CHAPTER 5, SUBJECT 1

FACILITY COMPLIANCE REQUIREMENTS

SCOPE

This document outlines the Construction, Equipment and Operating requirements for registered fish processing establishments to comply with the *Fish Inspection Regulations*.

AUTHORITIES

Fish Inspection Act R.S.C. 1985, Ch. F-12 Part I.
Fish Inspection Regulations, C.R.C., c. 802.

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INTRODUCTION

This compliance document for the inspection of fish processing establishments has been produced by the Fish, Seafood and Production Division of the Canadian Food Inspection Agency (CFIA) to update and replace the Handbook of Compliance published in March, 1987.

This document will serve as the basis for regulatory verification activities related to the construction, equipment and operating requirements in federally registered fish processing establishments. It may also serve as a reference document for fish processors.

The compliance requirements outlined in this document are those in Schedules I and II of the ***Fish Inspection Regulations,*** C.R.C., c. 802. Each section of this document contains a **Regulation**, listing the specific sections or subsections of Schedules I and II that apply; an **Intent** statement, giving the fundamental intention of the regulation(s); and a **Compliance** statement, outlining how the regulatory requirement(s) can be met.

The overall intent of Schedules I and II is to provide physical environment and operational requirements that will facilitate a sanitary processing operation and be conducive to the production of safe and wholesome fish products. The design, layout and construction of fish processing establishments, the nature and condition of equipment and materials that they use, and sanitary conditions are all important factors in ensuring that only safe and wholesome fish products are produced in Canada.

If a processor is found not to be following specific actions outlined in a Compliance section of this document, but has in place a mechanism or system that deals with the regulatory requirement such that the Intent of the regulation(s) is satisfied, then this should be considered when determining whether or not the processor is in compliance with the regulations. In other words, it must always be kept in mind that the methods outlined in the Compliance sections are not necessarily the only valid method of achieving the desired results.

For all new fish processing establishment construction, full compliance with Schedules I and II is required.

Additional information can be found on the CFIA website, at **www.cfia-acia.agr.ca**

More detailed information on the Sanitation Programs and Pest Control Programs required under the Quality Management Program can be found in Chapter 3, Subject 4 (QMP Reference Standard and

Interpretive Guidelines - to be issued at a later date) of the Facilities Inspection Manual.

For more detailed information on regulatory requirements specific to canneries, please refer to Chapter 5.2/6.2, Canneries, of the Facilities Inspection Manual.

DEFINITIONS

"Agency" or "CFIA" means the Canadian Food Inspection Agency. (*Agence ou ACIA*)

"approved materials" means materials that have been approved for a specific use by the President of the CFIA, including those products listed in the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products*. (*matériaux approuvés*)

"cleaning" means the removal of soil, food, fish residues, blood, waste water or any other dirt or debris from a processing area and processing equipment. (*nettoyage*)

"conveyance" means any vessel, aircraft, train, motor vehicle, cargo container, trailer or other means of transportation of fish or containers of fish. (*véhicule*)

"critical control point" means a point in a process operation at which control is to be applied in order to prevent or eliminate a hazard or reduce it to an acceptable level. (*point de contrôle critique*)

"critical limit" means the maximum or minimum value to which a hazard must be controlled at a critical control point. (*limite critique*)

"disinfection" means the reduction of the amount of micro-organisms to a level that will not cause serious contamination. (*désinfection*)

"durable", in respect of construction material, means resistant to decay, breakdown or other physical damage. (*durable*)

"Facilities Manual" means the *Facilities Inspection Manual* published by the Department of Fisheries and Oceans in 1988, as amended from time to time. (*Manuel des installations*)

"HACCP plan" means a hazard analysis critical control point plan that is prepared in accordance with the principles of hazard analysis critical control point inspection as specified in the

Facilities Manual to ensure control of hazards during the processing of fish. (*Plan HAACP*)

