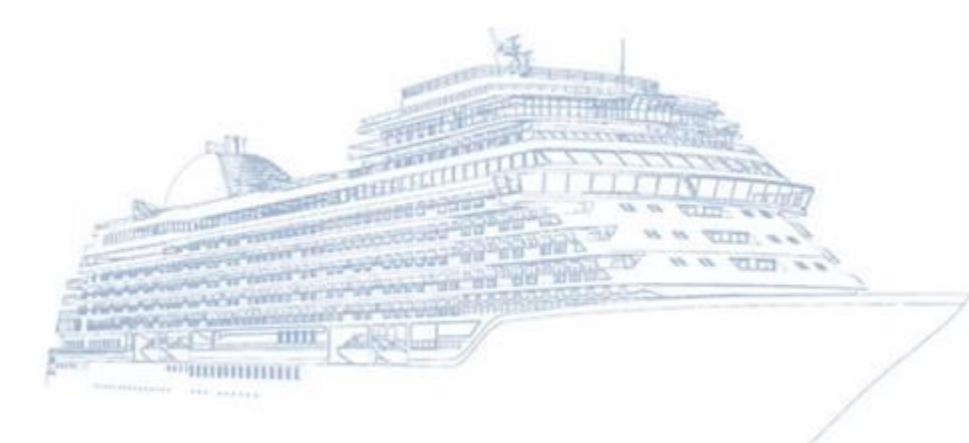


Public Health Agency of Canada



Cruise Ship Inspection Program 2023 Operations Manual



Public Health
Agency of Canada

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1.0 Foreword

The Public Health Agency of Canada (PHAC) Cruise Ship Inspection Program (CSIP) is an inspection and audit program that maintains oversight over the provision of safe food, water and other environmental health conditions on board cruise vessels. Through the CSIP, PHAC assists the Minister of Health in exercising and performing the Minister's powers, duties and functions in relation to public health. Pursuant to paragraph 4(2)(e) of the *Department of Health Act*, the Minister's mandate includes the protection of public health on railways, ships, aircraft and all other methods of transportation, and their ancillary services. Specifically, the CSIP reflects PHAC's regulatory oversight over international and interprovincial conveyances and ancillary services in matters dealing with water quality (through the *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations*) and food safety (through enforcement of sections 4 and 7 of the *Food and Drugs Act*).

The *Cruise Ship Inspection Program 2023 Operations Manual* (the Manual) is intended to serve as guidance for PHAC Environmental Health Officers on the application of inspection criteria. Where possible, the Manual is aligned with criteria used by the United States Centers for Disease Control and Prevention and their Vessel Sanitation Program (US CDC VSP). The framework of the US CDC VSP Operations Manual is used by CSIP for conducting and scoring inspections, and its structure is reproduced in the Manual. While references to US legislation and legal requirements seen throughout the document are not applicable in Canada, PHAC Environmental Health Officers (EHOs) will assess operator compliance using equivalent Canadian regulations. Where Canadian requirements differ, PHAC EHOs may provide operators with recommendations on how to improve sanitation practices by drawing upon Canadian and international best practices, guidelines and standards.

PHAC has updated the Manual to reflect Canada's *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations*, for the provision of potable water on passenger conveyances, including cruise ships.¹ Sections highlighted in **blue** throughout the Manual reflect the requirements of the *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations* (PWR). The Manual also reflects updates included in the 2012 edition of the PHAC Cruise Ship Inspection Program Operations Manual, which are highlighted in **yellow** throughout the 2023 edition for ease of reference.

¹ *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations* available at: <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2016-43/index.html>

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2.0 Information to Assist the User on the Manual Format

Organization

The *2023 Manual* is divided into chapters and subsections that focus on each operational area important to safeguarding public health aboard vessels.

Regulatory Authorities

Department of Health Act

The Public Health Agency of Canada (PHAC) assists the Minister of Health in exercising and performing the Minister's powers, duties and functions in relation to public health. Pursuant to Section 4(2)(e) of the *Department of Health Act*, the Minister's mandate includes the protection of public health on railways, ships, aircraft and all other methods of transportation, and their ancillary services. PHAC is responsible for oversight of public health on international and interprovincial conveyances and in ancillary service facilities. TPP conducts public health activities including inspections, audits, sampling, training and outreach in the areas of food safety, potable water and environmental sanitation.

Food and Drugs Act

Section “**7.0 Food Safety**” of the *2023 Manual* makes reference to criteria that prohibit the sale of foods that are unfit for human consumption, adulterated or subject to unsanitary conditions. PHAC Environmental Health Officers are designated as inspectors under the *Food and Drugs Act* (FDA) and have the authority to enforce sections 4 and 7 of that Act:

4. (1) *No person shall sell an article of food that*
(a) *has in or on it any poisonous or harmful substance;*
(b) *is unfit for human consumption;*
(c) *consists in whole or in part of any filthy, putrid, disgusting, rotten, decomposed or diseased animal or vegetable substance;*
(d) *is adulterated; or*
(e) *was manufactured, prepared, preserved, packaged or stored under unsanitary conditions.*

7. *No person shall manufacture, prepare, preserve, package or store for sale any food under unsanitary conditions.*

The definition of “*Unsanitary conditions*” pursuant to section 2 of the FDA, means such conditions or circumstances as might contaminate with dirt or filth, or render injurious to health, a food, drug or cosmetic.

Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations

The *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations* (PWR) set out requirements for water served to passengers on board conveyances, including water intended for drinking, handwashing, oral hygiene and food preparation. The requirements of the PWR are captured in **blue highlighted text** of the *2023 Manual*, applying for water that is intended to be used for drinking, handwashing or oral hygiene by passengers, for the preparation of food for passengers, and in the form of ice for contact refrigeration of food for passengers or in their beverages. Cruise operators are required to meet specific requirements and take steps to ensure safety of water served to passengers through measures such as ensuring safe water supplies, maintaining potable water systems, taking action in cases of suspected or confirmed contamination, completing routine sampling and keeping related records.

Section Number

The international numbering system is used to organize the guidelines in this document.

Keywords

Each guideline is formatted with a title, keyword, or phrase after the section number.

Description

The public health compliance recommendation is provided in this statement.

Green Bold Text

Portions of some sections of these guidelines are written in **green bold**. These provisions are not requirements. They are provided to convey relevant information about specific exceptions and alternative means for compliance.

Inspection Report Number

The individual inspection report item number is shown in parentheses after the section number and keywords; for example, 7.2.5.1.1 Hair Restraints (14).

Critical Items

Critical compliance items are written in **bold red underlined text** in parentheses after the section number and keywords; for example, **7.5.5.1 Food-Contact Surfaces (24 C)**. The number in parentheses is the individual inspection report item number.

Noncritical Items

Noncritical compliance items are in regular text with no bolding or colour.

Highlighted Yellow Text

New violations added to the PHAC *Cruise Ship Inspection Program 2023 Operations Manual* in comparison to the PHAC *Cruise Ship Inspection Program 2012 Operations Manual*

Highlighted Blue Text

The guidance on the requirements of the *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations* has been developed and incorporated into the Potable Water chapter (Section 5) of the Public Health Agency of Canada Cruise Ship Inspection Program (2023), requirements of the PWR are in **highlighted blue text**.

3.0 Definitions and Acronyms

This section provides definitions for commonly used terminology in this document and is organized alphabetically. Where a definition specifically applies to a section of the document, it will be noted in the definition.

Terms defined in section 3.2 are identified in the text of these guidelines by CAPITAL LETTERS. For example, section 5.7.1.1.4 states “A CROSS-CONNECTION control program must include at a minimum: ...” CROSS-CONNECTION is in CAPITAL LETTERS and is defined in section 3.2.

3.1 Definitions

Accessible: Exposed for cleaning and inspection with the use of simple tools including a screwdriver, pliers, or wrench. This definition applies to use in FOOD AREAS of the vessel only.

Accredited program: A FOOD protection manager certification program that has been evaluated and listed by an accrediting agency as conforming to national standards for organizations that certify individuals.

- An accredited program refers to the certification process and is a designation based on an independent evaluation of factors such as the sponsor’s mission; organizational structure; staff resources; revenue sources; policies; public information regarding program scope, eligibility requirements, recertification, discipline and grievance procedures; and test development and administration.
- Accredited program does not refer to training functions or educational programs.

Activity pools: An indoor or outdoor RECREATIONAL WATER FACILITY that provides flowing water without any additional features. This includes wave pools, catch pools, open water slides, lazy rivers, action rivers, vortex pools, continuous surface pools, etc.

Acute gastroenteritis (AGE) or GASTROENTERAL ILLNESS (GI) Irritation and inflammation of the digestive tract characterized by sudden onset of symptoms of diarrhea and/or vomiting.

AGE case: See REPORTABLE AGE CASE.

AGE outbreak: Cases of ACUTE GASTROENTERITIS, characterized by diarrhea and vomiting, that are in excess of background rates. For the purposes of this manual, more than 3% is considered in excess of background rates. In addition, an AGE outbreak may be based on two or more laboratory-confirmed cases associated with FOOD or water

consumption during the cruise.

Adequate: Sufficient in number, features, or capacity to accomplish the purpose for which something is intended and to such a degree that there is no unreasonable risk to health or safety.

Adulterated: As stated in the Federal FOOD and DRUGS ACT.

Air-break: A piping arrangement in which a drain from a fixture, appliance, or device discharges indirectly into another fixture, receptacle, or interceptor at a point below the flood-level rim (Figure 1).

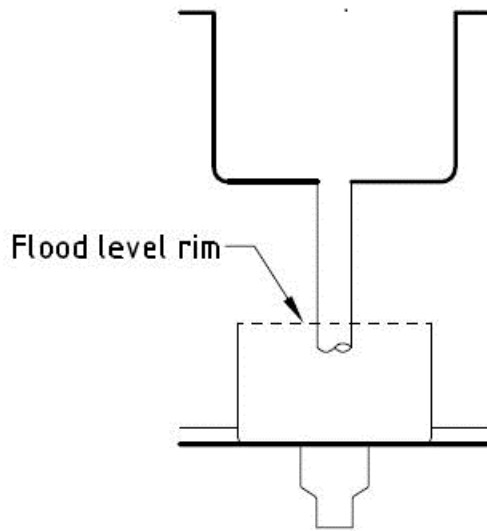


Figure 1 - Air-break

Air gap (AG): The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, PLUMBING FIXTURE, or other device and the flood-level rim of the receptacle or receiving fixture. The AIR GAP must be at least twice the inside diameter of the supply pipe or faucet and not less than 25 millimeters (1 inch) (Figure 2).

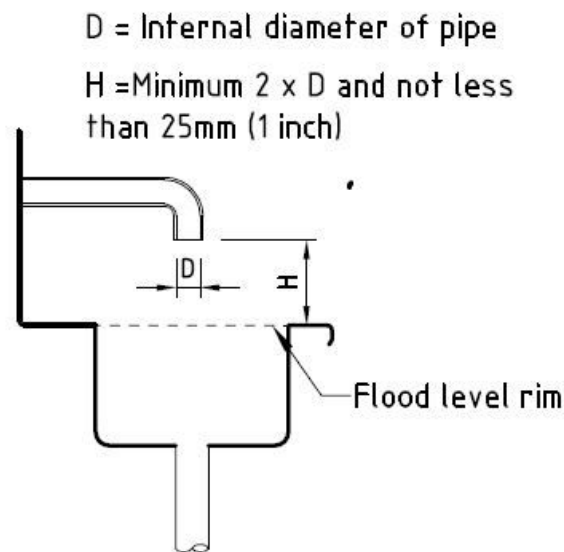


Figure 2 - Air gap

Antientanglement cover: A cover for a drain/SUCTION FITTING designed to prevent hair from tangling in a drain cover or SUCTION FITTING in a RECREATIONAL WATER FACILITY.

Antientrapment cover: A cover for a drain/SUCTION FITTING designed to prevent any portion of the body or hair from becoming lodged or otherwise forced onto a drain cover or SUCTION FITTING in a RECREATIONAL WATER FACILITY.

Approved: Acceptable based on a determination of conformity with principles, practices, and generally recognized standards that protect public health, federal regulations, or equivalent international standards and regulations. Example of these standards include those from the American National Standards Institute (ANSI), National Sanitation Foundation International (NSF International), American Society of Mechanical Engineers (ASME), American Society of Safety Engineers (ASSE), and Underwriter's Laboratory (UL).

Attack rate: (1) The proportion of individuals exposed to an infectious agent who become clinically ill. (2) The cumulative incidence of infection in a group observed over a period during an epidemic.

Atmospheric vacuum breaker (AVB): A BACKFLOW PREVENTION DEVICE that consists of an air inlet valve, a check seat or float valve, and air inlet ports. The device is not APPROVED for use under continuous water pressure and must be installed downstream of the last valve.

Automatic pump shut-off (APS): System device that can sense a BLOCKABLE DRAIN blockage and shut off the pumps in a RECREATIONAL WATER FACILITY.

A_w (water activity): Measurement of the free moisture content in a FOOD.

Baby-only water facility: RECREATIONAL WATER FACILITY designed for use by children in diapers or who are not completely toilet trained. This facility must have zero water depth.

Backflow: The reversal of flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable supply of water from any source or sources other than the source of POTABLE WATER supply. BACKSIPHONAGE and BACKPRESSURE are forms of backflow.

Backflow prevention device: An APPROVED backflow prevention plumbing device that must be used on POTABLE WATER distribution lines where there is a direct connection or a potential CROSS-CONNECTION between the POTABLE WATER distribution system and other liquids, mixtures, or substances from any source other than the POTABLE WATER supply. Some devices are designed for use under continuous water pressure, whereas others are noncontinuous pressure types.

(See also:

- ATMOSPHERIC VACUUM BREAKER [AVB].
- CONTINUOUS PRESSURE BACKFLOW PREVENTION DEVICE.
- DOUBLE CHECK VALVE with intermediate atmospheric vent.
- HOSE BIB CONNECTION VACUUM BREAKER.
- PRESSURE VACUUM BREAKER ASSEMBLY.
- REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY.)

Backpressure: An elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and/or air pressure) above the supply pressure at the point of consideration that would cause a reversal of normal direction of flow.

Backsiphonage: The reversal or flowing back of used, contaminated, or polluted water from a PLUMBING FIXTURE or vessel or other source into a water supply pipe as a result of negative pressure in the pipe.

Barometric loop: A continuous section of supply piping that rises at least 35 feet above the supply point and returns back down to the supply. Typically the loop will be in the shape of an upside-down “U.” A barometric loop only protects against BACKSIPHONAGE because it operates under the principle that a water column cannot rise above 33.9 feet at sea-level

pressure.

Beverage: A liquid for drinking, including water.

Black water: Wastewater from toilets, urinals, medical sinks, and other similar facilities.

Blast chiller: A unit specifically designed for rapid intermediate cooling of FOOD products from 57°C (135°F) to 21°C (70°F) within 2 hours and 21°C (70°F) to 5°C (41°F) within an additional 4 hours.

Blockable drain/suction fitting: A drain or suction fitting in a RECREATIONAL WATER FACILITY that that can be completely covered or blocked by a 457 millimeter x 584 millimeter (18 inch x 23 inch) body-blocking element as set forth in ASME A112.19.8M.

Bulkhead: A dividing wall covering an area constructed from several panels, also known as the visible part of the lining.

Certified data security features: Features that ensure the values recorded by the data logger cannot be manipulated by the user.

CFR (Code of Federal Regulations): Compilation of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government. The CFR is published annually by the U.S. Government Printing Office and contains FDA rules in 21 CFR, USDA rules in 7 CFR and 9 CFR, EPA rules in 40 CFR, and Wildlife and Fisheries rules in 50 CFR.

Chemical disinfectant: A chemical agent used to kill microbes.

Child activity center: A facility for child-related activities where children under the age of 6 are placed to be cared for by vessel staff.

Children's pool: A pool that has a depth of 1 meter (3 feet) or less and is intended for use by children who are toilet trained.

Child-size toilet: Toilets whose toilet seat height is no more than 280 millimeters (11 inches) and the toilet seat opening is no greater than 203 millimeters (8 inches).

CIP (cleaned in place): Use of a detergent solution, water rinse, and sanitizing solution by circulating or flowing mechanically through a piping system onto or over EQUIPMENT surfaces that require cleaning (for example, the method used—in part—to clean and sanitize a frozen dessert machine). **CIP does not include the cleaning of EQUIPMENT such as**

band saws, slicers, or mixers subjected to in-place manual cleaning without the use of a CIP system.

Cleaning locker: A room or cabinet specifically designed or modified for storage of cleaning EQUIPMENT such as mops, brooms, floor-scrubbing machines, and cleaning chemicals.

Comminuted: Reduced in size by chopping, flaking, grinding, or mincing. **Examples include FISH or MEAT products reduced in size and restructured or reformulated (e.g., gefilte FISH, gyros, ground beef, and sausage) and mixtures of two or more types of MEAT that have been reduced in size and combined (e.g., sausages made from two or more MEATS).**

Confirmed disease outbreak: A **FOODBORNE** or **WATERBORNE DISEASE OUTBREAK** in which laboratory analysis of appropriate specimens identifies a causative agent and epidemiologic analysis implicates the **FOOD** or water as the source of the illness.

Consumer: A person who takes possession of **FOOD**, is not functioning as an operator of a **FOOD** establishment or **FOOD-PROCESSING PLANT**, and does not offer the **FOOD** for resale.

Contamination: The presence of an infectious agent on a body surface, in clothes, in bedding, on toys, on surgical instruments or dressings, or on other inanimate articles or substances including **FOOD** and water.

Continuous pressure (CP) backflow prevention device: A device generally consisting of two check valves and an intermediate atmospheric vent that has been specifically designed to be used under conditions of continuous pressure (greater than 12 hours out of a 24-hour period).

Coving: A concave surface, molding, or other design that eliminates the usual angles of 90° or less at deck junctures (Figures 3, 4, and 5).

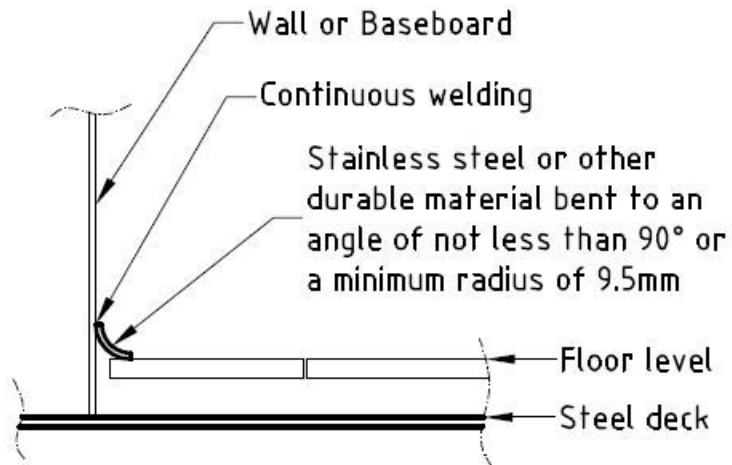


Figure 3 - Nonintegral coving

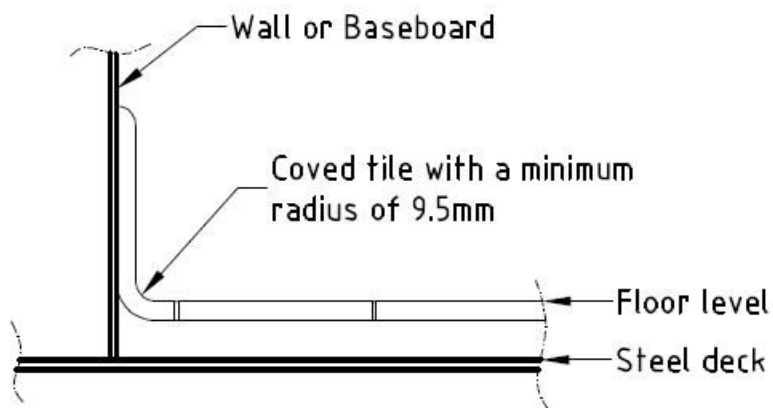


Figure 4 - Integral coving (Tiles)

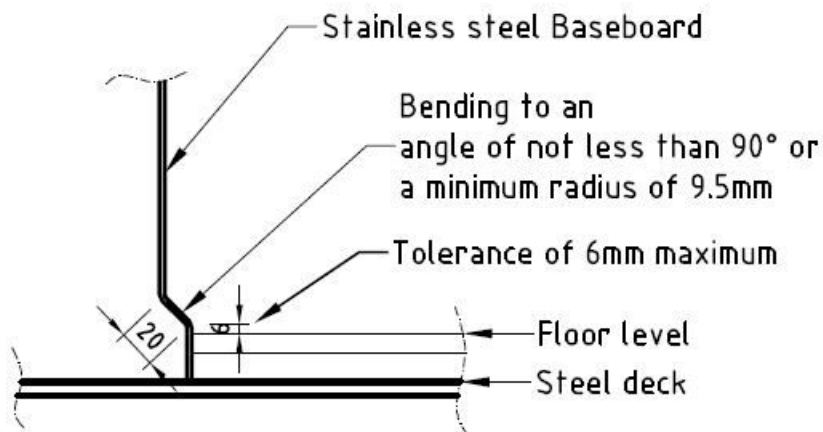


Figure 5 – Integral coving (Stainless steel)

Critical item: A provision of these guidelines that, if in noncompliance, is more likely than other deficiencies to contribute to FOOD or water CONTAMINATION, illness, or environmental HEALTH HAZARD. These are denoted in these guidelines in **bold red underlined text** in parentheses after the section number and keywords; for example, **7.5.5.1 Food-Contact Surfaces (24 C)**. The number indicates the individual inspection report item number.

Critical control point: A point or procedure in a specific system where loss of control may result in an unacceptable health risk.

Critical limit: The maximum or minimum value at a CRITICAL CONTROL POINT to which a physical, biologic, or chemical parameter must be controlled to minimize the occurrence of risk from an identified safety HAZARD.

Cross-connection: An actual or potential connection or structural arrangement between a POTABLE WATER system and any other source or system through which it is possible to introduce into any part of the POTABLE WATER system any used water, industrial fluid, gas, or substance other than the intended POTABLE WATER with which the system is supplied.

CT value: Numerical value used for identifying level at which pathogen destruction/inactivation occurs. **For the purposes of this manual, CT values will be based on free chlorine levels in MG/L (ppm) and time in minutes (CT value=MG/L x minutes).**

Cut leafy greens: Fresh leafy greens whose leaves have been cut, shredded, sliced, chopped, or torn. Leafy greens include iceberg lettuce,

romaine lettuce, leaf lettuce, butter lettuce, baby leaf lettuce (that is, immature lettuce or leafy greens), escarole, endive, spring mix, spinach, cabbage, kale, arugula, and chard. Herbs such as cilantro or parsley are not considered leafy greens.

Date/time of onset: Date/time on which the first symptom appeared.

Deck drain: The physical connection between decks, SCUPPERS, or DECK SINKS and the GRAY WATER or BLACK WATER systems.

Deckhead: The deck overhead covering the ceiling area constructed from several panels, also known as the visible part of the ceiling.

Deck sink: A sink recessed into the deck and sized to contain waste liquids from tilting kettles and pans.

Diarrheal disease: Three or more episodes of loose stools in a 24-hour period or a greater than normal (for the person) number of loose stools.

Disinfectant: A chemical or physical agent used to kill microbes.

Disinfection: A process (physical or chemical) that destroys many or all pathogenic microorganisms, except bacterial and mycotic spores, on inanimate objects.

Distillate water: Water condensed from vapor during the evaporation process.

Distillate water lines: Pipes carrying water condensed from the evaporators and that may be directed to the POTABLE WATER system. This is the PUBLIC HEALTH AGENCY OF CANADA definition for pipe stripping purposes.

Double check (DC) valve assembly: A BACKFLOW PREVENTION ASSEMBLY consisting of two internally loaded, independently operating check valves located between two resilient-seated shutoff valves. These assemblies include four resilient-seated test cocks. **These devices do not have an intermediate vent to the atmosphere and are not APPROVED for use on CROSS-CONNECTIONS to the POTABLE WATER system of cruise vessels. PUBLIC HEALTH AGENCY OF CANADA accepts only vented BACKFLOW PREVENTION DEVICES.**

Double check with an intermediate atmospheric vent (DCIV): A BACKFLOW PREVENTION DEVICE with double check valves and an intermediate atmospheric vent located between the two check valves.

Drinking water: See POTABLE WATER.

Drip tray: READILY REMOVABLE tray to collect dripping fluids or FOOD from FOOD dispensing EQUIPMENT.

Dry storage area: A room or area designated for the storage of PACKAGED or containerized bulk FOOD that is not potentially hazardous and dry goods such as SINGLE-SERVICE ITEMS.

Easily cleanable: A characteristic of a surface that

- Allows effective removal of soil by normal cleaning methods;
- Is dependent on the material, design, construction, and installation of the surface; and
- Varies with the likelihood of the surface's role in introducing pathogenic or toxigenic agents or other contaminants into FOOD based on the surface's APPROVED placement, purpose, and use.

Easily movable: EQUIPMENT that

- Is PORTABLE or mounted on casters, gliders, or rollers or has a mechanical means to safely tilt it for cleaning; and
- Has no utility connection, a utility connection that disconnects quickly, or a flexible utility connection line of sufficient length that allows it to be moved for cleaning of the EQUIPMENT and adjacent area.

Equipment: An article used in the operation of a FOOD establishment, such as a freezer, grinder, hood, ice maker, MEAT block, mixer, oven, reach-in refrigerator, scale, sink, slicer, stove, table, TEMPERATURE-MEASURING DEVICE for ambient air, vending machine, or WAREWASHING machine.

Equipment does not include items used for handling or storing large quantities of PACKAGED FOODS received from a supplier in a cased or overwrapped lot, such as hand trucks, forklifts, dollies, pallets, racks, and skids.

Fish: Fresh water or saltwater finfish, crustaceans, and other forms of aquatic life (including alligator, frog, aquatic turtle, jellyfish, sea cucumber, sea urchin, and the roe of such animals) other than birds or mammals, and all mollusks, if such animal life is intended for human consumption. **Fish includes an edible human FOOD product derived in whole or in part from fish, including fish processed in any manner.**

Food: Raw, cooked, or processed edible substance; ice; BEVERAGE; or ingredient used or intended for use or for sale in whole or in part for human consumption. Chewing gum is classified as FOOD.

Food area: Includes food and BEVERAGE display, handling, preparation,

service, and storage areas; warewash areas; clean EQUIPMENT storage areas; and LINEN storage and handling areas.

Food-contact surface: Surfaces (food zone, splash zone) of EQUIPMENT and UTENSILS with which food normally comes in contact and surfaces from which food may drain, drip, or splash back into a food or surfaces normally in contact with food (Figures 6a and 6b).

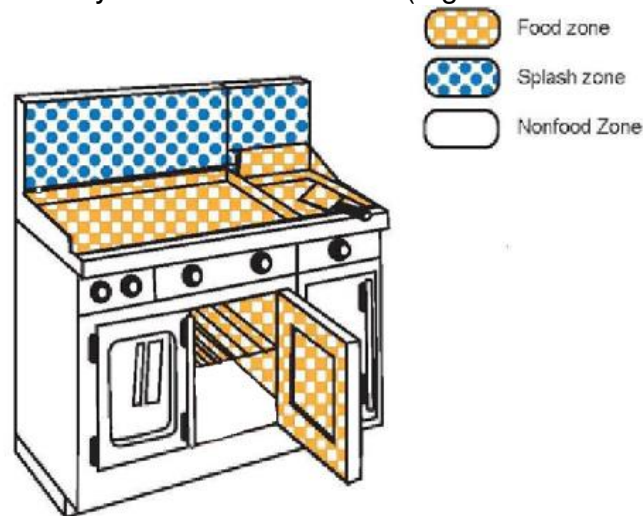


Figure 6a - Food-contact surfaces

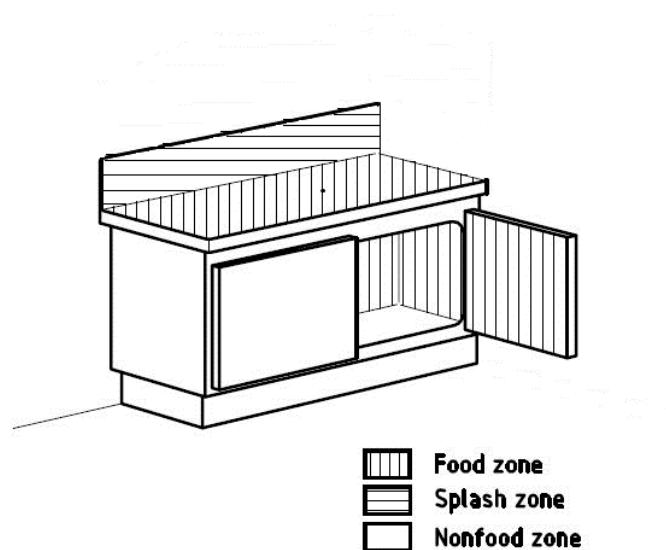


Figure 6b - Food-contact surfaces (valid for neutral/hot/cold equipment)

Food display areas: Any area where food is displayed for consumption by passengers and/or crew. Applies to displays served by vessel staff or self-service.

Food employee: A person working with unpackaged food, food EQUIPMENT or UTENSILS, LINENS, or FOOD-CONTACT SURFACES.

Food-handling areas: Any area where food is stored, processed, prepared, or served.

Food preparation areas: Any area where food is processed, cooked, or prepared for service.

Food-processing plant: A commercial operation that manufactures, packages, labels, or stores food for human consumption and does not provide food directly to a CONSUMER.

Food service areas: Any area where food is presented to passengers or crew members (excluding individual cabin service).

Food storage areas: Any area where food or food products are stored.

Food transportation corridors: Areas primarily intended to move food during food preparation, storage, and service operations (e.g., service lift [elevator] vestibules to food preparation service and storage areas, provision corridors, and corridors connecting preparation areas and service areas). Corridors primarily intended to move only closed beverages and packaged foods (e.g., bottled/canned beverages, crackers, chips, etc.) are not considered food transportation corridors, but the deck/BULKHEAD juncture must be coved. **Excluded:**

- **Passenger and crew corridors, public areas, individual cabin service, and dining rooms connected to galleys.**
- **Food loading areas used solely for delivery of food to the vessel.**

Food waste system: A system used to collect, transport, and process food waste from FOOD AREAS to a waste disposal system (e.g., pulper, vacuum system).

Foodborne disease outbreak: An incident in which two or more persons experience a similar illness resulting from the ingestion of a common food.

Game animal: An animal, the products of which are food, that is not classified as

- Cattle, sheep, swine, goat, horse, mule, or other equine in 9 CFR Subchapter A - Mandatory MEAT Inspection, Part 301,
- POULTRY in 9 CFR Subchapter C - Mandatory POULTRY Products Inspection, Part 381, or
- FISH as defined under Subparagraph 1-201.10(B)(25).

Game animal includes mammals such as reindeer, elk, deer, antelope, water buffalo, bison, rabbit, squirrel, opossum, raccoon, nutria, or muskrat, and nonaquatic reptiles such as land snakes.

Game animal does not include RATITES such as ostrich, emu, and rhea.

Gap: An open juncture of more than 3 millimeters (1/8 inch).

Gastrointestinal Illness: see Acute gastroenteritis (AGE)

General-use pesticide: A pesticide not classified by EPA for restricted use as specified in 40 CFR 152.175.

Grade A standards: Requirements of the FDA Grade A Pasteurized Milk Ordinance and Grade A Condensed and Dry Milk Ordinance with which certain fluid and dry milk and milk products comply.

Gravity drain: A drain fitting used to drain the body of water in a RECREATIONAL WATER FACILITY by gravity and with no pump downstream of the fitting.

Gravity drainage system: A water collection system whereby a collection tank is located between the RECREATIONAL WATER FACILITY and the suction pumps.

Gray water: Wastewater from galley EQUIPMENT and DECK DRAINS, dishwashers, showers and baths, laundries, washbasins, DECK DRAINS, and recirculated RECREATIONAL WATER FACILITIES. Gray water does not include BLACK WATER or bilge water from the machinery spaces.

Gutterway: See SCUPPER.

HACCP (Hazard Analysis Critical Control Point) plan: A written document that delineates the formal procedures for following the Hazard Analysis Critical Control Point principles developed by the National Advisory Committee on Microbiological Criteria for FOODS.

Halogen: The group of elements including chlorine, bromine, and iodine used for DISINFECTION of water.

Hand antiseptic: Antiseptic products applied to human skin.

Harbour: The portion of a port area set aside for vessel anchorage or for ports including wharves; piers; quays; and service areas, the boundaries are the high- water shore line; and others as determined by legal definition,

citation of coordinates, or other means.

Hazard: A biological, chemical, or physical property that may cause an unacceptable CONSUMER health risk.

Heated (RWF): Any RECREATIONAL WATER FACILITY with a water temperature exceeding 32°C (90°F).

Health hazard: An impairment that creates an actual hazard to the public health through poisoning or through the spread of disease. For example, water quality that creates an actual hazard to the public health through the spread of disease by SEWAGE, industrial fluids, waste, etc. (e.g., sluice machine connection).

Hermetically sealed container: A container designed to be secure against the entry of microorganisms and, in the case of low-acid canned FOODS, to maintain the commercial sterility of its contents after processing.

Hose bib connection vacuum breaker (HVB): A BACKFLOW PREVENTION DEVICE that attaches directly to a hose bib by way of a threaded head. This device uses a single check valve and vacuum breaker vent. It is a form of an AVB specifically designed for a hose connection. A hose bib connection vacuum breaker is not APPROVED for use under CONTINUOUS PRESSURE (e.g., when a shut-off valve is located downstream from the device).

Immediate contact: Someone sharing a cabin either full-time or part-time or sharing a cabin's bathroom facilities. This includes boyfriends, girlfriends, spouses, and significant others.

Imminent health hazard: A significant threat or danger to health that is considered to exist when evidence is sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury.

Injected meats: Manipulating MEAT so that infectious or toxigenic microorganisms may be introduced from its surface to its interior through tenderizing with deep penetration or injecting the MEAT such as with juices, which may be referred to as injecting, pinning, or stitch pumping. This does not include routine temperature monitoring.

Integrated pest management (IPM): A documented, organized system of controlling pests through a combination of methods including inspections, baits, traps, effective sanitation and maintenance, and judicious use of chemical compounds.

Interactive recreational water facility: An indoor or outdoor recreational water facility that includes misting, jetting, waterfalls, or sprinkling features that involve water recirculation systems that come into contact with bathers. Additional features or facilities, such as decorations or fountains, will designate the facility as an interactive RWF if there is any piping connected through the recirculation system. These facilities may be zero depth. Fully or partially enclosed water slides are considered interactive recreational water facilities.

Isolation: The separation of persons who have a specific infectious illness from those who are healthy and the restriction of ill persons' movement to stop the spread of that illness. **For PUBLIC HEALTH AGENCY OF CANADA's purposes, isolation for passengers with AGE symptoms is advised and isolation for crew with AGE symptoms is required.**

Kitchenware: FOOD preparation and storage UTENSILS.

Law: Applicable local, provincial, federal, or other equivalent international statutes, regulations, and ordinances.

Linens: Fabric items such as cloth hampers, cloth napkins, tablecloths, wiping cloths, and work garments including cloth gloves.

Making way: Progressing through the water by mechanical or wind power.

Meat: The flesh of animals used as FOOD including the dressed flesh of cattle, swine, sheep, or goats and other edible animals, **except FISH, POULTRY, and wild GAME ANIMALS.**

Mechanically tenderized: Manipulating MEAT with deep penetration by processes that may be referred to as blade tenderizing; jaccarding; pinning; needling; or using blades, pins, needles, or any mechanical device. This does not include processes by which solutions are injected into MEAT.

mg/L: Milligrams per liter, the metric equivalent of parts per million (ppm).

Molluscan shellfish: Any edible species of fresh or frozen oysters, clams, mussels, and scallops or edible portions thereof, **except when the scallop product consists only of the shucked adductor muscle.**

Noncorroding: Material that maintains its original surface characteristics through prolonged influence by the use environment, FOOD contact, and normal use of cleaning compounds and sanitizing solutions.

Non-food-contact surfaces (non-food zone): All exposed surfaces, other than FOOD-CONTACT SURFACES, of EQUIPMENT located in FOOD

AREAS (Figures 6a and 6b).

Outbreak: See AGE OUTBREAK.

Packaged: Bottled, canned, cartoned, securely bagged, or securely wrapped, whether packaged in a FOOD establishment or a FOOD-PROCESSING PLANT. **Packaged does not include a wrapper, carry-out box, or other nondurable container used to facilitate FOOD protection during service and receipt of FOOD by the CONSUMER.**

Permeate water: Water produced by a reverse osmosis unit.

