are kept clean.

**Sec. 381.51 Lavatories, toilets, and other sanitary facilities.**

(a) Modern lavatory and toilet accommodations and properly located facilities for cleaning utensils and hands shall be provided.

(b) Adequate lavatory and toilet accommodations, including but not being limited to, running hot and cold water, soap, or other acceptable agents (in sanitary dispensers), toilet tissue, and towels or other acceptable facilities for drying hands, shall be provided. Lavatories shall be in or near toilet and locker rooms and also at other places in the plant as may be essential to the cleanliness of all personnel handling poultry products.

(c) Adequate lockers or other facilities, shall be provided for employees' wearing apparel, and for the storing and changing of clothing. Wearing apparel shall not be stored in rooms where processing operations are conducted.

(d) Suitable containers shall be provided for the temporary storage of soiled linen, coats, aprons, and other items of employees' uniforms or work clothing.

(e) Sufficient containers of metal or other acceptable impervious material shall be provided for used towels and other wastes.

(f) An adequate number of hand washing facilities shall be provided in areas where poultry products are prepared. Hand washing facilities accepted in accordance with the procedures set forth in Sec. 381.53 may be used in such areas, provided that if hand-activated facilities are used, the hand-contact element must be rinsed automatically with a sufficient volume of water to remove all fat, tissue, debris, and other extraneous material from the hand contact element after each use. Both hot and cold running water shall be available at each inspection station on the eviscerating line and shall be delivered through a



suitable mixing device controlled by the inspector. Alternatively, water for hand washing shall be delivered to such inspection stations at a minimum temperature of 65 deg.F.

(g) Durable signs shall be posted conspicuously in each toilet room and locker room directing employees to wash their hands before returning to work.

(h) Adequate toilet facilities shall be provided and the following formula shall serve as a basis for determining the number of toilet bowls required:

Number of persons of same sex:	Minimum number of facilities
-----	
1 to 9 .....	1.
10 to 24 .....	2.
25 to 49 .....	3.
50 to 74 .....	4.
75 to 100 .....	5.
Over 100 .....	(1 for each additional 30 persons)

Where 10 or more are employed, urinals may be substituted for the toilet bowls specified in the foregoing formula, except that the number of toilet bowls in such cases may not be reduced to less than two-thirds of the number specified. Two feet of trough urinal shall be considered as equivalent to one individual urinal.

(i) Suitable sanitary drinking water facilities shall be provided.

(j) All toilets, lavatories, and other sanitary facilities shall be kept clean and in good repair.

**Sec. 381.52 Lighting and ventilation.**

(a) There shall be ample light, either natural or artificial or both, of good quality and well distributed, and sufficient ventilation for all rooms and compartments to insure sanitary conditions.

(b) All rooms in which poultry is killed, eviscerated, or otherwise processed shall have at least 30 foot-candles of light intensity on all working surfaces, except that at the inspection stations such light intensity shall be of 50 foot-candles. In all other rooms there shall be provided at least 5 foot-candles of light intensity when measured at a distance of 30 inches from the floor.

(c) All rooms shall be adequately ventilated to eliminate objectionable odors and minimize moisture condensation.

**Sec. 381.53 Equipment and utensils.**



(a)(1) Equipment and utensils used for processing or otherwise handling any edible poultry product or ingredient thereof, in any official establishment shall comply with any applicable provisions of paragraphs (c) through (m) of this section and otherwise shall be of such material and construction as, in the judgment of the Administrator, will facilitate their thorough cleaning and insure cleanliness in the preparation and handling of all edible poultry products and avoid adulteration and misbranding of such products. In addition to these requirements, equipment and utensils shall not in any way interfere with or impede inspection procedures. Receptacles used for handling inedible products shall be of such material and construction that, in the judgment of the Administrator, their use will not result in adulteration of any edible product or in unsanitary conditions at the establishment, and they shall bear conspicuous and distinctive marking to identify them as only for such use and shall not be used for handling any edible poultry products.

(2) When equipment or utensils for use in preparing or handling product are proposed for use in an official establishment, the operator of the establishment shall so notify the Administrator, and thereafter shall submit to the Administrator such information as the Administrator specifies in each case as necessary to determine whether the equipment or utensils meet the criteria specified in paragraph (a)(1) of this section. The required information shall include, but may not be limited to, assembly type drawings and a list showing the materials of which parts are made. The Administrator will evaluate the model of equipment or utensil and determine whether it is acceptable for its proposed use under the criteria set forth in paragraph (a)(1) of this section.

