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MARINE GUIDANCE

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FOR: Ship Owners, Ship Managers, Ship Operators, Ship Masters, Ship Officers, Classification Societies

SUBJECT: GUIDANCE FOR THE HANDLING, PREPARATION & STORAGE OF FOOD

PURPOSE:

This marine guidance provides general guidelines on food handling, storage and preparation for the benefit of all persons on board a vessel and addresses MLC 2006 requirements that foods meet minimum standards for quality and be prepared and served in hygienic conditions.

APPLICATION:

This marine guidance is not mandatory but strongly recommended and applies to all Tuvalu flagged vessels except in the case of Passenger vessels, as defined in SOLAS Reg 1/2(e) and SOLAS Reg 1/2(f), that require to comply with the stricter vessel sanitation requirements of the WHO Guide to Ship Sanitation (reference (b) below).

DEFINITIONS:

The following abbreviations stand for:

- "hrs" – Hours
- "mins" – Minutes
- "MARPOL" – International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
- "MLC 2006" – Maritime Labour Convention, 2006
- "secs" – Seconds
- "SOLAS" – International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended
- "tbs" – Tablespoon
- "WHO" – World Health Organization

BACKGROUND:

It is important to understand that good food hygiene and the prevention of food-borne illness requires not only a well-maintained and clean galley, but it also requires food to be protected from the risk of harmful contamination by bacteria, chemicals and other foreign bodies from the point of delivery to point of consumption.

REFERENCES:

- (a) Maritime Labour Convention, 2006 (MLC 2006)
- (b) Guide to Ship Sanitation, 3rd Edition, October 2007, World Health Organization (WHO)

CONTENTS:

1. Guidance for Food Handlers

- 1.1. Seafarers who handle food should:

- 1.1.1. Be free of any communicable disease that can be transmitted by food and the following points should be noted:
 - 1.1.1.1. Seafarers handling food that are diagnosed with, suspected of, or exposed to any communicable disease shall be restricted from working in any food or food-related areas and/or operations (e.g. working with exposed food, equipment, utensils, table linens, single-service/use articles or dishwashing) until they are symptom free for a minimum of 48 hrs (please refer to section 1.2 below).
 - 1.1.1.2. Communicable diseases that can be transmitted by food include, but are not limited to: typhoid (*Salmonella typhi* bacteria), shigellosis (*Shigella* spp. bacteria), cholera (*Vibrio* spp. bacteria), intestinal disease (*Escherichia coli* O157:H7 bacteria) and liver disease (hepatitis A virus).
- 1.1.2. Be restricted from working with exposed food, clean equipment, utensils, table lines, and unwrapped single-service/use articles or dishwashing until they are symptom free for a minimum of 48 hrs. Some examples are as follows:
 - 1.1.2.1. boils, open sores, infected wounds, diarrhoea, jaundice, fever, vomiting, sore throat with fever or discharges from the ear, eye, nose or mouth. These conditions should be reported to either the Master or medical staff, as appropriate. No person should be penalized for reporting symptoms or illness. In addition, any cuts, spots or sores should be completely covered by waterproof dressings.
 - 1.1.2.2. persistent sneezing, coughing, or runny nose that causes discharges from the eyes, nose or mouth.
- 1.1.3. Wear hair restraints (e.g. nets, beard restraints, hats, etc.) to prevent hair from contacting food, equipment and other items in the food service areas.
- 1.1.4. Be clean and tidy, wearing suitable protective clothing and footwear.
- 1.1.5. Have limited wear of jewellery.
- 1.1.6. Keep their hands, including fingernails, and exposed portions of their arms clean. Hands and exposed portions of arms must be cleaned (soap and water for a minimum of 20 seconds or disinfectant) immediately BEFORE engaging in food preparation, including working with exposed food, cleaning equipment and utensils and unwrapped single-service/use articles; and/or AFTER performing the following actions:
 - 1.1.6.1. touching bare human body parts other than clean hands and clean, exposed portion of arms;
 - 1.1.6.2. using the toilet room;
 - 1.1.6.3. coughing, sneezing, using a handkerchief or disposable tissue, using tobacco, eating or drinking;
 - 1.1.6.4. handling soiled equipment or utensils;
 - 1.1.6.5. food preparation, as often as necessary to remove soil and contamination and to prevent cross-contamination when changing tasks;
 - 1.1.6.6. switching between working with raw food and working with ready-to-eat food; and

1.1.6.7. engaging in other activities that could contaminate the hands.