Permeate water lines: Pipes carrying PERMEATE WATER from the reverse osmosis unit that may be directed to the POTABLE WATER SYSTEM. This is the PUBLIC HEALTH AGENCY OF CANADA definition for pipe striping purposes.

Person in charge: The individual present on a vessel who is responsible for the FOOD operation at the time of inspection such as the FOOD and BEVERAGE Manager, FOOD Manager, or Chef.

Personal-care items: Items or substances that may be poisonous, toxic, or a source of CONTAMINATION and are used to maintain or enhance a person's health, hygiene, or appearance. **Personal-care items include items such as medicines, first-aid supplies, and cosmetics and toiletries (e.g., toothpaste, mouthwash).**

Pesticide: Any substance or mixture of substances intended to prevent, destroy, repel, or mitigate any pest. For the purposes of this manual, pesticides are considered either general use or restricted use.

pH: The symbol for the negative logarithm of the hydrogen ion concentration, which is a measure of the degree of acidity or alkalinity of a solution. **Values between 0 and 7 indicate acidity and values between 7 and 14 indicate alkalinity. The value for pure distilled water is 7, which is neutral.**

Plumbing fixture: A receptacle or device that

- Is permanently or temporarily connected to the water-distribution system of the vessel and demands a supply of water from the system; or
- Discharges used water, waste materials, or SEWAGE directly or indirectly to the drainage system of the vessel.

Plumbing system: The water supply and distribution pipes; PLUMBING FIXTURES and traps; soil, waste, and vent pipes; sanitary sewer drains and

vessel drains, including their respective connections, devices, and appurtenances within the vessel; and water-treating EQUIPMENT.

Poisonous or toxic materials: Substances not intended for ingestion. These substances are in four categories:

- Cleaners and SANITIZERS, which include cleaning and sanitizing agents and agents such as caustics, acids, drying agents, polishes, and other chemicals.
- PESTICIDES [except SANITIZERS] that include substances such as insecticides and rodenticides.
- Substances necessary for the operation and maintenance of the establishment such as non-food-grade lubricants and PERSONAL-CARE ITEMS that may be deleterious to health.
- Substances not necessary for the operation and maintenance of the vessel and are on the vessel, such as petroleum products and paints.

Pollution: The presence of any foreign substance (organic, inorganic, radiologic, or biologic) that tends to degrade water quality to create a HEALTH HAZARD.

Portable: A description of EQUIPMENT that is READILY REMOVABLE or mounted on casters, gliders, or rollers; provided with a mechanical means so that it can be tilted safely for cleaning; or readily movable by one person.

Potable water: Water that is halogenated and pH controlled and is intended for

- Drinking, washing, bathing, or showering;
- Using in fresh water SWIMMING POOLS and WHIRLPOOL SPAS;
- Using in the vessel's hospital;
- Handling, preparing, or cooking FOOD; and
- Cleaning FOOD STORAGE and FOOD PREPARATION areas, UTENSILS, and EQUIPMENT.

Potable water is free from impurities in amounts sufficient to cause disease or harmful physiological effects. The water quality must conform to requirements of the World Health Organization DRINKING WATER standards.

Potable water tanks: All tanks in which POTABLE WATER is stored.

Potentially hazardous food (PHF) (or time/temperature control for safety food [TCS]): Natural or synthetic food that requires time/temperature control because it is in a form capable of supporting one of the following:

- Rapid and progressive growth of infectious or toxigenic microorganisms.

- Growth and toxin production of *Clostridium botulinum*.
- Growth of *Salmonella enteritidis* [in raw shell eggs].

PHF includes an animal FOOD (a FOOD of animal origin) that is raw or heat-treated; a FOOD of plant origin that is heat-treated or consists of raw seed sprouts; cut melons; CUT LEAFY GREENS; cut tomatoes or mixtures of cut tomatoes; and garlic and oil mixtures that are not acidified or otherwise modified at a FOOD-PROCESSING PLANT in a way that results in mixtures that do not support growth as specified under subparagraph (a) of this definition or any FOOD classified by the FDA as a PHF/TCS.

PHF does not include the following:

- An air-cooled hard-boiled egg with shell intact, or a shell egg that is not hard-boiled, but has been treated to destroy all viable *Salmonellae*.**
- A FOOD with an A_w value of 0.85 or less.**
- A FOOD with a pH level of 4.6 or below when measured at 24°C (75°F).**
- A FOOD in an unopened HERMETICALLY SEALED CONTAINER that is commercially processed to achieve and maintain commercial sterility under conditions of non-refrigerated storage and distribution.**
- A FOOD for which laboratory evidence demonstrates that the rapid and progressive growth of infectious or toxigenic microorganisms or the growth of *S. enteritidis* in eggs or *C. botulinum* cannot occur, such as a FOOD that has an A_w and a pH above the levels specified under subparagraphs (b) and (c) of this definition and that may contain a preservative, other barrier to the growth of microorganisms, or a combination of barriers that inhibit the growth of microorganisms.**
- A FOOD that may contain an infectious or toxigenic microorganism or chemical or physical contaminant at a level sufficient to cause illness, but that does not support the growth of microorganisms as specified under subparagraph (a) of this definition.**

Poultry:

- Any domesticated bird such as chicken, turkey, duck, goose, or guinea, whether live or dead, as defined in 9 CFR 381 Poultry Products Inspection Regulations.
- Any migratory waterfowl, game bird, or squab such as pheasant, partridge, quail, grouse, or guinea, whether live or dead, as defined in 9 CFR 362 Voluntary Poultry Inspection Program.

Poultry does not include RATITE.

Pressure vacuum breaker assembly (PVB): A device consisting of an independently loaded internal check valve and a spring-loaded air inlet valve. This device is also equipped with two resilient seated gate valves and test cocks.

Primal cut: A basic major cut into which carcasses and sides of MEAT are separated, such as a beef round, pork loin, lamb flank, or veal breast.

Ratite: A flightless bird such as an emu, ostrich, or rhea.

Readily accessible: Exposed or capable of being exposed for cleaning or inspection without the use of tools.

Readily removable: Capable of being detached from the main unit without the use of tools.

Ready-to-eat (RTE) food: Food in a form that is edible without washing, cooking, or additional preparation by the food establishment or the CONSUMER and is reasonably expected to be consumed in that form.

RTE food includes

- **POTENTIALLY HAZARDOUS FOOD that is unpackaged and cooked to the temperature and time required for the specific food.**
- **Raw, washed, cut fruits and vegetables.**
- **Whole, raw fruits and vegetables presented for consumption without the need for further washing, such as at a buffet.**
- **Other food presented for consumption for which further washing or cooking is not required and from which rinds, peels, husks, or shells are removed.**
- **Fruits and vegetables cooked for hot holding, as specified under section 7.3.4.1.3.**
- **Substances derived from plants such as spices, seasonings, and sugar.**
- **A bakery item such as bread, cakes, pies, fillings, or icing for which further cooking is not required for food safety.**
- **Products produced in accordance with USDA guidelines and that have received a lethality treatment for pathogens: dry, fermented sausages, such as dry salami or pepperoni; salt-cured MEAT and POULTRY products, such as prosciutto ham, country cured ham, and Parma ham; and dried MEAT and POULTRY products, such as jerky or beef sticks.**

Recreational water facility (RWF): A water facility that has been modified, improved, constructed, or installed for the purpose of public swimming or recreational bathing. RWFs include, but are not limited to,

- ACTIVITY POOLS.
- BABY-ONLY WATER FACILITIES.
- CHILDREN'S POOLS.
- Diving pools.
- Hot tubs.
- Hydrotherapy pools.
- INTERACTIVE RECREATIONAL WATER FACILITIES.
- Slides.
- SPA POOLS.
- SWIMMING POOLS.
- Therapeutic pools.
- WADING POOLS.
- WHIRLPOOLS.

Recreational seawater: Seawater taken onboard while MAKING WAY at a position at least 12 miles at sea and routed directly to the RWFs for either sea-to-sea exchange or recirculation.

Reduced pressure principle backflow prevention assembly (RP assembly): An assembly containing two independently acting internally loaded check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit must include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly.

Refuse: Solid waste not carried by water through the SEWAGE system.

Registered design professional: An individual registered or licensed to practice his or her respective design profession as defined by the statutory requirements of the professional registration LAWS of the state or jurisdiction in which the project is to be constructed (per ASME A112.19.8-2007).

Regulatory authority: Local, provincial, or federal or equivalent international enforcement body or authorized representative having jurisdiction over FOOD processing, transportation, or warehousing or other FOOD establishment.

Removable: Capable of being detached from the main unit with the use of simple tools such as a screwdriver, pliers, or an open-end wrench.

Reportable AGE case (PUBLIC HEALTH AGENCY OF CANADA definition): A case of AGE with one of the following characteristics:

- Diarrhea (three or more episodes of loose stools in a 24-hour period or what is above normal for the individual, e.g., individuals with underlying medical conditions) **OR**
- Vomiting and one additional symptom including one or more episodes of loose stools in a 24-hour period, or abdominal cramps, or headache, or muscle aches, or fever (temperature of $\geq 38^{\circ}\text{C}$ [100.4°F]); **AND**
- Reported to the master of the vessel, the medical staff, or other designated staff by a passenger or a crew member.

Nausea, although a common symptom of AGE, is specifically excluded from this definition to avoid misclassifying seasickness (nausea and vomiting) as ACUTE GASTROENTERITIS.

Restricted-use pesticide: A pesticide product that contains the active ingredients specified in 40 CFR 152.175 Pesticides classified for restricted use and is limited to use by or under the direct supervision of a certified applicator.

Safety vacuum release system (SVRS): A system capable of releasing a vacuum at a suction outlet caused by a high vacuum due to a blockage in the outlet flow. These systems shall be designed and certified in accordance with ASTM F2387-04 or ANSI/ASME A 112.19.17-2002.

Sanitizer: Chemical or physical agents that reduce microorganism CONTAMINATION levels present on inanimate environmental surfaces.

Two classes of sanitizers:

- **Sanitizers of NONFOOD-CONTACT SURFACES:** The performance standard used by the U.S. Environmental Protection Agency (EPA) for these sanitizers requires a reduction of the target microorganism by 99.9% or 3 logs (1000, 1/1000, or 10^3) after 5 minutes of contact time.
- **Sanitizers of FOOD-CONTACT SURFACES:** The EPA performance standard for these sanitizers requires a 99.999% or 5-log reduction of the target microorganism in 30 seconds.

Sanitization: The application of cumulative heat or chemicals on cleaned FOOD-CONTACT and NONFOOD-CONTACT SURFACES that, when evaluated for efficacy, provides a sufficient reduction of pathogens.

Scupper: A conduit or collection basin that channels liquid runoff to a DECK DRAIN.

Sealant: Material used to fill SEAMS.

Seam: An open juncture greater than 0.8 millimeters (1/32 inch) but less than 3 millimeters (1/8 inch).

Sewage: Liquid waste containing animal or vegetable matter in suspension or solution and may include liquids containing chemicals in solution.

Shellstock: Raw, in-shell MOLLUSCAN SHELLFISH.

Shucked shellfish: MOLLUSCAN SHELLFISH with one or both shells removed.

Single-service articles: TABLEWARE, carry-out UTENSILS, and other items such as bags, containers, placemats, stirrers, straws, toothpicks, and wrappers designed and constructed for one-time, one-person use.

Single-use articles: UTENSILS and bulk FOOD containers designed and constructed to be used once and discarded. **Single-use articles include items such as wax paper, butcher paper, plastic wrap, formed aluminum FOOD containers, jars, plastic tubs or buckets, bread wrappers, pickle barrels, ketchup bottles, and number 10 cans that do not meet materials, durability, strength, and cleanability specifications.**

Slacking: Process of moderating the temperature of a FOOD such as allowing a FOOD to gradually increase from a temperature of -23°C (-10°F) to -4°C (25°F) in preparation for deep-fat frying or to facilitate even heat penetration during the cooking of previously block-frozen FOOD such as spinach.

Smooth:

- A FOOD-CONTACT SURFACE having a surface free of pits and inclusions with a cleanability equal to or exceeding that of (100-grit) number 3 stainless steel.
- A NONFOOD-CONTACT SURFACE of EQUIPMENT having a surface equal to that of commercial grade hot-rolled steel free of visible scale.
- Deck, BULKHEAD, or DECKHEAD that has an even or level surface with no roughness or projections to make it difficult to clean.

Spa pool: A POTABLE WATER or saltwater-supplied pool with temperatures and turbulence comparable to a WHIRLPOOL SPA.

- Depth of more than 1 meter (3 feet) and
- Tub volume of more than 6 tons of water.

Spill-resistant vacuum breaker (SVB): A specific modification to a PRESSURE VACUUM BREAKER ASSEMBLY to minimize water spillage.

Spray pad: Play and water contact area designed to have no standing water.

Suction fitting: A fitting in a RECREATIONAL WATER FACILITY under direct suction through which water is drawn by a pump.

Swimming pool: A RECREATIONAL WATER FACILITY greater than 1 meter in depth. This does not include SPA POOLS that meet this depth.

Table-mounted equipment: EQUIPMENT that is not PORTABLE and is designed to be mounted off the floor on a table, counter, or shelf.

Tableware: Eating, drinking, and serving UTENSILS for table use such as flatware including forks, knives, and spoons; hollowware including bowls, cups, serving dishes, and tumblers; and plates.

Technical water: Water that has not been chlorinated or pH controlled on board the vessel and that originates from a bunkering or condensate collection process, or seawater processed through the evaporators or reverse osmosis plant and is intended for storage and use in the technical water system.

Temperature-measuring device (TMD): A thermometer, thermocouple, thermistor, or other device that indicates the temperature of FOOD, air, or water and is numerically scaled in Celsius and/or Fahrenheit.

Time/temperature control for safety food (TCS): See POTENTIALLY HAZARDOUS FOOD (PHF).

Transmission (of infection): Any mechanism by which an infectious agent is spread from a source or reservoir to another person. These mechanisms are defined as follows:

- Direct transmission (includes person-to-person transmission): Direct and essentially immediate transfer of infectious agents to a receptive portal of entry through which human or animal infection may take place.
- Indirect transmission: When an infectious agent is transferred or carried by some intermediate item, organism, means, or process to a susceptible host, resulting in disease. This includes airborne, foodborne, waterborne, vehicle-borne (e.g., fomites), and vector-borne modes of transmission.

Turnover: The circulation, through the recirculation system, of a quantity of water equal to the pool volume.

Unblockable drain/suction fitting: A drain or SUCTION FITTING in a RECREATIONAL WATER FACILITY that cannot be completely covered or blocked by a 457 millimeters x 584 millimeters (18 inches x 23 inches) body-blocking element and that is rated by the test procedures or by the appropriate calculation in accordance with ASME A112.19.8M.

Utensil: A FOOD-contact implement or container used in storing, preparing, transporting, dispensing, selling, or serving FOOD. Examples: multiuse, SINGLE-SERVICE, or SINGLE-USE KITCHENWARE or TABLEWARE; gloves used in contact with FOOD; FOOD TEMPERATURE-MEASURING DEVICES; and probe-type price or identification tags used in contact with FOOD.

Utility sink: Any sink located in FOOD SERVICE AREAS not intended for handwashing and/or WAREWASHING.

Variance: Authorization of a modification or waiver of one or more requirements of these guidelines if, in the opinion of PUBLIC HEALTH AGENCY OF CANADA, a HEALTH HAZARD or nuisance will not result from the modification or waiver.

Wading pool: RECREATIONAL WATER FACILITY with a maximum depth of less than 1 meter.

Warewashing: The cleaning and sanitizing of TABLEWARE, UTENSILS, and FOOD-CONTACT SURFACES of EQUIPMENT.

Waterborne outbreak: An OUTBREAK involving at least two people who experience a similar illness after ingesting or using water intended for drinking or after being exposed to or unintentionally ingesting or inhaling fresh or marine water used for recreational purposes and epidemiological evidence implicates the water as the source of illness. A single case of chemical poisoning or a laboratory-confirmed case of primary amebic meningoencephalitis is considered an OUTBREAK.

Whirlpool spa: A freshwater or seawater pool equipped with either water or air jets and designed to operate at a minimum temperature of 32°C (90°F) and a maximum temperature of 40°C (104°F).

Whole-muscle, intact beef: Whole-muscle beef that is not injected, MECHANICALLY TENDERIZED, reconstructed, or scored and marinated; and from which beef steaks may be cut.

3.3 Acronyms

AGE	ACUTE GASTROENTERITIS
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASSE	American Society of Safety Engineers
ASTM	American Society for Testing and Materials
C	Celsius
CDC	Centers for Disease Control and Prevention
CFR	CODE OF FEDERAL REGULATIONS
CIP	CLEAN IN PLACE
CT VALUE	CONTACT TIME VALUE
<i>E. coli</i>	<i>Escherichia coli</i>
EHO	Environmental Health Officer
EPA	U.S. Environmental Protection Agency
F	Fahrenheit
FDA	FOOD and Drug Act
GI	Gastro-intestinal Illness
HACCP	HAZARD ANALYSIS AND CRITICAL CONTROL POINTS
HVAC	heating, ventilation, and air conditioning
IPM	INTEGRATED PEST MANAGEMENT
IPS	iron pipe size
ISO	International Standards Organization
MSDS	material safety data sheets
MG/L	MILLIGRAMS PER LITER
NCEH	National Center for Environmental Health
NSF International	National Sanitation Foundation International
OPRP	OUTBREAK Prevention and Response Plan
ORP	oxidation reduction potential
PHAC	PUBLIC HEALTH AGENCY OF CANADA
PHF	POTENTIALLY HAZARDOUS FOOD
ppm	parts per million
RP ASSEMBLY	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY
RO	Reverse osmosis
RTE	READY TO EAT
RWF	RECREATIONAL WATER FACILITY
TPP	Travelling Public Program
USDA	U.S. Department of Agriculture
UV	ultraviolet light
VSP	Vessel Sanitation Program
WHO	World Health Organization

4.0 Acute Gastroenteritis (AGE) Surveillance

This section includes the following subsections:

- 4.1 Data Collection
- 4.2 Notification
- 4.3 Clinical Specimens
- 4.4 Requirements for Isolating Symptomatic and Primary Contacts of Crew and Passengers with AGE
- 4.5 Knowledge

4.1 Data Collection

4.1.1 Reportable Cases

4.1.1.1 Definition

4.1.1.1.1 Reportable Case Definition (02) (1 point)

A REPORTABLE case of AGE is only a case reported to the master of the vessel, the medical staff, or other designated staff by a passenger or a crew member and meets the definition below.

A case is defined as

- Diarrhea (three or more episodes of loose stools in a 24-hour period or what is above normal for the individual. See section 4.1.2.1.3, illness symptoms); OR
- Vomiting and one additional symptom including one or more episodes of loose stools in a 24-hour period, or abdominal cramps, or headache, or muscle aches, or fever (temperature of $\geq 38^{\circ}\text{C}$ [100.4°F]).

Nausea, although a common symptom of AGE, is specifically excluded from this definition to avoid misclassifying seasickness (nausea and vomiting) as AGE.

4.1.1.2 Onset Time (02) (1 point)

The REPORTABLE AGE CASES must include crew members with a symptom onset time of up to 3 days before boarding the vessel. Maintain documentation of the 3-day assessment for each crew member with symptoms on the vessel for review during inspections. Retain this documentation for 12 months.

4.1.1.3 Definition Purpose

Use these case definitions for identifying and classifying cases

for reporting purposes. These case definitions should not be used as criteria for clinical intervention or public health action. For many conditions of public health importance, action to contain disease should be initiated as soon as a problem is identified; in many circumstances, appropriate public health action should be undertaken even though insufficient information is available to determine whether cases meet the case definition.

4.1.2 Records

4.1.2.1 Log

4.1.2.1.1 *Responsibility (02) (1 point)*

A standardized AGE surveillance log for each cruise must be maintained daily by the master of the vessel, the medical staff, or other designated staff.

4.1.2.1.2 *Required Information (02) (1 point)*

The AGE surveillance log must list

- The name of the vessel, cruise dates, and cruise number.
- All REPORTABLE CASES of AGE.
- All passengers and crew members who are dispensed antidiarrheal medication from the master of the vessel, medical staff, or other designated staff.

4.1.2.1.3 *Log Details (02) (1 point)*

The AGE surveillance log must include a header containing the following information about the voyage:

- Vessel name.
- Voyage number.
- Date from.
- Date to.
- Total number of passengers.*
- Reportable total number of passengers ill.
- Total number of crew.*
- Reportable total number of crew ill.

*Total number of passengers and total number of crew must be the totals at the beginning of the voyage (i.e., totals on "date from").

The AGE surveillance log entry for each passenger or crew member must contain the following information in separate columns:

- Patient I.D.
- Date of the first medical visit or report to staff of illness.
- Time of the first medical visit or report to staff of illness.
- Person's last name.
- Person's first name.
- Person's age.
- Person's sex.
- Designation as passenger or crew member.
- Cabin number.
- Crew member position or job on the vessel, if applicable.
- DATE OF ILLNESS ONSET.
- TIME OF ILLNESS ONSET.
- Illness symptoms, including the presence or absence of the following selected signs and symptoms, with a separate column for each of the following:
 - Number of episodes of diarrhea in a 24-hour period.
 - Bloody stools (yes/no).
 - Number of episodes of vomiting in a 24-hour period.
 - Fever (yes/no).
 - Recorded temperature.
 - Abdominal cramps (yes/no).
 - Headaches (yes/no).
 - Myalgia (yes/no).
 - Date of last symptom.
 - Time of last symptom.
 - Entry (yes/no) for whether a specimen was requested.
 - Entry (yes/no) for whether a specimen was received.
 - Entry (yes/no) for antidiarrheal medications sold or dispensed by designated medical staff.
 - Entry (yes/no) for whether this was a REPORTABLE CASE.
 - Presence of underlying medical conditions that may affect interpretation of AGE; for example, diabetic diarrhea, inflammatory bowel disease, gastrectomy, antibiotic-induced diarrhea, vomiting from chemotherapy, ear infections in children or others. If none, write "none," "not applicable," "N/A," or similar wording. **Comments may also be added to the log in this column after the information about underlying illness.**

The AGE surveillance log must contain the above information in this exact order. The log data must be exported in the exact order with analyzable formats such as Microsoft Excel or

Microsoft Access. Any additional data fields must be entered only outside of the form margins and sent to the PUBLIC HEALTH AGENCY OF CANADA.

4.1.2.1.4 Medications Sold or Dispensed (02) (1 point)

Antidiarrheal medications must not be sold or dispensed to passengers or crew except by designated medical staff.

4.1.2.2 Questionnaires

4.1.2.2.1 Food/Beverage Questionnaire (02) (1 point)

Questionnaires detailing activities and meal locations for the 72 hours before illness onset must be distributed to all passengers and crew members who are identified as REPORTABLE CASES. At a minimum, self-administered questionnaires must contain the following data elements:

- Vessel name.
- Voyage number.
- Person's name.
- Person's age.
- Person's sex.
- Designation as a passenger or crew member.
- Cabin number.
- Total number in cabin.
- Meal seating information (seating and table number).
- DATE AND TIME OF ILLNESS ONSET.
- Other people with the same symptoms.
- Travel and boarding information prior to joining the vessel.
- Tour group information, if applicable.
- Ports went ashore prior to illness onset.
- Excursions attended.
- FOOD and BEVERAGE consumption while ashore, including drinks with ice.
- Meals and activities aboard the vessel for 72 hours before illness (breakfast, lunch, dinner, snacks).

To assist passengers and crew members with filling out the self-administered questionnaires, the following information for the most current cruise may be maintained at the medical center:

- **Menus, FOOD, and drink selections available at each venue on the vessel, from room service, and on private islands.**
- **Menus, FOOD, and drink selections available for**

- each vessel-sponsored excursion.
- Organized activities on the vessel or private islands.
- Cruise line sponsored pre-embarkation activities.

To assist memory recall for guests and crew completing the 72-hour self-administered questionnaire, an electronic listing of the above information on an interactive system available via an onboard video system can be substituted for the package in the medical center.

4.1.2.3 Retention

4.1.2.3.1 *Retention and Review (02) (1 point)*

The following records must be maintained on board for 12 months and available for review by PUBLIC HEALTH AGENCY OF CANADA during inspections and OUTBREAK investigations:

- Medical log/record.
- AGE surveillance log.
- 72-hour self-administered questionnaires.
- Interviews with cabin mates and IMMEDIATE CONTACTS of crew members with AGE (initial, 24-, and 48-hour).
- Documentation of the 3-day assessment of crew members **with AGE** symptoms before joining the vessel.
- Documentation of the date and time of last symptom and clearance to return to work for FOOD and non-food EMPLOYEES.
- Documentation of the date and time of verbal interviews with asymptomatic cabin mates and IMMEDIATE CONTACTS of symptomatic crew.

Electronic records of these documents are acceptable as long as the data are complete and can be retrieved during inspections and OUTBREAK investigations.

4.1.2.4 Confidentiality

4.1.2.4.1 *Privacy*

All personal medical information received by PHAC personnel must be protected in accordance with applicable federal law.

4.2 Notification

4.2.1 Routine Report

4.2.1.1 Routine Report Timing

4.2.1.1.1 24-Hour Report (01 C) (4 points)

The master, medical staff, or other designated staff of a vessel destined for a Canadian port from a foreign port must submit at least one standardized AGE report based on the number of REPORTABLE CASES in the AGE log to PUBLIC HEALTH AGENCY OF CANADA no less than 24 hours—but not more than 36 hours—before the vessel's expected arrival at the Canadian port.

4.2.1.1.2 4-Hour Update Report (01 C) (4 points)

If the number of cases changes after submission of the initial report, an updated report must be submitted no less than 4 hours before the vessel's arrival at the Canadian port. The 4-hour update report must be a cumulative total count of the reported crew and passengers during the entire cruise, including the additional cases.

If there is an update to the AGE surveillance log after the 4-hour report is submitted, an additional 4-hour report must be submitted only if the vessel is still more than 4 hours from arrival in the Canadian port.

If the vessel is less than 4 hours from arrival in the Canadian port, no additional 4-hour report is needed.

4.2.1.1.3 Report Submission (02) (1 point)

Submit routine 24-hour and 4-hour update reports electronically. **In lieu of electronic notification, the reports may be submitted by telephone or fax.** The vessel must maintain proof onboard that the report was successfully received by the PUBLIC HEALTH AGENCY OF CANADA.

4.2.1.2 Report Contents

4.2.1.2.1 Contents (01 C) (4 points)

The AGE report must contain the following:

- Name of the vessel.
- Port of embarkation.
- Date of embarkation.
- Port of disembarkation.

- Date of disembarkation.
- Total numbers of REPORTABLE CASES of AGE among passengers, including those who have disembarked because of illness—even if the number is 0 (zero reporting).
- Total numbers of REPORTABLE CASES of AGE among crew members, including those who have disembarked because of illness—even if the number is 0 (zero reporting).
- Total number of passengers and crew members on the cruise.

4.2.1.2.2 Cruise Length

For cruises lasting longer than 15 days before entering a Canadian port, the AGE report may include only those REPORTABLE CASES and total numbers of passengers and crew members for the 15 days before the expected arrival at a Canadian port.

4.2.2 Special Report

4.2.2.1 Special Report Timing

4.2.2.1.1 2% and 3% Illness Report (01 C) (4 points)

The master or designated corporate representative of a vessel with an international itinerary destined for a Canadian port must submit a special report at any time during a cruise, including between two Canadian ports,

- When the cumulative percentage of REPORTABLE CASES for the entire voyage entered in the AGE surveillance log reaches 2% among passengers or 2% among crew AND
- The vessel is within 15 days of expected arrival at a Canadian port.

For segmented voyages where those segments are 8 days or less, a special AGE report must be made to the PUBLIC HEALTH AGENCY OF CANADA

- When a cumulative percentage of REPORTABLE CASES of either 2% or 3% is reached among passengers or crew within one segment or two consecutive segments AND
- The vessel is within 15 days of expected arrival at a Canadian port.

The AGE surveillance log must include all segments from the

start of the voyage, unless 67% (two-thirds) or more of the passengers are disembarked in any one segment.

For cruises lasting longer than 15 days before entering a Canadian port, the 2% or 3% special AGE report must include all cases for the entire voyage.

A telephone notification to PUBLIC HEALTH AGENCY OF CANADA must accompany the special 2% report.

A second special report must be submitted when the cumulative percentage of REPORTABLE CASES entered in the AGE surveillance log reaches 3% among passengers or 3% among crew and the vessel is within 15 days of expected arrival at a Canadian port.

4.2.2.1.2 Daily Updates (01 C) (4 points)

Daily updates of illness status must be submitted as requested by the PUBLIC HEALTH AGENCY OF CANADA after the initial submission of a special report. **Daily updates may be submitted by telephone, by email, or as requested by PUBLIC HEALTH AGENCY OF CANADA.**

4.2.2.1.3 Routine Reporting Continues (01 C) (4 points)

Routine reports (24-hour and 4-hour) must continue to be submitted by the master or designated corporate representative of a vessel that has submitted a special report.

4.2.3 Report Retention

4.2.3.1 Retention

4.2.3.1.1 Retention (02) (1 point)

The 24-hour, 4-hour, and special reports must be maintained on the vessel for 12 months.

4.2.3.1.2 Review (02) (1 point)

The reports must be available for review by PUBLIC HEALTH AGENCY OF CANADA during inspections and OUTBREAK investigations.

4.3 Clinical Specimens

4.3.1 Clinical Specimen Submission

4.3.1.1 Specimen/Shipping Containers (02) (1 point)

The medical staff will be responsible for maintaining a supply of at least 10 clinical specimen collection containers for both viral and bacterial agents (10 for each), as well as a shipping container that meets the latest shipping requirements of the Transportation of Dangerous Goods Regulations.

The vessel must maintain the appropriate labels and markings required for shipping Biological Substances, Category B shipments. The vessel must maintain appropriate refrigerant materials to keep clinical specimens cool.

4.3.2 Clinical Specimen Submission Collection Procedures

4.3.2.1 When to Collect (02) (1 point)

When a vessel reaches 2% REPORTABLE AGE in either passengers or crew members, the medical staff will begin collecting clinical specimens (stool or vomitus specimens) for bacterial and/or viral analysis. If the etiologic agent is suspected to be parasitic, the medical staff should consult with PUBLIC HEALTH AGENCY OF CANADA staff for clinical specimen collection requirements.

Specimens should be requested before issuing antibiotic medications, but patient treatment should not be contingent on specimen collection.

Specimens collected after administration of antibiotic medications must not be submitted for analysis unless directed by PUBLIC HEALTH AGENCY OF CANADA.

4.3.2.2 Proper Packing (02) (1 point)

Before the specimens are PACKAGED and shipped for laboratory testing, PUBLIC HEALTH AGENCY OF CANADA will give instructions to vessel/cruise line medical staff about the specific container (i.e., bacterial or viral) for transport to a laboratory.

All clinical specimens must be packed and shipped in accordance with applicable guidelines. The specimen packaging must include the proper documentation as required by the receiving laboratory.

4.4 Requirements for Isolating Symptomatic and Primary Contacts of Crew and Passengers with Gastroenteritis

4.4.1 Crew, Staff, Officers, and Other Employees

4.4.1.1 Isolate Ill Crew

4.4.1.1.1 Symptomatic and Meeting the Case Definition for Acute Gastroenteritis (AGE) (11 C) (5 points)

FOOD HANDLING EMPLOYEES:

- Isolate in cabin or designated restricted area until symptom-free for a minimum of 48 hours.
- Follow-up with and receive approval by designated medical personnel before returning crew to work.
- Document date and time of last symptom and clearance to return to work.

The FOOD EMPLOYEE's supervisor or PERSON IN CHARGE must conduct a risk assessment of FOOD prepared or served by the FOOD EMPLOYEE while symptomatic and take appropriate corrective actions.

Corrective actions taken as a result of the risk assessment must be documented. Records must be maintained for 1 year and available for review during inspections.

- Review any AGE CASES among passengers or crew reported after the ill FOOD EMPLOYEE's symptom onset for epidemiologic link/connection.

Appropriate corrective actions could include discarding READY-TO-EAT FOOD, thoroughly cooking raw FOOD, and disinfecting the FOOD AREA and EQUIPMENT.

Non-food handling employees:

- ISOLATION in cabin or designated restricted area until symptom-free for a minimum of 24 hours.
- Follow-up with and receive approval by designated medical personnel before returning crew to work.
- Document the date and time of last symptom and clearance to return to work.

4.4.1.1.2 Hygiene and Handwashing Facts (02) (1 point)

Advise symptomatic crew of hygiene and handwashing facts and provide written handwashing and hygiene fact sheets.

4.4.1.2 Cabin Mates/Contacts (02) (1 point)

4.4.1.2.1 Asymptomatic Cabin Mates or Immediate Contacts of Symptomatic Crew

FOOD and non-food employees:

- Restrict exposure to symptomatic crew member(s).
- Undergo a verbal interview with medical or supervisory staff, who will confirm their condition, provide facts and a written fact sheet about hygiene and handwashing, and instruct them to report immediately to medical if they develop illness symptoms.
- Complete a verbal interview daily with medical or supervisory staff until 48 hours after the ill crew members' symptoms began. The first verbal interview must be conducted within 8 hours from the time the ill crew member initially reported to the medical staff. If the asymptomatic IMMEDIATE CONTACT or cabin mate is at work, he or she must be contacted by medical or supervisory staff as soon as possible. The date and time of verbal interviews must be documented.

An IMMEDIATE CONTACT is someone sharing a cabin either full-time or part-time or sharing a cabin's bathroom facilities. This includes boyfriends, girlfriends, spouses, and significant others.

If the symptomatic crew member has no cabin mate or other IMMEDIATE CONTACT, this must be documented.

4.4.2 Passengers

4.4.2.1 Isolate Ill Passengers (11 C) (5 points)

Advise symptomatic passengers and those meeting the case definition to remain isolated in their cabins until well or for a minimum of 24 hours after symptom resolution.

Follow-up by infirmity personnel is advised.

4.4.2.2 Hygiene and Handwashing Facts (02) (1 point)

Advise symptomatic passengers of hygiene and handwashing facts and provide written handwashing and hygiene fact sheets.

4.5 Acute Gastroenteritis Surveillance Knowledge

4.5.1 Demonstration of Knowledge (44) (2 points)

The supervisor or PERSON IN CHARGE of medical operations related to AGE on the vessel must demonstrate to PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of medical operations related to AGE.

The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of medical operations related to AGE on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

5.0 Potable Water

This section includes the following subsections:

- 5.1 Source
- 5.2 Bunker and Production Halogenation and pH Control
- 5.3 POTABLE WATER System
- 5.4 POTABLE WATER System Chemical Treatment
- 5.5 POTABLE WATER System HALOGEN Monitoring
- 5.6 Microbiologic Monitoring
- 5.7 Water Distribution System Protection
- 5.8 Knowledge
- 5.9 *Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations*

5.1 Source

5.1.1 Bunkering

5.1.1.1 Standards

5.1.1.1.1 Safe Source (03 C) (5 points)

DRINKING WATER bunkered from shore supplies must be from a potable source that meets World Health Organization standards for POTABLE WATER.

5.1.1.1.2 Means (03 C) (5 points)

Water must be provided:

- (a) by way of a potable water system that meets the requirements of these Regulations;
- (b) from a potable water container that meets the requirements of these Regulations; or
- (c) from a bottle of prepackaged water. (PWR subsection 4(2)).

5.1.1.1.3 Free from contamination (03 C) (5 points)

Measures are taken to ensure that water is free from contamination when it is taken from the supply. (PWR, section 6).

5.1.1.1.4 Loading of contaminated water (03 C) (5 points)

In the case of a vessel loading contaminated water for use as potable water, the water is subsequently decontaminated by:

- (a) in the case of salt water, reverse osmosis or distillation and, if necessary, any other decontamination process; and
- (b) in the case of fresh water, filtration and disinfection. (PWR, subsection 7(1)).

5.1.1.1.5 Excluded water (03 C) (5 points)

In the case of a vessel loading contaminated water for use as potable water, the vessel must be making way, and water cannot be loaded from the waters within a harbor or in a port. (PWR, subsections 7(1) & (2)).

5.1.1.2 Microbiologic Sample Reports

5.1.1.2.1 Water Report (06) (2 points)

Where available, the vessel must have a copy of the most recent microbiologic report from each port before bunkering POTABLE WATER to verify that the water meets potable standards. The date of the analysis report must be 30 days or less from the date of POTABLE WATER bunkering and must include an analysis for *Escherichia coli* at a minimum.