(3) The Administrator will, from time to time, prepare a listing by name and model number of equipment and utensils that have been evaluated and found to be acceptable for their proposed use in accordance with this section. A copy of such listing can be obtained from Technical Services, Meat and Poultry Inspection Program, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250.

(4) The Administrator may disapprove for use in official establishments particular models of equipment or utensils that he finds do not meet the requirements of paragraph (a)(1) of this section, or that he cannot evaluate because of lack of sufficient information. Further, he may prescribe such conditions for the use of particular models of equipment or utensils, either on a trial or permanent basis, as he finds necessary to prevent adulteration or misbranding of product.

(5) Nothing in this section shall affect the authority of Inspection Service inspectors to reject specific equipment or utensils under Sec. 381.99 of the regulations in this subchapter.

(b) Before approval of any model or specific item of equipment or utensil is finally denied, or is granted only with conditions, the applicant shall be given notice and opportunity to present his views to the Administrator. If the applicant does not accept the Administrator's determination, a hearing in accordance with the applicable rules of practice will be held to resolve such dispute. This shall not preclude rejection of the equipment or utensils under Sec. 381.99 or this section pending the outcome of the presentation of views or hearing.



(c) Refuse containers. Leakproof refuse containers with covers shall be provided, except that perforated containers may be used for the temporary collection of feathers and such containers need not be covered.

(d) Scalding equipment. (1) Scalding tanks shall be constructed and installed so as to prevent contamination of potable water lines and to permit water to enter continuously at a rate which will result in a sanitary scalding operation. The rate of flow necessary to maintain a sanitary scalding operation will be determined on such factors as the class of poultry and the number of birds per minute going into the scalding tank. It shall be the responsibility of the inspector in charge to establish a minimum rate of flow for each scalding tank in each official establishment.

(2) The overflow outlets in scalding equipment shall be of sufficient size to permit feathers and water to be carried off.

(3) The overflow, drawoff valves, and sediment basin drain shall discharge into a floor or valley drain, or onto the floor in proximity to a floor or valley drain.

(e) Wax finishing. When wax dipping is used, metal troughs shall be provided to catch the wax removed from the dipped poultry. Acceptable facilities and methods shall be employed in reclaiming the wax.

(f) Ice shovels. Ice shovels shall be smooth surfaced and entirely constructed of rustproof, impervious material.

(g) Conveyors. (1) Conveyors used in the preparation of ready-to-cook poultry shall be of metal or other acceptable material and of such construction as to permit easy identification of the viscera with their carcass and so designed as will present each carcass or all parts thereof in a way that will permit adequate and efficient inspection.

(2) Overhead conveyors shall be so constructed and maintained that they will not allow grease, oil, or dirt to accumulate on the drop chain or shackle, which shall be of noncorrosive metal.

(3) Nonmetallic belt-type conveyors used in moving poultry products shall be of waterproof composition.

(4) When eviscerated on a conveyor, each carcass shall be suspended and a trough or other acceptable facilities for maintaining proper sanitation shall be provided beneath the conveyor. Such troughs or other facilities shall be flushed or cleaned in an acceptable manner and shall extend beneath the conveyor at all places where processing operations are conducted from the point where the carcass is opened to the point where the viscera have been completely removed.

(h) Chilling and thawing tanks. Chilling and thawing tanks shall be constructed of metal or other suitable material impervious to moisture and shall be of sanitary construction with edges rolled outward. Where mechanical devices are not used for removing carcasses



from the chilling or thawing tanks, the tanks shall be of a size that will enable employees to remove poultry without entering the tanks.

(i) Tables. Inspection, eviscerating, and cutting tables shall be made of metal or other acceptable material, have coved corners, and be constructed and placed so as to permit thorough cleaning.

(j) Plants lacking conveyors. In plants where no conveyors are used, each carcass shall be eviscerated in an individual metal tray of seamless construction or in a tray of other acceptable material and construction.

(k) Water spray washing equipment. Water spray washing equipment with sufficient water pressure to thoroughly and efficiently wash carcasses shall be used for washing carcasses inside and out.

(l) Offal receptacles. Watertight receptacles constructed of metal or other acceptable impervious material shall be used for entrails and other waste resulting from preparation of eviscerated poultry.

