Conference for Food Protection
2018 Issue Form

Issue: 2018 I-006

Council Recommendation:	Accepted as Submitted	_____	Accepted as Amended	_____	No Action	_____
Delegate Action:	Accepted	_____	Rejected	_____		

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Issue History:

This is a brand new Issue.

Title:

Amend Food Code - Biofilms

Issue you would like the Conference to consider:

Buyers of food equipment and authorities having jurisdiction generally accept and approve of food equipment listed to National Sanitation Foundation International / American National Standards Institute (NSF/ANSI) sanitation standards. The last paragraph of FOOD CODE Part 4-2 states that ANSI sanitation listed equipment is "deemed to comply" with FOOD CODE Parts 4-1 and 4-2. Unfortunately, there is a large oversight associated with this statement. One that puts consumers at risk.

FOOD CODE Section 4-202.12 presents reasonable minimum safety criteria relating to clean-in-place (CIP) systems used to wash and sanitize inaccessible fluid-food contact surfaces. The NSF/ANSI Standards for Dispensing Freezers (NSF/ANSI 6) and Ice Makers (NSF/ANSI 12) fail to accommodate FOOD CODE Section 4-202.12(B). As a consequence, none of the commercial ice machines on the market today, nor dispensing freezers have the required inspection ports. To make matters worse, there are no NSF/ANSI performance certification tests pertaining to the efficacy of the manufacturer's cleaning and sanitizing instructions which are of critical importance for equipment requiring a CIP system for reasonable consumer safety.

Somewhat understandably, both biofilms and CIP are relatively new concepts to retail food and food service industry professionals, yet we have had knowledge of them for nearly twenty years now. Biofilms are not even mentioned in the FOOD CODE (citings in annex and explanatory materials are not part of the code), and as you can see, the NSF/ANSI standards for equipment that rely upon CIP systems for safety has a big hole in it. Having accurate and sufficient criteria to control biofilm attachments, especially to those surfaces that are out of view and out of mind, is crucial to the safety of the foods these machines process.

Public Health Significance:

Biofilms are known to harbor pathogens that can break away and adulterate foods. Wherever a fluid food (soft serve, ice, water, soup, beverages, etc.) is conveyed through some type of NSF/ANSI 51 plumbing pipes (tubes), the internal surfaces of the tube become coated with biofilm. Where biofilms are visible on exposed surfaces, any reasonable person can see they need to be removed before the surface is sanitized. But, ice makers and dispensing freezers and other equipment with inaccessible food contact surfaces are not safe to use if one cannot verify the sanitary nature of these surfaces tucked away out of view. An inspection port is needed, just as they are provided for by the 3A/ANSI sanitation standards for CIP systems used throughout the international dairy industry, and as are required in this FOOD CODE. At a minimum, the manufacturer's instructions for cleaning and sanitizing these surfaces should be vetted by a third party process validation efficacy report. Unfortunately, NSF/ANSI sanitation standards have no requirement for evaluating efficacy of a manufacturer's cleaning and sanitizing instructions after the equipment has been in use for days, weeks, months, or years. Such information is "outside of the scope" of NSF/ANSI food equipment sanitary design performance certification standards. This results in users and consumers "trusting" manufacturers claims for safety, even though safety claims pertaining to the sanitary condition of inaccessible internal food lines are unsubstantiated and likely untrue.

ANSI sanitation performance certification standards evaluate the materials and design of food equipment to ensure durability, cleanability, and safety. But the testing is done on virgin equipment surfaces upon which it will take time to build biofilms. It is well known that biofilms attach and grow wherever there is little to no UV light, which is always out of sight and usually warm.

Public health is at risk due to this disconnect between the FOOD CODE 4-202.12 (B) and NSF/ANSI 6 (Ice makers) and NSF/ANSI 12 (Dispensing freezers).

Recommended Solution: The Conference recommends...:

1. That a letter be sent to the NSF International Joint Committee for Food Equipment requesting that they revise NSF/ANSI 6 (ice making equipment) and NSF/ANSI 12 (dispensing freezers) to include ALL of the criteria found in FOOD CODE Section 4-202.12, including that found in subsection (B).

2. That a letter be sent to FDA requesting that the most current edition of the FOOD CODE be amended to revise Subparagraph 4-202.12 to make it a PRIORITY (P) item.

3. That a letter be sent to FDA requesting that the most current edition of the FOOD CODE be amended to revise Subparagraph 4-202.11 (E) (4) to read (language to be deleted is in strikethrough format; new language is underlined):

In EQUIPMENT such as ice bins, ~~and~~ beverage ~~dispensing nozzles and enclosed components of equipment such as ice makers, cooking oil storage tanks and distribution lines, beverage~~ food, water and ice dispensers, and syrup dispensing lines or tubes, and coffee bean grinders~~, and water vending equipment~~:
(a) At a frequency ~~specified by the manufacturer, or~~ necessary to prevent biofilm attachment, or the accumulation of soil or mold, and/or
(b) (~~Absent manufacturer specifications, at a frequency necessary to preclude accumulation of soil or mold~~ As recommended by the manufacturers approved 3rd party

lab performed process validation of their cleaning and sanitizing procedures including frequency, methods and means.

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Supporting Attachments:

- "Notes"

It is the policy of the Conference for Food Protection to not accept Issues that would endorse a brand name or a commercial proprietary process.

Handy references to 2013 FDA Food Code section relevant to this submittal
Tom Johnson Jan 12th 2018. tom@qleantech.com

http://www.biofilm.montana.edu/biofilm-basics/what_are_biofilms.html

4-202.12 CIP 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, [Pf] 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.

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This includes ice machines, dispensing freezers, soda and beer, milk, juice and condiment systems.

4-202.13 "V" Threads, Use Limitatio

Except for hot oil cooking or filtering EQUIP

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; [P]

(2) Each time there is a change from working with raw FOODS to working with READY-TO-EAT FOODS; [P]

(3) Between uses with raw fruits and vegetables and with TIME/TEMPERATURE CONTROL FOR SAFETY FOOD; [P]

(4) Before using or storing a FOOD TEMPERATURE MEASURING DEVICE; [P] and

(5) At any time during the operation when contamination may have occurred. [P]

4-302.14 Sanitizing Solutions, Testing Devices.

A test kit or other device that accurately measures the concentration in MG/L of SANITIZING solutions shall be provided. [Pf]

4-4 LOCATION AND INSTALLATION

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 is deemed to comply with Parts 4-1 and 4-2 of this chapter.

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4-602.11, (E)(4) Frequency

(3) Before restocking CONSUMER self-service EQUIPMENT and UTENSILS such as condiment dispensers and display containers; and

(4) In EQUIPMENT such as ice bins and BEVERAGE dispensing nozzles and enclosed components of EQUIPMENT such as ice makers, cooking oil storage tanks and distribution lines, BEVERAGE and syrup dispensing lines or tubes, coffee bean grinders, and water vending EQUIPMENT:

(a) At a frequency specified by the manufacturer, or

(b) Absent manufacturer specifications, at a frequency necessary to preclude accumulation of soil or mold.

4-602.12 Cooking and Baking Equipment.