5.1.1.2.2 Onboard Test (06) (2 points)

Water samples collected and analyzed by the vessel for the presence of *E. coli* may be substituted for the microbiologic report from each port water system.

Samples must be analyzed using a method accepted in Standard Methods for the Examination of Water and Wastewater or international Environmental Protection Agency (EPA) APPROVED equivalent. Test kits, incubators, and associated EQUIPMENT must be operated and maintained in accordance with the manufacturers' specifications. If a vessel bunkers POTABLE WATER from the same port more than once per month, only one test per month is required.

5.1.1.2.3 Review (06) (2 points)

These records must be maintained on the vessel for 12 months and must be available for review during inspections.

5.1.2 Water Production

5.1.2.1 Location

5.1.2.1.1 Polluted Harbors (03 C) (5 points)

A reverse osmosis unit, distillation plant, or other process that supplies water to the vessel's POTABLE WATER system must only operate while the vessel is MAKING WAY. These processes must not operate in polluted areas, HARBOURS, or at anchor.

5.1.2.1.2 Technical Water

A reverse osmosis unit or evaporator with a completely

separate plant/process, piping system, and connections from the POTABLE WATER system may be used to produce TECHNICAL WATER while in polluted areas, HARBORS, at anchor, or while not MAKING WAY.

5.1.2.1.3 Onboard Water Sources (03C) (5 points)

Onboard water sources such as TECHNICAL WATER, air conditioning condensate, or wastewater of any kind (treated or untreated) are not allowed for POTABLE WATER production.

5.2 Bunkering and Production Halogenation and pH Control

5.2.1 Procedures

5.2.1.1 Residual Halogen and pH

5.2.1.1.1 Halogen and pH Level (03 C) (5 points)

POTABLE WATER must be continuously halogenated to at least 2.0 MG/L (ppm) free residual HALOGEN at the time of bunkering or production with an automatic halogenation device. Adjust the pH so it does not exceed 7.8.

The amount of HALOGEN injected during bunkering or production must be controlled by a flow meter or a free HALOGEN analyzer.

5.2.1.1.2 Within 30 Minutes (08) (1 point)

The free HALOGEN residual level must be adjusted to at least 2.0 MG/L (ppm) and the pH adjusted not to exceed 7.8 within 30 minutes of the start of the bunkering and production processes.

5.2.1.2 Monitoring

5.2.1.2.1 Bunkering Pretest (08) (1 point)

A free HALOGEN residual and pH test must be conducted on the shore-side water supply before starting the POTABLE WATER bunkering process to establish the correct HALOGEN dosage.

The results of the pretest must be recorded and available for review during inspections.

5.2.1.2.2 Bunkering/Production Test (08) (1 point)

After the free residual HALOGEN level of at least 2.0 MG/L (ppm) and pH level not exceeding 7.8 have been reached, the

free residual HALOGEN and pH monitoring must be performed at least hourly during the bunkering of POTABLE WATER.

After the free residual HALOGEN level of at least 2.0 MG/L (ppm) and pH level not exceeding 7.8 have been reached, the free residual HALOGEN and pH monitoring must be performed at least once every 4 hours during the production of POTABLE WATER.

A test kit must be available for testing free HALOGEN levels and pH.

Test kits must be accurate to within 0.2 MG/L (ppm) for HALOGEN and must have a testing range of free residual HALOGEN normally maintained in the POTABLE WATER system. Test kits for pH must be accurate to within 0.2.

5.2.1.2.3 *Records (08) (1 point)*

Accurate records of this monitoring must be maintained aboard for 12 months and must be available for review during inspections.

5.2.1.2.4 *Analyzer-Chart Recorders (06) (2 points)*

HALOGEN and pH analyzer-chart recorders used in lieu of manual tests and logs must be calibrated at the beginning of bunkering or production, and the calibration must be recorded on a chart or in a logbook.

The free residual HALOGEN and pH measured by the HALOGEN/pH analyzer must be accurate to within 0.2 mg/L (ppm) of the free residual HALOGEN and 0.2 of the pH as measured by the manual test.

Calibration is required at the beginning of bunkering or production and each time bunkering or production is restarted.

5.2.1.2.5 *Construction (06) (2 points)*

HALOGEN and pH analyzer-chart recorders used on bunker water systems must be constructed and installed according to the manufacturer's guidelines.

5.2.1.2.6 *Data Logger (06) (2 points)*

Electronic data loggers with CERTIFIED DATA SECURITY FEATURES may be used in lieu of chart recorders.

If electronic data loggers are used, written documentation from the data logger manufacturer, such as a letter or instruction manual, must be provided to verify that the features are secure.

5.2.1.2.7 Halogen Injection (08) (1 point)

Water samples for HALOGEN and pH testing must be obtained from a sample cock and/or a HALOGEN analyzer probe located on the bunker or production water line at least 3 meters (10 feet) after the HALOGEN injection point and before the storage tank.

A static mixer may be used to reduce the distance between the HALOGEN injection point and the sample cock or HALOGEN analyzer sample point. If used, the mixer must be installed per the manufacturer's recommendations. A copy of all manufacturers' literature for installation, operation, and maintenance must be maintained.

5.2.1.2.8 Tank Sample

In the event of EQUIPMENT failure, bunker or production water HALOGEN samples may also be taken from previously empty POTABLE WATER TANKS.

5.3 Potable Water System

5.3.1 Potable Water Tanks

5.3.1.1 Protection

5.3.1.1.1 Potable Water Tank Walls (07 C) (3 points)

POTABLE WATER TANKS must not share a common wall with the hull of the vessel or with tanks or piping containing non-potable water or other liquids.

5.3.1.1.2 Non-potable Piping (08) (1 point)

Piping systems carrying SEWAGE or other non-potable liquids must not pass through POTABLE WATER TANKS. Minimize the use of non-potable lines above POTABLE WATER TANKS. Non-potable lines above POTABLE WATER TANKS must not have any mechanical couplings.

For SCUPPER lines, factory assembled transition fittings for steel to plastic pipes are allowed when manufactured per American Society for Testing and Materials (ASTM) F1973 or equivalent standard.

5.3.1.1.3 Coatings (08) (1 point)

Interior coatings on POTABLE WATER TANKS must be APPROVED for POTABLE WATER contact by a certification organization. Follow all manufacturers' recommendations for application, drying, and curing.

The following must be maintained on board for the tank coatings used:

- Written documentation of approval from the certification organization (independent of the coating manufacturer).
- Manufacturers' recommendations for application, drying, and curing.
- Written documentation that the manufacturers' recommendations have been followed for application, drying, and curing.

5.3.1.1.4 Design, construction and operation (07 C) (3 points)

The potable water system is designed, constructed and operated in a manner that prevents the risk of contamination through the implementation, in particular, of measures:

- (a) to protect the system during the loading of water,
- (b) to prevent backflow,
- (c) to protect filling connections and cross connections,
- and
- (d) to protect the system from tampering. (PWR, subsection 11(1))

5.3.1.2 Tank Construction

5.3.1.2.1 Identification (08) (1 point)

POTABLE WATER TANKS must be identified with a number and the words "**POTABLE WATER**" in letters at least 13 millimeters (0.5 inch) high.

5.3.1.2.2 Sample Cocks (08) (1 point)

POTABLE WATER TANKS must have labeled, turned-down sample cocks. They must be identified and numbered with the appropriate tank number.

5.3.1.2.3 Vent / Overflow (08) (1 point)

The POTABLE WATER TANKS, vents, and overflows must be protected from CONTAMINATION.

5.3.1.2.4 Level Measurement (08) (1 point)

Any device for determining the depth of water in the

POTABLE WATER TANKS must be constructed and maintained so as to prevent contaminated substances or liquids from entering the tanks.

5.3.1.2.5 *Manual Sounding (08) (1 point)*

Manual sounding of POTABLE WATER TANKS must be performed only in emergencies and must be performed in a sanitary manner.

5.3.2 Potable Water Piping

5.3.2.1 Protection

5.3.2.1.1 *Identification (08) (1 point)*

POTABLE WATER lines must be striped or painted either in accordance with ISO 14726 (blue/green/blue) or blue only.

DISTILLATE and PERMEATE lines directed to the POTABLE WATER system must be striped or painted in accordance with ISO 14726 (blue/gray/blue).

Other lines must not have the above color designations.

These lines must be striped or painted at 5 meter (15 feet) intervals and on each side of partitions, decks, and BULKHEADS except where decor would be marred by such markings. This includes POTABLE WATER supply lines in technical lockers.

POTABLE WATER lines after REDUCED PRESSURE ASSEMBLIES must not be striped or painted as POTABLE WATER.

Striping is not required in FOOD AREAS of the vessel because only POTABLE WATER is permitted in these areas.

All refrigerant brine lines and non-potable chilled water lines in all FOOD AREAS, such as on ice machines, ice cream machines, etc., must be identified with either ISO 14726 (blue/white/blue) or by another uniquely identifiable method to prevent CROSS-CONNECTIONS.

5.3.2.1.1.1 *Identification (08) (1 point)*

The potable water system's components are readily identifiable. Each storage tank and filling connection is identified with a readily visible and legible label. (PWR,

subsection 11(2))

5.3.2.1.2 Protection (07 C) (3 points)

POTABLE WATER piping must not pass under or through tanks holding non-potable liquids.

5.3.2.1.3 Bunker Connection (08) (1 point)

The POTABLE WATER bunker filling line must begin either horizontally or pointing downward and at a point at least 460 millimeters (18 inches) above the bunker station deck.

5.3.2.1.4 Cap / Keeper Chain (08) (1 point)

The POTABLE WATER filling line must have a screw cap fastened by a NON-CORRODING cable or chain to an adjacent BULKHEAD or surface in such a manner that the cap cannot touch the deck when hanging free.

The hose connections must be unique and fit only the POTABLE WATER hoses.

5.3.2.1.5 Identification (08) (1 point)

Each bunker station POTABLE WATER filling line must be striped or painted blue or in accordance with the color designation in ISO 14726 (blue/green/blue) and clearly labeled “**POTABLE WATER FILLING**” in letters at least 13 millimeters (0.5 inch) high, stamped on a noncorrosive label plate or the equivalent, and located at or near the point of the hose connection.

5.3.2.1.6 Technical Water (08) (1 point)

If used on the vessel, TECHNICAL WATER must be bunkered through separate piping using fittings incompatible for POTABLE WATER bunkering.

This does not apply to water bunkered from shore-side municipal water supply.

5.3.2.1.7 Different Piping (08) (1 point)

TECHNICAL WATER must flow through a completely different piping system.

5.3.3 Potable Water Hoses

5.3.3.1 Construction

5.3.3.1.1 Fittings (08) (1 point)

POTABLE WATER hoses must have unique fittings from all

other hose fittings on the vessel.

5.3.3.1.2 Identification (08) (1 point)

POTABLE WATER hoses must be labeled for use with the words "POTABLE WATER ONLY" in letters at least 13 millimeters (0.5 inch) high at each connecting end.

5.3.3.1.3 Construction (08) (1 point)

All hoses, fittings, and water filters used in the bunkering of POTABLE WATER must be constructed of safe, EASILY CLEANABLE materials APPROVED for POTABLE WATER use and must be maintained in good repair.

5.3.3.1.4 Other Equipment (08) (1 point)

Other EQUIPMENT and tools used in the bunkering of POTABLE WATER must be constructed of safe, EASILY CLEANABLE materials, dedicated solely for POTABLE WATER use, and maintained in good repair.

5.3.3.1.5 Locker Construction (08) (1 point)

POTABLE WATER hose lockers must be constructed of SMOOTH, nontoxic, corrosion resistant, EASILY CLEANABLE material and must be maintained in good repair.

5.3.3.1.6 Locker Identification (08) (1 point)

POTABLE WATER hose lockers must be labeled "POTABLE WATER HOSE AND FITTING STORAGE" in letters at least 13 millimeters (0.5 inch) high.

5.3.3.1.7 Locker Height (08) (1 point)

POTABLE WATER hose lockers must be mounted at least 460 millimeters (18 inches) above the deck and must be self-draining.

5.3.3.1.8 Locker Closed (08) (1 point)

Locker doors must be closed when not in use.

5.3.3.1.9 Locker Restriction (08) (1 point)

The locker must not be used for any other purpose than storing POTABLE WATER EQUIPMENT such as hoses, fittings, sanitizing buckets, SANITIZER solution, etc.

5.3.3.2 Handling

5.3.3.2.1 Limit Use (08) (1 point)

POTABLE WATER hoses must not be used for any other

purpose.

5.3.3.2.2 Handling (08) (1 point)

All hoses, fittings, water filters, buckets, EQUIPMENT, and tools used for connection with the bunkering of POTABLE WATER must be handled and stored in a sanitary manner.

5.3.3.2.3 Contamination Prevention (08) (1 point)

POTABLE WATER hoses must be handled with care to prevent CONTAMINATION from dragging their ends on the ground, pier, or deck surfaces, or from dropping the hose into contaminated water, such as on the pier or in the HARBOR.

5.3.3.2.4 Flush/Drain (08) (1 point)

POTABLE WATER hoses must be flushed with POTABLE WATER before being used and must be drained after each use.

5.3.3.2.5 Storage (08) (1 point)

POTABLE WATER hoses must be rolled tight with the ends capped, on reels or on racks or with ends coupled together, and stowed in POTABLE WATER hose lockers.

5.3.4 Potable Water System Contamination

5.3.4.1 Cleaning and Disinfection

5.3.4.1.1 Disinfecting (07 C) (3 points)

POTABLE WATER TANKS and all affected parts of the POTABLE WATER distribution system (*included backflow devices, new potable water hoses, etc.*) must be cleaned, disinfected, and flushed with POTABLE WATER:

- Before being placed in service;
- Before returning to operation after repair, replacement; or
- After being subjected to any CONTAMINATION, including entry into a POTABLE WATER tank.

During dry docks and wet docks, if any work is done to the POTABLE WATER distribution system and piping system that affects a POTABLE WATER TANK(s), the affected POTABLE WATER TANK(s) must be cleaned and disinfected.

Emergency procedures can be followed in required.

5.3.4.1.1.1 Disinfection and flushing (07 C) (3 points)

The potable water system is disinfected and flushed:

- routinely as per the frequencies set out in the Schedule to the PWR and aligned with the operator's routine sampling frequency;
- before it is placed in service or before it is returned to service after the conveyance has been taken out of service for the season; and
- before the system is returned to service after an activity, such as repair or cleaning, that might lead to contamination of the water in the system.

If an isolated part of the system is repaired or cleaned, only that part of the system is required to be disinfected and flushed before it is returned to service. (PWR, subsection 14(2))

5.3.4.1.2 Inspection (08) (1 point)

POTABLE WATER TANKS must be inspected, cleaned, and disinfected **at least** every 2 years.

5.3.4.1.3 Record Retention (08) (1 point)

Documentation of all inspections, maintenance, cleaning, and DISINFECTION must be maintained for 12 months and must be available for review during inspections.

Records must include method of DISINFECTION, concentration and contact time of the DISINFECTANT, and a recorded HALOGEN value of less than or equal to 5 ppm before the tank is put back into service.

5.3.4.1.4 Disinfection Residual (07 C) (3 points)

DISINFECTION after potential CONTAMINATION must be accomplished by increasing the free residual HALOGEN to at least 50 MG/L (ppm) throughout the affected area and maintaining this concentration for 4 hours or by way of another procedure submitted to and accepted by PUBLIC HEALTH AGENCY OF CANADA.

In an emergency, this contact time may be shortened to 1 hour by increasing free residual HALOGEN to at least 200 MG/L (ppm) throughout the affected area.

5.3.4.1.5 Documentation (08) (1 point)

The free HALOGEN residual level must be documented.

5.3.4.1.6 Flush (08) (1 point)

The disinfected parts of the system must be flushed with

POTABLE WATER or otherwise dechlorinated until the free residual HALOGEN is ≤ 5.00 MG/L (ppm). The free HALOGEN test result must be documented.

5.3.5 Potable Water Tank Disinfection Methods

5.3.5.1 Method for Disinfecting Filled Tanks (08) (1 point)

DISINFECTION must be accomplished by increasing the free residual HALOGEN to at least 50 MG/L (ppm) throughout the tank and maintaining it for 4 hours. Maintain a pH value of 7.8 or less. The DISINFECTION concentration and contact time must be documented.

Verify that the free residual HALOGEN level is ≤ 5.0 MG/L (ppm) and document the measured level before placing the tank back into service.

5.3.5.2 Method for Disinfecting Empty Tanks (08) (1 point)

The empty tank cleaning and DISINFECTION procedure is **only** APPROVED for routine cleaning and DISINFECTION. It is **not** APPROVED for known or suspected contaminated tanks.

1. Remove (strip) all water from the tank.
2. Clean all tank surfaces, including filling lines, with an appropriate detergent.
3. Rinse all surfaces of the tank thoroughly with POTABLE WATER.
4. Remove (strip) the rinse water from the tank.
5. Wet all surfaces of the tank with at least a 200-MG/L (ppm) solution of chlorine (this can be done using new, clean mops, rollers, sprayers, etc.). Ensure the tank surfaces remain wet with the chlorine solution for at least 2 hours. Check, monitor, and document the DISINFECTION concentration and contact time.
6. Refill the tank and verify the free residual HALOGEN is ≤ 5.0 MG/L (ppm) before placing the tank back into service. Document the free residual HALOGEN level.

5.4 Potable Water System Chemical Treatment

5.4.1 Chemical Injection Equipment

5.4.1.1 Construction and Installation

5.4.1.1.1 Recommended Engineering Practices (06) (2 points)

All distribution water system chemical injection EQUIPMENT must be constructed and installed in accordance with recommended engineering practices.

5.4.1.2 Operation

5.4.1.2.1 Halogen Residual (04 C) (5 points)

The halogenation injection EQUIPMENT must provide continuous halogenation of the POTABLE WATER distribution system and must maintain a free residual HALOGEN of ≥ 0.2 MG/L (ppm) and ≤ 5.0 MG/L (ppm) throughout the distribution system.

5.4.1.2.2 Controlled (08) (1 point)

The amount of chemicals injected into the POTABLE WATER system must be analyzer controlled.

5.4.1.2.3 Halogen Backup Pump (06) (2 points)

At least one backup HALOGEN pump must be installed with an active, automatic switchover feature to maintain the free residual HALOGEN in the event that the primary pump fails, an increase in demand occurs, or the low chlorine alarm sounds.

5.4.1.2.4 Chemical Injection Dosing Point (06) (2 points)

A check valve or nonreturn valve must be installed between the distribution halogen and pH pumps and the injection points. In addition,

- The potable water distribution halogenation and pH chemical injection dosing points must be located on the delivery line downstream of the potable water pumps, OR
- If the injection dosing point is before the potable water pumps, it must be located above the chemical dosing tanks.

5.5 Potable Water System Halogen Monitoring

5.5.1 Halogen Analyzer-Chart Recorder

5.5.1.1 Installation

5.5.1.1.1 Distant Point (06) (2 points)

A HALOGEN analyzer-chart recorder must be installed at a distant point in the POTABLE WATER distribution system where a significant water flow exists and represents the entire distribution system. In cases where multiple distribution loops exist and no pipes connect the loops, there must be an analyzer and chart recorder for each loop.

5.5.1.1.2 Data Logger (06) (2 points)

Electronic data loggers with CERTIFIED DATA SECURITY FEATURES may be used in lieu of chart recorders.

If used, written documentation from the data logger manufacturer, such as a letter or instruction manual, must be provided to verify that the features are secure.

5.5.1.2 Operation

5.5.1.2.1 Maintenance (06) (2 points)

The HALOGEN analyzer-chart recorder must be properly maintained and must be operated in accordance with the manufacturer's instructions.

A manual comparison test must be conducted daily to verify calibration. Calibration must be made whenever the manual test value is >0.2 MG/L (ppm) higher or lower than the analyzer reading.

5.5.1.2.2 Calibration (06) (2 points)

The daily manual comparison test or calibration must be recorded either on the recorder chart or in a log.

5.5.1.2.3 Accuracy (05) (2 points)

The free residual HALOGEN measured by the HALOGEN analyzer must be ± 0.2 MG/L (ppm) of the free residual HALOGEN measured by the manual test.

5.5.1.2.4 Test Kit (06) (2 points)

The HALOGEN test kit used to calibrate the HALOGEN analyzer must be accurate to within 0.2 MG/L (ppm) for HALOGEN and graduated in increments no greater than 0.2 MG/L (ppm) in the range of free residual HALOGEN normally maintained in the POTABLE WATER system.

Ensure all reagents used with the test kit are not past their expiration dates.

Where available, ensure appropriate secondary standards are onboard for electronic test kits to verify test kit operation.

5.5.2 Halogen Analyzer Charts

5.5.2.1 Chart Design

5.5.2.1.1 *Range (06) (2 points)*

HALOGEN analyzer-chart recorder charts must have a range of 0.0 to 5.0 MG/L (ppm) and have a recording period of—and limited to—24 hours.

5.5.2.1.2 *Data Logger (06) (2 points)*

Electronic data loggers with CERTIFIED DATA SECURITY FEATURES used in lieu of chart recorders must produce records that conform to the principles of operation and data display required of the analog charts, including printing the records.

5.5.2.1.3 *Increments (06) (2 points)*

Electronic data logging must be in increments of ≤15 minutes.

5.5.2.2 Operation

5.5.2.2.1 *Charts (06) (2 points)*

HALOGEN analyzer-chart recorder charts must be changed, initialed, and dated daily. Charts must contain notations of any unusual events in the POTABLE WATER system.

If electronic data loggers are used in lieu of chart recorders, notations of any unusual events in the POTABLE WATER system must be recorded in a log.

5.5.2.2.2 *Retention (06) (2 points)*

HALOGEN analyzer-chart recorder charts must be retained for at least 12 months and must be available for review during inspections.

5.5.2.2.3 *Chart Review (06) (2 points)*

Records from the HALOGEN analyzer-chart recorder must verify the free residual HALOGEN of ≥0.2 MG/L (ppm) and ≤5.0 MG/L (ppm) in the water distribution system for at least 16 hours in each 24-hour period since the last inspection of the vessel.

5.5.3 Manual Halogen Monitoring

5.5.3.1 Equipment Failure

5.5.3.1.1 *Every 4 hours (06) (2 points)*

Free residual HALOGEN must be measured by a manual test kit at the HALOGEN analyzer at least every 4 hours in the event of EQUIPMENT failure.

5.5.3.1.2 *Recording (06) (2 points)*

Manual readings must be recorded on a chart or log, retained for at least 12 months, and available for review during inspections.

5.5.3.1.3 *Limit (06) (2 points)*

Repairs on malfunctioning HALOGEN analyzer-chart recorders must be completed within 10 days of EQUIPMENT failure.

5.5.3.1.4 *Alarm (06) (2 points)*

Provide an audible alarm in a continuously occupied watch station (e.g., the engine control room) to indicate low and high free HALOGEN readings at the distant point analyzer.

5.6 Microbiologic Monitoring

5.6.1 Sampling and Analysis

5.6.1.1 Methodology

5.6.1.1.1 *Samples (06) (2 points)*

A minimum of four POTABLE WATER samples per month must be collected and analyzed for the presence of *E. coli*. Samples must be collected from the forward, aft, upper, and lower decks of the vessel.

Sample sites must be changed each month ensure effectively monitoring of all of the POTABLE WATER distribution system.

Follow-up sampling must be conducted for each positive test result.

Microbiological samples from ice machines and POTABLE WATER storage tanks do not count toward the monthly routine distribution system monitoring.

5.6.1.1.2 *Analysis (06) (2 points)*

Samples must be analyzed using a method accepted in Standard Methods for the Examination of Water and Wastewater or international Environmental Protection Agency (EPA) APPROVED equivalent. Test kits, incubators, and associated EQUIPMENT must be operated and maintained in accordance with the manufacturers' specifications.

5.6.1.1.3 *Provision & Microbiological Parameters (03 C) (5 points)*

Any water that is provided for a purpose set out in section 3 of the Regulations must be potable, free from *E. coli* and in sufficient quantity for the number of passengers. (PWR, sections 4(1) & 5).

5.6.1.1.4 Routine Sampling (06) (2 points)

Routine sampling is done at the sampling sites and at the frequencies set out in the Schedule to the PWR. (PWR, subsection 12(1)).

5.6.1.1.5 Analysis (06) (2 points)

Water samples are analyzed for *E. coli* in accordance with a method set out in Part 9000 of *Standard Methods for the Examination of Water and Wastewater*. (PWR, subsection 12(2)).

5.6.1.1.6 Corrective Measures (07 C) (3 points)

If there is *E. coli* in the water in the potable water system, or there are reasonable grounds to believe that the water has become contaminated, the following corrective measures are taken:

- The use of water is discontinued immediately;
- The system is disinfected, decontaminated, repaired or replaced, as the case may be, and flushed with potable water so as to ensure that the water is free from contamination before it is used;
- The cause of the contamination is investigated;
- An assessment of the other conveyances in the operator's fleet is done to determine whether their potable water systems have been contaminated. (PWR, section 13 (& 4, 5)).

5.9.3.1.7 Water sampling after certain activities (07 C) (3 points)

Sampling is conducted from the sampling sites in the Schedule to the PWR and analyzed for the purpose of verifying that the water in the potable water system is free from contamination after:

- The potable water system is disinfected, decontaminated, repaired or replaced, as the case may be, and flushed as a result of suspected or confirmed contamination; OR
- The potable water system is disinfected and flushed before the system is placed into service for the first time or returned to service after a seasonal shut-down. (PWR, subsections 15(1) & (2)).

5.6.1.2 Records

5.6.1.2.1 *Records (06) (2 points)*

Sample results must be maintained onboard the vessel for at least 12 months and must be available for review during inspections.

5.6.1.2.2 *Accessibility (06) (2 points)*

Records that are required to be kept and retained under the PWR are readily accessible for examination by an Environmental Health Officer from the Public Health Agency of Canada. (PWR, section 23).

5.7 Water Distribution System Protection

5.7.1 Cross-connection Control

5.7.1.1 Program

5.7.1.1.1 *Cross-Connections (07 C) (3 points)*

The POTABLE WATER distribution system must be maintained free of CROSS-CONNECTIONS.

5.7.1.1.2 *Protection (07 C) (3 points)*

The POTABLE WATER system must be protected against BACKFLOW or other CONTAMINATION by BACKFLOW PREVENTION DEVICES or AIR GAPS. The PERMEATE lines and DISTILLATE lines directed toward the POTABLE WATER system must also be protected.

5.7.1.1.3 *Control/Program (08) (1 point)*

The vessel must provide a comprehensive CROSS-CONNECTION control program.

The following connections to the POTABLE WATER system must be protected against BACKFLOW (BACKSIPHONAGE or BACKFLOW) with AIR GAPS or mechanical BACKFLOW PREVENTION DEVICES:

- RWFs such as SWIMMING POOLS, CHILDREN'S/WADING POOLS, WHIRLPOOL SPAS, and similar facilities.
- Decorative water features/fountains.
- Cabin shower hoses, toilets, whirlpool tubs, and similar facilities.
- Photographic laboratory developing machines and UTILITY SINKS.

- Beauty and barber shop spray-rinse hoses.
- Spa steam generators where essential oils can be added.
- Hose-bib connections.
- Garbage grinders and FOOD WASTE SYSTEMS.
- Automatic galley hood washing systems.
- FOOD service EQUIPMENT such as coffee machines, ice machines, juice dispensers, combination ovens, and similar EQUIPMENT.
- Mechanical WAREWASHING machines.
- Detergent dispensers.
- Hospital and laundry EQUIPMENT.
- Air conditioning expansion tanks.
- Boiler feed water tanks.
- Fire system.
- Public toilets, urinals, and shower hoses.
- POTABLE WATER, bilge, and pumps that require priming.
- Freshwater or saltwater ballast systems.
- International fire and fire sprinkler water connections. An RP ASSEMBLY is the only allowable device for this connection.
- POTABLE WATER supply to automatic window washing systems that can be used with chemicals or chemical mix tanks.
- Water softeners for non-potable fresh water.
- Water softener and mineralizer drain lines including backwash drain lines. The only allowable protections for these lines are an AIR GAP or an RP ASSEMBLY.
- High saline discharge line from evaporators. The only allowable protections for these lines are an AIR GAP or an RP ASSEMBLY.
- Chemical tanks.
- Other connections between the POTABLE WATER system and a non-potable water system such as the GRAY WATER system, laundry system, or TECHNICAL WATER system. The only allowable forms of protection for these connections are an AIR GAP or an RP ASSEMBLY.
- BLACK WATER or combined GRAY WATER/BLACK WATER systems. An AIR GAP is the only allowable protection for these connections.
- Any other connection to the POTABLE WATER system where CONTAMINATION or BACKFLOW can occur.
- Hi-Fog or similar suppression systems connected to

POTABLE WATER TANKS.

5.7.1.1.4 **Log (08) (1 point)**

A CROSS-CONNECTION control program must include, at a minimum, a complete listing of CROSS-CONNECTIONS and the BACKFLOW prevention method or device for each so there is a match to the PLUMBING SYSTEM component and location. AIR GAPS must be included in the listing.

AIR GAPS on faucet taps do not need to be included on the CROSS-CONNECTION control program listing.

The program must set a schedule for inspection frequency. **Repeat devices such as toilets may be grouped under a single device type.**

A log documenting the inspection and maintenance in written or electronic form must be maintained and be available for review during inspections.

5.7.1.2 **Device Installation**

5.7.1.2.1 **Air Gaps and Backflow Prevention Devices (08) (1 point)**

AIR GAPS should be used where feasible and where water under pressure is not required.

BACKFLOW PREVENTION DEVICES must be installed when AIR GAPS are impractical or when water under pressure is required. **Provide an AIR GAP for the atmospheric vent of all BACKFLOW PREVENTION DEVICES.**

A mechanical BACKFLOW PREVENTION DEVICE must have an atmospheric vent.

5.7.1.2.2 **2X Diameter (08) (1 point)**

AIR GAPS must be at least twice the diameter of the delivery fixture opening and a minimum of 25 millimeters (1 inch).

5.7.1.2.3 **Flood-Level Rim (08) (1 point)**

An ATMOSPHERIC VACUUM BREAKER must be installed at least 150 millimeters (6 inches) above the flood-level rim of the fixtures.

5.7.1.2.4 **After Valve (08) (1 point)**

An ATMOSPHERIC VACUUM BREAKER must be installed only in the supply line on the discharge side of the last control

valve.

5.7.1.2.5 Continuous Pressure (08) (1 point)

A CONTINUOUS PRESSURE-type BACKFLOW PREVENTION DEVICE must be installed when a valve is located downstream from the BACKFLOW PREVENTION DEVICE.

5.7.1.2.6 Backflow Prevention Devices (08) (1 point)

BACKFLOW PREVENTION DEVICES must be provided on all fixtures using POTABLE WATER and that have submerged inlets.

5.7.1.2.7 Vacuum Toilets (08) (1 point)

An ATMOSPHERIC VACUUM BREAKER must be installed on a POTABLE WATER supply connected to a vacuum toilet system. An ATMOSPHERIC VACUUM BREAKER must be located on the discharge side of the last control valve (flushing device).

5.7.1.2.8 Diversion Valves (08) (1 point)

Lines to divert POTABLE WATER to other systems by valves or interchangeable pipe fittings must have an AIR GAP after the valve.

5.7.1.2.9 Location (08) (1 point)

BACKFLOW PREVENTION DEVICES and AIR GAPS must be ACCESSIBLE for inspection, testing, service, and maintenance. If access panels are required, provide panels large enough for testing, service, and maintenance.

5.7.1.3 Air Supply Connections

5.7.1.3.1 Air Supply (08) (1 point)

A compressed air system that supplies pressurized air to both non-potable and POTABLE WATER pneumatic tanks must be connected through a press-on (manual) air valve or hose.

5.7.1.3.2 Separate Compressor

A fixed connection may be used when the air supply is from a separate compressor used exclusively for POTABLE WATER pneumatic tanks.

5.7.2 Backflow Prevention Device Inspection and Testing

5.7.2.1 Maintenance

5.7.2.1.1 *Maintained (08) (1 point)*

BACKFLOW PREVENTION DEVICES must be maintained in good repair.

5.7.2.2 Inspection and Service

5.7.2.2.1 *Schedule (08) (1 point)*

BACKFLOW PREVENTION DEVICES should be periodically inspected and any failed units must be replaced.

A visual check must be completed for all non-testable BACKFLOW PREVENTION DEVICES and AIR GAPS at least annually.

5.7.2.2.2 *Test Annually (08) (1 point)*

BACKFLOW PREVENTION DEVICES requiring testing (e.g., reduced pressure BACKFLOW PREVENTION DEVICES and PRESSURE VACUUM BREAKERS) must be inspected and tested with a test kit after installation and at least annually. Test results showing the pressure differences on both sides of the valves must be maintained for each device.

5.7.2.2.3 *Records (08) (1 point)*

The visual inspection and / or test results for BACKFLOW PREVENTION DEVICES and AIR GAPS must be retained for at least 12 months and must be available for review during inspections.

5.8 Potable Water Knowledge

5.8.1 *Demonstration of Knowledge (44) (2 points)*

The supervisor or PERSON IN CHARGE of POTABLE WATER operations on the vessel must demonstrate to PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of POTABLE WATER operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of POTABLE WATER operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

5.9 Potable Water on Board Trains, Vessels, Aircraft and Buses Regulations

5.9.1 Records

5.9.1.1 General requirements

5.9.1.1.1 Routine sampling (06) (2 points)

Routine sampling for *E. coli* is recorded and includes the following:

- the identity of the conveyance;
- the sampling sites and location of the taps;
- the date and time when each sample was taken; and
- the results of the analysis. (PWR, subsection 19(1)).

5.9.1.1.2 Routine disinfection and flushing (06) (2 points)

Routine disinfection and flushing of on board potable water systems is recorded and includes the following:

- the identity of the conveyance;
- the date and time when routine disinfection and flushing was conducted. (PWR, subsection 19(2)).

5.9.1.1.3 Retention period (08) (1 points)

All records are retained for 12 months:

- after the day on which the sample is taken or until the next sample is taken; and
- after the day on which the disinfection and flushing is completed. (PWR, subsections 19(3)&(4)).

5.9.1.1.4 Activities relating to contamination (06) (2 points)

All non-routine instances when an on board potable water system is disinfected, decontaminated, flushed, repaired or replaced are recorded. Records include:

- the conveyance affected;
- the activity completed (e.g disinfection and flushing, repair, replacement, decontamination);
- the date and time when the activities are completed;
- the reason for the activity (e.g., water sampling results indicated contamination; suspected contamination; before conveyance is placed into service; conveyance is returned to service at the start of a season; the conveyance is being returned to service after repair, cleaning or another activity that might have contaminated it). (PWR, section 20(1)).

5.9.1.1.5 Sampling (06) (2 points)

All results of water analyses completed to verify that water in the on board potable water system is free from contamination are recorded. Records include:

- the identity of the conveyance;
- the sampling sites and location of the taps;

- the date and time when each sample was taken;

The type of analysis conducted

- the parameter/s being analysed;
- the results of the analysis;
- the reason for sampling (e.g. before potable water system placed into service for the first time or returned to service at the start of a season; following measures such as disinfection, decontamination or repair to remove contamination).

(PWR, subsection 20(2)).

5.9.1.1.6 Retention period (08) (1 point)

All records are retained for 12 months after the day on which the potable water system is disinfected, decontaminated, flushed, repaired or replaced, or after the day on which the related sample is taken. (PWR, subsection 20(3)).

5.9.1.1.7 Corrective measures and Retention period (06) (2 points)

All corrective measure(s) taken in respect of the results of a regulatory inspection or an analysis of a water sample taken during an inspection are recorded. The record identifies the conveyance and provides a description of the measure taken and the date on which it is taken. It is retained for 12 months after the day on which the corrective measure is completed. (PWR, subsections 21(1) & (2)).

5.9.1.1.8 Investigation (06) (2 points)

Details of all investigations into the cause of contamination and of assessments of possible contamination on other conveyances in the fleet are recorded. Records include:

- the steps taken in the course of the investigation;
- the steps taken in the course of the assessment of other conveyances in the operator's fleet;
- the results obtained from the investigation and assessment;
- a description of any corrective measure taken; and
- the date on which the corrective measure is completed.

(PWR, subsection 22(1)).

5.9.1.1.9 Retention period (08) (1 point)

All records are retained for 12 months after the day on which the corrective measure is completed or, if no corrective measure is taken, the day on which the results of the investigation and the assessment are known (PWR, subsection 22(2)).