(m) Receptacles for condemned carcasses. Watertight receptacles for holding or handling condemned carcasses or parts of carcasses shall be so constructed as to be readily and thoroughly cleaned; such receptacles shall be marked in a conspicuous manner with the words "U.S. Condemned" in letters not less than 2 inches high and when required by the inspector in charge, shall be equipped with facilities for locking and sealing.

#### **Sec. 381.54 Accessibility of equipment.**

(a) General. All equipment shall be placed so as to be readily accessible for all processing and cleaning operations.

(b) Mechanical pickers. When mechanical pickers are used, they shall be installed so as to be accessible for thorough cleaning and removal of the accumulation of feathers.

#### **Sec. 381.55 Restrictions on use of equipment and utensils.**

Equipment and utensils used in the official establishment shall not be used outside the official establishment, except under conditions prescribed or approved by the Administrator in specific cases. Equipment used in the preparation of any article (including, but not limited to, animal food), from inedible material shall not be used outside of the inedible products department except under such conditions as may be prescribed or approved by the Administrator in specific cases.

#### **Sec. 381.56 Maintenance of sanitary conditions and precautions against contamination of poultry products; PCB-containing equipment.**



(a) The premises of the official establishment shall be kept free from refuse, waste materials, and all other sources of odors and conditions that may result in adulteration of the poultry products handled at the establishment.

(b) New or replacement equipment or machinery (including any replacement parts) brought onto the premises of any official establishment shall not contain liquid polychlorinated biphenyls (PCBs) in concentrations above 50 parts per million by weight of the liquid medium. This provision applies to both food processing and nonfood processing equipment and machinery, and any replacement parts for such equipment and machinery, totally enclosed capacitors containing less than 3 pounds of PCBs are exempted from this prohibition.

**Sec. 381.57 Cleaning of rooms and compartments.**

Rooms, compartments, and other parts of the official establishment shall be kept clean and in sanitary condition and good repair.

**Sec. 381.58 Cleaning of equipment and utensils.**

(a) Equipment and utensils used for processing or otherwise handling any poultry or poultry product shall be kept clean, sanitary, and in good repair.

(b) Batteries and dropping pans shall be cleaned regularly and the manure removed from the official establishment daily.

(c) Scalding tanks shall be completely emptied and thoroughly cleaned as often as may be necessary, but not less frequently than once a day when in use.

(d) All equipment and utensils used in the killing, roughing, and pinning rooms shall be thoroughly washed and cleaned at least once daily when in use.

(e) The chilling and packing room and equipment and utensils used therein shall be maintained in a clean and sanitary condition.

(f) Chilling or thawing tanks shall be emptied after each use. They shall be thoroughly cleaned at least once daily when in use, except that when the same poultry is held therein in excess of 24 hours, the tanks shall be thoroughly cleaned after the poultry is removed therefrom and prior to reuse.

(g) Conveyor trays or belts which come in contact with raw poultry products shall be completely washed and sanitized after each use.

(h) Tables, shelves, bins, trays, pans, knives, and all other tools and equipment used in the processing of poultry products shall, after cleaning, be drained on racks and trays and pans shall not be nested.

**Sec. 381.59 Vermin.**



Every practicable precaution shall be taken to exclude flies, rats, mice, and other vermin from the official establishment. Dogs, cats, and other pets shall be excluded from rooms where dressed poultry or other poultry products are processed, handled, or stored.

**Sec. 381.60 Use of compounds.**

Germicides, insecticides, rodenticides, detergents, or wetting agents or other similar compounds may be used in an official establishment only if they will not deleteriously affect the poultry or poultry products therein and have been approved by the Administrator. Such compounds shall be used only in a manner satisfactory to the Administrator. Such compounds shall be approved, for the purpose of the Act only upon application and in accordance with the following procedure:

(a) The manufacturer or user of the compound, or any other interested person, shall submit to the Administrator the following data:

(1) The formula of the compound, listing each ingredient and the percentage of each ingredient in terms of weight or liquid measure, if the product is a liquid, and in terms of weight, if it is solid or semisolid, viscous, or a mixture of liquid and solids. The ingredients must be stated in terms of the well-known common names of the ingredients or if an ingredient has no common name, the correct chemical name. However, in the case of any compound subject to the Federal Insecticide, Fungicide, and Rodenticide Act, a statement of the composition of the compound as required for registration under that Act shall be submitted in lieu of the data otherwise required by this subparagraph.