2. Guidance for Food Preparation

2.1. Thawing / Defrosting

- 2.1.1. Never defrost raw meat, poultry or seafood at room temperature. They should only be defrosted in a refrigerator. They should be placed on a drip pan so that they are not resting in the thawed liquid and stored in a covered container, separate from other foods in the refrigerator that may be exposed to risk of contamination.
- 2.1.2. For faster thawing, place food in a water-proof plastic bag. Submerge it in cold tap water and change the water every 30 minutes. Alternatively, microwave thawing may be used.
- 2.1.3. Meat, poultry and seafood should be thoroughly defrosted before cooking; and cooked immediately after thawing.
- 2.1.4. Never refreeze thawed food.

2.2. Contamination

- 2.2.1. Always segregate raw and cooked foods, keeping raw meat, poultry, seafood and their juices away from other foods during preparation and storage. When marinating raw meat, poultry or seafood, do so in a covered dish in the refrigerator.
- 2.2.2. Use separate cutting boards (e.g. colour-coded boards) and utensils for raw animal foods (i.e. meat, poultry, seafood, eggs and foods containing them) and produce or other foods. After cutting raw animal foods, wash cutting board, utensils and countertops with hot, soapy water or disinfectant (e.g. one (1) tbs of liquid chlorine bleach per one (1) gallon of water).
- 2.2.3. Keep fruits and vegetables separate from ready-to-eat food until they are washed. Raw fruits and vegetables should be thoroughly washed in water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption.
- 2.2.4. Protect condiments from contamination by keeping in dispensers designed to provide protection or by using individual packets.
- 2.2.5. Be aware of the dangers (hives, anaphylactic shock, death) associated with food allergies and how cross-contamination of foods may trigger them.
- 2.2.6. Always use clean dishes when serving to prevent the serving utensil from contacting a soiled dish and subsequently contaminating other dishes.
- 2.2.7. Food handlers should avoid direct contact between hands and food by utilizing suitable utensils (e.g. deli tissue, spatulas, tongs and single-use gloves, etc.).
- 2.2.8. Food handlers should be prohibited from using a utensil more than once to taste food that is to be served.
- 2.2.9. Seawater should never be used in or near food or food preparation areas.
- 2.2.10. Any food suspected of being contaminated by flies, cockroaches, rodents or other pests should be destroyed.

2.3. Temperature Control

2.3.1. The danger zone for food contamination is between 4° C (40° F) and 62.8° C (145° F). In general, perishable foods should not be left in this temperature range for longer than absolutely necessary, and in no case should foods be left in this temperature range longer than 2 hrs, or where the temperature is above 32° C (90° F), longer than 1 hr. Additionally, food should be placed in a suitable covered container when in this temperature range, unless under preparation or being served.

2.3.2. In general:

2.3.2.1. Maintain hot food above 62.8° C (145° F);

2.3.2.2. Keep cold food below 4.4° C (40° F);

2.3.2.3. Keep frozen foods below -12° C (10° F); and

2.3.2.4. Reheat leftovers only 1 time to a core temperature of 75° C (167° F).

2.3.3. Cook raw animal foods (e.g. eggs, fish, meat, poultry, and foods containing them) thoroughly to the following minimum internal temperatures (i.e. use a probe thermometer to determine temperature and check juices to make certain they run clear) to destroy bacteria:

2.3.3.1. Reheat leftovers only 1 time to a core temperature of 75° C (167° F).

2.3.3.2. Beef, veal and lamb steaks, roasts and chops: 62.8° C (145° F);

2.3.3.3. Ground beef, veal, lamb and all cuts of pork: 71.1° C (160° F);

2.3.3.4. Ground chicken or ground turkey: 74° C (165° F);

2.3.3.5. Poultry: 77° C (170° F) for breasts; 82° C (180° F) for whole poultry and thighs;

2.3.3.6. Seafood (including shellfish): 63° C (145° F); for ground or flaked fish to 68° C (155° F); and 74° C (165° F) for stuffed fish; and

2.3.3.7. Eggs: until egg yolk solidifies (about 70° C (158° F)); or to 71° C (160° F), if used in a recipe with other food items.