6.0 Recreational Water Facilities (RWFs)

This section includes the following subsections:

- 6.1 RWFs
- 6.2 Flow-Through Seawater RWFs
- 6.3 Recirculating RWFs
- 6.4 WHIRLPOOL SPAS and SPA POOLS
- 6.5 Maintenance and Operating Standards for Combined Facilities
- 6.6 Private Cabin Operations
- 6.7 Individual Hydrotherapy Pools
- 6.8 Safety
- 6.9 Restrictions
- 6.10 Knowledge

6.1 RWFs

6.1.1 Source

6.1.1.1 Potable Water or Seawater (09 C) (3 points)

The water source for all RWFs must be POTABLE WATER or RECREATIONAL SEAWATER.

6.1.2 Maintenance

6.1.2.1 Management (10) (2 points)

RWFs must be kept clean of debris, organic materials, and slime/biofilm in ACCESSIBLE areas in the water and on surfaces.

It is recommended to conduct periodic biofilm management in WHIRLPOOL SPAS, SPA POOLS, and interactive RWFs.

6.2 Flow-Through Seawater RWFs

6.2.1 Operation

6.2.1.1 At Sea

6.2.1.1.1 12 miles (10) (2 points)

Flow-through seawater supply systems for RWFs must be used only while the vessel is MAKING WAY and at sea beyond 20 kilometers (12 miles) from nearest land.

6.2.1.2 In Port

6.2.1.2.1 Drained or Switched to Recirculation (10) (2 points)

Before arriving to a port or HARBOR, the RWF must be drained before the vessel reaches the 20-kilometer (12-mile)

mark or any point of land-based discharge as detailed in section 6.2.1.1.1 and it must remain empty while in port or at anchor.

OR

The RECREATIONAL SEAWATER filling system must be shut off 20 kilometers (12 miles) before reaching the nearest land or land-based discharge point, and a recirculation system must be used with appropriate filtration and halogenation systems.

6.2.1.2.2 Halogen and pH (09 C) (3 points)

When switching from flow-through operations to recirculation operations, the RWF must be closed until the free residual HALOGEN and pH levels are within the acceptable limits of this manual. The sample must be taken from the body of the RWF, not from the pump room.

While the RWF is closed, batch HALOGEN and pH control chemicals may be used to obtain ADEQUATE free HALOGEN residuals and pH levels in a more-timely manner. Sufficient time should be allowed before opening the RWF for use to ensure proper mixing of batch chemicals.

6.3 Recirculating RWFs

(See individual sections for additional requirements for whirlpools and SPA POOLS.)

6.3.1 Operation

6.3.1.1 Fill Level and Turnover Rates (10) (2 points)

For RWF with skim gutters, the fill level of the RWF must be to the skim gutter level.

TURNOVER rates: Recirculation systems and EQUIPMENT, including chemical control EQUIPMENT, UV DISINFECTION systems, filters, and pumps, must be designed to maintain ADEQUATE water chemistry control while operating at the following TURNOVER rates:

RECREATIONAL WATER FACILITY	TURNOVER Rate
SWIMMING POOL (VSP2005 Construction Guidelines or earlier)	6 hours
SWIMMING POOL (VSP2011 Construction Guidelines or later)	4 hours

RECREATIONAL WATER FACILITY	TURNOVER Rate
CHILDREN'S POOL	0.5 hours
WADING POOL	1 hours
WHIRLPOOL SPA	0.5 hours
SPA POOL	2 hours
INTERACTIVE RWF or ACTIVITY POOL (<610 millimeters [24 inches] deep)	1 hours
INTERACTIVE RWF or ACTIVITY POOL (>610 millimeters [24 inches] deep)	2 hours
BABY-ONLY WATER FACILITY	0.5 hours

SPA POOLS that were constructed before June 1, 2005, and were originally considered SWIMMING POOLS may have a TURNOVER rate not to exceed 6 hours in a 24-hour period. This does not apply to SWIMMING POOLS that have been converted to SPA POOLS.

An RWF slide combined with a pool must have a TURNOVER rate that matches the rate for the pool.

Use flow rates from flow meters to calculate TURNOVER rates. Do not use the manufacturer's pump rate to calculate TURNOVER rates.

The pool in "An RWF slide combined with a pool must have a TURNOVER rate that matches the rate for the pool" refers to either WADING or SWIMMING POOLS but not to CHILDREN'S POOLS. In addition, the water for the slide must come directly from the basin of the pool and return directly to the basin of the pool.

For facilities that meet the definition of more than one type of RWF, the more protective TURNOVER rate applies. For example, if a CHILDREN'S POOL also has features of an interactive RWF or ACTIVITY POOL, the TURNOVER rate must be 0.5 hours. The only exception is that when a slide is combined with a pool, the TURNOVER rate for the combined system may match the rate for the pool. However, if a pool and slide combination is also combined with another facility, the most protective TURNOVER rate applies. Finally, if a facility is modified, the most protective TURNOVER rate applies.

6.3.1.2 Filtration Systems

6.3.1.2.1 *Filtered (10) (2 points)*

Recirculated RWF water must be filtered.

6.3.1.2.2 Filter Backwash and Cleaning (10) (2 points)

Filter pressure differentials must be monitored. Granular filter media must be backwashed until the water viewed through a sight glass runs clear and at the following frequency:

- WHIRLPOOL SPA and SPA POOL: every 72 hours, or sooner if the WHIRLPOOL SPA is drained.
- BABY-ONLY WATER FACILITY: daily.
- All other RWFs: at a frequency recommended by the manufacturer.

For automatic backwashing systems, an individual must be present in the filter room to ensure that backwashing is repeated as necessary until the water runs clear.

Cartridge filters must be cleaned according to the manufacturer's recommendations.

A written or electronic record of the filter backwashing and cleaning must be available for review during inspections.

6.3.1.2.3 Granular Filter Inspection, Core Sample Test, and Filter Change (10) (2 points)

Granular filter media must be examined for channels, mounds, or holes. A core sample of the filter media must be inspected for excessive organic material accumulation using a recommended sedimentation method.

Inspections and sedimentation tests must be conducted quarterly for all RWFs.

Inspection method:

Drain the water from the filter housing and inspect the granular filter for channels, mounds, or holes.

Core sample method:

1. **After inspection, take a sand sample from the filter core and place it in a clear container. A core sample can be taken by inserting a rigid hollow tube or pipe into the filter media.**
2. **Add clean water to the container, cover, and shake.**
3. **Allow the container to rest undisturbed for 30 minutes.**
4. **Consider media replacement if after 30 minutes of settling, a measurable layer of sediment is within or on top of the filter media or fine, colored particles are suspended in the water. This**

condition can mean the organic loading may be excessive.

Granular filter media for WHIRLPOOL SPAS and SPA POOLS must be changed based on the inspection and sedimentation test results or every 12 months, whichever is more frequent. For all other RWFs, granular filter media must be changed based on the inspection and sedimentation results or per the manufacturer's recommendations, whichever is more frequent.

Results of both the filter inspection and sedimentation test must be recorded.

6.3.1.2.4 *Cartridge Filter Inspection and Filter Change (10) (2 points)*

Cartridge or canister-type filters must be inspected weekly for WHIRLPOOL SPAS and SPA POOLS. For all other RWFs, cartridge filters must be inspected every 2 weeks, or in accordance with the manufacturer's recommendation, whichever is more frequent.

The filters must be inspected for cracks, breaks, damaged components, and excessive organic accumulation. Cartridge or canister-type filters must be changed based on the inspection results, or as recommended by the manufacturer, whichever is more frequent.

At least one replacement cartridge or canister-type filter must be available.

6.3.1.2.5 *Other Filter Media (10) (2 points)*

Inspect and change filters based on the manufacturer's recommendations.

6.3.1.2.6 *Filter Housing Cleaning and Disinfection (10) (2 points)*

The filter housing must be cleaned, rinsed, and disinfected before the new filter media is placed in it. DISINFECTION must be accomplished with an appropriate HALOGEN-based DISINFECTANT. At a minimum, a 50-ppm solution for 1 minute, or equivalent CT VALUE, must be used. Records must be maintained on all inspection and cleaning procedures.

The filter housing must be cleaned, rinsed, and disinfected each time the filter media—including cartridge filter—is

changed.

6.3.1.2.7 Hair and Lint Strainer (10) (2 points)

The hair and lint strainer and hair and lint strainer housing on all RWFs must be cleaned, rinsed, and disinfected weekly.

DISINFECTION must be accomplished with an appropriate HALOGEN-based DISINFECTANT. At a minimum, a 50-ppm solution for 1 minute, or equivalent CT VALUE, must be used. Records must be maintained on all inspection and cleaning procedures.

If there is not a hair and lint strainer but there is a filter before the pump, this filter must be cleaned, rinsed, and disinfected weekly.

6.3.1.2.8 All Filters (10) (2 points)

The manufacturer's maintenance procedures and recommendations for all filters must be maintained on the vessel.

6.3.1.3 Gauges (10) (2 points)

RWF filter pressure gauges, flow meters, and valves must be replaced when they are defective.

6.3.1.4 Manuals (10) (2 points)

The operating manuals for all RWF components such as filters, pumps, halogenation and PH control systems, and UV DISINFECTION systems must be maintained in a location ACCESSIBLE to crew members responsible for the technical operation and maintenance of these facilities.

6.3.1.5 Bather Loads (10) (2 points)

Documentation must be maintained on the maximum bather load for each RWF. The maximum bather load must be based on the following factor: One person per five gallons (19 liters) per minute of recirculation flow.

Use flow rates from flow meters to calculate bather loads. Do not use the manufacturer's pump rate to calculate bather loads.

6.3.1.6 Water Quality

6.3.1.6.1 Water Chemistry (10) (2 points)

The RWF's flow rates, free and combined HALOGEN levels, pH, total alkalinity, and clarity must be monitored and

adjusted as recommended by the manufacturer to maintain optimum public health protection and water chemistry.

Evaluate bather load and make adjustments to water parameters to maintain optimum water quality.

Install flow meters to monitor flow rates. Only combined chlorine must be monitored.

Combined bromine does not need to be monitored.

“Manufacturer” refers to the RWF manufacturer and also to manufacturers of the pumps, filters, flow meters, and any other associated EQUIPMENT.

6.3.1.6.2 Fecal and Vomit Accident (10) (2 points)

A fecal and vomit accident response procedure must be available for review during inspections.

6.3.1.6.3 Record of Fecal and Vomit Accidents (10) (2 points)

A written or electronic record must be made of all accidents involving fecal material or vomit. The record must include the name of the RWF, date and time of the accident, type of accident, response steps taken, and free residual HALOGEN level and contact time reached during DISINFECTION. For a fecal accident, the record must also include whether the fecal material was formed or loose.

6.3.2 Halogenation

6.3.2.1 Residual Halogen: Halogen and pH Dosing Systems (10) (2 points)

Automated systems must be installed for HALOGEN-based DISINFECTION and pH control dosing. The amounts injected must be controlled by flow meters or free HALOGEN and pH analyzers.

When conducting manual tests, consideration should be given to the HALOGEN and pH levels in the RWF over the HALOGEN and pH readings from the pump room.

Initial chemistry balance can be achieved by manual dosing methods following events such as fecal or vomit accidents and when changing from flow-through seawater to recirculation mode.

6.3.2.1.1 Residual (09 C) (3 points)

A free residual HALOGEN in the range detailed in the table below must be maintained in recirculated RWFs.

RECREATIONAL WATER FACILITY	Free HALOGEN Residual, mg/L (ppm)
SWIMMING POOL	≥ 1.0 and ≤ 5.0
CHILDREN'S POOL	≥ 1.0 and ≤ 5.0
WADING POOL	≥ 1.0 and ≤ 5.0
INTERACTIVE RWF (ACTIVITY POOL)	≥ 2.0 and ≤ 5.0
BABY-ONLY WATER FACILITY	≥ 3.0 and ≤ 10.0 free chlorine ≥ 4.0 and ≤ 10.0 bromine
WHIRLPOOL SPA and SPA POOL	≥ 3.0 and ≤ 10.0 free chlorine ≥ 4.0 and ≤ 10.0 bromine

For facilities that meet the definition of more than one type of RWF, the more protective HALOGEN residual applies. For example, if a CHILDREN'S POOL also has features of an interactive RWF or ACTIVITY POOL, the HALOGEN range must be 2.0 to 5.0 MG/L (ppm). Finally, if a facility is modified, the most-protective HALOGEN residual applies.

6.3.2.1.2 pH (09 C) (3 points)

The pH level in all RWFs must be maintained between 7.0 and 7.8. Facilities not maintained within these HALOGEN and pH ranges must be immediately closed.

6.3.2.1.3 Maintenance (10) (2 points)

Halogenation and pH control systems must be maintained in good repair and operated in accordance with the manufacturer's recommendations.

6.3.2.1.4 Procedures for Water Sampling (10) (2 points)

Manual samples from the RWF tub must be compared to the analyzer samples in the pump (mechanical) room to assess potential water quality differences in the RWF.

Recommended manual sampling procedures—All samples should be obtained from a location with the following qualities:

- At least 18 inches (45.7 cm) below the surface of the water, and
- At water depth of between 3 and 4 feet (91.4 cm to 1.2 m) when available, and
- Between water inlets.

6.3.2.2 Residual Halogen and pH Monitoring

6.3.2.2.1 Test Kit (10) (2 points)

A test kit must be available for testing water quality parameters including free and total HALOGEN levels (chlorine and bromine, where applicable), pH, and total alkalinity.

Test kits must be accurate to within 0.2 MG/L (ppm) for HALOGEN and must have a testing range of free residual HALOGEN normally maintained in the RWF. Test kits for PH must be accurate to within 0.2.

Reagents must not be past their expiration dates.

6.3.2.2.2 Test Kit Maintenance and Verification (10) (2 points)

Where available, appropriate secondary standards must be onboard for electronic test kits to verify test kit operation.

6.3.2.2.3 Automated Free Halogen Residual and pH Testing (10) (2 points)

Install chart recorders or electronic data loggers with **CERTIFIED DATA SECURITY FEATURES** that record PH and HALOGEN measurements for each individual RWF. The sample line for the analyzer probe (monitoring) must be either directly from the RWF or on the return line from each RWF and before the compensation tank. Install appropriate sample taps for analyzer calibration.

In the event of EQUIPMENT failure, free residual HALOGEN and pH must be measured by a manual test kit at the RWF or return line at least hourly for WHIRLPOOL SPAS, SPA POOLS, CHILDREN'S POOLS, and WADING POOLS and every 4 hours for all other RWFs.

If two RWFs are combined and the water for one RWF comes from and returns to the basin of the other RWF (not the compensation tank), separate monitoring systems are not required. Monitoring is then only required on the main RWF (e.g., a slide and SWIMMING POOL). Note: During operational inspections, PUBLIC HEALTH AGENCY OF CANADA will take manual samples of both RWFs.

Manual samples from the RWF tub should be compared to the analyzer samples in the pump room to assess potential water quality differences in the RWF.

Recommended manual sampling procedures—All

samples should be obtained from a location with the following qualities:

- At least 18 inches (45.7 cm) below the surface of the water, and
- At water depth of between 3 and 4 feet (91.4 cm to 1.2 m) when available, and
- Between water inlets.

Manual readings must be recorded on a chart or log, retained for at least 12 months, and available for review during inspections.

Repairs on malfunctioning HALOGEN analyzer-chart recorders must be completed within 30 days of EQUIPMENT failure.

Provide an audible alarm in a continuously occupied watch station (e.g., the engine control room) to indicate low and high free HALOGEN and pH readings in each RWF.

6.3.2.2.4 Whirlpool and Spa Pool Probes (10) (2 points)

For WHIRLPOOL SPAS and SPA POOLS, the analyzer probes for dosing and recording systems must be capable of measuring and recording levels up to 10 MG/L (10 ppm).

6.3.2.2.5 Analyzer-Chart Recorder (10) (2 points)

The HALOGEN and PH analyzer-chart recorder must be properly maintained and operated in accordance with the manufacturer's instructions.

A manual comparison test must be conducted before opening the RWF to verify calibration for free HALOGEN residual and PH. The analyzer reading must be within 0.2 MG/L (ppm) for free HALOGEN and between pH 7.0–7.8.

For RWFs open longer than 24 hours, a manual comparison test must be conducted every 24 hours.

6.3.2.2.6 Data Logger (10) (2 points)

If an electronic data logger is used in lieu of a chart recorder, it must have CERTIFIED DATA SECURITY FEATURES.

Manual comparison tests for free HALOGEN residual and pH must be conducted before opening the RWF to verify calibration. The analyzer reading must be within 0.2 MG/L (ppm) for free HALOGEN and 0.2 for pH.

For RWFs open longer than 24 hours, a manual comparison test must be conducted every 24 hours.

Electronic data logging must be in increments of ≤ 15 minutes.

6.3.2.2.7 *Charts (10) (2 points)*

HALOGEN analyzer-chart recorder charts must be initialed, dated, and changed daily.

Strip recorder charts must be initialed and dated daily and 24-hour increments must be indicated.

Dual-scale HALOGEN analyzer-chart recorder charts used in RWFs must be able to measure the full range of HALOGEN/pH of the facility type to which the chart is installed; for example, chlorine/bromine to 10.0 MG/L (ppm) and pH 0-14 for WHIRLPOOL SPAS.

6.3.2.2.8 *Logs (10) (2 points)*

Logs and charts must contain notations outlining actions taken when the free HALOGEN residual or pH levels are outside of the acceptable ranges in this manual.

Additionally, records must include any major maintenance work on the filtration and halogenation systems and UV DISINFECTION systems.

A written or electronic log of RWF filter inspection results, granular filter sedimentation test results, backwashing frequency and length of backwashing, and date and time of water dumping must be available for review during inspections.

6.3.2.2.9 *Retention (10) (2 points)*

Logs and charts must be retained for 12 months and must be available for review during inspections.

6.4 Whirlpool Spas and Spa Pools

6.4.1 Public Operations

6.4.1.1 Filters

6.4.1.1.1 *Replacement (10) (2 points)*

At least one replacement cartridge or canister-type filter must be available.

6.4.1.2 Water Quality

6.4.1.2.1 *Changed (10) (2 points)*

The WHIRLPOOL SPA water, including compensation tank, filter housing, and associated piping, must be changed every 72 hours, provided that the system is operated continuously and that the correct water chemistry levels are maintained during that period, including daily shock halogenation.

SPA POOL water must be changed as often as necessary to maintain proper water chemistry. The water must be changed at least every 30 days.

The date and time of WHIRLPOOL SPA and SPA POOL water changes must be recorded in the log.

6.4.2 Halogenation

6.4.2.1 Residual Halogen

6.4.2.1.1 *Prolonged Maintenance (10) (2 points)*

For facilities undergoing maintenance for longer than 72 hours, the free HALOGEN residual and pH levels must be maintained or the entire system must be drained completely of all water. This includes the WHIRLPOOL SPA and SPA POOL tubs, compensation tanks, filter housings, and all associated piping and blowers.

Records must be maintained for the free HALOGEN and pH levels or the complete draining of the system.

6.4.2.1.2 *Shock Halogenation (10) (2 points)*

The free residual HALOGEN must be increased to at least 10.0 MG/L (ppm) and circulated for at least 1 hour every 24 hours.

The free residual HALOGEN must be tested at both the start and completion of shock halogenation.

The water in the entire RWF system must be superhalogenated to 10 ppm to include the WHIRLPOOL SPA/SPA POOL tub, compensation tank, filter housing, and all associated piping before starting the 1-hour timing.

HEATED ACTIVITY POOLS, including interactive RWFs, that have features that break the water surface of the RWF or

create a mist must be shock halogenated as described. This includes ACTIVITY POOLS and INTERACTIVE RWFs that can be HEATED by the sun and/or exterior temperature.

Batch halogenation of the tub and compensation tank may help in reaching the minimum 10 ppm residual quickly.

Facilities filled only with seawater are exempt from this requirement.

6.4.2.1.3 *Records (10) (2 points)*

A written or electronic record of the date and time of water dumping and shock halogenation (concentration in MG/L [ppm] at the start and completion and time) must be available for review during inspections.

6.4.2.1.4 *Retention (10) (2 points)*

Records must be retained on the vessel for 12 months.

6.5. Maintenance and Operating Standards for Combined Facilities

6.5.1 Pool with Attached Whirlpool Spa (10) (2 points)

For any pool with an attached WHIRLPOOL SPA where the water, recirculation system EQUIPMENT, or filters are shared with the spa, all elements of the WHIRLPOOL SPA standards must apply to the pool.

6.5.1.2 Fecal Accidents (10) (2 points)

For combined facilities subject to fecal accidents, fecal accident procedures must include all features of these combined facilities.

6.6 Private Cabin Operations

WHIRLPOOL SPAS similar in design and construction to public WHIRLPOOL SPAS but located for the sole use of an individual cabin or groups of cabins must comply with the public WHIRLPOOL SPA requirements if the WHIRLPOOL SPA

- Has a tub capacity of more than 4 individuals OR**
- Can be accessed without entering the cabin.**

6.6.1 Maintenance

6.6.1.1 Cleaning (10) (2 points)

Private WHIRLPOOL SPAS located in individual passenger cabins must be cleaned and disinfected, including associated recirculation systems, between occupancies or weekly, whichever is more

frequent.

DISINFECTION must be accomplished with an appropriate HALOGEN-based DISINFECTANT at 10 ppm for 60 minutes, or an equivalent CT VALUE.

6.6.1.2 Maintenance (10) (2 points)

Manufacturer's operation and maintenance instructions must be available to personnel who service the units.

6.6.1.3 Records (10) (2 points)

A record must be maintained outlining the frequency of cleaning and DISINFECTION. The record must include the type, concentration, and contact time of the DISINFECTANT.

Records must be retained on the vessel for 12 months.

6.7 Individual Hydrotherapy Pools

6.7.1 Maintenance

6.7.1.1 Cleaning (10) (2 points)

Individual hydrotherapy pools must be cleaned and disinfected, including associated recirculation systems, between customers. DISINFECTION must be accomplished with an appropriate HALOGEN-based DISINFECTANT at 10 ppm for 60 minutes, or an equivalent CT VALUE.

6.7.1.2 Maintenance (10) (2 points)

Manufacturer's operation and maintenance instructions must be available to personnel who service the units.

6.7.1.3 Records (10) (2 points)

A record must be maintained outlining the frequency of cleaning and DISINFECTION. The record must include the type, concentration, and contact time of the DISINFECTANT.

Records must be retained on the vessel for 12 months.

6.8 Safety

6.8.1 RWFs

6.8.1.1 Signs and Markings

6.8.1.1.1 General RWF Signs (10) (2 points)

Safety signs must be provided for all RWFs except BABY-ONLY WATER FACILITIES.

The signs at a minimum must include the following words:

- Do not use these facilities if you are experiencing diarrhea, vomiting, or fever.
- No children in diapers or who are not toilet trained.
- Shower before entering the facility.
- Bather load #.

Pictograms may replace words, as appropriate or available.

For children's RWF signs, include the exact wording "TAKE CHILDREN ON FREQUENT BATHROOM BREAKS" or "TAKE CHILDREN ON FREQUENT TOILET BREAKS."

It is advisable to post additional cautions and concerns on signs.

See section 6.3.1.5 for bather load calculations.

6.8.1.1.2 Depth Markers (10) (2 points)

The depth of each RWF deeper than 1 meter (3 feet) must be displayed prominently so it can be seen from the deck and in the pool. Depth markers should be labeled in both feet and meters. Additionally, depth markers must be installed for every 1-meter (3-foot) change in depth.

6.8.1.1.3 Spas (10) (2 points)

In addition to the safety sign requirements in section 6.7.1.1.1, install a sign at each WHIRLPOOL SPA and SPA POOL entrance listing precautions and risks associated with the use of these facilities. At a minimum, include cautions against use by the following:

- Individuals who are immunocompromised.
- Individuals on medication or who have underlying medical conditions such as cardiovascular disease, diabetes, or high or low blood pressure.
- Children, pregnant women, and elderly persons.

Additionally, caution against exceeding 15 minutes of use.

Those under 16 years of age are considered children for the purpose of whirlpool safety sign requirements.

It is advisable to post additional cautions and concerns on signs.

6.8.1.2 Equipment

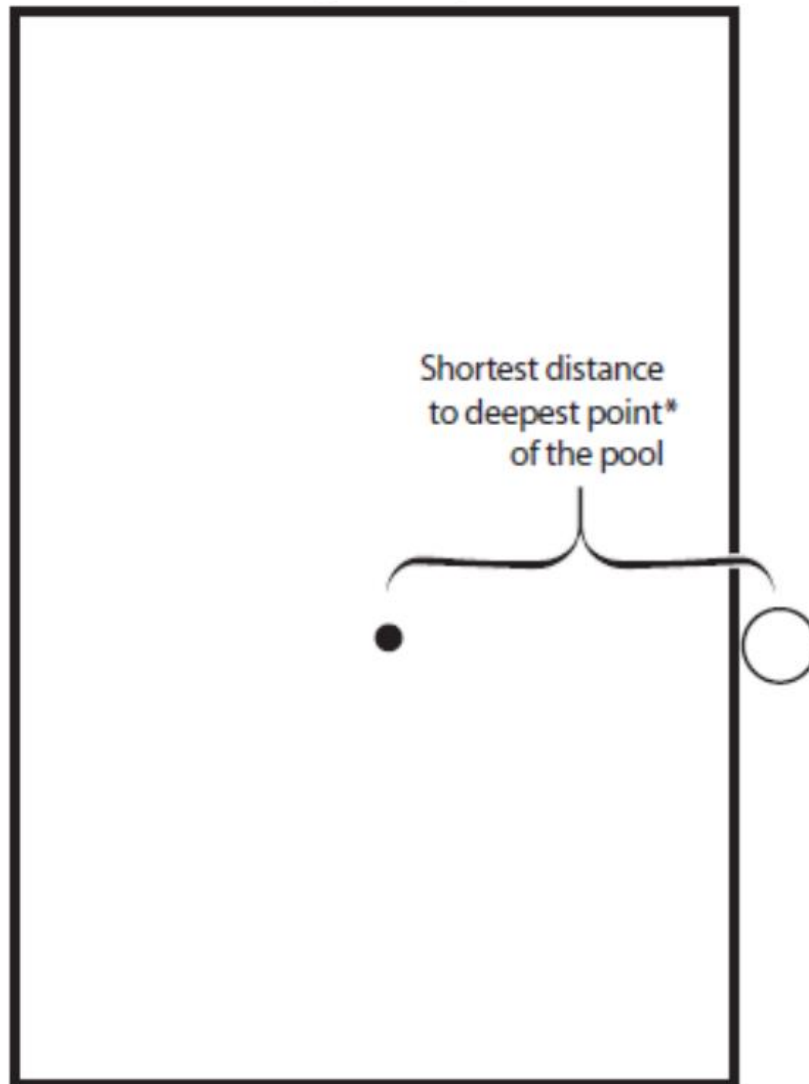
6.8.1.2.1 Life Saving (10) (2 points)

A rescue or shepherd's hook and an APPROVED flotation device must be provided at a prominent location (visible from the full perimeter of the pool) at each RWF that has a depth of 1 meter (3 feet) or greater. These devices must be mounted in a manner that allows for easy access during an emergency.

- The pole of the rescue or shepherd's hook must be long enough to reach the center of the deepest portion of the pool from the side plus 0.6 meters (2 feet). It must be a light, strong, non-telescoping material with rounded, non-sharp ends.
- The APPROVED flotation device must include an attached rope that is at least two-thirds of the maximum pool width.

The rescue or shepherd's hook must be long enough to touch the bottom center of the deepest portion of the RWF plus 2 feet (0.6 meters) as measured from the closest edge without an obstruction. This edge can only be used for measurement if someone could freely walk down both sides without an obstruction such as a waterfall, fountain, statue, etc.

For a rectangular pool, the shorter distance would be from the long side of the rectangle as long as there are no obstructions (Figure 6-1). The 2 feet (0.6 meters) is measured from where the shepherd's hook crosses the fill line of the RWF.



**This is an example of a RWF with the deepest point at one end.
The deepest portion of the RWF on your ship may be located elsewhere.*

Figure 6-1 - Shortest distance in a rectangular pool

For RWFs with a beach level, the measurement can be from the edge of the tub (Figure 6-2).

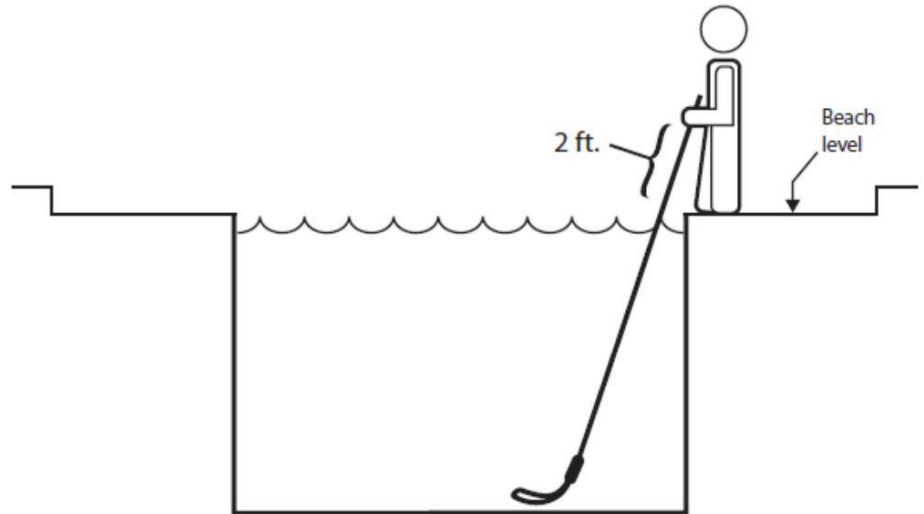


Figure 6-2 - Measurement in RWFs with a beach level

6.8.1.2.2 Antientrapment Drain (10) (2 points)

ANTIENTRAPMENT/ANTIENTANGLEMENT requirements for drain covers and SUCTION FITTINGS in RWFs are shown in Table 6.8.1.2.2. **This does not apply to facilities with zero depth where the drains are not under direct suction.**

Testing of manufactured drain covers must be by a nationally or internationally recognized testing laboratory.

The information below must be stamped on each manufactured ANTIENTRAPMENT drain cover:

- Certification standard and year.
- Type of drain use (single or multiple).
- Maximum flow rate (in gallons or liters per minute).
- Type of fitting (suction outlet).
- Life expectancy of cover.
- Mounting orientation (wall, floor, or both).
- Manufacturer's name or trademark.
- Model designation.

The design of custom/shipyard constructed (field fabricated) drain covers and SUCTION FITTINGS must be fully specified by a REGISTERED DESIGN PROFESSIONAL in accordance with ASME A112.19.8-2007. The specifications must fully address cover/grate loadings, durability, hair, finger and limb entrapment issues, cover/grate secondary layer of protection, related sump design, and features specific to the RWF.

A letter from the shipyard must accompany each

custom/shipyard constructed (field fabricated) drain cover fitting. At a minimum the letter must specify the shipyard, name of the vessel, specifications and dimensions of the drain cover, as detailed above, as well as the exact location of the RWF for which it was designed. The name of and contact information for the REGISTERED DESIGN PROFESSIONAL and signature must be on the letter.

Table 6.8.1.2.2 ANTIENTRAPMENT Requirements for Recreational Water Facilities

Option*	Drainage/Recirculation System	Cover Design	Secondary ANTIENTRAPMENT Requirement**
	GRAVITY ONLY		
1	Multiple drains (2 or more drains greater than 3 feet apart)	Standard design (not compliant with ASME A112.19.8)	Alarm
2	Multiple drains (2 or more drains greater than 3 feet apart)	ASME A112.19.8 compliant cover	None
3	Single unblockable drain (per ASME A112.19.8)	Standard design (not compliant with ASME A112.19.8)	Alarm
4	Single unblockable drain (per ASME A112.19.8)	ASME A112.19.8 compliant cover	None
5	Single BLOCKABLE drain or multiple drains (less than 3 feet apart)	ASME A112.19.8 compliant cover	GDS
	SUCTION FITTING		
6	Multiple drains (2 or more drains per pump with drains greater than 3 feet apart)	ASME A112.19.8 compliant cover	None
7	Single unblockable drain (per ASME A112.19.8-2007)	ASME A112.19.8 compliant cover	SVRS or APS
8	Single BLOCKABLE drain or multiple drains (less than 3 feet apart)	ASME A112.19.8 compliant cover	SVRS or APS

*Options 1 through 5 are for fittings not under direct suction. These include both fittings to drain the RWF and fittings used to recirculate the water. Options 6 through 8 are for fittings under direct suction. These include fittings to drain the RWF and fittings used to recirculate the water.

****Definitions:**

- Alarm: The audible alarm must sound in a continuously manned space AND at the RWF. This alarm is for all draining: accidental, routine, and emergency.
- GDS (GRAVITY DRAINAGE system): A drainage system that uses a collector tank from which the pump draws water. Water moves from the RWF to the collector tank due to atmospheric pressure, gravity, and the displacement of water by bathers. There is no direct suction at the RWF.
- SVRS (safety vacuum release system): A system that stops operation of the pump,

reverses the circulation flow, or otherwise provides a vacuum release at a suction outlet when a blockage is detected. System must be tested by an independent third party and found to conform with ASME/ANSI A112.19.17 or ASTM standard F2387.

- APS (automatic pump shut-off system): A device that detects a blockage and shuts off the pump system. A manual shut-off near the RWF does not qualify as an APS.

ASME A112.19.8-2007 has been replaced by ANSI/APSP-16 2011. ANTIENTRAPMENT protection EQUIPMENT (covers, SUCTION FITTINGS, safety vacuum release system—SVRS**, etc.) must comply with ASME A112.19.8-2007—or any successor standards—whether the EQUIPMENT is manufactured or field fabricated.

6.8.1.2.3 Temperature (10) (2 points)

A temperature-control mechanism to prevent the temperature from exceeding 40°C (104°F) must be provided on WHIRLPOOL SPAS and SPA POOLS. **The water temperature must be measured within the WHIRLPOOL SPA or SPA POOL tub itself.**

6.9 RWF Showers and Toilet Facilities

Vessels constructed or renovated to the *2017 Construction Guidelines* or later must have toilets and showers installed.

6.9.1 Temperature and Location (10) (2 points)

Showers must provide POTABLE WATER at a temperature not to exceed 43°C (110°F) during normal operations. Showers must be installed within 10 meters (33 feet) of every entry point to each RWF. For beach entry RWFs, a minimum of one showerhead must be installed per 10 meters (33 feet) of perimeter within 10 meters (33 feet) of the beach perimeter. A minimum of one shower must be installed at each water slide staircase entrance.

6.9.2 Showers for Children (10) (2 points)

RWFs designed for use by children under 6 years of age must have appropriately sized shower facilities. Standard height is acceptable, but the mechanism to operate the flow of water must not be more than 1 meter above the deck.

6.9.3 Toilet Facilities (10) (2 points)

Toilet facilities must be located within one fire zone (approximately 48 meters [157 feet]) of each RWF and on the same deck or adjacent decks if there is no obstruction between RWF area and entrances to the toilets. If toilets are not located on the same deck they must be easily visible and ACCESSIBLE from the RWF area. A minimum of two separate toilet rooms (either two unisex or one male and one female) must be installed. Each

toilet facility must include a toilet and a handwashing facility. Urinals may be installed in addition to the required toilet, but may not replace the toilet.

6.10 Restrictions

6.10.1 Diapers (10) (2 points)

Children in diapers or who are not toilet trained must be prohibited from using any RWF not specifically designed and APPROVED for use by children in diapers.

6.11 Recreational Water Facilities Knowledge

6.11.1 Demonstration of Knowledge (44) (2 points)

The supervisor or PERSON IN CHARGE of RECREATIONAL WATER FACILITIES operations on the vessel must demonstrate to PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of RWF operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of RWF operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

7.0 Food Safety

This section includes the following subsections:

- 7.1 Reserved
- 7.2 Personnel
- 7.3. FOOD
- 7.4 EQUIPMENT and UTENSILS
- 7.5 WAREWASHING
- 7.6 Poisonous and Toxic Materials
- 7.7 Facilities

7.1 Reserved

7.2 Personnel

7.2.1 Food Safety Management

7.2.1.1 Food Safety Knowledge

7.2.1.1.1 Knowledge (13 C) (3 points)

Because of the risks for foodborne illness inherent to the FOOD operation, the supervisor or PERSON IN CHARGE of FOOD operations on the vessel must demonstrate to the PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of foodborne disease prevention, application of the HAZARD ANALYSIS CRITICAL CONTROL POINT principles, and the FOOD safety guidelines in this manual. The supervisor or PERSON IN CHARGE must demonstrate this knowledge

- By compliance with these guidelines,
- By being a domestically or foreign certified FOOD protection manager who has shown proficiency of required information through passing a test that is part of an ACCREDITED PROGRAM, or
- By responding correctly to the inspector's questions as they relate to the specific FOOD operation.