(2) A certification by the applicant that the compound as it is proposed to be used in the official establishment will not deleteriously affect the poultry or poultry products therein. The certification shall include the conditions under which the particular compound is believed to be satisfactory for use and the precautions, if any, necessary in the use of such compound for the purpose intended in poultry processing establishments.

(b) As a prerequisite for approval, any compound which is required to be registered under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act shall be registered and comply with the provisions of that Act. The applicant shall furnish the registration number assigned under the aforesaid Act along with two copies of the label being currently used on the product.

(c) A small sample of the compound (4 to 6 ounces) shall be submitted with the request for approval of its use in poultry processing establishments.

(d) The Administrator will either approve or disapprove the use of a particular compound after a careful evaluation of the data submitted pursuant to paragraph (a) of this section and consideration of any other information that is available pertaining to the compound under consideration.

(e) The Inspection Service is authorized to draw samples of any compound used in any official establishment and make analyses of such compound to determine if the compound



conforms to that originally approved and if it is satisfactory for use in official establishments under this section. Whenever the Administrator has reason to believe that a compound may have a deleterious effect on poultry or poultry products, the approval of the particular compound may be suspended, and in such case the processor shall be given an opportunity to show that the compound does not have such effect. After such opportunity has been afforded to the processor, the Administrator shall make a determination as to the effect of the compound on poultry and poultry products and withdraw or reinstate the approval of the compound accordingly. Use of the compound shall not be permitted during the period of suspension.

**Sec. 381.61 Cleanliness and hygiene of official establishment personnel.**

(a) No official establishment shall employ, in any department where any poultry product is processed or otherwise handled, any person showing evidence of a communicable disease in a transmissible stage or known to be a carrier of such disease, or while affected with boils, sores, infected wounds, or other abnormal sources of microbiological contaminants.

(b) All persons coming in contact with exposed poultry products, or poultry products handling equipment shall wear clean garments and suitable head coverings to prevent hair from falling into poultry products; and shall keep their hands and fingernails clean at all times while thus engaged.

(c) Every person shall wash his hands thoroughly after each use of toilet or change of garments before returning to duties that require the handling of dressed poultry or other poultry products or containers thereof, or poultry product handling equipment.

(d) The use of tobacco in any form, the eating of food, or any other personal habit which may result in adulteration of any poultry product shall not be permitted in any room where exposed dressed poultry or other poultry products are being processed or otherwise handled.



## APPENDIX 2: CHEMICAL USE

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### **General Standards**

1. Establishments are responsible for ensuring the safety and efficacy of nonfood compounds and proprietary substances.
2. Nonfood compounds and proprietary substances should not adulterate meat or poultry;
  - a. Should not create or lead to inspection interference;
  - b. Should not create or lead to conditions of insanitation;
  - c. Should be safe and effective under the conditions of use;
  - d. Should be identified, and stored in a manner that protects against contamination of food, food-contact surfaces, or food-packaging materials.
3. Product labeling from suppliers should clearly provide identity of product, the address of manufacturer or supplier, and intended use.
4. All working and storage containers of nonfood compounds and proprietary substances should be clearly and individually identified with the product name or common name of the material.
5. Materials that are: known human carcinogens; mutagens or teratogens classified as hazardous substances; heavy metals; or hazardous compounds classified as extremely or super toxic, should not be allowed in the plants unless it is established that the substance will not become a component of edible product according to the levels exempted under the threshold of regulation process indicated in Title 21 CFR Section 170.39.

### **Cleaners**

Cleaners are used frequently throughout the plant both in processing and non-processing areas. They are needed to maintain sanitary conditions to assure an environment conducive to the production of safe, wholesome, unadulterated food product. Examples of cleaners and their previous numerical designations from the discontinued *List of Proprietary Substances and Nonfood Compounds* follow.

### **Examples**

- Formerly "A1" Compounds for use as general cleaning agents on all surfaces, or for use with steam or mechanical cleaning devices in all departments.
- Formerly "A2" Compounds for use only in soak tanks or with steam or mechanical cleaning devices in all departments.
- Formerly "A3" Acid cleaners for use in all departments.
- Formerly "A4" Floor and wall cleaners for use in all departments.
- Formerly "A5" Floor and wall cleaners for subfreezing temperatures.
- Formerly "A6" Scouring cleaners.
- Formerly "A8" Degreasers or carbon removers for food cooking or smoking equipment, utensils, or other associated surfaces.
- Formerly "K1" Cleaning and/or degreasing solvents for use in nonprocessing areas.