"impervious", in respect of any material, means an inert material such as concrete through which water or any other substance will not pass. (*imperméable*)

"non-absorbent", in respect of any material, means a material that is highly resistant to the passage, absorption or incorporation of water or any other substance. (*non absorbant*)

"non-corrodible" means any metal or other material that does not readily rust, corrode or otherwise decay. (*résistant à la corrosion*)

"non-toxic" means not injurious to health. (*non toxique*)

"President" means the President of the Canadian Food Inspection Agency. (*président*)

"processing area" means an area of a registered establishment that is used for the processing or storage of fish and any other area designated as a processing area in a quality management program. (*aire de transformation*)

"product preservation process" means a process such as thermal processing, depuration or irradiation, that is designed to control recognized hazards and which, if not performed in accordance with the Facilities Manual or the Canadian Shellfish Sanitation Program - Manual of Operations, as the case may be, may result in the production of fish that are unsafe for human consumption. (*procédé de conservation*)

"refrigeration facilities" means freezers, cold storages, coolers, cool rooms and any other room inside an establishment where the ambient air temperature is reduced by mechanical means in order to preserve the quality and safety of fish. (*installations de réfrigération*)

"registered establishment" means a freezer-factory vessel, barge, onshore plant, building or premise where fish are processed or stored for export and that is registered pursuant to subsection 15(6). (*établissement agréé*)

"sanitation program" means a written program, describing sanitation practices, developed for a registered establishment or for the establishment, conveyance or equipment of a holder of a fish export licence. The purpose of a sanitation program is to ensure that the employees of the establishment or the users of the conveyance or equipment use proper sanitation and hygiene practices, and that the

establishment, grounds, equipment or conveyances are maintained in a clean and sanitary condition and free from serious contamination and insect and animal pests. (*programme sanitaire*)

"serious contamination" means any condition or deficiency that results, or is likely to result, in an unacceptable risk to the consumer or in tainted, decomposed or unwholesome fish. (*contamination grave*)

"shellfish" means all species of bivalve molluscs of the class *Bivalvia* and all marine, carnivorous species of the class *Gastropoda*, either shucked or in the shell, in whole or in part, excluding the adductor muscles of scallops and the meat of geoducks. (*mollusques*)

"smooth" means a fairly regular or even surface without projections, indentations or roughness and that can be easily cleaned and disinfected. (*lisse*)

"sound" means being in good repair or maintenance. (*en bon état*)

"support area" means an area of a registered establishment that is not a processing area and any other area designated as a support area in a quality management program, or an area that is used for

(a) the storage of materials and ingredients used in fish processing;

(b) the maintenance of records for a quality management program;

(c) employee sanitation, personal hygiene or a change room. (*aire connexe*)

"washable" means being capable of being cleaned and disinfected with water, cleansers, disinfectants or liquids. (*lavable*)

1. BUILDINGS AND FACILITIES

1.1 Construction, Design, Plant Surroundings

Regulation

Schedule I, section 2. (1) The layout, design, construction and size of every establishment shall

(*a*) permit adequate cleaning and disinfection of all areas;

(*b*) prevent the accumulation of dirt, fish being in contact with toxic materials and floor surfaces, the shedding of foreign particles into fish and the formation of condensation or mould on surfaces;

(*c*) permit good production practices, including protection against contamination and cross-contamination by fish, equipment, water, air or personnel and any other sources of contamination, including insect and animal pests;

(*d*) provide, if necessary, suitable temperature conditions that permit sanitary processing and storage of fish; and

(*e*) provide for the orderly and rapid movement of raw material and finished product into and out of the establishment.

(2) Construction and packaging materials and non-food chemical products used in the construction and operation of establishments or in their equipment shall be those contained in the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products*, published on February 1, 1998 by the Agency, as amended from time to time.