The areas of knowledge must include

- Describing the relation between prevention of foodborne disease and personal hygiene of a FOOD EMPLOYEE.
- Explaining the responsibility of the supervisor or PERSON IN CHARGE to prevent TRANSMISSION of foodborne disease by a FOOD EMPLOYEE who has a disease or medical condition that may cause foodborne disease.

- Describing the symptoms associated with diseases transmissible through FOOD.
- Explaining the significance of the relation between maintaining the time and temperature of POTENTIALLY HAZARDOUS FOOD and the prevention of foodborne illness.
- Explaining the HAZARDS involved in the consumption of raw or undercooked MEAT, POULTRY, eggs, and FISH.
- Stating the required FOOD temperatures and times for safe cooking of POTENTIALLY HAZARDOUS FOOD, including MEAT, POULTRY, eggs, and FISH.
- Stating the required temperatures and times for the safe refrigerated storage, hot holding, cooling, and reheating of POTENTIALLY HAZARDOUS FOOD.
- Describing the relation between prevention of foodborne illness and management and control of the following: CROSS-CONTAMINATION, hand contact with READY-TO-EAT FOODS, handwashing, and maintaining FOOD operations in a clean condition and in good repair.
- Explaining the relation between FOOD safety and providing EQUIPMENT that is sufficient in number and capacity as well as properly designed, constructed, located, installed, operated, maintained, and cleaned.
- Explaining correct procedures for cleaning and sanitizing UTENSILS and FOOD-CONTACT SURFACES of EQUIPMENT.
- Identifying POISONOUS OR TOXIC MATERIALS on the vessel and the procedures necessary to ensure they are safely stored, dispensed, used, and disposed of according to LAW.
- Identifying critical-control points in the operation from purchasing through service that when not controlled may contribute to the TRANSMISSION of foodborne illness and explaining steps taken to ensure the points are controlled in accordance with the guidelines in this manual.

7.2.1.2 Food Safety Duties

7.2.1.2.1 *Monitoring Duties (13 C) (3 points)*

The supervisor or PERSON IN CHARGE of FOOD operations on the vessel must ensure that

- FOOD operations are not conducted in a room used as living or sleeping quarters.

- Persons unnecessary to the FOOD operation are not allowed in the FOOD PREPARATION, FOOD STORAGE, or WAREWASHING areas. **However, brief visits and tours may be authorized if steps are taken to ensure that exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; and unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES are protected from CONTAMINATION.**
- Employees and other persons such as delivery and maintenance persons and PESTICIDE applicators entering the FOOD PREPARATION, FOOD STORAGE, and WAREWASHING areas comply with the guidelines in this manual.
- FOOD EMPLOYEES are effectively cleaning their hands (by routinely monitoring the employees' handwashing).
- Employees are observing FOODS as they are received to determine that they are from APPROVED sources, delivered at the required temperatures, protected from CONTAMINATION, unadulterated, and accurately presented (by routinely monitoring the employees' observations and periodically evaluating FOODS as they are received).
- Employees are properly cooking POTENTIALLY HAZARDOUS FOOD, being particularly careful in cooking FOODS known to cause severe foodborne illness and death, such as eggs and COMMINUTED MEATS (through daily oversight of the employees' routine monitoring of the cooking temperatures using appropriate properly scaled and calibrated TEMPERATURE-MEASURING DEVICES).
- Employees are using proper methods to rapidly cool POTENTIALLY HAZARDOUS FOODS that are not held hot or are not for consumption within 4 hours (through daily oversight of the employees' routine monitoring of FOOD temperatures during cooling).
- CONSUMERS who order raw or partially cooked READY-TO-EAT FOODS of animal origin are informed that the FOOD is not cooked sufficiently to ensure its safety.
- Employees are properly sanitizing cleaned multiuse EQUIPMENT and UTENSILS before they are reused (through routine monitoring of solution temperature and exposure time for hot water sanitizing, and chemical concentration, pH, temperature, and exposure time for chemical sanitizing).

- CONSUMERS are notified that clean TABLEWARE is to be used when they return to self-service areas such as salad bars and buffets.
- Employees are preventing CROSS-CONTAMINATION of READY-TO-EAT FOOD with bare hands by properly using suitable UTENSILS such as deli tissue, spatulas, tongs, SINGLE-USE gloves, or dispensing EQUIPMENT.
- Employees are properly trained in FOOD safety, including FOOD allergy awareness, as it relates to their assigned duties.
- FOOD EMPLOYEES are informed of their responsibility to report to the supervisor or PERSON IN CHARGE information about their health and activities as they relate to diseases transmissible through FOOD.

7.2.2 Employee Health

7.2.2.1 Communicable Diseases and Symptoms

7.2.2.1.1 *Communicable Diseases (11 C) (5 points)*

FOOD EMPLOYEES suspected of, diagnosed with, or exposed to any communicable disease caused by *Salmonella typhi*, *Shigella* spp., *E. coli* O157:H7, hepatitis A virus, norovirus, or other communicable diseases that can be transmitted by FOOD, must be excluded from working in any FOOD or FOOD-related areas or operations, including working with exposed FOOD, WAREWASHING, EQUIPMENT, UTENSILS, LINENS, SINGLE-SERVICE ARTICLES, and SINGLE-USE ARTICLES. The excluded individual must not be allowed to return to the above duties until they are symptom free for a minimum of 48 hours.

7.2.2.1.2 *Other Symptoms (11 C) (5 points)*

FOOD EMPLOYEES who have conditions or symptoms of boils, open sores, infected wounds, diarrhea, jaundice, fever, vomiting, sore throat with fever, or discharges from the nose or mouth must report these conditions or symptoms to the vessel's medical staff and must be restricted from working with exposed FOOD, WAREWASHING, clean EQUIPMENT, UTENSILS, LINENS, and unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.2.2.1.3 *Sneeze/Cough (11 C) (5 points)*

FOOD EMPLOYEES experiencing persistent sneezing,

coughing, or a runny nose that causes discharges from the eyes, nose, or mouth must not work with exposed FOOD; WAREWASHING; clean EQUIPMENT, UTENSILS, and LINENS; or unwrapped SINGLE-SERVICE or SINGLE-USE ARTICLES.

7.2.2.1.4 *Restrictions Removal (11 C) (5 points)*

The restriction must not be removed until the supervisor or PERSON IN CHARGE of the FOOD operation obtains written approval from the vessel's physician or equivalent medical staff.

7.2.2.1.5 *Record of Restriction and Release (02) (1 point)*

A written or electronic record of both the work restriction and release from restriction must be maintained onboard the vessel for 12 months for inspection review.

7.2.3 Employee Cleanliness

7.2.3.1 Hands and Arms

7.2.3.1.1 *Hands and Arms Clean (12 C) (4 points)*

FOOD EMPLOYEES must keep their hands and exposed portions of their arms clean.

7.2.3.1.2 *Cleaning Procedures (12 C) (4 points)*

FOOD EMPLOYEES must clean their hands and exposed portions of their arms with a cleaning compound in a handwashing sink by vigorously rubbing together the surfaces of their lathered hands and arms for at least 20 seconds and thoroughly rinsing with clean water. Employees must pay particular attention to the areas underneath the fingernails and between the fingers.

7.2.3.1.3 *When to Wash Hands (12 C) (4 points)*

FOOD EMPLOYEES must clean their hands and exposed portions of their arms immediately before engaging in FOOD preparation, including working with exposed FOOD, clean EQUIPMENT and UTENSILS, and unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES **and**

- After touching bare human body parts other than clean hands and clean, exposed portions of arms.
- After using the toilet room.
- After coughing, sneezing, using a handkerchief or disposable tissue, using tobacco, eating, or drinking.
- After handling soiled EQUIPMENT or UTENSILS.

- During FOOD preparation (as often as necessary to remove soil and CONTAMINATION and to prevent CROSS-CONTAMINATION when changing tasks).
- When switching between working with raw FOOD and working with READY-TO-EAT FOOD.
- Before putting on gloves for working with FOOD or clean EQUIPMENT and between glove changes.
- After engaging in other activities that contaminate the hands.

7.2.3.1.4 Hand Antiseptic (14) (1 point)

A HAND ANTISEPTIC, a HAND ANTISEPTIC used as a hand dip, or a HAND ANTISEPTIC soap must comply with applicable formulation

7.2.3.1.5 Apply to Clean Hands (12 C) (4 points)

HAND ANTISEPTIC, HAND ANTISEPTIC used as a hand dip, or HAND ANTISEPTIC soap must only be applied to hands cleaned as described in section 7.2.3.1.2.

7.2.3.2 Fingernails

7.2.3.2.1 Fingernails (14) (1 point)

FOOD EMPLOYEES must keep their fingernails trimmed, filed, and maintained so the edges and surfaces are cleanable and not rough.

7.2.3.2.2 Fingernail Polish/Artificial Nails (14) (1 point)

A FOOD EMPLOYEE must not wear fingernail polish or artificial fingernails when preparing exposed FOOD.

7.2.3.3 Jewelry

7.2.3.3.1 Jewelry (14) (1 point)

While preparing FOOD, FOOD EMPLOYEES, including bartenders, must not wear jewelry on their arms and hands. **FOOD EMPLOYEES may wear a plain ring such as a SMOOTH simple wedding band.**

7.2.3.4 Food Service Uniform or Apron

7.2.3.4.1 Uniform or Apron (14) (1 point)

FOOD EMPLOYEES must wear a clean uniform or apron to prevent CONTAMINATION of FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.2.4 Hygienic Practices

7.2.4.1 Eating, Drinking, or Using Tobacco

7.2.4.1.1 Eating, Drinking, and Using Tobacco (12 C) (4 points)

An employee must not eat, drink, or use any form of tobacco 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 can occur.

7.2.5.1 Hair Restraints

7.2.5.1.1 Hair Restraints (14) (1 point)

FOOD EMPLOYEES must wear hair restraints—such as hats, hair coverings or nets, beard restraints—and clothing that covers body hair. These items must be 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.

This applies to partial beards (such as goatees) and to heavy, pronounced mustaches.

This section does not apply to FOOD EMPLOYEES such as counter staff who serve only BEVERAGES and wrapped or PACKAGED FOODS, hostesses, and wait staff if they present a minimal risk for contaminating exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; and unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.2.4.3 Toilet Room Use (14)

7.2.4.3.1 Toilet Room Use (1 point)

While in working uniforms, FOOD EMPLOYEES must not use toilet rooms designated for passenger use.

FOOD EMPLOYEES at bars where the only FOOD preparation includes garnish slicing in the pantry and drink making in the pantry and bar are excluded.

7.3 Food

7.3.1 Food Condition

7.3.1.1 Safe and Unadulterated

7.3.1.1.1 Sound Condition (15 C) (5 points)

FOOD must be safe and unadulterated.

7.3.2 Food Sources

7.3.2.1 Lawful Sourcing

7.3.2.1.1 Comply with Law (15 C) (5 points)

FOOD must be obtained from sources that comply with applicable local, provincial, federal, or country of origin's statutes, regulations, and ordinances.

7.3.2.1.2 Food from Private Home (15 C) (5 points)

FOOD prepared in a private home must not be used or offered for human consumption on a vessel.

7.3.2.1.3 Fish for Undercooked Consumption

FISH—other than MOLLUSCAN SHELLFISH—intended for consumption in their raw form may be served if they are obtained from a supplier that freezes the FISH to destroy parasites or if they are frozen on the vessel and records are retained.

7.3.2.1.4 Steaks (15 C) (5 points)

WHOLE-MUSCLE, INTACT BEEF steaks intended for consumption in an undercooked form without a CONSUMER advisory must be

- Obtained from a FOOD-PROCESSING PLANT that packages the steaks and labels them to indicate they meet the definition of WHOLE-MUSCLE, INTACT BEEF; **or**
- Cut individually on a vessel from WHOLE-MUSCLE, INTACT BEEF labeled by a FOOD-PROCESSING PLANT to indicate the beef meets the definition of WHOLE-MUSCLE, INTACT BEEF, and prepared so they remain intact.

7.3.2.1.5 Hermetically Sealed Container (15 C) (5 points)

FOOD in a HERMETICALLY SEALED CONTAINER must be obtained from a FOOD-PROCESSING PLANT regulated by the FOOD regulatory agency that has jurisdiction over the plant.

7.3.2.1.6 Milk (15 C) (5 points)

Fluid milk and milk products by U.S. suppliers must be obtained from sources that comply with GRADE A

STANDARDS as specified in LAW. Milk received in interstate commerce must be from sources listed in the FDA Interstate Milk Shippers List. Non-U.S. sourced fluid milk and milk products must be obtained from sources that meet or exceed the standards of the health authorities from the source country.

7.3.2.1.7 Fish and Molluscan Shellfish Sources (15 C) (5 points)

FISH received for service must be commercially and legally caught or harvested or otherwise APPROVED for service by PUBLIC HEALTH AGENCY OF CANADA.

Recreationally caught MOLLUSCAN SHELLFISH must not be received for service.

MOLLUSCAN SHELLFISH must be obtained from sources according to LAW and the requirements specified in the FDA National Shellfish Sanitation Program *Guide for the Control of MOLLUSCAN SHELLFISH*, or equivalent standards. MOLLUSCAN SHELLFISH received in interstate commerce must be from sources listed in the FDA Interstate Certified Shellfish Shippers List or equivalent foreign certified shellfish listing.

7.3.2.1.8 Wild Mushrooms (15 C) (5 points)

Mushroom species picked in the wild must be obtained from sources where each mushroom is individually inspected and found to be safe by an APPROVED mushroom identification expert.

This requirement does not apply to

- Cultivated wild mushroom species grown, harvested, and processed in an operation regulated by the FOOD regulatory agency that has jurisdiction over the operation.
- Wild mushroom species if they are in PACKAGED form and are the product of a FOOD-PROCESSING PLANT regulated by the FOOD regulatory agency that has jurisdiction over the plant.

7.3.2.1.9 Game Animals (15 C) (5 points)

If GAME ANIMALS are received for sale or service, they must be

- Commercially raised for FOOD and raised, slaughtered, and processed under LAW; or
- Under a voluntary inspection program administered by

USDA for GAME ANIMALS such as exotic animals (reindeer, elk, deer, antelope, water buffalo, or bison) inspected and APPROVED in accordance with 9 CFR 352 (Voluntary Exotic Animal Program) or rabbits inspected and certified in accordance with 9 CFR 354 (Rabbit Inspection Program); or

- Under an equivalent regulatory program specifically for GAME ANIMALS. The packaging must also be stamped/labeled by the REGULATORY AUTHORITY.

A GAME ANIMAL must not be received for service if it is a species of wildlife listed in 50 CFR 17 Endangered and Threatened Wildlife and Plants.

7.3.2.2 Receiving Condition

7.3.2.2.1 **Receiving Temperatures (16 C) (5 points)**

Receiving temperatures must be as follows:

- Refrigerated POTENTIALLY HAZARDOUS FOOD must be at a temperature of 5°C (41°F) or below when received. **If a temperature other than 5°C (41°F) for a POTENTIALLY HAZARDOUS FOOD is specified in LAW governing its distribution, such as LAWS governing milk, MOLLUSCAN SHELLFISH, and shell eggs, the FOOD may be received at the specified temperature.**
- POTENTIALLY HAZARDOUS FOOD that is cooked and received hot must be at a temperature of 57°C (135°F) or above.
- A FOOD labeled and shipped frozen by a FOOD-PROCESSING PLANT must be received frozen.
- Upon receipt, POTENTIALLY HAZARDOUS FOOD must be free of evidence of previous temperature abuse.

7.3.2.2.2 **Food Additives (15 C) (5 points)**

FOOD must not contain unapproved FOOD ADDITIVES or ADDITIVES that exceed amounts specified in LAW, as specified in the current version of the FDA *FOOD Code*, including annexes.

7.3.2.2.3 **Shell Eggs (15 C) (5 points)**

Shell eggs must be received clean and sound and must not exceed the restricted egg tolerances specified in LAW, as specified in the current version of the FDA *FOOD Code*, including annexes.

7.3.2.2.4 Egg and Milk Products (15 C) (5 points)

Eggs and milk products must be received as follows:

- Liquid, frozen, and dry eggs and egg products must be obtained pasteurized.
- Fluid and dry milk and milk products complying with GRADE A STANDARDS as specified in LAW must be obtained pasteurized.
- Frozen milk products, such as ice cream, must be obtained pasteurized as specified in 21 CFR 135 Frozen Desserts.
- Cheese must be obtained pasteurized unless alternative procedures to pasteurization are specified in the CFR, such as 21 CFR 133 Cheeses and Related Cheese Products for curing certain cheese varieties.

7.3.2.2.5 Package Integrity (15 C) (5 points)

FOOD packages must be in good condition and protect the integrity of the contents so the FOOD is not exposed to adulteration or potential contaminants. Canned goods with dents on end or side SEAMS must not be used.

7.3.2.2.6 Ice (15 C) (5 points)

Ice for use as a FOOD or a cooling medium must be made from DRINKING WATER.

7.3.2.2.6.1 Ice supply, ice made or loaded on board (03 C) (5 points)

Ice may be made on board the conveyance or loaded on board. Ice must always be:

- made from a water supply that is free from contamination, with measures taken to ensure it is free from contamination when taken from the supplier;
- available in sufficient quantity for its intended use (i.e. contact refrigeration of food intended for passengers or for passenger beverages);
- free from *E. coli*. (PWR, sections 8, 9, 10(1)).

7.3.2.2.6.2 Loading, moving and storage (18 C) (3 points)

Measures are taken to prevent the risk of contamination of ice when it is loaded on board a conveyance, as well as when it is moved and when it is stored once it is on the conveyance. (PWR, subsection 10(2)).

7.3.2.2.6.3 Handling (18 C) (3 points)

Measures are taken to prevent the risk of contamination of ice when it is handled. For example, ice is handled with clean utensils such as an ice scoops and tongs to prevent the risk

of contamination. (PWR, subsection 10(3)).

7.3.2.2.7 Shucked Shellfish (15 C) (5 points)

Raw SHUCKED SHELLFISH must be obtained in nonreturnable packages that bear a legible label as specified in the FDA National Shellfish Sanitation Program *Guide for the Control of MOLLUSCAN SHELLFISH*.

7.3.2.2.8 Shellstock Shellfish (15 C) (5 points)

SHELLSTOCK must be obtained in containers bearing legible source identification tags or labels affixed by the harvester and by each dealer that depurates (cleanses), ships, or reships the SHELLSTOCK, as specified in the National Shellfish Sanitation Program *Guide for the Control of MOLLUSCAN SHELLFISH*.

7.3.2.2.9 Shellstock Condition (19) (2 points)

SHELLSTOCK must be reasonably free of mud, dead shellfish, and shellfish with broken shells when received by a vessel. Dead shellfish or SHELLSTOCK with badly broken shells must be discarded.

7.3.2.3 Maintaining Molluscan Shellfish Identification

7.3.2.3.1 Shucked Identification (15 C) (5 points)

Shucked MOLLUSCAN SHELLFISH must not be removed from the container in which they are received other than immediately before preparation for service.

7.3.2.3.2 Shellstock Identification (15 C) (5 points)

SHELLSTOCK shellfish tags must

- Remain attached to the container in which the SHELLSTOCK are received until the container is empty.
- Be maintained by retaining SHELLSTOCK tags or labels for 90 calendar days from the date the container is emptied by using an APPROVED record-keeping system that keeps the tags or labels in chronologic order correlated to the date when the SHELLSTOCK are served. The date when the last SHELLSTOCK from the container is served must be recorded on the tag or label.

7.3.3 Food Protection

7.3.3.1 Employee Contamination

7.3.3.1.1 Wash Hands (12 C) (4 points)

FOOD EMPLOYEES must wash their hands.

7.3.3.1.2 RTE Food – Hand Contact Prohibited (12 C) (4 points)

Except when washing fruits and vegetables or when otherwise APPROVED, FOOD EMPLOYEES must not contact exposed, READY-TO-EAT FOOD with their bare hands. They must use suitable UTENSILS such as deli tissue, spatulas, tongs, SINGLE-USE gloves, or dispensing EQUIPMENT.

7.3.3.1.3 Not RTE Food – Minimize Contact (19) (2 points)

FOOD EMPLOYEES must minimize bare hand and arm contact with exposed FOOD not in a READY-TO-EAT form.

7.3.3.1.4 Tasting (12 C) (4 points)

A FOOD EMPLOYEE must not use the same UTENSIL more than once to taste FOOD that will be served.

7.3.3.2 Food and Ingredient Contamination

7.3.3.2.1 Cross-Contamination (18 C) (3 points)

FOOD must be protected from cross-CONTAMINATION or other sources of CONTAMINATION by the following methods:

- Physically separating raw animal FOODS during storage, preparation, holding, and display from raw READY-TO-EAT FOOD (including other raw animal FOOD such as FISH for sushi or MOLLUSCAN SHELLFISH, or other raw READY-TO-EAT FOOD such as vegetables, and cooked READY-TO-EAT FOOD) so products do not physically touch and so that one product does not drip into another.
- Separating types of raw animal FOODS such as beef, FISH, lamb, pork, and POULTRY from each other—except when combined as ingredients—during storage, preparation, holding, and display by using separate EQUIPMENT for each type, or by arranging each type of FOOD in EQUIPMENT so that CROSS-CONTAMINATION of one type with another is prevented, or by preparing each type of FOOD at different times or in separate areas. **Frozen, commercially processed and PACKAGED raw animal FOOD may be stored or displayed with or above frozen, commercially processed and PACKAGED, READY-TO-EAT FOOD.**

- Cleaning and sanitizing EQUIPMENT and UTENSILS.
- Storing the FOOD in packages, covered containers, or wrappings.
- Cleaning visible soil on HERMETICALLY SEALED CONTAINERS of FOOD before opening.
- Protecting FOOD containers that are received PACKAGED together in a case or overwrapped from cuts when the case or overwrap is opened.
- Separating damaged, spoiled, or recalled FOOD being held on the vessel.
- Separating unwashed fruits and vegetables from READY-TO-EAT FOOD.

Storage exceptions: Storing the FOOD in packages, covered containers, or wrappings does not apply to

- Whole, uncut, raw fruits and vegetables and nuts in the shell that require peeling or hulling before consumption.
- PRIMAL CUTS, quarters, or sides of raw MEAT or slab bacon hung on clean, sanitized hooks or placed on clean, sanitized racks.
- Whole, uncut, processed MEATS such as country hams, and smoked or cured sausages placed on clean, sanitized racks.
- FOOD being cooled.
- SHELLSTOCK.

7.3.3.2.2 Container Identity (19) (2 points)

Containers holding FOOD or FOOD ingredients removed from their original packages for use on the vessel, such as cooking oils, flour, herbs, potato flakes, salt, spices, and sugar must be identified with the common name of the FOOD.

Containers holding FOOD that can be readily and unmistakably recognized such as dry pasta do not need to be identified.

Ingredients located at active cooking or preparation stations do not need to be identified.

7.3.3.2.3 Pasteurized Eggs (18 C)(3 points)

Pasteurized eggs or egg products must be substituted for raw shell eggs in the preparation of FOODS such as Caesar salad, hollandaise or béarnaise sauce mayonnaise, eggnog, ice cream, and egg-fortified BEVERAGES or dessert items that are not cooked.

7.3.3.2.4 Wash Fruits/Vegetables (19) (2 points)

Raw fruits and vegetables must be thoroughly rinsed in water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption in READY-TO-EAT form.

7.3.3.2.5 Vegetable Washes

Fruits and vegetables may be washed by using chemicals specified under 21 CFR 173.315 (Annex 13.12).

7.3.3.2.6 Potable Water Containers

7.3.3.2.6.1 Readily moveable & prevent contamination (03 C) (5 points)

Potable water containers must be readily moveable by one person and must be loaded, stored, moved or handled using measures that prevent the risk of contamination and that ensure the container is maintained in a sanitary condition. (PWR, subsections 16(1) & (2))

7.3.3.2.6.2 Dispensing water (18 C) (2 points)

Measures are taken to prevent the risk of contamination of water dispensed to passengers in drinking cups or from a container of 5 L or more, such as the use of single-service cups or a tap. (PWR, subsections 17(1) & (2))

7.3.3.3 Ice as Coolant

7.3.3.3.1 Ice Used as a Coolant (19) (2 points)

Ice must not be used as FOOD after use as a medium for cooling the exterior surfaces of FOOD such as melons or FISH, PACKAGED FOODS such as canned BEVERAGES, or cooling coils and tubes of EQUIPMENT.

7.3.3.3.2 Coolant (19) (2 points)

PACKAGED FOOD must not be stored in direct contact with ice or water if the FOOD is subject to the entry of water because of the nature of its packaging, wrapping, or container, or its positioning in the ice or water.

7.3.3.3.3 Undrained Ice (19) (2 points)

Except as specified in 7.3.3.3.4 through 7.3.3.3.6, unpackaged FOOD must not be stored in direct contact with undrained ice.

7.3.3.3.4 Raw Fruit/Vegetables

Whole, raw fruits or vegetables; cut, raw vegetables such as celery, carrot sticks, or cut potatoes; and tofu may be immersed in ice or water.

7.3.3.3.5 Raw Chicken/Fish

Raw chicken and raw FISH received immersed in ice in shipping containers may remain in that condition while in storage awaiting preparation, display, or service.

7.3.3.3.6 Ongoing Meal Service

Other unpackaged FOODS in a raw, cooked, or partially cooked state may be immersed in ice as part of an ongoing meal service process, such as liquid egg product, individual eggs, pasta, and reconstituted powdered mixes.

7.3.3.4 Equipment, Utensils, and Linens

7.3.3.4.1 Cleaned/Sanitized (26 C) (3 points)

FOOD must only contact surfaces of cleaned and sanitized EQUIPMENT and UTENSILS.

7.3.3.4.2 Storage During Use (19) (2 points)

During pauses in FOOD preparation or dispensing, FOOD preparation and dispensing UTENSILS must be stored in one of the following ways:

- In the FOOD with their handles above the top of the FOOD and the container.
- In FOOD that is not POTENTIALLY HAZARDOUS with their handles above the top of the FOOD within containers or EQUIPMENT that can be closed, such as bins of sugar, flour, or cinnamon.
- On a clean portion of the FOOD preparation table or cooking EQUIPMENT only if the in-use UTENSIL and the FOOD-CONTACT SURFACE of the FOOD preparation table or cooking EQUIPMENT are cleaned and sanitized at least every 4 hours.
- In running water of sufficient velocity to flush particulates to the drain (if used with moist FOOD such as ice cream or mashed potatoes).

- In a clean, protected location (if the UTENSILS, such as ice scoops, are used only with a FOOD that is not POTENTIALLY HAZARDOUS).
- In a container of water (if the water is maintained at a temperature of at least 57°C [135°F] and the container is frequently cleaned and sanitized).

7.3.3.4.3 Linen/Napkins (19) (2 points)

LINENS and napkins must not be used in contact with FOOD unless they are used to line a container for the service of FOODS and the LINENS and napkins are replaced each time the container is refilled for a new CONSUMER.

7.3.3.4.4 Wiping Cloths (25) (1 point)

Wiping cloths must be restricted to the following:

- Cloths used for wiping FOOD spills must be used for no other purpose.
- Cloths used for wiping FOOD spills must be dry and used for wiping FOOD spills from TABLEWARE and SINGLE-SERVICE ARTICLES **OR** wet and cleaned, stored in a chemical SANITIZER, and used for wiping spills from FOOD-CONTACT and NONFOOD-CONTACT SURFACES of EQUIPMENT.
- Dry or wet cloths used with raw animal FOODS must be kept separate from cloths used for other purposes. Wet cloths used with raw animal FOODS must be kept in a separate sanitizing solution.
- Wet wiping cloths used with a freshly made sanitizing solution and dry wiping cloths must be free of FOOD debris and visible soil.

7.3.3.4.5 Glove Use (19) (2 points)

Gloves must be used as follows:

- SINGLE-USE gloves must be used for only **one hand-contact** task with READY-TO-EAT FOOD and no other purpose. These SINGLE-USE gloves must be discarded when damaged or soiled or when operation is interrupted.
- Slash-resistant gloves used to protect hands during operations requiring cutting must be used in direct contact only with FOOD that is subsequently cooked (such as frozen FOOD or a PRIMAL CUT of MEAT).
- Slash-resistant gloves may be used with READY-TO-EAT FOOD that will not be subsequently cooked if the slash-resistant gloves have a SMOOTH, durable, and

non-absorbent outer surface **or** if the slash-resistant gloves are covered with a SMOOTH, durable, non-absorbent glove or a SINGLE-USE glove.

- Cloth gloves must not be used in direct contact with FOOD unless the FOOD is subsequently cooked (such as frozen FOOD or a PRIMAL CUT of MEAT).

7.3.3.4.6 Second Portions and Refills (19) (2 points)

Procedures for second portions and refills must be as follows:

- FOOD EMPLOYEES must not use TABLEWARE soiled by the CONSUMER—including SINGLE-SERVICE ARTICLES—except for refilling a CONSUMER'S drinking cup or container without contact between the pouring UTENSIL and the lip-contact area of the drinking cup or container.
- Self-service CONSUMERS must not be allowed to use soiled TABLEWARE—including SINGLE-SERVICE ARTICLES—to obtain additional FOOD from the display and serving EQUIPMENT except as specified in the bullet below.
- **Self-service CONSUMERS may reuse drinking cups and containers if refilling is a CONTAMINATION-free process.**

7.3.3.5 Food Storage and Preparation

This section **also** applies to storage of candy and other FOOD items sold in candy shops, including self-service candy shops and shops where candy is served by a crew member.

7.3.3.5.1 Storage Protection (19) (2 points)

FOOD must be protected from CONTAMINATION by storing it as follows:

- Covered or otherwise protected;
- In a clean, dry location;
- Where it is not exposed to splash, dust, or other CONTAMINATION; and
- **At least 150 millimeters (6 inches) above the deck. FOOD in packages and working containers on pallets, skids, and racks may be 127 millimeters (5 inches) above the deck. Shelving units must be 150 millimeters (6 inches) above the deck.**

7.3.3.5.2 Prohibited Storage (19) (2 points)

FOOD must not be stored as follows:

- In locker rooms.
- In toilet rooms.

- In dressing rooms.
- In garbage rooms.
- In mechanical rooms.
- Under sewer lines that are not continuously sleeve welded.
- Under leaking water lines, including leaking automatic fire sprinkler heads, or under lines on which water has condensed.
- Under open stairwells.
- Under other sources of CONTAMINATION from non-food items such as ice blocks, ice carvings, and flowers.
- In areas not finished in accordance with 7.7.4 and 7.7.5 for FOOD STORAGE AREAS.

7.3.3.5.3 *Potentially Hazardous Food Packages in Vending Machines (19) (2 points)*

POTENTIALLY HAZARDOUS FOOD dispensed through a vending machine must be in the package in which it was placed in the galley or FOOD-PROCESSING PLANT at which it was prepared.

7.3.3.5.4 *Preparation (19) (2 points)*

During preparation, unpackaged FOOD must be protected from environmental sources of CONTAMINATION such as rain.

7.3.3.6 Food Display and Service

This section **also** applies to self-service candy shops where customers serve themselves from candy displays or dispensers.

7.3.3.6.1 *Display Preparation (19) (2 points)*

FOOD on display must be protected from CONTAMINATION by the use of packaging; counter, service line, or salad bar FOOD guards; display cases; self-closing hinged lids; or other effective means. Install side protection for sneeze guards if the distance between exposed FOOD and where CONSUMERS are expected to stand is less than 1 meter (40 inches).

7.3.3.6.2 *Condiments (19) (2 points)*

Condiments must be protected from CONTAMINATION by being kept in one of the following:

- Dispensers designed to provide protection.
- Protected FOOD DISPLAYS provided with the proper

UTENSILS.

- Original containers designed for dispensing.
- Individual packages or portions.

Condiments at a vending machine location must be in individual packages or provided in dispensers that are filled at an APPROVED location, such as the galley that provides FOOD to the vending machine location, a FOOD-PROCESSING PLANT, or a properly equipped facility located on the site of the vending machine location.

7.3.3.6.3 Self Service (19) (2 points)

CONSUMER self-service operations, such as salad bars and buffets, for unpackaged READY-TO-EAT FOODS must be

- Provided with suitable UTENSILS or effective dispensing methods that protect the FOOD from CONTAMINATION.
- Monitored by FOOD EMPLOYEES trained in safe operating procedures.

Where there is self-service of scooped frozen dessert, service must be out of shallow pans no deeper than 4 inches (100 millimeters) and no longer than 12 inches (300 millimeters).

7.3.3.6.4 Utensils, Consumer Self-service

7.3.3.6.4.1 Dispensing Utensil (19) (2 points)

A FOOD-dispensing UTENSIL must be available for each container of FOOD displayed at a CONSUMER self-service unit such as a buffet or salad bar.

7.3.3.6.4.2 Utensil Protected (19) (2 points)

The FOOD contact portion of each self-service FOOD-dispensing UTENSIL must be covered or located beneath shielding during service.

Dishware, glassware, and UTENSILS out for service must be inverted or covered.

7.3.3.6.5 Food Reservice (15 C) (5 points)

After being served and in the possession of a CONSUMER or being placed on a buffet service line, FOOD that is unused or returned by the CONSUMER must not be offered as FOOD for human consumption.

Exceptions:

- **A container of FOOD that is not POTENTIALLY**

HAZARDOUS may be transferred from one CONSUMER to another if the FOOD is dispensed so that it is protected from CONTAMINATION and the container is closed between uses (such as a narrow-neck bottle containing catsup, steak sauce, or wine) OR the FOOD (such as crackers, salt, or pepper) is in an unopened original package and is maintained in sound condition.

- Reservice for FOODS served to passengers from a fully enclosed display case and under strict employee monitoring, strict temperature control of hot/cold POTENTIALLY HAZARDOUS FOODS, proper cooling and reheating of hot-held POTENTIALLY HAZARDOUS FOODS, and complete protection from any other CONTAMINATION sources, including pests.

7.3.3.7 Other Contamination

7.3.3.7.1 Other Contaminants (19) (2 points)

FOOD must be protected from CONTAMINATION that may result from a physical, chemical, biological origin.

7.3.4 Pathogen Destruction

7.3.4.1 Cooking Temperatures/Times

7.3.4.1.1 Cooking (16 C) (5 points)

Raw animal FOODS such as eggs, FISH, MEAT, and POULTRY—and FOODS containing these raw animal FOODS—must be cooked to heat all parts of the FOOD to a temperature and for a time that complies with one of the following methods based on the FOOD being cooked:

- **63°C (145°F) or above** for 15 seconds for
 - Raw shell eggs broken and prepared in response to CONSUMERS' orders and for immediate service.
 - FISH, MEAT, and pork, including GAME ANIMALS commercially raised for FOOD and GAME ANIMALS under a voluntary inspection program.
- **68°C (155°F) or above** for 15 seconds or equivalent temperature-time combination for
 - RATITES, MECHANICALLY TENDERIZED and INJECTED MEATS, and raw eggs not prepared

for immediate service.

- COMMINUTED FISH, MEAT, GAME ANIMALS commercially raised for FOOD, and GAME ANIMALS under a voluntary inspection program.
- **74°C (165°F) or above** for 15 seconds for
 - POULTRY.
 - Wild GAME ANIMALS not specified in above bullet for 68°C (155°F).
 - Stuffed FISH, MEAT, pasta, POULTRY, or RATITES.
 - Stuffing containing FISH, MEAT, POULTRY, or RATITES.
- Whole beef roasts, corned beef roasts, pork roasts, and cured pork roasts such as ham, must be cooked as detailed in sections a and b below.

- a. Food cooked in an oven preheated to the temperature specified below for the roast's weight and oven type AND

Oven Type	Roast Weight	
	Less Than 4.5 kg (10 lbs)	4.5 kg (10 lbs) or More
Still dry	Preheat to 177°C	Preheat to 121°C
Convection	Preheat to 163°C	Preheat to 121°C
High humidity*	Preheat to 121°C	Preheat to 121°C

*Relative humidity greater than 90% for at least 1 hour as measured in the cooking chamber or exit of the oven or in a moisture-impermeable bag that provides 100% humidity.