## **Standards**

1. Cleaners should be formulated to be safe and appropriate for the intended use.
2. Cleaners should not contain undesirable microorganisms.
3. Cleaners should be formulated so that rinsing will be sufficient to ensure effective removal of cleaning solution from food contact surfaces and removal of residual odors from food processing areas.
4. Use of special purpose cleaners classified as hazardous materials should be limited to the amount and frequency only sufficient for the required effect. Personnel protection provisions and precautions to prevent food and food contact surfaces from contamination and residuals should be specified; use should be in accordance with manufacturer's labeling instructions and precautions.
5. Use of hazardous substances containing fluorine compounds, such as hydrofluoric acid, hydrofluosilic acid, or ammonium bifluoride, to remove siliceous scale deposits or for similar cleaning purposes should be in accordance with provisions for the special purpose cleaners classified as hazardous materials. Each use should be documented and the substance should not be stored within the plant. Hydrofluoric acid is extremely irritating and corrosive to the skin and mucous membranes. The acid and its salts are highly toxic and may cause death or permanent injury after very limited exposure to small quantities.
6. Cleaners consisting primarily of hydrocarbon, chlorinated hydrocarbon or other water immiscible solvents should be limited to use in non-processing areas. Treated food processing equipment and utensils should be washed and thoroughly rinsed with potable water before being returned to a processing area.
7. Cleaners formulated to provide very low freezing points such as alcohol or glycol based compounds are appropriate for use on surfaces that do not contact food in areas with subfreezing temperatures. The cleaning solution and solubilized soil should be effectively removed by wiping, wet vacuuming, or other appropriate means.
8. Boric acid and salts thereof should be limited to 90% of a cleaner in association with strong acids, strong alkalis, soaps or synthetic detergents.
9. General use cleaners as supplied should not have an expected human single oral LD50 of < 10mg/kg.

## **Laundry compounds**

1. Labeling should include appropriate use directions.
2. Laundry compounds should be formulated so that rinsing instructions will be sufficient to prevent food contamination or inspection interference, and to ensure effective removal of laundry agents from food contact articles, e.g. carcass shrouds.

## **Hand Care Treatments:**

### **Examples**

- Formerly "E1" Handwashing compounds for use in all departments.
- Formerly "E2" Handwashing and sanitizing compounds.
- Formerly "E3" Hand sanitizing compounds.



- Formerly "E4" Hand creams, lotions, and cleaners.

### **Standards**

1. Hand care products formulated with chlorhexidene gluconate and intended to be used as an antimicrobial hand cleaner or hand sanitizer/dip in food handling and processing are considered a "drug" and possibly "new drugs" under the Federal Food, Drug, and Cosmetic Act (FFDCA). These products are subject to registration by the Food and Drug Administration (FDA), OTC Drug Compliance Branch before they can be marketed and used. Establishments should keep registrations on file for review by FSIS inspection personnel.
2. Hand care treatments intended for use as a "barrier" or "shield" to prevent or mitigate human disease by protecting skin from exposure to toxic chemicals and/or pathogenic microorganisms are considered "drugs" and "new drugs," under the FFDCA. These products are subject to registration by the FDA before they can be marketed and used. Establishments should keep registrations on file for review by FSIS inspection personnel.
3. Hand treatments intended to remain on the hands of food handlers should be formulated in compliance with appropriate food additive regulations, Title 21 of the Code of Federal Regulations (CFR) Section 178.1010, or appropriate GRAS materials.
4. Hand sanitizer solutions should be kept clean and maintained at a germicidal equivalence of at least 50 ppm available chlorine as hypochlorite at 20° C (68° F) for one minute.
5. Precautions should be taken to ensure hand care stations do not cause direct or indirect contamination of food or food contact surfaces with hand care substances. Therefore, FSIS recommends that only liquid hand cleaners and sanitizers be used in areas where food and food contact surfaces are exposed.
6. Hand treatments not formulated in compliance with appropriate food additive regulations should be:
  - a. thoroughly removed from the hands by rinsing in clean potable water, or
  - b. separated from contact with food by the use of gloves that are an effective barrier to migration of the nonfood substance to edible product.

### **Sanitizers and Disinfectants:**

#### **Examples**

- Formerly "D1" Antimicrobial agents always requiring a rinse.
- Formerly "D2" Sanitizers for all surfaces not always requiring a rinse.