(3) Saltfish, squid, stockfish and capelin may be dried outside an establishment if it is dried in a location away from traffic on grounds under the control of the operator of the establishment, on dryer flakes or other equipment that is raised at least 1 m above the ground or water and if the fish is handled to prevent the risk of contamination.

Schedule II, section 13. (1) The grounds under the control of an operator of an establishment in proximity to the establishment shall be kept clean, free from debris and unnecessary material and be maintained to minimize harbourages for insect and animal pests.

(2) Areas where fish is loaded, unloaded or handled and other high traffic areas shall be paved with asphalt, covered with concrete or other impervious material and equipped with appropriate drains.

Intent

A fish processing establishment must be designed, laid out and constructed in such a way that it will not become a potential

source of contamination for food products. In addition, the establishment's surroundings must not become a potential source of contamination or provide shelter for insect or animal pests. Loading and handling areas must be designed so that they can be kept clean and not attract pests.

Compliance

The fish processing establishment should be designed and laid out to provide suitable environmental conditions, permit adequate cleaning and sanitation, minimize contamination, prevent access by pests, provide adequate space for the performance of all operations, and prevent unnecessary delays during processing activities.

The flow of products being processed must be such that processing pathways for different products do not cross and the risk of cross-contamination is controlled. There must be separation of time or space between the handling of raw products and the handling of cooked or final products to prevent possible contamination from one to the other.

Working spaces and aisles in the processing area must be unobstructed and wide enough to allow for the movement of people and materials.

The *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products* is available on the CFIA website (see Introduction). This is a current list of materials and non-food chemicals that have been found by the CFIA to be acceptable for use in food processing establishments. To have a commercial product added to the list, the manufacturer of the product should contact the CFIA and apply for approval. In exceptional cases, where the manufacturer is unwilling or unable to apply for addition to the list, the processor wanting to use the product should contact the nearest office of the CFIA and ask for assistance.

Establishments containing retail outlets or premises must be designed such that retail areas are separate and unauthorized persons are prevented from entering processing areas.

The grounds around the establishment must be free of debris and refuse and must not be in close proximity to potential sources of contamination for food products. Grass and other vegetation around the establishment must not be allowed to provide shelter for insect or animal pests. Unused equipment should be stored neatly, away from the sides of buildings, so that it does not become a potential source of contamination or shelter for insects and animal pests.

Loading and unloading areas and other high traffic areas must be surfaced with concrete, asphalt or other suitable surface, be properly sloped, and drain adequately so that water and other liquids do not collect or pool.

1.2 Floors

Regulation

Schedule I, section 3. Floors shall be constructed of smooth, impervious, non-absorbent and non-toxic materials, be sloped for drainage and be maintained in a sound condition for ease of cleaning and disinfection.

Intent

Floors must not be allowed to become a potential source of contamination for food products.

Compliance

Floors must be kept in good repair.

Floors in wet working areas (processing, receiving and holding areas) must be of waterproof, non-absorbent, washable, and non-toxic materials, and it is recommended that they be non-slip as well. Floors in wet working areas must slope sufficiently for liquid to drain. A slope of 1 cm/metre (1/8 inch/linear foot) has been found to be adequate. If floors are ribbed or grooved to facilitate traction, any grooving of this nature should always run to the drainage channel. No water or waste should be allowed to collect or pool during processing.

If floors in wet working areas are not adequately sloped, it must be demonstrated that they can be maintained in a clean and sanitary condition.

Floors in ingredient, packaging, or chemical storage rooms or other support areas may be constructed of wood provided that they are maintained in a clean and sanitary condition. Water or other liquids must not be allowed to collect or pool on floors in these areas.

Floors must be thoroughly cleaned and disinfected as often as required by operating conditions.

1.3 Drains

Regulation

Schedule I, section 4. (1) Drains shall be of a type and size sufficient to carry off any process effluent and water from processing and cleaning operations, be equipped with non-corrodible covers or grates and be constructed in a manner that prevents the entry of insect and animal pests, sewer gases or any other deleterious substance.