- b. All parts of the FOOD heated to a temperature and for the holding time corresponding to that temperature:

Temperature	Time*
54.4°C (130°F)	112 minutes
55.0°C (131°F)	89 minutes
56.1°C (133°F)	56 minutes
57.2°C (135°F)	36 minutes
57.8°C (136°F)	28 minutes
58.9°C (138°F)	18 minutes
60.0°C (140°F)	12 minutes

61.1°C (142°F)	8 minutes
62.2°C (144°F)	5 minutes
62.8°C (145°F)	4 minutes
63.9°C (147°F)	134 seconds
65.0°C (149°F)	85 seconds
66.1°C (151°F)	54 seconds
67.2°C (153°F)	34 seconds
68.3°C (155°F)	22 seconds
69.4°C (157°F)	14 seconds
70.0°C (158°F)	0 seconds

*Holding time may include post-oven heat rise.
 Extracted from *FOOD Code*,
 Recommendations of the United States Public
 Health Service, 2013.

- **A raw or undercooked WHOLE-MUSCLE, INTACT BEEF steak may be served or offered for sale in a READY-TO-EAT form if the steak is labeled to indicate that it meets the definition of “WHOLE-MUSCLE, INTACT BEEF” and the steak is cooked on both the top and bottom to a surface temperature of 63°C (145°F) or above and a cooked color change is achieved on all external surfaces.**
- **A raw animal FOOD (such as raw FISH, raw-marinated FISH, raw MOLLUSCAN SHELLFISH, or steak tartare) or a partially cooked FOOD (such as lightly cooked FISH, soft-cooked eggs, or rare MEAT other than WHOLE-MUSCLE, INTACT BEEF steaks) may be served or offered for sale in a READY-TO-EAT form if the CONSUMER is informed by the written CONSUMER advisory.**

7.3.4.1.2 Microwave (16 C) (5 points)

Raw animal FOODS cooked in a microwave oven must be

- Rotated or stirred throughout or midway during cooking to compensate for uneven distribution of heat.
- Covered to retain surface moisture.
- Heated to a temperature of at least 74°C (165°F) in all parts of the FOOD.
- Allowed to stand covered for 2 minutes after cooking to obtain temperature equilibrium.

7.3.4.1.3 Fruits/Vegetables (17) (2 points)

Fruits and vegetables cooked for hot holding must be cooked to a temperature of 57°C (135°F).

7.3.4.2 Parasite Destruction

7.3.4.2.1 **Parasite Destruction (16 C) (5 points)**

Before service in READY-TO-EAT form, raw, raw-marinated, partially cooked, or marinated-partially cooked FISH and fishery products other than MOLLUSCAN SHELLFISH must be frozen throughout to a temperature of -20°C (-4°F) or below for 168 hours (7 days) in a freezer or to -35°C (-31°F) or below for 15 hours in a BLAST CHILLER.

These FISH may be served in a raw, raw-marinated, or partially cooked READY-TO-EAT form without freezing if the

- FISH are tuna of the species *Thunnus alalunga*, *T. albacares* (yellowfin tuna), *T. atlanticus*, *T. maccoyii* (bluefin tuna, southern), *T. obesus* (bigeye tuna), or *T. thynnus* (bluefin tuna, northern) OR
- Aquacultured FISH, such as salmon, are
 - raised in open water, net-pens, or land-based operations such as ponds or tanks and
 - fed formulated feed (such as pellets) that contains no live parasites infective to the aquacultured.
- FISH eggs have been removed from the skein and rinsed.

If FOODS, such as gravlax, ceviche/seviche, FISH carpaccio, or sashimi, are prepared in a FOOD-PROCESSING PLANT and certified as parasite free, they may be served raw, raw-marinated, or partially cooked READY-TO-EAT without freezing the product onboard the vessel.

7.3.4.2.2 **Records (17) (2 points)**

If raw, raw-marinated, partially cooked, or marinated partially cooked FISH are served in READY-TO-EAT form,

- The supervisor or PERSON IN CHARGE must record the freezing temperature and time to which the FISH are subjected and must retain the records on the vessel for 90 calendar days beyond the time of service or sale of the FISH; OR
- If the FISH are frozen by a supplier, a written letter from the supplier must specify the FISH species involved

and both the temperature to which the FISH was frozen and the total time period at that temperature. If the supplier provides any of the same FISH species to the vessel in a fresh state, the outer packaging must designate which one is the parasite-free FISH.

For FISH exempt from freezing requirements based on section 7.3.4.2.1, a written letter from the supplier must state both the species of FISH and the conditions in which they were raised and fed.

7.3.4.3 Reheating

7.3.4.3.1 Immediate Service

Cooked and refrigerated FOOD prepared for immediate service in response to an individual CONSUMER order (such as a roast beef sandwich au jus) may be served at any temperature.

7.3.4.3.2 74°C/165°F (16 C) (5 points)

POTENTIALLY HAZARDOUS FOOD that is cooked, cooled, and reheated for hot holding must be reheated so that all parts of the FOOD reach a temperature of at least 74°C (165°F) for 15 seconds.

7.3.4.3.3 Microwave Heating (16 C) (5 points)

If reheated in a microwave oven for hot holding, POTENTIALLY HAZARDOUS FOOD must be reheated so that all parts of the FOOD reach a temperature of at least 74°C (165°F) and the FOOD is rotated or stirred, covered, and allowed to stand covered for 2 minutes after reheating.

7.3.4.3.4 Commercial Products (17) (2 points)

READY-TO-EAT POTENTIALLY HAZARDOUS FOOD taken from a commercially processed, HERMETICALLY SEALED CONTAINER, or from an intact package from a FOOD-PROCESSING PLANT inspected by the FOOD REGULATORY AUTHORITY that has jurisdiction over the plant, must be heated to a temperature of at least 57°C (135°F) for hot holding.

7.3.4.3.5 Rapid Reheat (16 C) (5 points)

Reheating for hot holding must be done rapidly. The time the FOOD is between 5°C (41°F) and 74°C (165°F) must not exceed 2 hours.

7.3.4.3.6 Reheat Roast Beef

Remaining unsliced portions of roasts of beef cooked on the vessel may be reheated for hot holding using the oven parameters and minimum time and temperature conditions used in the original cooking process.

7.3.5 Food Holding Temperatures and Times

7.3.5.1 Frozen, Slacking, and Thawing Procedures

7.3.5.1.1 Store Frozen Food Frozen (17) (2 points)

Stored frozen FOODS must be maintained frozen.

7.3.5.1.2 Slacking (17) (2 points)

Frozen POTENTIALLY HAZARDOUS FOOD that is SLACKED to moderate the temperature must be held

- Under refrigeration that maintains the FOOD temperature at 5°C (41°F) or less; or
- At any temperature if the FOOD remains frozen.

7.3.5.1.3 Thawing (17) (2 points)

POTENTIALLY HAZARDOUS FOOD must be thawed by one of the following:

- Under refrigeration that maintains the FOOD temperature at 5°C (41°F) or less.
- Completely submerged under running water at a water temperature of 21°C (70°F) or below, with sufficient water velocity to agitate and float off loose particles in an overflow, and for a period of time that does not allow thawed portions of READY-TO-EAT FOOD to rise above 5°C (41°F).
- Completely submerged under running water at a water temperature of 21°C (70°F) or below with sufficient water velocity to agitate and float off loose particles in an overflow and for a period of time that does not allow thawed portions of a raw animal FOOD requiring cooking to be above 5°C (41°F) for more than 4 hours, including
 - The time the FOOD is exposed to the running water and the time needed for preparation for cooking, OR
 - The time it takes under refrigeration to lower the FOOD temperature to 5°C (41°F).

- As part of a cooking process if the frozen FOOD is cooked or thawed in a microwave oven.

If a portion of frozen READY-TO-EAT FOOD is thawed and prepared for immediate service in response to an individual CONSUMER'S order, it can be thawed using any procedure.

7.3.5.2 Food Cooling

7.3.5.2.1 Cooling Times/Temperatures (16 C) (5 points)

Cooked POTENTIALLY HAZARDOUS FOOD must be cooled

- From 57°C (135°F) to 21°C (70°F) within 2 hours and
- From 21°C (70°F) to 5°C (41°F) or less within 4 hours.

7.3.5.2.2 Cooling Prepared Food (16 C) (5 points)

POTENTIALLY HAZARDOUS FOOD must be cooled within 4 hours to 5°C (41°F) or less if prepared from ingredients at ambient temperature (such as reconstituted FOODS and canned tuna).

7.3.5.2.3 Cooling Received Food (16 C) (5 points)

A POTENTIALLY HAZARDOUS FOOD received in compliance with LAWS allowing a temperature above 5°C (41°F) during shipment from the supplier must be cooled within 4 hours to 5°C (41°F) or less.

7.3.5.2.4 Shell Eggs

Shell eggs need not comply with the cooling time if, on receipt, they are placed immediately into refrigerated EQUIPMENT capable of maintaining FOOD at 5°C (41°F) or less.

7.3.5.2.5 Cooling Methods (17) (2 points)

Cooling must be accomplished using one or more of the following methods based on the type of FOOD being cooled:

- Placing the FOOD in shallow pans.
- Separating the FOOD into smaller or thinner portions.
- Using BLAST CHILLERS, freezers, or other rapid cooling EQUIPMENT.
- Stirring the FOOD in a container placed in an ice water bath.
- Using containers that facilitate heat transfer.
- Adding ice as an ingredient.
- Using other effective methods.

When placed in cooling or cold-holding EQUIPMENT, FOOD containers in which FOOD is being cooled must be arranged in the EQUIPMENT to provide maximum heat transfer through the container walls and must be loosely covered—or uncovered if protected from overhead CONTAMINATION—during the cooling period to facilitate heat transfer from the surface of the FOOD.

7.3.5.2.6 Cooling Logs (17) (2 points)

Logs documenting cooked POTENTIALLY HAZARDOUS FOOD cooling temperatures and times from the starting points designated in 7.3.5.2.1 through the control points at 2 and 6 hours must be maintained onboard the vessel for a period of 30 days from the date the FOOD was placed in a cooling process. Logs documenting cooling of POTENTIALLY HAZARDOUS FOODS prepared from ingredients at ambient temperatures, with the start time to the time when 5°C (41°F) is reached, must also be maintained for a 30-day period beginning with the day of preparation.

7.3.5.3 Food Holding Temperatures and Times

7.3.5.3.1 Holding Temperature/Time (16 C) (5 points)

Except during preparation, cooking, or cooling, or when time is used as the public health control, POTENTIALLY HAZARDOUS FOOD must be maintained at

- 57°C (135°F) or above, except that roasts may be held at a temperature of 54°C (130°F); or
- 5°C (41°F) or less.

7.3.5.3.2 RTE PHF Shelf-Life: Date Marking (16 C) (5 points)

Refrigerated, READY-TO-EAT, POTENTIALLY HAZARDOUS FOOD

- Prepared on a vessel and held refrigerated for more than 24 hours must be clearly marked at the time of preparation to indicate the date or day by which the FOOD must be consumed (7 calendar days or fewer from the day the FOOD is prepared). The day of preparation is counted as day 1.
- Prepared and PACKAGED by a FOOD-PROCESSING PLANT and held on the vessel after opening for more than 24 hours must be clearly marked at the time the original container is opened to indicate the date by which the FOOD must be consumed (7 calendar days or fewer after the original container is opened). The day

of package opening is counted as day 1.

The date marking requirement can be accomplished with a calendar date, day of the week, color-code, or other system, provided it is effective.

The date marking requirement does not apply to the following FOODS prepared and PACKAGED by a FOOD-PROCESSING PLANT inspected by a REGULATORY AUTHORITY:

- Deli salads (such as ham salad, seafood salad, chicken salad, egg salad, pasta salad, potato salad, and macaroni salad) manufactured in accordance with 21 CFR 110.
- Hard cheeses containing not more than 39% moisture as defined in 21 CFR 133 (such as cheddar, gruyere, parmesan and reggiano, and romano).
- Semisoft cheeses containing more than 39% moisture but not more than 50% moisture, as defined in 21 CFR 133 (such as blue, edam, gorgonzola, gouda, and monterey jack).
- Cultured dairy products as defined in 21 CFR 131 (such as yogurt, sour cream, and buttermilk).
- Preserved FISH products (such as pickled herring and dried or salted cod) and other acidified FISH products defined in 21 CFR 114.
- Shelf stable, dry fermented sausages (such as pepperoni and Genoa salami) not labeled “keep refrigerated” as specified in 9 CFR 317. [Retain the original casing on the product.]
- Shelf stable salt-cured products (such as prosciutto and Parma [ham]) not labeled “keep refrigerated” as specified in 9 CFR 317.

These products are exempted from date marking even after being opened, cut, shredded, etc.

7.3.5.3.3 *Discarding RTE PHF (16 C) (5 points)*

Refrigerated, READY-TO-EAT, POTENTIALLY HAZARDOUS FOOD must be discarded if not consumed within 7 calendar days from the date of preparation or opening.

7.3.5.3.4 *Retain Date (16 C) (5 points)*

A refrigerated, potentially hazardous, READY-TO-EAT FOOD ingredient or a portion of a refrigerated, potentially hazardous,

READY-TO-EAT FOOD subsequently combined with additional ingredients or portions of FOOD must retain the date marking of the earliest or first-prepared ingredient.

7.3.5.3.5 Time as a Public Health Control (16 C) (5 points)

If time only—rather than time in conjunction with temperature—is used as the public health control for a working supply of POTENTIALLY HAZARDOUS FOOD before cooking, or for READY-TO-EAT POTENTIALLY HAZARDOUS FOOD that is displayed or held for service for immediate consumption, the FOOD

- Must have an initial temperature of 5°C (41°F) or less or 57°C (135°F) or greater before placement on time control.
- Must not be placed on temperature control again.
 - Must be marked or otherwise identified to indicate the time 4 hours past the point in time when the FOOD is removed from temperature control (if the time between service set-up and closing is greater than 4 hours).
- Must be discarded within 4 hours of placement on time control.
 - If FOOD is on/in a time control unit (bain marie, cold basin, soup wells) and service is under 4 hours, a 4-hour discard label is not needed.
 - If the time control unit meant to be cold holding or hot holding is not operational or used as intended, the unit is considered a counter and the FOOD stored within it must be labeled with its 4-hour discard time. **This does not apply to buffet service lines where the cold or hot holding equipment on the line is not used as intended.**
 - Containers of POTENTIALLY HAZARDOUS FOOD under time control and placed on preparation counters must be labeled with the discard time, even if the outlet is open less than 4 hours.

7.3.5.3.6 Time Control Plan (17) (2 points)

A written time control plan(s) that ensures compliance with these guidelines must be maintained on the vessel and made available for review during inspections. A time control plan must be posted and ACCESSIBLE to all crew working at each outlet where time control is used.

The plan(s) must

- Include set-up and discard times for each outlet. Include all services and events where POTENTIALLY HAZARDOUS FOODS are kept on time control. If used, colored labels must correspond to the discard times stated in the plan.
- List all units (to include preparation counters, cabinets, compartments on time control must be physically labelled).
- Describe or show the flow of POTENTIALLY HAZARDOUS FOOD from when last in temperature control to placement in time control and discard.
- EQUIPMENT that does not have cabinets or compartments does not need to be labeled as time control. Such EQUIPMENT includes bains marie, cold tops, and soup wells.

7.3.6 Consumer Information

7.3.6.1 Consumer Advisory

7.3.6.1.1 Raw Shell Egg Preparations (16 C) (5 points)

Raw shell egg preparations are prohibited in uncooked products as described in 7.3.3.2.3.

7.3.6.1.2 Animal Food (16 C) (5 points)

If an animal FOOD such as beef, eggs, FISH, lamb, milk, pork, POULTRY, or shellfish that is raw, undercooked, or not otherwise processed to eliminate pathogens is offered in a READY-TO-EAT form or as a raw ingredient in another READY-TO-EAT FOOD, the CONSUMER must be informed by way of disclosure as specified below using menu advisories, placards, or other easily visible written means of the significantly increased risk to certain especially vulnerable CONSUMERS eating such FOODS in raw or undercooked form. The advisory must be located at the outlets where these types of FOOD are served.

Disclosure must be made by one of the two following methods:

- On a sign describing the animal-derived FOODS (e.g., “oysters on the half-shell,” “hamburgers,” “steaks,” or “eggs”) AND that

they can be cooked to order **or** may be served raw or undercooked AND a statement indicating that consuming raw or undercooked MEATS, seafood, shellfish, eggs, milk, or POULTRY may increase your risk for foodborne illness, especially if you have certain medical conditions. The advisory must be posted at the specific station where the FOOD is served raw, undercooked, or cooked to order.

OR

- On a menu using an asterisk at the animal-derived FOODS requiring disclosure and a footnote with a statement indicating that consuming raw or undercooked MEATS, seafood, shellfish, eggs, milk, or POULTRY may increase your risk for foodborne illness, especially if you have certain medical conditions.

It is acceptable to limit the list of animal-derived FOODS in the CONSUMER advisory to only the type(s) of animal-derived FOOD served raw, undercooked, or cooked to order at a specific location. For example, at a sushi counter, the CONSUMER advisory might only refer to seafood.

A CONSUMER advisory is not required for raw or undercooked WHOLE-MUSCLE, INTACT BEEF steak as specified under 7.3.2.1.4.

7.3.7 Contaminated Food

7.3.7.1 Discarding Food

7.3.7.1.1 *Unsafe/Adulterated (18 C) (3 points)*

A FOOD that is unsafe or ADULTERATED must be discarded.

7.3.7.1.2 *Unapproved Source (18 C) (3 points)*

FOOD that is not from an APPROVED source must be discarded.

7.3.7.1.3 *Restricted or Excluded Employee (18 C) (3 points)*

READY-TO-EAT FOOD that may have been contaminated by an employee who has been restricted or excluded for FOOD

EMPLOYEE health issues must be discarded.

7.3.7.1.4 Contaminated by Others (18 C) (3 points)

FOOD that is contaminated by FOOD EMPLOYEES, CONSUMERS, or other persons through contact with their hands, bodily discharges (such as nasal or oral discharges), or other means must be discarded.

7.4 Equipment and Utensils

7.4.1 Materials

7.4.1.1 Multiuse Characteristics and Use Limitations

7.4.1.1.1 Safe Food-Contact Materials (26 C) (3 points)

Materials used in the construction of multiuse UTENSILS and FOOD-CONTACT SURFACES of EQUIPMENT must not allow the migration of deleterious substances or impart colors, odors, or tastes to FOOD and must be safe under normal use conditions.

7.4.1.1.2 Food-Contact Surfaces (20) (2 points)

Materials used in the construction of multiuse UTENSILS and FOOD-CONTACT SURFACES of EQUIPMENT must be as follows:

- Durable, corrosion-resistant, and non-absorbent.
- Sufficient in weight and thickness to withstand repeated WAREWASHING.
- Finished to have a SMOOTH, EASILY CLEANABLE surface.
- Resistant to pitting, chipping, crazing, scratching, scoring, distortion, and decomposition.

7.4.1.1.3 Cast Iron (20) (2 points)

Cast iron must not be used for UTENSILS or FOOD-CONTACT SURFACES of EQUIPMENT. Cast iron may be used as a surface for cooking. Cast iron may be used in UTENSILS for serving FOOD if the UTENSILS are used only as part of an uninterrupted process from cooking through service.

Cast iron FOOD DISPLAY dishes heated to a temperature of 74°C (165°F) for 15 seconds may be used for the immediate service of FOOD.

7.4.1.1.4 Lead (20) (2 points)

Limitation of lead use must be as follows:

- Ceramic, china, crystal UTENSILS, and decorative UTENSILS such as hand-painted ceramic or china used in contact with FOOD must be lead-free or contain levels of lead not exceeding the limits for specific UTENSIL categories as allowed by LAW.
- Pewter alloys containing lead in excess of 0.05% must not be used as a FOOD-CONTACT SURFACE.
- Solder and flux containing lead in excess of 0.2% must not be used as a FOOD-CONTACT SURFACE.

7.4.1.1.5 *Copper/Brass (26 C) (3 points)*

Copper and copper alloys such as brass must not be used in contact with a FOOD that has a pH below 6 (such as vinegar, fruit juice, or wine) or for a fitting or tubing installed between a BACKFLOW PREVENTION DEVICE and a carbonator.

Copper and copper alloys may be used in contact with beer brewing ingredients that have a pH below 6 in the pre-fermentation and fermentation steps of a beer brewing operation such as a brewpub or microbrewery.

7.4.1.1.6 *Galvanized (26 C) (3 points)*

Galvanized metal must not be used for UTENSILS or FOOD-CONTACT SURFACES of EQUIPMENT.

7.4.1.1.7 *Wood (20) (2 points)*

Wood use must be limited as follows:

- Wood and wood wicker must not be used as a FOOD-CONTACT SURFACE.
- **Hard maple or an equivalently hard, close-grained wood may be used for cutting boards; cutting blocks; bakers' tables; UTENSILS such as rolling pins, doughnut dowels, serving dishes, and chopsticks; and wooden paddles used in confectionery operations for pressure scraping kettles when manually preparing confections at a temperature of 110°C (230°F) or above.**
- **Whole, uncut, raw fruits and vegetables, and nuts in the shell may be kept in the wood shipping container in which they were received until the fruits, vegetables, or nuts are used.**
- **If the nature of the FOOD requires removal of rinds, peels, husks, or shells before consumption, the whole, uncut, raw FOOD may be kept in untreated wood containers or in treated wood containers if**

the containers are treated with a preservative that meets the requirements specified in 21 CFR 178.3800 Preservatives for Wood.

7.4.1.1.8 Coatings (20) (2 points)

Multiuse KITCHENWARE such as frying pans, griddles, sauce pans, cookie sheets, and waffle bakers that have a perfluorocarbon resin coating must be used with non-scoring or non-scratching UTENSILS and cleaning aids.

7.4.1.1.9 Nonfood-Contact Surfaces (21) (1 point)

NONFOOD-CONTACT SURFACES of EQUIPMENT that are exposed to splash, spillage, or other FOOD soiling or that require frequent cleaning must be constructed of a corrosion-resistant, non-absorbent, and SMOOTH material.

7.4.1.2 Single-Service and Single-Use Characteristics

7.4.1.2.1 Single-Service Materials Safe (26 C) (3 points)

Materials used to make SINGLE-SERVICE and SINGLE-USE ARTICLES must not allow the migration of deleterious substances and must be safe.

7.4.1.2.2 No Colors/Odors/Taste (20) (2 points)

Materials used to make SINGLE-SERVICE and SINGLE-USE ARTICLES must not impart colors, odors, or tastes to FOOD and must be clean.

7.4.2 Design and Construction

7.4.2.1 Durability and Strength

7.4.2.1.1 Food-Contact Durability/Strength (20) (2 points)

FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be designed and constructed to be durable and to retain their characteristic qualities under normal use conditions.

7.4.2.1.2 Non-food-Contact Durability/Strength (21) (1 point)

NONFOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be designed and constructed to be durable and to retain their characteristic qualities under normal use conditions.

7.4.2.1.3 Glass TMDs (26 C) (3 points)

FOOD TEMPERATURE-MEASURING DEVICES must not

have sensors or stems constructed of glass, except for thermometers with glass sensors or stems encased in a shatterproof coating (such as candy thermometers).

7.4.2.2 Cleanability

7.4.2.2.1 *Multiuse Food-Contact Surfaces (20) (2 points)*

Multiuse FOOD-CONTACT SURFACES must be

- SMOOTH.
- Free of breaks, open SEAMS >0.8 millimeters (1/32 inch), cracks, chips, inclusions, pits, and similar imperfections.
- Free of sharp internal angles, corners, and crevices.
- Finished to have SMOOTH welds and joints.
- ACCESSIBLE for cleaning and inspection by one of the following methods [does not apply to cooking oil storage tanks, distribution lines for cooking oils, or BEVERAGE syrup lines or tubes]:
 - Without being disassembled,
 - by disassembling without the use of tools, or
 - 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).

Use low profile, non-slotted, NONCORRODING, and easy-to-clean fasteners on FOOD-CONTACT SURFACES and in splash zones. The use of exposed slotted screws, Phillips head screws, or pop rivets in these areas is prohibited.

7.4.2.2.2 *CIP Equipment Design/Construction (20) (2 points)*

Clean-in-place EQUIPMENT must be designed and constructed so cleaning and sanitizing solutions circulate throughout a fixed system and contact all interior FOOD-CONTACT SURFACES and so the system self drains or can be completely drained of cleaning and sanitizing solutions.

Clean-in-place EQUIPMENT not designed to be disassembled for cleaning must be designed with inspection access points to ensure that all interior FOOD-CONTACT SURFACES throughout the fixed system are being effectively cleaned.

7.4.2.2.3 *“V” Type Threads (20) (2 points)*

Except for hot oil cooking or filtering EQUIPMENT, “V” type

threads must not be used on FOOD-CONTACT SURFACES.

7.4.2.2.4 Oil Filtering Equipment (20) (2 points)

Hot oil filtering EQUIPMENT must be READILY ACCESSIBLE for filter replacement and filter cleaning.

7.4.2.2.5 Can Openers (20) (2 points)

Cutting or piercing parts of can openers must be READILY REMOVABLE for cleaning and replacement.

7.4.2.2.6 Non-food-Contact Design (21) (1 point)

NONFOOD-CONTACT SURFACES must be free of unnecessary ledges, projections, and crevices, and must be designed and constructed to allow easy cleaning and facilitate maintenance.

7.4.2.2.7 Kick Plates (21) (1 point)

Kick plates must be designed so that the areas behind them are ACCESSIBLE for inspection and cleaning by being easily REMOVABLE or capable of being rotated open without unlocking EQUIPMENT doors.

7.4.2.2.8 Grease Filters (21) (1 point)

If not designed to be CLEANED IN PLACE, filters or other grease-extracting EQUIPMENT must be designed to be READILY REMOVABLE for cleaning and replacement.

7.4.2.3 Food TMDs (20) (2 points)

FOOD TEMPERATURE-MEASURING DEVICES must be provided and READILY ACCESSIBLE for use in ensuring attainment and maintenance of FOOD temperatures. Tip-sensitive TEMPERATURE-MEASURING DEVICES, such as a thermocouple or thermistor, must be used for measuring thin FOOD products.

7.4.2.3.1 Food TMD Accuracy (20) (2 points)

FOOD TEMPERATURE-MEASURING DEVICES

- Scaled only in Celsius or dually scaled in Celsius and Fahrenheit must be accurate to $\pm 1^{\circ}\text{C}$ ($\pm 2^{\circ}\text{F}$) in the intended range of use.
- Scaled only in Fahrenheit must be accurate to $\pm 2^{\circ}\text{F}$ in the intended range of use.

FOOD TEMPERATURE-MEASURING DEVICES must have a numerical scale, printed record, or digital readout in increments no greater than 1°C (2°F) in the intended range of use.

7.4.2.3.2 *Ambient Air TMD Accuracy (21) (1 point)*

Ambient air TEMPERATURE-MEASURING DEVICES

- Scaled in Celsius or dually scaled in Celsius and Fahrenheit must be designed to be easily readable and accurate to $\pm 1.5^{\circ}\text{C}$ ($\pm 3^{\circ}\text{F}$) in the intended range of use.
- Scaled only in Fahrenheit must be accurate to $\pm 3^{\circ}\text{F}$ in the intended range of use.

7.4.2.4 *Functionality*

7.4.2.4.1 *Ventilation Hood Design (37) (1 point)*

Exhaust ventilation hood systems in FOOD PREPARATION and WAREWASHING areas—including components such as hoods, fans, guards, and ducting—must be designed to prevent grease or condensation from draining or dripping onto FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.4.2.4.2 *Equipment Openings, Closures, and Deflectors (20) (2 points)*

EQUIPMENT openings, closures, and deflectors must conform to the following:

- A cover or lid for EQUIPMENT must overlap the opening and be sloped to drain.
- An opening in the top of a unit of EQUIPMENT and designed for use with a cover or lid must be flanged upward at least 5 millimeters (2/10 of an inch).
- Fixed piping, TEMPERATURE-MEASURING DEVICES, rotary shafts, and other parts extending into EQUIPMENT must be provided with a watertight joint at the point where the item enters the EQUIPMENT.
- If a watertight joint is not provided, the piping, TEMPERATURE-MEASURING DEVICES, rotary shafts, and other parts extending through the openings must be equipped with an apron designed to deflect condensation, drips, and dust from openings into the FOOD; the opening must be flanged at least 5 millimeters (2/10 of an inch).

7.4.2.4.3 *Beverage/Ice Dispensing (20) (2 points)*

In EQUIPMENT that dispenses liquid FOOD or ice in unpackaged form,

- The delivery tube, chute, orifice, and splash surfaces directly above the container receiving the FOOD must

be designed in a manner (such as with barriers, baffles, or drip aprons) so that drips from condensation and splash are diverted from the opening of the container receiving the FOOD.

- The delivery tube, chute, and orifice must be protected from manual contact (such as by being recessed).
- The delivery tube or chute and orifice of EQUIPMENT used to vend liquid FOOD or ice in unpackaged form to self-service CONSUMERS must be designed so the delivery tube or chute and orifice are protected from dust, insects, rodents, and other CONTAMINATION by a self-closing door if the EQUIPMENT
 - Is in an outside area that does not otherwise afford protection against rain, windblown debris, insects, rodents, and other contaminants present in the environment OR
 - Is available for self service during hours when it is not under the full-time supervision of a FOOD EMPLOYEE.

The dispensing EQUIPMENT actuating lever or mechanism and filling device of CONSUMER self-service BEVERAGE dispensing EQUIPMENT must be designed to prevent contact with the lip-contact surface of glasses or cups that are refilled.

7.4.2.4.4 *Bearings/Gears (21) (1 point)*

EQUIPMENT containing bearings and gears that require lubricants must be designed and constructed so the lubricant cannot leak, drip, or be forced into FOOD or onto FOOD-CONTACT SURFACES.

7.4.2.4.5 *Beverage Line Cooling (20) (2 points)*

BEVERAGE tubing and cold-plate BEVERAGE cooling devices must not be installed in contact with stored ice. **This guidance does not apply to cold plates constructed integrally without SEAMS in an ice storage bin.**

7.4.2.4.6 *Equipment Drainage (21) (1 point)*

EQUIPMENT compartments subject to accumulation of moisture because of conditions such as condensation, FOOD or BEVERAGE drip, or water from melting ice must be sloped to an outlet that allows complete draining.

7.4.2.4.7 *Drain Lines (20) (2 points)*

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

7.4.2.4.8 *Condenser Unit (21) (1 point)*

If a condenser unit is an integral component of EQUIPMENT, the condenser unit must be separated from the FOOD and FOOD STORAGE space by a dustproof barrier.

7.4.2.4.9 *Ambient Air TMDs (21) (1 point)*

TEMPERATURE-MEASURING DEVICES must conform to the following guidelines:

- In a mechanically refrigerated FOOD storage unit, the sensor of a TEMPERATURE-MEASURING DEVICE must be located to measure the air temperature in the warmest part of the unit.
- In a hot-FOOD storage unit, the sensor of a TEMPERATURE-MEASURING DEVICE must be located to measure the air temperature in the coolest part of the unit.
- Cold or hot holding EQUIPMENT used for POTENTIALLY HAZARDOUS FOOD must be designed to include and must be equipped with at least one integral or affixed TEMPERATURE-MEASURING DEVICE that is located to allow easy viewing of the device's temperature display.
- The above bullets do not apply to EQUIPMENT for which the placement of a TEMPERATURE-MEASURING DEVICE is not a practical means for measuring the ambient air surrounding the FOOD because of the design, type, and use of the EQUIPMENT (such as calrod units, heat lamps, cold plates, bains-marie, steam tables, insulated FOOD transport containers, and salad bars).
- TEMPERATURE-MEASURING DEVICES must be easily readable.

7.4.2.5 Food Equipment Standards and Classification

7.4.2.5.1 *Food-Contact Equipment Standards (20) (2 points)*

FOOD-CONTACT SURFACES of FOOD EQUIPMENT must comply with American National Standards Institute (ANSI),

National Sanitation Foundation International (NSF International), or other internationally accredited FOOD EQUIPMENT sanitation standards for materials, design, and construction.

7.4.2.5.2 *Non-food-Contact Equipment Standards (21) (1 point)*

NONFOOD-CONTACT SURFACES of FOOD EQUIPMENT must comply with American National Standards Institute (ANSI), National Sanitation Foundation International (NSF International), or other internationally accredited FOOD EQUIPMENT sanitation standards for materials, design, and construction.

7.4.3 Numbers and Capacities

7.4.3.1 Cooling, Heating, and Holding Capacities

7.4.3.1.1 *Cold/Hot Holding Capacity (20) (2 points)*

EQUIPMENT for cooling and heating FOOD and for holding cold and hot FOOD must be sufficient in number and capacity to maintain temperatures in POTENTIALLY HAZARDOUS FOOD.

7.4.3.2 Ventilation Hood Systems

7.4.3.2.1 *Ventilation Hood (37) (1 point)*

Ventilation hood systems and devices must be sufficient in number and capacity to prevent grease or condensation from collecting on BULKHEADS and DECKHEADS.

7.4.4 Equipment Location and Installation

7.4.4.1 Fixed Equipment, Spacing or Sealing

7.4.4.1.1 *Fixed Equipment Installation (21) (1 point)*

EQUIPMENT that is fixed because it is not EASILY MOVABLE must be installed in one of the following ways:

- Spaced to allow access for cleaning along the sides, behind, under, and above the EQUIPMENT.
- Spaced from adjoining EQUIPMENT, BULKHEAD, and DECKHEAD at a distance of not more than 0.8 millimeters or 1/32 inch.
- Sealed to adjoining EQUIPMENT or BULKHEAD (if the EQUIPMENT is exposed to spillage or seepage).

7.4.4.1.2 *Table-Mounted Sealed or Elevated (21) (1 point)*

TABLE-MOUNTED EQUIPMENT that is not EASILY MOVABLE must be installed to allow cleaning of the EQUIPMENT and areas underneath and around the EQUIPMENT in one of the following ways:

- Sealed to the table.
- Elevated on legs.

7.4.4.2 Fixed Equipment, Elevation or Sealing

7.4.4.2.1 *Deck-Mounted Sealed or Elevated (21) (1 point)*

Deck-mounted EQUIPMENT that is not EASILY MOVABLE must be sealed to the deck or elevated on legs that provide at least a 150-millimeter (6-inch) clearance between the deck and the EQUIPMENT.

7.4.4.2.2 *Deck-Mounted Clearance*

If no part of the deck under the deck-mounted EQUIPMENT is more than 150 millimeters (6 inches) from the point of cleaning access, the clearance space may be only 100 millimeters (4 inches).

7.4.4.2.3 *Table-Mounted Elevated (21) (1 point)*

TABLE-MOUNTED EQUIPMENT that is not EASILY MOVABLE must be elevated on legs that provide at least a 100-millimeter (4-inch) clearance between the table and the EQUIPMENT.

7.4.4.2.4 *Table-Mounted Clearance*

The clearance space between the table and TABLE-MOUNTED EQUIPMENT may be either of the following:

- 75 millimeters (3 inches) if the horizontal distance of the table top under the EQUIPMENT is no more than 500 millimeters (20 inches) from the point of access for cleaning.
- 50 millimeters (2 inches) if the horizontal distance of the table top under the EQUIPMENT is no more than 75 millimeters (3 inches) from the point of access for cleaning.

7.4.5 Maintenance and Operation

7.4.5.1 Equipment

7.4.5.1.1 *Food-Contact Equipment in Good Repair (20) (2 points)*

FOOD-contact EQUIPMENT must be maintained in good repair and proper adjustment, including the following:

- EQUIPMENT must be maintained in a state of repair and condition that meets the materials, design, construction, and operation specifications of these guidelines.
- Can opener parts that cut or pierce must be kept sharp to minimize the creation of metal fragments that can contaminate FOOD when the container is opened.

7.4.5.1.2 *Non-food-Contact Equipment in Good Repair (21) (1 point)*

Non-food-CONTACT EQUIPMENT must be maintained in good repair and proper adjustment, including the following:

- EQUIPMENT must be maintained in a state of repair and condition that meets the materials, design, construction, and operation specifications of these guidelines.
- EQUIPMENT components such as doors, seals, hinges, fasteners, and kick plates must be kept intact and tight and adjusted in accordance with manufacturer's specifications.

7.4.5.1.3 *Cutting Boards (20) (2 points)*

Surfaces such as cutting blocks and boards subject to scratching and scoring must be resurfaced if they can no longer be effectively cleaned and sanitized or discarded if they cannot be resurfaced.

7.4.5.1.4 *Microwave Ovens (20) (2 points)*

Microwave ovens must meet the safety standards specified in 21 CFR 1030.10 Microwave Ovens, or equivalent.