### **Standards**

1. Chemical sanitizers and other chemical antimicrobials used on food contact surfaces must comply with the 21, CFR Section 178.1010 or appropriate food additive regulations.
2. Chemicals used to sanitize food contact surfaces and utensils must comply with 21 CFR 178.1010.



3. Sanitizers should only be applied to cleaned surfaces. Sanitized food contact equipment and utensils must be adequately drained, in accordance with 21 CFR 178.1010(a), sufficient to prevent food adulteration.
4. EPA registered antimicrobials must include labeling instructions stating that they are appropriate for use in food establishments. Establishments should keep registration documentation on file for review by FSIS inspection personnel.
5. Chemical germicides established as meeting efficacy requirements of EPA as both a hospital level disinfectant and a tuberculocide are appropriate for use to decontaminate implements provided:
  - a. Food contact surfaces are subsequently washed and rinsed;
  - b. Appropriate preventative actions are taken to protect edible products and food packaging materials;
  - c. Labeled use directions specify minimum contact time required to meet both registered kill levels.
6. Antimicrobial solutions should be kept free of contamination and maintain effectiveness under intended conditions of use.
7. Chemical sanitizers should be EPA registered for sanitizing food contact surfaces or otherwise established to provide germicidal efficacy yielding a 5-log<sub>10</sub> reduction of representative disease microorganisms of public health importance.
8. Chemical sanitization of food contact surfaces should ensure exposure times of at least 10 seconds for chlorine solutions or at least 30 seconds for other chemical sanitizer solutions, or according to EPA registered use directions for food contact surfaces.
9. A chlorine sanitizing solution should have a minimum temperature based on the concentration and pH of the solution as listed in the following chart; or as specified under EPA registered label use instructions.

Minimum Concentration MG/L(mg/L)	Minimum Temperature	
	pH of 10 or less ° C(° F)	pH of 8 or less ° C(° F)
25	49(120)	49(120)
50	38(100)	24(75)
100	13(55)	13(55)

**Insecticides, Rodenticides, and similar Pesticides:**

**Examples**

- Formerly "F1" Nonresidual pesticides.
- Formerly "F2" Residual pesticides.



- Formerly "F3" Rodenticides for controlled use only.
- Formerly "F4" Fumigants for controlled use only.
- Formerly "F5" Fumigants for controlled use only.

### **Standards**

These products are toxic by design, in varying degrees, and should be applied and stored in such a manner as to prevent adulteration of food product, and contamination of food contact equipment and packaging material. All containers used to store, dilute, dispense, or transport pesticides should be clearly labeled. Re-use of containers for other purposes are prevented by destruction of container or other means sufficient to render containers unfit for reuse.

1. Pesticides must be EPA registered with labeling instructions and precautions pertinent to its use in food establishments.
2. Restricted-use pesticides must be used only under the control of certified applicators (as defined in 7 USC 136 (e)).
3. Pesticides must be used in accordance with specific registered label uses and precautions and should not be applied during establishment production hours.
4. Dry bait rodenticides should be secured in tamper-resistant stations.
5. Powdered or granular insecticides should be colored distinctly (traditionally, blue or green) to distinguish pesticide from edible substances, unless provided in labeled dispenser containers.
6. To minimize the possibility of undetected contamination of food products, all liquid baits, and dry baits in which the inert ingredients consist mainly of meal or flour, should be distinctly colored. Where inert ingredients consist mainly of whole or cracked grain, or flour or meal pressed into cakes or pellets that do not have characteristics of food products, no addition of color is necessary.
7. Pesticidal tracking materials should not be used in a food establishment. The concern here is that product contact surfaces, utensils, linens, and direct contact packaging materials may become contaminated through transfer of tracking material from pests.
8. Nonpesticidal tracking materials should have a distinct color (traditionally blue or green) to distinguish it from edible substances, and may not contaminate food equipment, utensils, linens, and single-service and single-use articles.
9. Treated areas should be sufficiently ventilated. Facilities, equipment, utensils, etc. should be thoroughly washed after pesticide application.
10. Pest control programs and treatments should be recorded with details sufficient to document compliance with appropriate requirements and provide trace back capability in the event of accidental contamination's.

### **Water Treatments:**

#### **Examples**

- Formerly "G1" General potable water treatment compounds.
- Formerly "G2" Phosphate potable water treatment compounds.