2.3.4. To destroy parasites in raw or partially cooked fish, other than shellfish, freeze throughout to a temperature of -20° C (-4° F), or below, for 168 hrs (7 days) in a freezer; or -35° C (-31° F), or below, for 15 hrs in a blast freezer. Certain fish in the tuna family may be excluded from this freezing procedure similar to fish-related foods (e.g. gravlax, sevice, fish carpaccio or sashimi) prepared in food processing plants that are certified parasite free.

2.4. Leftovers / Reheating

Cooling food too slowly prior to refrigeration is a main factor in food poisoning. While small amounts of food may cool relatively quickly, the process should be speeded up when this is not the case. Once cold, leftovers should be date-marked, suitably stored in the refrigerator and used within 2 days. If not used cold, which is preferable, food should be rapidly and thoroughly reheated 1 time only, as stated in sub-section 2.3.2.4, above.

3. Guidance for Food Supplies & Storage

- 3.1. Always load ships with the safest food available by selecting food suppliers that can demonstrate adequate controls over their foodstuffs and suitable transport to the vessel. Food should be clean, wholesome, free from spoilage and adulteration, and otherwise safe for human consumption.
- 3.2. Food should not be stored on the floor, including the kitchen, cooling and freezing room floors. Storage of food at least 15 cm (six (6) inches) above deck is recommended.
- 3.3. Maintain refrigerator temperature at 4.4° C (40° F) or below, and freezer temperature at -17.7° C (0° F) or below.
- 3.4. Always stack cooked food and ready to eat food above raw food in order to avoid any liquids from raw foods draining into other foods.
- 3.5. Raw meat, poultry and seafood should be kept in a covered container with a drip pan when refrigerated to avoid cross-contamination caused by liquid draining.
- 3.6. Cut and sliced fruits should be stored in sealed containers and placed in the refrigerator, unless used for immediate consumption. Cut, raw vegetables (e.g., celery or carrot sticks, cut potatoes and tofu) may be immersed in ice or water from potable water sources, but should be stored in the refrigerator until consumption.
- 3.7. Inspect fresh provisions daily. Ripe fruits and vegetables should be used as soon as possible. Milk, cheese and other perishables should be date-checked. Discoloured, moulded or spoiled products, or those of questionable quality, including those with foul odours, should be disposed of immediately.
- 3.8. Store canned products in a cool, clean and dry place (where possible around 10° C (50° F). Inspect canned products monthly. If they are past the expiration date, dispose of them. Also dispose of any dented, leaking, bulging or rusted cans.
- 3.9. Unused portions of canned goods should never be stored in their original cans. They should be placed in a suitable, closed container and stored in the freezer or refrigerator, as appropriate.

4. Guidance for Cleaning

- 4.1. To ensure that all parts of the food handling establishment are appropriately hygienic, a written cleaning and disinfection program is recommended. Daily, weekly and monthly inspections as well as daily temperature readings of cold storage units should be included in this program.
- 4.2. To protect food safety and provide for the proper cleaning of food, utensils and equipment, the food handling area should have an adequate supply of hot and cold potable water at all times.
- 4.3. Disinfection may be necessary after cleaning. Chemicals used for disinfection (the minimum amounts of which are prescribed in Tuvalu Marine Circular MC-2/2007/12/2), should be stored in clearly identified containers away from the food handling areas, unless otherwise specified by the manufacturer.

5. Guidance on Disposal of Refuse / Garbage

- 5.1. Provision should be made for the sanitary storage and disposal of refuse / garbage to avoid disease-causing organisms and pests in food handling operations.

- 5.2. Disposal of refuse / garbage should be performed where permitted in accordance with MARPOL Annex V and Guidelines as provided by the IMO.

Yours sincerely,

Deputy Registrar
Tuvalu Ship Registry