7.4.5.2 Good Repair and Calibration

7.4.5.2.1 *Utensils and TMDs in Good Repair and Calibration (20) (2 points)*

UTENSILS and TEMPERATURE-MEASURING DEVICES must be maintained in good repair and proper adjustment, including the following:

- UTENSILS must be maintained in a state of repair or condition that meets the materials, design, and construction specifications of these guidelines or must be discarded.
- FOOD TEMPERATURE-MEASURING DEVICES must be calibrated in accordance with manufacturer's specifications as necessary to ensure their accuracy.

7.4.5.2.2 *Ambient Air TMDs Good Repair and Calibration (21) (1 point)*

Ambient air TEMPERATURE-MEASURING DEVICES must be maintained in good repair and be accurate within the intended range of use.

7.4.5.3 Single-Service and Single-Use Articles

7.4.5.3.1 *No Reuse (28) (2 points)*

SINGLE-SERVICE and SINGLE-USE ARTICLES must not be reused.

7.4.5.3.2 *Bulk Milk Tubes (20) (2 points)*

Bulk milk container dispensing tubes must be cut on the diagonal, leaving no more than 25 millimeters (1 inch) protruding from the chilled dispensing head.

7.4.5.3.3 *Shell Reuse (28) (2 points)*

Mollusk and crustacean shells must not be used more than once as serving containers.

7.5 Warewashing

7.5.1 Warewashing Design and Construction

7.5.1.1 Warewashing Measuring Device Accuracy (22) (2 points)

Provide a maximum registering TEMPERATURE-MEASURING DEVICE to verify the temperature in the warewash machines and the three-compartment sink.

7.5.1.1.1 *Water TMD Accuracy (22) (2 points)*

Water TEMPERATURE-MEASURING DEVICES scaled

- In Celsius or dually scaled in Celsius and Fahrenheit must be designed to be accurate to $\pm 1.5^{\circ}\text{C}$ ($\pm 3^{\circ}\text{F}$) in the intended range of use.
- Only in Fahrenheit must be designed to be accurate to $\pm 3^{\circ}\text{F}$ in the intended range of use.

7.5.1.1.2 *Pressure Gauge Accuracy (22) (2 points)*

Pressure measuring devices that display pressures in the water supply line for the fresh hot water sanitizing rinse must have increments of 7 kilopascals (1 pound per square inch or 0.07 bar) or smaller and must be accurate to ± 14 kilopascals (± 2 pounds per square inch or ± 0.14 bar) in the 100–170 kilopascals (15–25 pounds per square inch or 1.03–1.72 bars) range.

7.5.1.2 Warewashing Functionality

7.5.1.2.1 **Water TMDs Readable (22) (2 points)**

Water TEMPERATURE-MEASURING DEVICES must be designed to be easily readable.

7.5.1.2.2 **Water TMD Scale (22) (2 points)**

Water TEMPERATURE-MEASURING DEVICES on WAREWASHING machines must have a numerical scale, printed record, or digital readout in increments no greater than 1°C (2°F) in the intended range of use.

7.5.1.2.3 **Warewasher Data Plate (22) (2 points)**

A WAREWASHING machine must be provided with an easily ACCESSIBLE and readable data plate affixed to or posted adjacent to the machine that indicates the machine's design and operating specifications including the

- Wash tank, rinse tank(s) if present, and final sanitizing rinse temperatures.
- Pressure required for the fresh water sanitizing rinse unless the machine is designed to use only a pumped sanitizing rinse.
- Conveyor speed in meters or feet per minute or minimum transit time for belt conveyor machines, minimum transit time for rack conveyor machines, and wash and final sanitizing rinse times as specified by the manufacturer for stationary rack machines.

7.5.1.2.4 **Baffles/Curtains (22) (2 points)**

WAREWASHING machine wash and rinse tanks must be equipped with baffles, curtains, or other means to minimize internal CROSS-CONTAMINATION of the solutions in wash and rinse tanks.

7.5.1.2.5 **Warewash TMDs (22) (2 points)**

A WAREWASHING machine must be equipped with a TEMPERATURE-MEASURING DEVICE that indicates the temperature of the water in each wash tank, in rinse tank(s) if present, and in the final sanitizing rinse manifold.

7.5.1.2.6 **Pressure Gauge (22) (2 points)**

WAREWASHING machines that provide a fresh hot water sanitizing rinse must be equipped with a pressure gauge or similar device such as a transducer that measures and displays the water pressure in the supply line immediately before entering the WAREWASHING machine.

If the flow pressure measuring device is upstream of the fresh hot water sanitizing rinse control valve, the device must be mounted in a 6.4-millimeter (1/4-inch) iron pipe size (IPS) valve.

These guidelines do not apply to a machine that uses only a pumped or recirculated sanitizing rinse.

7.5.1.2.7 Manual Sanitizing Booster Heater (22) (2 points)

If hot water is used for SANITIZATION in manual WAREWASHING operations, the sanitizing compartment of the sink must be designed with an integral heating device capable of maintaining water at a temperature not less than 77°C (171°F).

7.5.1.2.8 Self Draining (22) (2 points)

Sinks and drainboards of WAREWASHING sinks and machines must be self draining.

7.5.2 Warewashing Numbers and Capacities

7.5.2.1 Three-Compartment Sinks

7.5.2.1.1 Three-Compartment Sink (22) (2 points)

A sink with at least three compartments must be provided for manually washing, rinsing, and sanitizing EQUIPMENT and UTENSILS.

7.5.2.1.2 Size (22) (2 points)

Sink compartments must be large enough to accommodate immersion of the largest EQUIPMENT and UTENSILS. If EQUIPMENT or UTENSILS are too large for the WAREWASHING sink, a WAREWASHING machine or alternative EQUIPMENT, such as a three-bucket system, must be used.

7.5.2.1.3 Manual Warewashing Alternatives

Alternative manual WAREWASHING EQUIPMENT may be used when there are special cleaning needs or constraints and its use is APPROVED. Alternative manual WAREWASHING EQUIPMENT may include the following:

- **High-pressure detergent sprayers.**
- **Low- or line-pressure spray detergent foamers.**
- **Other task-specific cleaning EQUIPMENT.**
- **Brushes or other implements.**

- Receptacles such as a three-bucket system that substitute for the compartments of a three-compartment sink.

7.5.2.2 Drainboards

7.5.2.2.1 *Soiled/Clean Storage (22) (2 points)*

Drainboards, UTENSIL racks, or tables large enough to accommodate all soiled and cleaned items that may accumulate during hours of operation must be provided for UTENSIL holding before cleaning and after sanitizing.

7.5.2.3 Sanitizing Solutions, Testing Devices

7.5.2.3.1 *Test Kit (22) (2 points)*

A test kit or other device that accurately measures the concentration in milligrams per liter (parts per million) of sanitizing solutions must be provided.

7.5.3 Warewashing Equipment Maintenance and Operation

7.5.3.1 Good Repair and Proper Adjustment

7.5.3.1.1 *Warewash Equipment Repair (22) (2 points)*

WAREWASHING EQUIPMENT must be maintained in good repair and proper adjustment, including the following:

- WAREWASHING EQUIPMENT must be maintained in a state of repair and condition that meets the standards of the materials, design, and construction of these guidelines.
- Water pressure and water TEMPERATURE-MEASURING DEVICES must be maintained in good repair and be accurate within the intended range of use.

7.5.3.1.2 *Warewash Equipment Cleaning (22) (2 points)*

WAREWASHING machines, drainboards, and the compartments of sinks, basins, or other receptacles used for washing and rinsing EQUIPMENT, UTENSILS, or raw FOODS, or laundering wiping cloths must be cleaned as follows:

- Before use.
- Throughout the day at a frequency necessary to prevent recontamination and accumulation of debris and to ensure the EQUIPMENT performs its intended function.

- At least every 24 hours (if used).

7.5.3.1.3 Warewash Equipment Operation (22) (2 points)

A WAREWASHING machine and its auxiliary components must be operated in accordance with the machine's data plate and other manufacturer's instructions.

A WAREWASHING machine's conveyor speed or automatic cycle times must be maintained accurately timed in accordance with manufacturer's specifications.

7.5.3.1.4 Cleaners (22) (2 points)

When used for WAREWASHING, the wash compartment of a sink, mechanical warewasher, or wash receptacle of alternative manual WAREWASHING EQUIPMENT must contain a wash solution of soap, detergent, acid cleaner, alkaline cleaner, degreaser, abrasive cleaner, or other cleaning agent according to the cleaning agent manufacturer's label instructions.

7.5.3.1.5 Solution Clean (22) (2 points)

The wash, rinse, and sanitize solutions must be maintained clean.

7.5.3.2 Wash Temperatures

7.5.3.2.1 Manual Wash Temperature (23) (3 points)

The temperature of the wash solution in manual WAREWASHING EQUIPMENT must be maintained at not less than the temperature specified on the cleaning agent manufacturer's label instructions.

7.5.3.2.2 Warewash Wash Temperatures (23) (3 points)

The temperature of the wash solution in spray type warewashers that use hot water to sanitize must not be less than

- 74°C (165°F) for a stationary-rack, single-temperature machine.
- 66°C (150°F) for a stationary-rack, dual-temperature machine.
- 71°C (160°F) for a single-tank, conveyor, dual-temperature machine.
- 66°C (150°F) for a multi-tank, conveyor, multitemperature machine.

High wash tank temperatures do not compensate for low auxiliary rinse and/or hot water final rinse sanitizing temperatures.

7.5.3.2.3 Wash Temperatures for Chemical Machines (23) (3 points)

The temperature of the wash solution in spray-type warewashers that use chemicals to sanitize must not be less than 49°C (120°F).

7.5.3.2.4 Alarm (22) (2 points)

Warewash machines for vessels built to *PUBLIC HEALTH AGENCY OF CANADA 2005 Construction Guidelines* or later or installed/replaced on existing vessels after July 2005 must be equipped with an audible or visual alarm that indicates when the sanitizing temperature or chemical SANITIZER level drops below the levels stated on the machine data plate.

7.5.4 Cleaning Equipment and Utensils

7.5.4.1 Cleaning Frequency

7.5.4.1.1 Food-Contact Surfaces Clean (26 C) (3 points)

FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be clean to sight and touch.

7.5.4.1.2 Encrusted (26 C) (3 points)

FOOD-CONTACT SURFACES of cooking EQUIPMENT and pans must be kept free of encrusted grease deposits and other soil accumulations.

7.5.4.1.3 Nonfood-Contact Surfaces (27) (1 point)

NONFOOD-CONTACT SURFACES of EQUIPMENT must be kept free of an accumulation of dust, dirt, FOOD residue, and other debris.

7.5.4.1.4 Food-Contact Cleaning Frequency (26 C) (3 points)

FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be washed, rinsed, and sanitized as follows:

- Before each use with a different type of raw animal FOOD such as beef, FISH, lamb, pork, or POULTRY.
- Each time there is a change from working with raw FOODS to working with READY-TO-EAT FOODS.
- Between uses with raw fruits and vegetables and with POTENTIALLY HAZARDOUS FOOD.

- Before using or storing a FOOD TEMPERATURE-MEASURING DEVICE.
- Any time during the operation when CONTAMINATION might have occurred.

7.5.4.1.5 *In-Use Food-Contact Equipment (28) (2 points)*

If used with POTENTIALLY HAZARDOUS FOOD, FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS used on a continuing basis must be washed, rinsed, and sanitized at least every 4 hours.

7.5.4.1.6 *Dispensing Equipment Cleaning (28) (2 points)*

Cleaning of EQUIPMENT such as ice bins; BEVERAGE dispensing nozzles; and enclosed components of EQUIPMENT such as ice makers, cooking oil storage tanks, and distribution lines, BEVERAGE dispensing lines, and syrup dispensing lines or tubes; and coffee bean grinders must be conducted

- At a frequency specified by the manufacturer, or
- In the absence of manufacturer specifications, at a frequency necessary to preclude accumulation of soil or mold.

7.5.4.1.7 *Cooking/Baking Equipment Cleaning (28) (2 points)*

Cooking and baking EQUIPMENT must be cleaned as follows:

- FOOD-CONTACT SURFACES of cooking and baking EQUIPMENT must be cleaned at least every 24 hours.
- Cavities and door seals of microwave ovens must be cleaned at least every 24 hours by using the manufacturer's recommended cleaning procedure.

7.5.4.2 Dry Cleaning Methods

7.5.4.2.1 *Dry Cleaning (28) (2 points)*

If dry cleaning is used, it must be conducted as follows:

- Methods such as brushing, scraping, and vacuuming must contact only surfaces soiled with dry FOOD residues that are not potentially hazardous.
- Cleaning EQUIPMENT used in dry cleaning FOOD-CONTACT SURFACES must not be used for any other purpose.

7.5.4.3 Precleaning and Racking

7.5.4.3.1 *Precleaning/Scrapping (23) (3 points)*

FOOD debris on EQUIPMENT and UTENSILS must be scrapped over a waste disposal unit, pulper, or garbage receptacle or must be removed in a WAREWASHING machine with a prewash cycle.

7.5.4.3.2 *Presoak / Scrubbed (23) (3 points)*

If necessary for effective cleaning, EQUIPMENT and UTENSILS must be preflushed, presoaked, or scrubbed with abrasives.

7.5.4.3.3 *Racking (22) (2 points)*

Soiled items to be cleaned in a WAREWASHING machine must be loaded into racks, trays, or baskets or onto conveyors in a position that

- Exposes the items to the unobstructed spray from all cycles and
- Allows the items to drain.

7.5.4.4 Wet Cleaning

7.5.4.4.1 *Washing (23) (3 points)*

FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be effectively washed to remove or completely loosen soils by using whatever manual or mechanical means is necessary (such as application of detergents containing wetting agents and emulsifiers; acid, alkaline, or abrasive cleaners; hot water; brushes; scouring pads; high-pressure sprays; or ultrasonic devices).

7.5.4.4.2 *Soil Specific (22) (2 points)*

The washing procedures selected must be based on the type and purpose of the EQUIPMENT or UTENSIL and on the type of soil to be removed.

7.5.4.5 Alternative Manual Warewashing Procedures

7.5.4.5.1 *Alternative Warewashing Procedures (23) (3 points)*

If washing in sink compartments or a WAREWASHING machine is impractical (such as when the EQUIPMENT is fixed or the UTENSILS are too large), washing must be done by using alternative manual WAREWASHING EQUIPMENT in accordance with the following procedures:

- EQUIPMENT must be disassembled as necessary to allow access of the detergent solution to all parts.
- EQUIPMENT components and UTENSILS must be scrapped or rough-cleaned to remove FOOD particle

accumulation.

- EQUIPMENT and UTENSILS must be washed.

7.5.4.5.2 Sponges Limited (22) (2 points)

Sponges must not be used in contact with cleaned and sanitized or in-use FOOD-CONTACT SURFACES.

7.5.4.6 Rinsing Procedures

7.5.4.6.1 Rinsing (23) (3 points)

Washed EQUIPMENT and UTENSILS must be rinsed so that abrasives are removed and cleaning chemicals are removed or diluted with water by using one of the following procedures:

- Use of a distinct, separate water rinse after washing and before sanitizing (if using a three-compartment sink, alternative manual WAREWASHING EQUIPMENT equivalent to a three-compartment sink, or a three-step washing, rinsing, and sanitizing procedure in a WAREWASHING system for CIP EQUIPMENT).
- Use of a non-distinct water rinse integrated in the application of the sanitizing solution and wasted immediately after each application (if using a WAREWASHING machine that does not recycle the sanitizing solution or if using alternative manual WAREWASHING EQUIPMENT such as sprayers).
- Use of a non-distinct water rinse integrated in the application of the sanitizing solution (if using a WAREWASHING machine that recycles the sanitizing solution for use in the next wash cycle).

7.5.5 Sanitizing

7.5.5.1 Food-Contact Surfaces (24 C) (3 points)

FOOD-CONTACT SURFACES of EQUIPMENT and UTENSILS must be sanitized.

7.5.5.2 Sanitizing Temperatures

7.5.5.2.1 Manual Hot-Water Sanitizing (24 C) (3 points)

In a manual operation, if immersion in hot water is used for sanitizing,

- The temperature of the water must be maintained at

- 77°C (171°F) or above and
- The FOOD-CONTACT SURFACE must be immersed for at least 30 seconds.

7.5.5.2.2 Warewasher Hot-Water Sanitizing (24 C) (3 points)

In a mechanical operation, the temperature of the fresh hot water sanitizing rinse as it enters the manifold must not be more than 90°C (194°F) or less than

- 74°C (165°F) for a stationary rack, single-temperature machine.
- 82°C (180°F) for all other machines.

The UTENSIL surface temperature must not be less than 71°C (160°F) as measured by an irreversible registering temperature indicator.

The maximum temperature of 90°C (194°F) does not apply to the high pressure and temperature systems with wand-type, hand-held spraying devices used for in-place cleaning and sanitizing of EQUIPMENT such as MEAT saws.

7.5.5.2.3 Warewasher Hot-Water Sanitizing Pressure (22) (2 points)

The flow pressure of the fresh hot water sanitizing rinse in a WAREWASHING machine must not be less than 34.5 kilopascals (5 pounds per square inch or 0.34 bars) or more than 207 kilopascals (30 pounds per square inch or 2.07 bars) as measured in the water line immediately downstream or upstream from the fresh hot water sanitizing rinse control valve.

7.5.5.3 Sanitizing Concentrations

7.5.5.3.1 Chemical Sanitizing Solutions (24 C) (3 points)

A chemical SANITIZER used in a sanitizing solution for a manual or mechanical operation must be listed in 40 CFR 180.940 Sanitizing Solutions.

7.5.5.3.2 Chemical Sanitizing Exposure (24 C) (3 points)

A chemical SANITIZER must be used in accordance with the EPA-APPROVED manufacturer's label use instructions at a minimum temperature of 24°C (75°F) with an exposure time of 7 seconds for a chlorine solution and 30 seconds for other chemical SANITIZERS.

7.5.5.3.3 Chemical Sanitizing Concentration (24 C) (3 points)

Sanitizing solutions must be used with the following concentrations:

- A chlorine solution must have a concentration between 50 MG/L (ppm) and 200 MG/L (ppm).
- An iodine solution must have a pH of 5.0 or less or a pH no higher than the level for which the manufacturer specifies the solution is effective AND a concentration between 12.5 MG/L (ppm) and 25 MG/L (ppm).
- A quaternary ammonium compound solution must have a concentration as specified in 40 CFR 180.940 Sanitizing Solutions AND as indicated by the manufacturer's use directions included in the labeling.

If another solution concentration or pH of a chlorine, iodine, or quaternary ammonium compound is used, the vessel must demonstrate to PUBLIC HEALTH AGENCY OF CANADA that the solution achieves SANITIZATION and the use of the solution must be APPROVED.

If a chemical SANITIZER other than a chlorine, iodine, or quaternary ammonium compound is used, it must be applied in accordance with the manufacturer's use directions included in the labeling.

7.5.5.3.4 Sanitizer Concentration Testing (22) (2 points)

Concentration of the sanitizing solution must be accurately determined by using a test kit or other device.

7.5.6 Protection of Clean Items

7.5.6.1 Drying

7.5.6.1.1 Air Dried/Drained (28) (2 points)

After cleaning and sanitizing, EQUIPMENT and UTENSILS must be air dried or ADEQUATELY drained before contact with FOOD. Cleaned, sanitized, and air-dried dishware, glassware, and **UTENSILS may be polished with a clean, dry, lint-free cloth that is maintained clean and dry.**

7.5.6.2 Lubricating and Reassembling

7.5.6.2.1 Lubricating (28) (2 points)

Lubricants must be applied to FOOD-CONTACT SURFACES

that require lubrication in a manner that does not contaminate FOOD-CONTACT SURFACES.

7.5.6.2.2 Assembling (28) (2 points)

EQUIPMENT must be reassembled so that FOOD-CONTACT SURFACES are not contaminated.

7.5.6.3 Storing Equipment, Utensils, Linens, and Single-Service and Single-Use Articles

7.5.6.3.1 Storing Protected (28) (2 points)

Cleaned EQUIPMENT and UTENSILS, laundered LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES must be stored

- In a clean, dry location.
- In a location where they are not exposed to splash, dust, or other CONTAMINATION.
- At least 150 millimeters (6 inches) above the deck unless in packages on pallets, skids, or racks, which may be 127 millimeters (5 inches) above the deck.

EQUIPMENT can be stored in sealed or resealed original packaging, plastic boxes with complete coverage (plastic wrap if needed), and/or wrapped in plastic. EQUIPMENT must be off the deck (rack/deck stand/pallet) and the deck must be clean.

EQUIPMENT and shelving must be kept clean. Shelving does not need to meet EASILY CLEANABLE standard. No SINGLE-SERVICE/SINGLE-USE ITEMS or chemicals should be stored in the room.

(Intent is that chemicals cannot be stored in the same room as the food equipment if food equipment is stored in an unfinished locker.)

Exposed GREY WATER and BLACK WATER lines must not to be in unfinished EQUIPMENT lockers if they are push-fit or coupled. These lines can be solid pipe, butt-welded, or sleeve-welded. If plastic pipe, the lines can be heat fused or chemically welded.

7.5.6.3.2 Storing Inverted (28) (2 points)

Clean EQUIPMENT and UTENSILS must be stored

- In a self-draining position that allows air drying.
- Covered or inverted.

7.5.6.3.3 *Preset Tableware (28) (2 points)*

TABLEWARE preset longer than 4 hours before the beginning of service must be protected from CONTAMINATION by being wrapped, covered, or inverted.

When TABLEWARE is preset, exposed unused settings must be

- removed at the time a CONSUMER is seated or
- washed, rinsed, and sanitized before further use if the settings are not removed when a CONSUMER is seated.

7.5.6.3.4 *Original Package (28) (2 points)*

SINGLE-SERVICE and SINGLE-USE ARTICLES must be kept in the original protective package or stored by using other means that afford protection from CONTAMINATION until used.

7.5.6.3.5 *Utensil Dispensing (28) (2 points)*

Eating UTENSILS dispensed at a CONSUMER self-service unit such as a buffet or salad bar must be protected from CONTAMINATION.

7.5.7 Laundering

7.5.7.1 Laundry Facilities

7.5.7.1.1 *Laundry Equipment (28) (2 points)*

If LINENS used in FOOD AREAS are laundered on the vessel, a mechanical clothes washer and dryer must be provided and used.

7.5.7.1.2 *Laundry Operations Location (28) (2 points)*

Laundry operations must be located to protect operations from CONTAMINATION and only located where there are none of the following: Exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; or unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.5.7.2 Laundry Procedures

7.5.7.2.1 *Laundry Frequency (28) (2 points)*

LINENS that do not come in direct contact with FOOD must be laundered between operations if they become wet, sticky, or visibly soiled.

7.5.7.2.2 Cloth Gloves (28) (2 points)

Cloth gloves must be laundered before being used with a different type of raw animal FOOD such as beef, lamb, pork, and FISH.

7.5.7.2.3 Linens / Napkins (28) (2 points)

LINENS and napkins used to line FOOD-service containers and cloth napkins must be laundered between each use.

7.5.7.2.4 Wet Wiping Cloths (28) (2 points)

Wet wiping cloths must be laundered daily.

7.5.7.2.5 Dry Wiping Cloths (28) (2 points)

Dry wiping cloths must be laundered as necessary to prevent CONTAMINATION of FOOD and clean serving UTENSILS.

7.5.7.2.6 Laundry Procedures (28) (2 points)

Soiled LINENS must be kept in clean, non-absorbent receptacles or clean, washable laundry bags and stored and transported to prevent CONTAMINATION of FOOD, clean EQUIPMENT, clean UTENSILS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.5.7.2.7 Washing (28) (2 points)

LINENS must be mechanically washed.

7.6 Poisonous and Toxic Materials

7.6.1 Identification

7.6.1.1 Labeling

7.6.1.1.1 Manufacturer Label (31 C) (3 points)

Original containers of POISONOUS OR TOXIC MATERIALS and PERSONAL-CARE ITEMS must bear a legible manufacturer's label.

7.6.1.1.2 Working Containers (31 C) (3 points)

Working containers used for storing POISONOUS OR TOXIC MATERIALS such as cleaners and SANITIZERS taken from bulk supplies must be clearly and individually identified with the common name of the material.

7.6.2 Operational Supplies and Applications

7.6.2.1 Storage

7.6.2.1.1 Pesticide/Rodenticide Locker (31 C) (3 points)

PESTICIDES, insecticides, and rodenticides must be stored in a locked area of the vessel that is not in a FOOD AREA.

7.6.2.1.2 Cleaning Materials Locker (31 C) (3 points)

POISONOUS OR TOXIC MATERIALS used in the cleaning and maintenance of FOOD AREAS must be stored in a cleaning materials locker so they cannot contaminate FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.6.2.1.3 Exemptions

This guideline does not apply to EQUIPMENT and UTENSIL cleaners and SANITIZERS stored in WAREWASHING areas for availability and convenience if the materials are stored to prevent CONTAMINATION of FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.6.2.2 Use

7.6.2.2.1 Necessary Materials (31 C) (3 points)

Only POISONOUS OR TOXIC MATERIALS required for the operation and maintenance of a FOOD AREA of the vessel—such as for cleaning and sanitizing EQUIPMENT and UTENSILS and controlling insects and rodents—are allowed in the FOOD AREAS of the vessel.

7.6.2.2.2 Use Conditions (31 C) (3 points)

POISONOUS OR TOXIC MATERIALS must be used according to the following:

- LAW and these guidelines.
- Manufacturer's use directions included in labeling (and, for a PESTICIDE, manufacturer's label instructions stating that use is allowed in a FOOD AREA).
- Conditions of certification (if certification is required) for use of the pest-control materials.

7.6.2.2.3 Application (31 C) (3 points)

POISONOUS OR TOXIC MATERIALS must be applied in a manner that prevents

- A HAZARD to employees or other persons.
- CONTAMINATION including toxic residues resulting from drip, drain, fog, splash, or spray on FOOD; EQUIPMENT; UTENSILS; LINENS; and SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.6.2.2.4 *Restricted-Use Applications (31 C) (3 points)*

When a RESTRICTED-USE PESTICIDE is applied, FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES must be removed; covered with impermeable covers; or other precautions taken.

7.6.2.2.5 *Restricted-Use Applicator (31 C) (3 points)*

A RESTRICTED-USE PESTICIDE must 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.

7.6.2.2.6 *Equipment Cleaning and Sanitizing (31 C) (3 points)*

FOOD EQUIPMENT and UTENSILS in the area treated must be cleaned and sanitized after the application.

7.6.2.2.7 *Containers (31 C) (3 points)*

A container previously used to store cleanser, chemicals, or POISONOUS OR TOXIC MATERIALS must not be used to store, transport, or dispense FOOD. Additionally, FOOD containers must not be used to store, transport, or dispense cleanser, chemicals, or POISONOUS OR TOXIC MATERIALS.

7.6.2.3 Sanitizers and Other Food Area Chemicals

7.6.2.3.1 *Sanitizers (31 C) (3 points)*

Chemical SANITIZERS and other chemical antimicrobials applied to FOOD-CONTACT SURFACES must meet the requirements specified in 40 CFR 180.940 Sanitizing Solutions.

7.6.2.3.2 *Fruit/Vegetable Wash (31 C) (3 points)*

Chemicals used to wash or peel raw whole fruits and vegetables must meet the requirements specified in 21 CFR 173.315 Chemicals Used in Washing or to Assist in the Peeling of Fruits and Vegetables (Annex 13.12).

7.6.2.3.3 *Boiler Water Additives (31 C) (3 points)*

Chemicals used as boiler water ADDITIVES for culinary steam or other FOOD AREA purposes must meet the requirements specified in 21 CFR 173.310 Boiler Water ADDITIVES.

7.6.2.3.4 *Drying Agents (31 C) (3 points)*

Drying agents used in conjunction with SANITIZATION must contain only components listed as one of the following:

- Generally recognized as safe for use in FOOD as specified in 21 CFR 182 Substances Generally Recognized as Safe or in 21 CFR 184 Direct FOOD Substances Affirmed as Generally Recognized as Safe.
- Generally recognized as safe for the intended use as specified in 21 CFR 186 Indirect FOOD Substances Affirmed as Generally Recognized as Safe.
- APPROVED for use as a drying agent under a prior sanction specified in 21 CFR 181 Prior-Sanctioned FOOD Ingredients.
- Specifically regulated as an indirect FOOD ADDITIVE for use as a drying agent as specified in 21 CFR Parts 175-178.
- APPROVED for use as a drying agent under the threshold of regulation process established by 21 CFR 170.39 Threshold of Regulation for Substances Used in FOOD-Contact Articles.

7.6.2.3.5 *Approved for Use with Chemical Sanitizers (31 C) (3 points)*

When used with chemical SANITIZATION, drying agents must be specifically APPROVED for use with chemical sanitizing solutions.

7.6.2.3.6 *Lubricants (31 C) (3 points)*

Lubricants must meet the requirements specified in 21 CFR 178.3570 Lubricants with Incidental FOOD CONTACT if they are used on FOOD-CONTACT SURFACES; on bearings and gears on or within FOOD-CONTACT SURFACES; or on bearings and gears located so that lubricants may leak, drip, or be forced into FOOD or onto FOOD-CONTACT SURFACES.

7.6.2.4 Pesticides and Rodenticides

7.6.2.4.1 *Restricted-Use Pesticides (31 C) (3 points)*

RESTRICTED-USE PESTICIDES used in FOOD AREAS must meet the requirements specified in 40 CFR 152 Subpart

I Classification of PESTICIDES.

7.6.2.4.2 *Rodent Bait (31 C) (3 points)*

Rodent bait used in FOOD AREAS must be contained in a covered, tamper-resistant bait station.

7.6.2.4.3 *Tracking Powder Pesticides (31 C) (3 points)*

A tracking powder PESTICIDE must not be used in a FOOD AREA.

7.6.2.4.4 *Nontoxic Tracking Powders (19) (2 points)*

A nontoxic tracking powder such as talcum or flour, if used, must not contaminate FOOD.

7.6.2.4.5 *Prevent Contamination (28) (2 points)*

If a nontoxic tracking powder such as talcum or flour is used, it must not contaminate EQUIPMENT, UTENSILS, LINENS, or SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.6.3 Medicines

7.6.3.1 Restriction and Storage

7.6.3.1.1 *Necessary Medicines (31 C) (3 points)*

Only medicines necessary for the health of the FOOD EMPLOYEES are allowed in a FOOD AREA.

7.6.3.1.2 *Medicine Labeling/Separation (31 C) (3 points)*

Medicines in a FOOD AREA for FOOD EMPLOYEES' use must be labeled and be located in an area such as the chef's office to prevent the CONTAMINATION of FOOD, EQUIPMENT, UTENSILS, LINENS, or SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.6.3.1.3 *First Aid Supplies (31 C) (3 points)*

First aid supplies in a FOOD AREA for FOOD EMPLOYEES' use must be labeled and stored in a kit or a container in a location that prevents the CONTAMINATION of FOOD, EQUIPMENT, UTENSILS, LINENS, or SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.7 Facilities

7.7.1 Handwashing and Toilet Facilities for Food Employees

This applies to toilet facilities for galley personnel even if those facilities are ACCESSIBLE to other crew members.

7.7.1.1 Handwashing Facility Installation

7.7.1.1.1 **Convenient (29 C) (3 points)**

Each FOOD PREPARATION AREA, bar, WAREWASHING area, and garbage-processing area must have at least one handwashing facility in it.

This applies to self-service and served candy shops where employees serve candy, refill self-service containers, etc.

7.7.1.1.2 **8 Meters/26 Feet (29 C) (3 points)**

The handwashing facility must be within 8 meters (26 feet) of all parts of the area and should not be located in an adjacent area that requires passage through a closed door where users make hand contact with the door.

Handwash sinks must be at least 750 millimeters (30 inches) above the deck so users do not have to reach excessively to wash their hands.

7.7.1.1.3 **Tempered Water (29 C) (3 points)**

A handwashing sink must be equipped to provide water at a temperature of at least 38°C (100°F) through a mixing valve or combination faucet. For handwash sinks with electronic sensors and other types of handwash sinks where users cannot make temperature adjustments, the temperature after the mixing valve must not exceed 49°C (120°F).

7.7.1.1.4 **Metered Faucet (30) (1 point)**

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

7.7.1.1.5 **Automatic Systems (30) (1 point)**

An automatic handwashing facility must be installed in accordance with manufacturer's instructions.

7.7.1.1.6 **Dispenser/Receptacle (30) (1 point)**

A handwashing facility must include a sink, soap dispenser, single-use towel dispenser, and waste receptacle.

7.7.1.1.7 **Sign (30) (1 point)**

A sign stating "wash hands often," "wash hands frequently," or similar wording in a language that the FOOD EMPLOYEES understand must be posted over handwashing sinks.

A sign must be posted advising users of toilet facilities to use hand towel, paper towel, or tissue to open the door unless the exit is hands free.

A pictogram that illustrates the correct use and disposal of paper towels may be used in lieu of a sign.

Passenger and crew public toilet facilities must be equipped so persons exiting the toilet room are not required to touch the door handle with bare hands.

Where toilet stalls include handwashing facilities, the bare-hands-free contact must begin in the toilet stall. Toilet facilities with multiple exits, such as spa dressing rooms, must have bare-hands-free contact at each exit.

Bare-hands-free contact may be accomplished by methods such as locating paper towel dispensers at sinks and waste containers near the room door, installing mechanically operated doors, removing doors, or using other effective means.

7.7.1.2 Toilet Facility Installation

7.7.1.2.1 Convenient (29 C) (3 points)

Toilet rooms must be provided and conveniently located.

7.7.1.2.2 Handwashing Facilities (29 C) (3 points)

Handwashing facilities must be in or immediately adjacent to toilet rooms or vestibules.

7.7.1.2.3 Sign (30) (1 point)

A sign must be conspicuously posted on the BULKHEAD adjacent to the door of the toilet or on the back of the door. The sign must state "WASH HANDS AFTER USING TOILET" in a language the FOOD EMPLOYEES understand.

7.7.1.2.4 Enclosed/Doors (30) (1 point)

Toilet rooms must be completely enclosed and must have tight-fitting, self-closing doors that must be kept closed except during cleaning or maintenance.

7.7.1.2.5 Waste Receptacle (30) (1 point)

EASILY CLEANABLE receptacles must be provided for waste materials.

7.7.1.2.6 *Unlocked (29 C) (3 points)*

Toilet facilities intended for use by galley personnel must not be locked when the galley is in service.

7.7.1.3 Handwashing and Toilet Facility Maintenance

7.7.1.3.1 *Accessible (29 C) (3 points)*

Handwashing facilities must be used for no other purpose and must be ACCESSIBLE at all times.

7.7.1.3.2 *Facilities Clean/Good Repair (30) (1 point)*

Handwashing facilities must be kept clean and in good repair.

7.7.1.3.3 *Soap/Towels (30) (1 point)*

Each handwashing facility must have a supply of hand-cleansing soap or detergent and a supply of SINGLE-SERVICE paper towels available.

7.7.1.3.4 *Toilets Clean/Good Repair (30) (1 point)*

Toilet fixtures must be kept clean and in good repair.

7.7.1.3.5 *Toilet Tissue (30) (1 point)*

A supply of toilet tissue must be provided at each toilet at all times.

7.7.2 Passenger Self-Service Buffet Handwashing Stations

7.7.2.1 *Installation Date (30) (1 point)*

The following section applies to all vessels with a keel laid date of **Month** 2017 or later and any FOOD self-service areas that have been modified since **Month** 2017, including replacement, relocation, or addition of buffet self-service counter(s) or self-service EQUIPMENT.

7.7.2.2 *Number (30) (1 point)*

Provide one obvious handwashing station per 100-passenger seating or fraction thereof. Stations should be equally distributed between the major passenger entry points to the buffet area and must be separate from a toilet room.

7.7.2.3 *Passenger Entries (30) (1 point)*

Provide handwashing stations at each minor passenger entry to the main buffet areas proportional to the passenger flow, with at least one per entry. These handwash stations can count toward the requirement of one station per 100 passengers.

7.7.2.4 Self-Service Stations Outside the Main Buffet (30) (1 point)

Provide at least one handwashing station at the passenger entrance of each self-service station outside of the main buffet. BEVERAGE stations are excluded.

7.7.2.5 Equipment and Supplies (30) (1 point)

The handwashing station must include a handwash sink with hot and cold water, soap dispenser, and SINGLE-USE paper towel dispenser. Electric hand dryers can be installed in addition to paper towel dispensers. Waste receptacles must be provided in close proximity to the handwash sink and sized to accommodate the quantity of paper towel waste generated. The handwashing station may be decorative but must be nonabsorbent, durable, and EASILY CLEANABLE.