- Formerly "G3" Silicate potable water treatment compounds.
- Formerly "G4" Chlorine potable water treatment compounds.
- Formerly "G5" Cooling and retort water treatment compounds.
- Formerly "G6" Compounds for treating boilers, steam lines, where the steam produced may contact edible products and/ or cooling systems where the treated water may not contact edible products.
- Formerly "G7" Compounds for treating boilers, steam lines, and/or cooling systems where neither the treated water nor the steam produced may contact edible products. This does not include compounds added to water used to cook and cool containers of meat and poultry products.

### **Standards**

1. Boiler water treatments where the steam may contact food must be formulated in compliance with 21 CFR, Section 173.310.
2. Ion-exchange resins used for water purification must be formulated in compliance with 21 CFR, Section 173.25.
3. Additives used in water in which fruits and vegetables are washed must be formulated in compliance with CFR 21, Section 173.315 and defoamers found in 21 CFR, Section 173.340(a)(2).
4. Additives used in water for preflushing of animal casings must be GRAS.
5. Processing additives are appropriate for use provided that the quantities of these compounds are controlled, monitored and limited to the amount sufficient for the purpose of such use.
6. Processing additives for potable water treatments should be composed of appropriate substances which are prior sanctioned by FDA or GRAS and limited to the following:
  - a. In potable water, phosphate should not exceed 10ppm, silicate should not exceed 10ppm, and chlorine should not exceed 5ppm.
  - b. In other processing applications, chlorine should not exceed 50ppm in carcass wash and 20ppm on trimmed or reprocessed poultry carcasses.
7. Compounds containing the sodium or potassium salts of nitrate, sulfite, bisulfite or metabisulfite should be decharacterized so their effect on the heme pigments in meat products is prevented. Decharacterization may be achieved by the addition of colorant to prevent mishandling or by other means such as creation of a basic environment to prevent the formation of acid species of these additives.
8. Additives containing nitrite, borate, and nitrate containing treatments for nonprocessing water should be colored distinctly (traditionally, blue or green) to avoid accidental misuse.

### **Lubricants**

#### **Examples**

- Formerly "H1" Lubricants with incidental contact.
- Formerly "H2" Lubricants with no contact.
- Formerly "H3" Soluble oils.



### **Standards**

1. Lubricants intended for incidental food contact must comply with 21 CFR, Section 178.3570.
2. Lubricants used on food contact surfaces should have appropriate food additive status:
  - a. formulated from an edible oil ( for example: an over the counter food grade oil such as corn oil, olive oil, or canola oil to name a few).
  - b. mineral oil complying with 21 CFR, Section 172.878
  - c. or substances which are GRAS.
3. Lubricants should be limited to the amount sufficient for the technical purpose.
4. Lubricants should be applied to food contact equipment, which requires lubrication, in a manner that does not contaminate food contact surfaces.

### **Anti-Slip Compounds:**

#### **Examples**

- Formerly "J1" Absorbents or antislip agents for spot application to floors.

#### **Standards**

Anti-slip compounds are intended for spot application to floors and are limited to the floor area where the hazard exists. They may be used provided their use does not result in dusting, tracking, or other objectionable conditions. These compounds should not be used as a substitute for good sanitation and should be removed as part of the routine floor cleaning operation in accordance with the plants SSOP.

1. Anti-slip compounds should be adequate to correct temporary hazardous conditions
2. should not promote microbial growth or attract or harbor pests
3. should be composed of inert material so that any contact with food results only in surface contamination that is easily identified and removable

#### **Letters of Guaranty**

Documentation substantiating compound safety and efficacy, such as letters of assurance, are appropriate for all chemical compounds that are used in the areas of food processing, handling, and storage, and that do not otherwise require declaration on food labeling under Title 7 (part 59) and title 9 (parts 317 and 381). A letter of assurance should contain the following:

1. Name and address of supplier.
2. Brand name, code or other designation which uniquely identifies the compound. Identification should ensure that the specific chemical ingredients of the compound are traceable in the event of food contamination.
3. The letter shall state that the material will be safe and effective under the intended conditions of use and will not adulterate food product.



4. The letter should specify the applicable limits, if appropriate, under intended conditions of use.
5. Signature of an official of the supplying firm.

A supplier's letter of assurance may be limited to a specific shipment, in which case it would be attached to the invoice, or it may be a continuing letter of assurance that need not accompany each shipment. New formulations, or changes in labeling involving product identification or usage, should be accompanied by new letters of assurance.