(2) All drainage from an establishment shall be disposed of in a manner acceptable to the President or in accordance with local ordinances.

Intent

Drains must not be allowed to become a source of potential contamination or an avenue for the entry of pests into the establishment. The location, type and size of drainage systems is critical in the prevention of pooling and back-ups of process water which may cause unsanitary conditions.

Compliance

Drains must be large enough to carry off any process effluent and water from processing and cleaning operations without danger of overflowing or becoming obstructed. Drains that are connected to a sewer line must be provided with a check (backwater) valve, and drains that are directly connected to a sewer must be provided with traps. Floor drains should have covers that are removable and are constructed of metal or other acceptable material (covers are not required where drains are located under processing equipment). Open drains, which pass through exterior walls or floors, must be designed so that insects and animal pests cannot enter the processing area.

Coolers (i.e., rooms used to cool and store unfrozen fish) must also be drained.

Drains in processing and support areas must be designed and installed so that they carry effluent away from the processing area. Drains must be kept in good repair and cleaned and disinfected as often as required by operating conditions.

Unless they are required as a direct part of the processing operation (e.g., systems designed to carry away waste products during processing), all catch basins, interceptors and other means of separating organic matter from plant effluent should be located outside the processing area.

1.4 Walls

Regulation

Schedule I, section 5. Wall surfaces shall be constructed of smooth, non-absorbent, durable and non-toxic materials that are light-coloured and thoroughly washable, in such a manner that all joints are sealed and floor and wall junctions are coved or rounded, and shall be maintained in a sound condition for ease of cleaning and disinfection.

Intent

Walls must be constructed and maintained in such a way that they will not become potential sources of contamination for food products or allow moisture to enter. Light colours, such as white, off-white or light pastels, allow cleanliness to be evaluated and increase the overall lighting levels in the facility.

Compliance

Walls in wet working areas (processing, receiving and holding areas) must be non-absorbent. Where plywood or similar panelling material is used in the construction of walls, all seams and joints must be made watertight and smooth. The use of painted gypsum-based wallboard, chip board or marine-waterproof wallboard is not permitted in wet working areas. For new registrations, coolers and cold storages must also meet these requirements.

For approved materials refer to the *Reference Listing of Accepted Construction Materials, Packaging Materials, and Non-Food Chemical Products*, available on the CFIA website (see Introduction).

In addition to the approved materials for wet working areas, walls in dry working areas may be constructed of wallboard or chip board.

Coving is not required for walls that are supported on concrete curbs rising from the floor provided that the junction between the curb and the wall does not allow water to enter.

Partitions which form the perimeter of a room are considered walls for the purpose of these requirements.

Walls must be cleaned and disinfected as often as required by operating conditions.

1.5 Ceilings and Overhead Fixtures

Regulation

Schedule I, section 6. Ceilings shall be constructed of smooth, non-absorbent, durable and non-toxic materials that are light-coloured, washable, of a height acceptable to the President of the Agency and maintained in a sound condition for ease of cleaning and disinfection.

Schedule I, section 7. Heating units, water feed lines, piping, lighting, public address or radio systems or other overhead fixtures shall be designed, constructed, installed and finished to prevent the accumulation of dirt and to reduce condensation, the growth of moulds and the shedding of foreign particles into fish being processed beneath and, if the purpose of each is not readily evident, shall be labelled in such a manner that this purpose is readily discernable by an inspector.

Intent

Ceilings and overhead fittings must not be allowed to become sources of falling debris, dust, condensation or moulds that could contaminate work surfaces or food products. Light-coloured ceilings allow cleanliness to be evaluated and increase the overall lighting levels in the facility.