7.7.2.6 Automatic Handwashing System (30) (1 point)

An automatic handwashing system in lieu of a handwash sink is acceptable.

7.7.2.7 Sign (30) (1 point)

Each handwashing station must have a sign advising passengers to wash hands before eating. A pictogram can be used in lieu of words on the sign.

7.7.2.8 Location (30) (1 point)

Stations can be installed just outside of the entry. Position the handwashing stations along the passenger flow to the buffets.

7.7.2.9 Lighting (30) (1 point)

The light intensity must be at least 110 lux (10 foot candles) at passenger handwashing stations.

7.7.3 Solid Waste

7.7.3.1 Receptacles and Containers

7.7.3.1.1 Containers (32) (1 point)

Receptacles and waste-handling containers for REFUSE and recyclables and for use with materials containing FOOD residue must be durable, non-absorbent, EASILY CLEANABLE, and leakproof.

7.7.3.1.2 Insect/Rodent Resistant (32) (1 point)

Receptacles and waste-handling containers for REFUSE and recyclables and for use with materials containing FOOD

residue must be insect and rodent resistant and must have tight-fitting lids.

7.7.3.1.3 Covered/Provided (32) (1 point)

Receptacles and waste-handling containers must be kept covered when not in continuous use and after they are filled.

7.7.3.1.4 Location (32) (1 point)

A receptacle or waste-handling container must be provided in each area of the vessel or premise where REFUSE is generated or commonly discarded or where recyclables are placed.

7.7.3.1.5 Wash Facilities (32) (1 point)

Facilities suitable for washing receptacles and waste-handling containers must be provided separate from FOOD EQUIPMENT and UTENSIL storage areas or FOOD PREPARATION AREAS.

7.7.3.1.6 Design/Supplies (32) (1 point)

The designated container wash area must be EASILY CLEANABLE and must have tempered water, access to detergent, and suitable drainage.

7.7.3.1.7 Cleaned (32) (1 point)

Receptacles and waste-handling containers must be cleaned when emptied.

7.7.3.2 Garbage and Refuse Storage Room

7.7.3.2.1 Easily Cleanable/Durable (32) (1 point)

The dry and refrigerated garbage and REFUSE storage room must be constructed of EASILY CLEANABLE, corrosion-resistant, non-absorbent, and durable materials.

7.7.3.2.2 Size (32) (1 point)

The garbage and REFUSE storage room must be large enough to store and process the garbage and REFUSE.

7.7.3.2.3 Prevent Contamination (32) (1 point)

The garbage and REFUSE storage room must be located so as to prevent CONTAMINATION in FOOD PREPARATION, FOOD STORAGE, and UTENSIL washing areas.

7.7.3.2.4 Good Repair/Clean (32) (1 point)

The garbage and REFUSE storage room must be maintained

in good repair and kept clean.

7.7.4 Liquid Waste Disposal and Plumbing

7.7.4.1 Drain Lines

7.7.4.1.1 Drain Lines (19) (2 points)

Drain lines from all fixtures; sinks; appliances; compartments; refrigeration units; or devices used, designed for, or intended to be used in the a) preparation, b) processing, c) storage, or d) handling of FOOD, ice, or drinks must be indirectly connected to appropriate waste systems by means of an AIR GAP or AIR-BREAK.

Drain lines from handwashing and mop sinks may be directly connected to the appropriate waste system.

7.7.4.1.2 Overhead (19) (2 points)

Drain lines carrying SEWAGE or other liquid waste must not pass directly overhead or horizontally through spaces used for preparing, serving, or storing FOOD or for washing or storing UTENSILS and EQUIPMENT. Drain lines that are unavoidable in these FOOD AREAS must be sleeve-welded and must not have mechanical couplings.

7.7.4.1.3 Warewash Sink/Machine Drains (28) (2 points)

All drain lines from WAREWASHING sinks or machines must drain through an AIR GAP or AIR-BREAK to a drain or SCUPPER.

7.7.4.2 Liquid Waste Disposal

7.7.4.2.1 Discharge (35) (2 points)

BLACK and GRAY WATER must be discharged to the vessel's wastewater disposal system and must not pool on the deck.

7.7.4.2.2 Leakage (35) (2 points)

Leakage of SEWAGE tanks or discharge of SEWAGE into the bilge or other areas on the vessel is prohibited.

7.7.4.3 Plumbing

7.7.4.3.1 Good Repair (34) (1 point)

A PLUMBING SYSTEM in a FOOD AREA must be maintained in good repair.

7.7.5 Decks, Bulkheads, and Deckheads

This applies to self-service and served candy shops where employees serve candy and refill self-service containers and CONSUMERS serve themselves.

7.7.5.1 Design and Construction

7.7.5.1.1 *Cleanable (33) (1 point)*

Decks, BULKHEADS, and DECKHEADS in FOOD preparation, WAREWASHING, pantries, bars, and FOOD and EQUIPMENT storage areas must be constructed and maintained for easy cleaning.

Decks may be of non-skid construction provided they are EASILY CLEANABLE. Carpet is not considered EASILY CLEANABLE and should not be used in these areas.

EQUIPMENT can be stored in sealed or resealed original packaging, plastic boxes with complete coverage (plastic wrap if needed), and/or wrapped in plastic. EQUIPMENT must be off the deck (rack/deck stand/pallet) and the deck must be clean.

EQUIPMENT and shelving must be kept clean. Shelving does not need to meet EASILY CLEANABLE standard.

No SINGLE-SERVICE/SINGLE-USE ITEMS or chemicals should be stored in the room.

Exposed GREY WATER and BLACK WATER lines must not to be in unfinished EQUIPMENT lockers if they are push-fit or coupled. These lines can be solid pipe, butt-welded, or sleeve-welded. If plastic pipe, the lines can be heat fused or chemically welded.

7.7.5.1.2 *Coving (33) (1 point)*

BULKHEAD/deck, EQUIPMENT/deck, cabinet/deck, and DECK SINK coaming/deck junctures must have COVING (including galleys, pantries, buffets, bars, waiter stations, dining room work counters, provisions, FOOD STORAGE ROOMS, EQUIPMENT/UTENSIL storage rooms, and toilet rooms intended for use by galley personnel).

7.7.5.1.3 *Finishes (33) (1 point)*

BULKHEADS and DECKHEADS must have SMOOTH and hard finished surfaces.

7.7.5.1.4 Corrosion Resistant (33) (1 point)

Decks, BULKHEADS, and DECKHEADS in FOOD PREPARATION, WAREWASHING, pantries, and storage areas must be corrosion resistant.

7.7.5.1.5 Attached Equipment (33) (1 point)

Light fixtures, vent covers, and similar EQUIPMENT attached to the BULKHEADS or DECKHEADS must be EASILY CLEANABLE.

7.7.5.1.6 Exposed Lines (33) (1 point)

Exposed utility service lines and pipes, including lines for fire detection and protection systems, must be installed so they do not obstruct or prevent cleaning.

7.7.5.1.7 Cleanable Surfaces (33) (1 point)

Surfaces subject to routine splashes, spillage, or other soiling during normal use must have EASILY CLEANABLE features.

7.7.5.1.8 Deck Mats (33) (1 point)

Mats must be designed to be REMOVABLE and EASILY CLEANABLE.

7.7.5.2 Maintenance

7.7.5.2.1 Clean (33) (1 point)

Decks, BULKHEADS, DECKHEADS, and attached EQUIPMENT in FOOD PREPARATION, WAREWASHING, pantries, and storage areas must be cleaned as often as necessary.

7.7.5.2.2 Timing (33) (1 point)

Cleaning must be done during periods when the least amount of FOOD is exposed.

7.7.5.2.3 Good Repair (33) (1 point)

Decks, BULKHEADS, and DECKHEADS in FOOD PREPARATION, WAREWASHING, pantries, and storage areas must be maintained in good repair.

7.7.5.2.4 Ventilation (33) (1 point)

Slots for supply ventilation over the void space (plenum) are not allowed directly over FOOD preparation areas, FOOD STORAGE areas, or clean EQUIPMENT storage.

This section applies to vessels built or renovated in

accordance with the *2011 VSP Construction Guidelines* or later.

7.7.6 Lighting

This section applies to self-service and served candy shops where employees serve candy and refill self-service containers and CONSUMERS serve themselves.

7.7.6.1 Intensity

7.7.6.1.1 220 Lux/20 Foot Candles (36) (1 point)

The light intensity must be at least 220 lux (20 foot candles) on FOOD preparation surfaces.

The light intensity must be at least 220 lux (20 foot candles) as measured 75 centimeters (30 inches) above the deck in FOOD PREPARATION AREAS, handwashing facilities, WAREWASHING areas, EQUIPMENT, and UTENSIL storage, pantries, toilet rooms, and CONSUMER self-service areas.

7.7.6.1.2 110 Lux/10 Foot Candles (36) (1 point)

When lights are in use, the light intensity must be at least 110 lux (10 foot candles) at a distance of 75 centimeters (30 inches) above the deck in walk-in refrigerator units and DRY STORAGE AREAS and in other areas and rooms during cleaning operations.

The light intensity must be at least 110 lux (10 foot candles) behind and around mounted EQUIPMENT, including counter-mounted EQUIPMENT.

7.7.6.1.3 Bars and Waiter Stations (36) (1 point)

The light intensity must be at least 110 lux (10 foot candles) at handwashing stations in bars. In bars and dining room waiter stations, provide 220 lux (20 foot candles) light intensity during cleaning operations.

7.7.6.2 Protected

7.7.6.2.1 Shielded/Shatter Resistant (36) (1 point)

Light bulbs must be shielded, coated, or otherwise shatter resistant in areas with exposed FOOD; clean EQUIPMENT, UTENSILS, and LINENS; or unwrapped SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.7.6.2.2 *Heat Lamps (36) (1 point)*

An infrared or other heat lamp must be protected against breakage by a shield surrounding and extending beyond the bulb so only the face of the bulb is exposed.

7.7.7 Ventilation

7.7.7.1 Design and Operation

7.7.7.1.1 *Sufficient (37) (1 point)*

All FOOD preparation, WAREWASHING, and toilet rooms must have sufficient ventilation to keep them free of excessive heat, steam, condensation, vapors, obnoxious odors, smoke, and fumes.

7.7.7.1.2 *Effective (37) (1 point)*

Ventilation hood systems and devices must operate effectively to prevent grease and condensate from collecting on the BULKHEADS and DECKHEADS and to remove contaminants generated by EQUIPMENT located under them.

7.7.7.1.3 *No Contamination (37) (1 point)*

Heating, ventilating, and air conditioning systems must 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.

7.7.7.2 Maintenance

7.7.7.2.1 *Filters (37) (1 point)*

Filters and other grease-extracting EQUIPMENT must be designed to be READILY REMOVABLE for cleaning and replacement if not designed to be CLEANED IN PLACE. Intake and exhaust air ducts must be cleaned and filters changed so they are not a source of CONTAMINATION by dust, dirt, and other materials.

7.7.8 Cleaning Equipment and Unnecessary Articles

7.7.8.1 Storage

7.7.8.1.1 *Necessary Articles (38) (1 point)*

Only articles necessary for the FOOD service operation must be stored in FOOD PREPARATION, FOOD STORAGE, and WAREWASHING areas.

7.7.8.1.2 *Cleaning Locker (38) (1 point)*

Maintenance tools such as mops, brooms, and similar items must be stored in a designated locker so they do not contaminate FOOD, FOOD-CONTACT SURFACES of UTENSILS and EQUIPMENT, LINENS, or SINGLE-SERVICE and SINGLE-USE ARTICLES.

7.7.8.1.3 *Labeled (38) (1 point)*

The locker must be labeled “CLEANING MATERIALS ONLY.”

7.7.8.1.4 *Orderly Manner (38) (1 point)*

Maintenance tools such as mops, brooms, and similar items must be stored in an orderly manner that facilitates cleaning of the area used for storing the maintenance tools.

7.7.8.1.5 *Mop Drying (38) (1 point)*

After use, mops must be placed in a position that allows them to air dry without soiling walls, EQUIPMENT, or supplies.

7.7.8.1.6 *Bucket Storage (38) (1 point)*

Wash, rinse, and sanitizing buckets or other containers may be stored with maintenance tools as long as they are stored inverted and nested.

8.0 Integrated Pest Management (IPM)

This section includes the following subsections:

- 8.1 Plan Development, Evaluation, and Use of Pesticides
- 8.2 Pest Control
- 8.3 Knowledge

8.1 Plan Development, Evaluation, and Use of Pesticides

8.1.1 IPM Plans

8.1.1.1 IPM Plan (40) (1 point)

Each vessel must have an IPM plan to implement effective monitoring and control strategies for pests aboard the vessel.

8.1.1.2 Monitoring (40) (1 point)

The IPM plan must set a schedule for periodic active monitoring inspections, including some at night or during periods of no or minimal activity.

8.1.1.3 Logs (40) (1 point)

The IPM plan must include provisions for logs for active monitoring of pest sightings in operational areas of the vessel. The IPM plan also must include provisions for training of crew members in charge of log completion. The time of the active monitoring inspections must be recorded in the log.

8.1.1.4 Passive Surveillance (40) (1 point)

The IPM plan must include passive surveillance procedures such as glue traps or other passive monitoring devices and must include the location of each. A passive device monitoring log must be maintained.

8.1.1.5 Action and Follow Up (40) (1 point)

When pests are observed during an inspection, the log must include action taken as well as follow-up inspection results.

8.1.2 Plan Evaluation

8.1.2.1 Evaluation (40) (1 point)

The vessel's IPM plan must be evaluated for effectiveness periodically or whenever there is a significant change in the vessel's operation or structure (e.g., renovation).

Evaluation may be required more frequently in areas where pest infestations cannot be controlled.

8.1.2.2 Reviews (40) (1 point)

IPM plan evaluations and changes must be documented in the IPM plan.

8.1.2.3 Inspections (40) (1 point)

The IPM plan, monitoring records, and other documentation must be available for review during inspections.

8.1.3 IPM and Pesticide Use

8.1.3.1 Pesticide Application

8.1.3.1.1 Pesticide Record (40) (1 point)

The IPM plan must include a record of GENERAL-USE and RESTRICTED-USE PESTICIDES used to control pests and vectors. The record must include all GENERAL-USE and RESTRICTED-USE PESTICIDES currently onboard the vessel and those used in the previous 12 months.

8.1.3.1.2 Restricted Use (39 C) (3 points)

A RESTRICTED-USE PESTICIDE must be applied only by a certified applicator or a person with training and testing equivalent to that of a certified applicator.

8.1.3.1.3 Applicator Training (40) (1 point)

Training of the pest-control personnel must be documented.

8.1.3.1.4 Safety (40) (1 point)

The IPM plan must establish health and safety procedures to protect the passengers and crew.

8.2 Pest Control

8.2.1 Exclusion

8.2.1.1 Food Areas

8.2.1.1.1 Effective Control (39 C) (3 points)

The presence of insects, rodents, and other pests must be effectively controlled to minimize their presence in the FOOD STORAGE, preparation, and service areas and WAREWASHING and UTENSIL storage areas aboard a vessel.

8.2.1.1.2 Exclusion (40) (1 point)

Entry points where pests may enter the FOOD AREAS must

be protected.

Rat guards must be made of a durable and non-chewable material. Single-line, multiple-line, or conical shape rat guards should be used according to the manufacturer's specifications.

Rat guards must be on all lines that go ashore on arrival and until 1 hour before the ship leaves port. Each line must have at least one rat guard placed either as far as practicable from the pier or as far as practicable from the ship but still close enough for any openings to be stuffed with non-chewable material. Rat guards must not be staggered on adjacent lines, and a group of lines must not be merged onto one rat guard. (Ref: ASTM Standard Specification for Rat Guards")

8.2.1.1.3 Incoming Food and Other Supplies (40) (1 point)

Incoming shipments of FOOD and all other supplies must be routinely inspected for evidence of insects, rodents, and other pests. A record of these inspections must be maintained onboard the vessel and must be available for review during inspections.

8.2.1.1.4 IPM Inspections (40) (1 point)

All FOOD AREAS must be inspected at a frequency that can quickly detect the evidence of pests, harborage conditions, cleanliness, and protection of outer openings.

Non-food Areas

Reasonable care must be given to conduct inspections in non-food areas for the presence of insects, rodents, and other pests.

The garbage handling areas of the vessel must be inspected at least weekly for the presence of insects, rodents, and other pests. The results of these inspections must be maintained in a log. **These results may be included in the log of the FOOD AREA inspections.**

8.2.2 Control Measures

8.2.2.1 Chemical

8.2.2.1.1 Chemical Controls (39 C) (3 points)

Chemical control measures must conform to products and application procedures specifically allowed in the FOOD safety section of these guidelines and the vessel's IPM plan.

8.2.2.2 Physical

8.2.2.2.1 *Insect-Control Devices (40) (1 point)*

Insect-control devices that electrocute or stun flying insects are not permitted in FOOD AREAS.

8.2.2.2.2 *Food Protection (19) (2 points)*

Insect control devices such as insect light traps must not be located over FOOD STORAGE, FOOD PREPARATION AREAS, FOOD SERVICE stations, or clean EQUIPMENT. Dead insects and insect fragments must be prevented from falling on exposed FOOD.

8.2.2.2.3 *Utensil Protection (28) (2 points)*

Insect-control devices must not be located over WAREWASHING, UTENSIL storage areas, EQUIPMENT, UTENSILS, LINENS, or unwrapped SINGLE-SERVICE or SINGLE-USE ARTICLES. Dead insects and insect fragments must be prevented from falling on clean items.

8.2.2.2.4 *Cleaning (40) (1 point)*

Dead or trapped insects, rodents, and other pests must be removed from control devices and the vessel at a frequency that prevents their accumulation or decomposition or the attraction of other pests.

8.3 Integrated Pest Management Knowledge

8.3.1 Demonstration of Knowledge (44) (2 points)

The supervisor or PERSON IN CHARGE of IPM operations on the vessel must demonstrate to the PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of IPM operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of IPM operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

9.0 Housekeeping

This section includes the following subsections:

9.1 OUTBREAK Prevention and Management Procedures

9.2 Knowledge

9.1 Outbreak Prevention and Management Procedures

9.1.1 Disinfection

9.1.1.1 Public Areas

9.1.1.1.1 *Continuous Disinfection (41) (2 points)*

When the cumulative proportion of cases of AGE among passengers or crew members is $\geq 2\%$, the OUTBREAK management response must include cleaning and disinfecting all public areas, including handrails and restrooms, on a continuous basis while passengers and/or crew are circulating in those areas.

This process involves DISINFECTION of hand-contact surfaces of all public areas, including restrooms and handrails, throughout the ship and identified in the Outbreak Prevention and Response Plans (OPRP). Workers disinfect these surfaces without interruption along a logical route by deck, venue, and area when people are present or circulating in these areas.

9.1.1.1.2 *Cabin Cleaning (41) (2 points)*

Cabins that house passengers or crew with AGE must be cleaned and disinfected daily while the occupants are ill.

9.1.1.1.3 *Precautionary Measures (41) (2 points)*

Precautionary measures by housekeeping personnel must be taken in consultation with the vessel's medical staff to prevent the spread of AGE from cabin to cabin.

9.1.1.1.4 *Example*

Precautionary measures by the housekeeping personnel may include using disposable personal protection EQUIPMENT, including gloves that are changed after each cabin; cleaning cabins with ill passengers or crew after all other cabins; or having specific crew members only clean cabins of ill passengers or crew.

9.1.1.1.5 **Written OPRP (41) (2 points)**

Each vessel must have a written OUTBREAK PREVENTION AND RESPONSE PLAN (OPRP) that details standard procedures and policies to specifically address AGE onboard. The written OPRP must include the following at a minimum:

- Duties and responsibilities of each department and their staff for all passenger and crew public areas.
- Steps in OUTBREAK management and control and the trigger required for action at each step.

At a minimum, triggers must address a graduated approach to OUTBREAK management in response to increasing case counts. **Additionally, triggers may be based on events, such as reports of public vomiting/diarrhea, increased room service requests, meal or excursion cancellations, missed events, or others.**

Cruise ship AGE / GI surveillance data has shown that a 0.45% daily ATTACK RATE is indicative of a pending OUTBREAK.

- DISINFECTANT products or systems used, including the surfaces or items the DISINFECTANTS will be applied to, concentrations, and required contact times. The DISINFECTANT products or systems must be effective against human norovirus or an acceptable surrogate (e.g., caliciviruses).
- Procedures for informing passengers and crew members of the OUTBREAK. This section should address the procedures for notification of passengers embarking the vessel after an OUTBREAK voyage. In the case of an extended voyage separated into segments, such as a world cruise, this requirement applies to passengers embarking for the segment after an OUTBREAK segment.
- Procedures for returning the vessel to normal operating conditions after an OUTBREAK.
- Procedures to protect the passengers and crew from exposure to DISINFECTANTS, if not already included in the vessel's safety management system. At a

minimum, this must include the following:

- Material safety data sheets (MSDSs).
- Personal protective EQUIPMENT for crew.
- Health and safety procedures to minimize respiratory and dermal exposures to both passengers and crew.

9.1.1.1.6 *Public Toilet Facilities (41) (2 points)*

Passenger and crew public toilets (not including FOOD-area toilets) must be provided with a handwashing station that includes the following:

- Hot and cold running water.
- Soap.
- A method to dry hands (e.g., sanitary hand-drying device, paper towels).
- A sign advising users to wash hands (pictograms are acceptable).

9.1.1.1.7 *Hands-Free Exit (41) (2 points)*

Passenger and crew public toilet facilities must be equipped so persons exiting the toilet room are not required to touch the door handle with bare hands.

Where toilet stalls include handwashing facilities, the bare-hands-free contact must begin in the toilet stall. Toilet facilities with multiple exits, such as spa dressing rooms, must have bare-hands-free contact at each exit.

Bare-hands-free contact may be accomplished by methods such as locating paper towel dispensers at sinks and waste containers near the room door, installing mechanically operated doors, removing doors, or using other effective means.

9.1.1.1.8 *Sign (41) (2 points)*

A sign must be posted advising users of toilet facilities to use hand towel, paper towel, or tissue to open the door unless the exit is hands free.

A pictogram that illustrates the correct use and disposal of paper towels may be used in lieu of a sign.

9.2 Housekeeping Knowledge

9.2.1 ***Demonstration of Knowledge (44) (2 points)***

The supervisor or PERSON IN CHARGE of housekeeping operations on the vessel must demonstrate to the PUBLIC HEALTH AGENCY OF CANADA— on request during inspections—knowledge of housekeeping operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of housekeeping operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

10.0 Child Activity Centers

This section includes the following subsections:

- 10.1 Diaper Changing
- 10.2 Toilets and Handwashing
- 10.3 Cleaning and DISINFECTION
- 10.4 Exclusions
- 10.5 Knowledge

10.1 Diaper Changing

10.1.1 Diaper-Changing Facilities

10.1.1.1 Design

10.1.1.1.1 **Diaper Changing (42) (1 point)**

If children who wear diapers are accepted in the CHILD ACTIVITY CENTER, diaper-changing stations and disposal facilities must be provided.

10.1.1.1.2 **Diaper-Changing Stations (42) (1 point)**

Each station must include the following:

- A changing table that is non-absorbent, nontoxic, SMOOTH, durable, EASILY CLEANABLE, and designed for diaper changing.
- A supply of disposable diapers, gloves, wipes, table cleanser, and DISINFECTANT.
- An airtight soiled-diaper receptacle.
- An adjacent handwashing station.

10.1.1.1.3 **Signs (42) (1 point)**

Signs must be posted in the diaper changing area advising handwashing after each diaper change.

10.2 Toilets and Handwashing

10.2.1 **Employee Handwashing (42) (1 point)**

Vessels constructed to the *VSP (2005) Construction Guidelines* or later must have at least one handwashing station separate from the toilet room(s). The handwashing station must be maintained clean and available at all times. *NOTE: The PHAC doesn't have construction guidelines so it has accepted the VSP Construction Guidelines.*

10.2.2 **Facilities**

Sections 9.1.1.1.6–9.1.1.1.8 also apply to this section, except that the sign

advising users to wash hands (section 9.1.1.1.6) is not required.

10.2.2.1 Design

10.2.2.1.1 *Child-Size Toilet (42) (1 point)*

If toilet rooms are located in a CHILD ACTIVITY CENTER, CHILD-SIZE TOILET(s) or child-ACCESSIBLE toilet(s) (child-size seat and step stool) and handwashing facilities must be provided.

CHILD-SIZE TOILETS (to include the toilet seat) must have a maximum height of 280 millimeters (11 inches) and a toilet seat opening no greater than 203 millimeters (8 inches). Handwashing sinks must have a maximum height of 560 millimeters (22 inches) above the deck or a step stool must be provided.

10.2.2.1.2 *Toilet Supplies (42) (1 point)*

Each child's toilet facility must be provided with a supply of toilet tissue, disposable gloves, and sanitary wipes.

10.2.2.1.3 *Waste Receptacle (42) (1 point)*

An airtight, washable waste receptacle must be conveniently located to dispose of excrement, soiled sanitary wipes, and soiled gloves. Waste materials must be removed from the CHILD ACTIVITY CENTER each day.

10.2.2.1.4 *Handwashing Supplies (42) (1 point)*

Soap, paper towels or air dryers, and a waste towel receptacle must be located at handwashing stations.

10.2.2.1.5 *Signs (42) (1 point)*

Signs must be posted in children's toilet room advising providers to wash their hands and the children's hands after assisting children with using the toilet.

10.2.2.1.6 *Assistance (42) (1 point)*

Children under 6 years old must be assisted in washing their hands in the CHILD ACTIVITY CENTER after using the toilet room, before eating, and after otherwise contaminating their hands.

10.2.2.1.7 *Separate (42) (1 point)*

Separate toilet facilities must be provided for CHILD ACTIVITY CENTER staff. CHILD ACTIVITY CENTER staff must not use the children's toilet facilities. Public toilet

facilities are acceptable.

10.2.2.1.8 Exiting (41) (2 points)

Toilet rooms must be equipped so that persons exiting the toilet room are not required to handle the door with bare hands.

10.2.2.1.9 Temperature (42) (2 points)

The maximum water temperature for a handwashing station must not exceed 43°C (110°F).

10.2.2.1.10 Outside Toilet Rooms (42) (2 points)

Handwashing stations designated for children and located outside toilet rooms must meet the requirements in sections 10.2.2.1.1 and 10.2.2.1.9.

10.3 Cleaning and Disinfection

10.3.1 Employee Handwashing

10.3.1.1 When to Wash Hands (12 C) (4 points)

Child care providers must wash their hands before giving FOOD or BEVERAGES to children.

10.3.2 Furnishings and Toys

10.3.2.1 Construction

10.3.2.1.1 Cleanable (42) (1 point)

Surfaces of tables, chairs, and other furnishings that children touch with their hands must be cleanable.

10.3.2.1.2 Condition (42) (1 point)

Toys used in the CHILD ACTIVITY CENTER must be maintained in a clean condition.

10.3.2.2 Procedures

10.3.2.2.1 Hard Surfaces (42) (1 point)

Surfaces that children touch with their hands must be cleaned and disinfected daily with products labeled by the manufacturer for that purpose.

10.3.2.2.2 Toy Cleaning/Ball Pits (42) (1 point)

Toys used in the CHILD ACTIVITY CENTER must be cleaned and disinfected daily.

Balls used in ball pits/pens must be cleaned when contaminated or at least once per week.
If a CHEMICAL DISINFECTANT is used, toys must be air dried before use.

10.3.2.2.3 *Tables/High Chairs (42) (1 point)*

Tables and high chair trays must be cleaned and disinfected before and after they are used for eating.

10.3.2.2.4 *Decks (42) (1 point)*

Carpeting must be vacuumed daily and must be periodically cleaned when it becomes visibly soiled. Decks must be washed and disinfected when soiled or at least daily.

10.3.2.2.5 *Facility Cleaning/Disinfecting (42) (1 point)*

Diaper changing stations, handwashing facilities, and toilet rooms must be cleaned and disinfected daily and when soiled during use.

10.3.2.2.6 *Linens Laundered (42) (1 point)*

LINENS such as blankets, sheets, and pillow cases must be laundered between each use.

10.3.2.2.7 *Costumes (42) (1 point)*

Costumes worn by children—including clothing items, masks, and hats—must be laundered, cleaned and disinfected, discarded, retained by the guest, or dry cleaned between each use.

10.4 Exclusions

10.4.1 Children with Infectious Illness

10.4.1.1 Procedures

10.4.1.1.1 *Written Guidance (42) (1 point)*

Written guidance on symptoms of common childhood infectious illnesses must be posted at the entrance of the CHILD ACTIVITY CENTER.

10.4.1.1.2 *Exclusion Policy (42) (1 point)*

The CHILD ACTIVITY CENTER must have a written exclusion policy on procedures to be followed when a child develops symptoms of an infectious illness while at the center.

The policy must include a requirement for written clearance from the medical staff before a child with symptoms of infectious illness can be allowed in the CHILD ACTIVITY CENTER.

This policy must be posted at the entrance of the CHILD ACTIVITY CENTER.

10.4.1.1.3 *Infectious Illness (42) (1 point)*

Children with infectious illness must not be allowed in the CHILD ACTIVITY CENTER without written permission from the vessel's medical staff.

10.5 Child Activity Center Knowledge

10.5.1 *Demonstration of Knowledge (44) (2 points)*

The supervisor or PERSON IN CHARGE of CHILD ACTIVITY CENTER operations on the vessel must demonstrate to the PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of CHILD ACTIVITY CENTER operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of CHILD ACTIVITY CENTER operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties.

11.0 Heating, Ventilation, and Air Conditioning (HVAC) Systems, Fountains, Misting Systems, Humidifiers, and Showers

This section includes the following subsections:

- 11.1 HVAC Construction and Maintenance
- 11.2 Fountains, Humidifiers, Misting Systems, and Showers
- 11.3 Knowledge

11.1 HVAC Construction and Maintenance

11.1.1 Construction

11.1.1.1 *Condensate Pans (43) (1 point)*

Air handling unit condensate drain pans and collection systems must be able to be accessed for inspection, maintenance, and cleaning. Installation of sight windows or other effective methods for full inspection of condensate collection pans must be used when original EQUIPMENT access makes evaluation during operational inspections impractical.

11.1.1.2 *Self Draining (43) (1 point)*

Condensation collection pans must be self draining.

11.1.1.3 *Potable Water (43) (1 point)*

Only POTABLE WATER can be used for cleaning the HVAC distribution system.

11.1.2 Maintenance

11.1.2.1 *Air Handling Units (43) (1 point)*

Air handling units must be kept clean.

11.1.2.2 *Condensers (43) (1 point)*

Evaporative condensers must be inspected at least annually and cleaned as necessary to remove scale and sediment. Cooling coils and condensate pans must be cleaned as necessary to remove dirt and organic material.

11.1.2.3 *Inspection and Maintenance Plan (43) (1 point)*

Vessels must have a plan to inspect and maintain HVAC systems in accordance with the manufacturer's recommendations and industry standards. The written inspection, cleaning, and maintenance plan for the HVAC system must be maintained on the vessel and available for

review during inspections.

Documentation of the inspection, cleaning, and maintenance plan must be available for review during inspections.

An electronic maintenance tracking system is acceptable for both the plan and the documentation if the work description and action completed are available.

11.2 Fountains, Humidifiers, Misting Systems, and Showers

11.2.1 Fountains, Humidifiers, and Misting Systems

11.2.1.1 Water Source

11.2.1.1.1 Sprays (43) (1 point)

Only POTABLE WATER can be used for water sprays, decorative fountains, humidifiers, and misting systems. The water must be further treated to avoid microbial buildup in the operation of water sprays, fountains, humidifiers, and misting systems.

11.2.1.2 Fountains and Misting Systems

11.2.1.2.1 Clean (43) (1 point)

Decorative fountains and misting systems must be maintained free of *Mycobacterium*, *Legionella*, algae, and mold growth.

For systems installed after the adoption of the *PUBLIC HEALTH AGENCY OF CANADA 2011 Operations Manual*,

- Provide an automated treatment system (halogenation, UV, or other effective DISINFECTANT) to prevent the growth of *Mycobacterium* and *Legionella* in any decorative fountain, misting system, or similar facility.
- Ensure that nozzles are REMOVABLE for cleaning and DISINFECTION.
- Ensure that pipes and reservoirs can be drained when the fountain/system is not in use.

PORTABLE units must be maintained clean.

11.2.1.2.2 Shock Treatment (43) (1 point)

For misting systems and similar facilities, ensure that these systems can also be manually disinfected (halogenation, heat, etc.).

If heat is used as a DISINFECTANT, ensure that the water

temperature, as measured at the misting nozzle, can be maintained at 65°C (149°F) for a minimum of 10 minutes.

11.2.2 Hot-Water System and Showers

11.2.2.1 Maintenance

11.2.2.1.1 Hot-Water System (43) (1 point)

The potable hot-water system—including shower heads—must be maintained to preclude growth of *Mycobacterium* or *Legionella*.

11.2.2.1.2 Showers (43) (1 point)

Shower heads must be cleaned and disinfected every 6 months. DISINFECTION must be accomplished with an appropriate HALOGEN-based DISINFECTANT at 10 ppm for 60 minutes, or an equivalent CT VALUE.

Shower head cleaning and DISINFECTION must be recorded in a log and maintained on the vessel.

11.3 HVAC Systems, Fountains, Misting Systems, Humidifiers, and Showers Knowledge

11.3.1 Demonstration of Knowledge (44) (2 points)

The supervisor or PERSON IN CHARGE of HVAC operations on the vessel must demonstrate to the PUBLIC HEALTH AGENCY OF CANADA—on request during inspections—knowledge of HVAC systems, fountains, misting systems, humidifiers, and showers operations. The supervisor or PERSON IN CHARGE must demonstrate this knowledge by compliance with this section of these guidelines or by responding correctly to the inspector's questions as they relate to the specific operation. In addition, the supervisor or PERSON IN CHARGE of HVAC systems, fountains, misting systems, humidifiers, and showers operations on the vessel must ensure that employees are properly trained to comply with this section of the guidelines in this manual as it relates to their assigned duties

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APPENDIX A: Scoring Guide

Item No. / Point Value / Description BOLD = Critical Item		
Disease Reporting		
1	4	Disease reporting
2	1	Medical logs maintenance
Potable Water		
3	5	Bunker / production source; Halogen residual
4	5	Distribution system halogen residual
5	2	Distribution system halogen analyzer calibrated
6	2	Halogen analyzer chart recorder maintenance, operation, records; Micro sampling, records
7	3	System protection cross-connections, backflow; Disinfection
8	1	Filling hoses, caps, connections, procedures; Sample records, valves; System construction, maintenance
Recreational Water Facilities		
9	3	PWF halogen residuals
10	2	RWF maintenance, safety equipment
Food Safety		
Personnel		
11	5	Food handlers infections, communicable diseases
12	4	Hands washed; Hygienic practices
13	3	Management, knowledge, monitoring
14	1	Outer clothing clean; Jewelry, hair, hand sanitizers
Food		
15	5	Food Source, sound condition; Food reservice
16	5	Potentially hazardous food temperatures
17	2	Temperature practices; Thawing
18	3	Cross-contamination
19	2	Food protection; Original containers; Labeling: In-use food dispensing, preparation utensils

Item No. / Point Value / Description BOLD = Critical Item		
Equipment		
20	2	PHF temperature maintenance facilities; Food-contact surfaces; Food TMDs
21	1	Nonfood-contact surfaces; Ambient TMDs
22	2	Warewashing facilities; TMDs; Test kits
23	2	Prewash; Wash and rinse solutions
24	3	Sanitizing rinse
25	1	Wiping cloths / che's towels
26	3	Food-contact surfaces equipment / utensils clean; Safe materials
27	1	Nonfood-contact surfaces equipment / utensils clean
28	2	Equipment / utensil / linen / single / service storage handling dispensing; Cleaning frequency
Toilet and handwashing facilities		
29	3	Facilities convenient, accessible, design, installation
30	1	Hand cleanser, sanitary towels, waste receptacles; Handwashing signs; Maintenance
Toxic Substances		
31	3	Toxic items
Facilities		
32	1	Solid waste containers
33	1	Decks / bulkheads / deckheads
34	1	Plumbing fixtures / supply lines / drain lines / drains
35	2	Liquid waste disposal
36	1	Lighting
37	1	Rooms / equipment venting
38	1	Unnecessary articles, cleaning equipment; Unauthorized personnel
Environmental Health		
39	3	IPM program effective; Approved pesticide application
40	1	IPM procedures; Outer openings protection
41	2	Housekeeping
42	1	Child activity centers
43	1	Ventilation
Knowledge		
44	2	Person in charge; Knowledge