

**Conference for Food Protection
2014 Issue Form**

**Internal Number: 006
Issue: 2014 III-026**

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

All information above the line is for conference use only.

Title:

Potable Ice

Issue you would like the Conference to consider:

Much of the ice produced by automatic ice making machines in retail and food service facilities is contaminated. Multiple investigations have reported this contamination and it is a well-known problem in the industry. There are two significant contributing factors to quotidian ice contamination. The first is attributable to widespread use of carbon filters that remove all disinfectants from the water supply before the water inlet to the automatic ice making EQUIPMENT. The second contributing factor is the gross inadequacy of cleaning and sanitizing frequency recommendations or requirements as stated in the ice machine EQUIPMENT manufacturers owners manuals.

Public Health Significance:

Section 3-202.16 of the FDA Food Code states that the use of DRINKING WATER for making ICE is a Priority item. Drinking water is commonly known as potable water per section 1-201.10, and is further defined as complying with the requirements of National Primary Drinking Water Standards (NPDWR) as found in the Code of Federal Regulations Title 40 parts 9, 141 and 142. The Federal Register Vol 63 No. 241 on page 69393 makes reference to required DRINKING WATER disinfectant levels stating: "*those requirements include: (1) requirements for a maintenance of a disinfectant residual in the distribution system...*". It goes on to state that the public health rationale for the requirement includes the control of *Guardia* (3 logs) and viruses (4 logs). Norovirus (NoV) is a significant risk factor for contaminated ice and has been implicated in morbidity and mortality. So too is Hepatitis A (HAV) an organism of concern for contaminated ice especially where food handlers have direct hand contact with ice or it is otherwise unprotected from cross contamination. Carbon filter manufacturers promote the sale and use of their filters by referring to disinfectant residuals in water as unwanted contaminants that adversely affect the taste of water and ice. Many beverage syrup manufacturers support this concept as they seek to ensure consistent taste quality of their beverages as dispensed. These quality objectives are contrary to consumer safety objectives unless an approved water disinfection method is introduced after the carbon filter but in advance of the ice making process.

Manufacturers of commercial ice making and dispensing equipment typically recommend cleaning of their food contact surfaces once or twice a year. This conflicts with 4-602.11 paragraph (A) (5) that requires equipment food contact surfaces to be cleaned "*At any time during the operation when contamination may have occurred*". Ice machine EQUIPMENT food contact surfaces are wet much of the time and much of their wetted surface is exposed to ambient air and whatever particulates may be carried aloft. Many operators and jurisdictions are all too familiar with the consequence of the risk doubling associated with unprotected water and inadequate food contact surface cleaning and sanitizing. It is biofilm and with it a cacophony of organisms including molds, yeasts, viruses and bacteria including *pseudomonas*, all bound together in a symbiotic matrix with inorganic precipitates that support colonial expansion. The result is an increased risk of disease transmission. Coincidentally, a review of typical epidemiological surveys finds that few surveys even consider ice as a risk factor in disease transmission. Yet freezing does not inactivate microorganisms. It preserves them leaving their virulence intact.

Recommended Solution: The Conference recommends...:

that a letter be sent to FDA amending the 2013 Food Code Section 3-202.16 ANNEX 3 Public Health Reasons as follows (using underline format for new language):

Freezing does not invariably inactivate virus or kill Microorganisms. When microorganisms are in water that is made into ice, their virulence is almost always preserved until the ice melts thereby releasing them in a virulent form. Accordingly, ice that is used as food or ice that comes in contact with food to cool it must be produced from DRINKING WATER as defined in the National Primary Drinking water Regulations. Activated carbon filters remove disinfectants from water rendering the water vulnerable to cross contamination from many microorganisms including virus, molds, yeast and bacteria. When activated carbon filters are installed on the inlet water line to ice making equipment, there must be a further approved treatment to the water before it is made into ice to ensure that the ice produced is potable

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Attachments:

- a "Microbiology of Ice from Retail Stores and Self-Service Vending Machines"

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.