Compliance

Ceilings in processing, receiving and holding areas must be constructed of durable, smooth, waterproof and light-coloured materials and must be well maintained. Ceilings may be constructed of wood if they are coated with an acceptable material that will prevent moisture from entering the wood. All surfaces must be constructed so as to facilitate cleaning and disinfecting, and joints sealed to prevent the entry of moisture. Suspended ceilings are permitted, provided that they can be maintained in a clean and sanitary condition.

Ceilings must be of sufficient height to allow the sanitary operation of the equipment for the particular area. As a guideline, a minimum of 2.7 metres (9 feet) is appropriate.

Overhead fixtures must be designed, constructed, installed and finished such that they are:

(a) not located directly over fish processing operations (with the exception of lighting, or other fixtures specifically required by the nature of the processing operation);
(b) flush mounted to upper surfaces or ceilings;
(c) boxed in, where practical. Otherwise, they must be readily accessible and finished in such a way that they can be properly cleaned;

(d) labelled, if necessary, so that their purpose can be easily identified by an inspector.

Supply lines to processing equipment (e.g., water, electricity, steam) should feed to the equipment by the shortest route possible. If overhead monorails are used, precautions must be taken to ensure that hydraulic fluids or lubricants do not leak or drip onto production surfaces or food products.

Ceilings and overhead fixtures must be well maintained and cleaned and disinfected as often as required by operating conditions.

1.6 Windows/Doors and Ventilation

Regulation

Schedule I, section 8. Windows that are capable of being opened, and any other openings to the outside shall be constructed so as to prevent the accumulation of dirt and be fitted with non-corrodible insect-proof and animal-proof screens or other similar devices.

Schedule I, section 9. (1) Doors into and out of processing and support areas shall be constructed of smooth, non-absorbent and non-toxic materials that are washable, be properly fitted and hung and be maintained in a sound condition for ease of cleaning and disinfection.

(2) Doors in an establishment that is constructed after the coming into force of this Schedule

(*a*) shall be located so that persons may not enter directly into a processing area, with the exception of holding rooms, from outside the establishment; and

(*b*) if the doors are emergency exits from a processing area, shall be clearly marked "Emergency Use Only" or with other similar wording and be equipped with emergency door opening devices, panic bars or similar devices that prevent entry from the exterior of the establishment.

Schedule II, section 8. Doors into and out of an establishment shall be kept closed and may be opened only when necessary to allow personnel, fish, equipment and other materials to enter or leave the establishment unless air curtains or other devices as specified in the establishment's quality management program that prevent the entry of insect and animal pests are in operation.

Schedule I, section 17. Natural and mechanical ventilation systems shall provide clean air, inhibit condensation and maintain conditions that are free from smoke, steam or foul odours, and any openings for the ventilation of the processing or support areas shall be fitted with non-corrodible insect-proof and animal-proof screens or other similar devices.

Intent

Windows and doors must not be allowed to become potential sources of contamination or avenues for the entry of pests. Adequate ventilation is essential to prevent the accumulation of odours, humidity and condensation in a processing establishment. Condensation must be controlled to prevent contamination of walls, equipment and products from ceilings and overhead fixtures.

Compliance

Window frames and doors of processing, receiving and holding areas must be constructed of durable, smooth, waterproof and light-coloured materials. Doors and window frames may be constructed of wood provided they are coated with an acceptable material that will prevent moisture from entering the wood. Window and door frames must be sealed to adjacent walls, and doors, when closed, should have a close-fitting seal to door frames.

Windows that open must be screened, and interior windowsills should be sloped downward or bevelled for ease of cleaning and to prevent accumulation of extraneous material.

Exterior doors must be kept closed when not in use (unless air curtains or other devices to prevent the entry of pests are installed), and cannot be used as a means of ventilating the processing establishment. Plastic strip curtains are not acceptable for exterior doors.

Ventilation systems must provide, when the exterior doors are closed, sufficient air exchange and treatment to prevent the buildup of smoke, undesirable odours or excessive heat and humidity, and inhibit condensation.

Air intakes must be located and operated in such a manner as to prevent the intake of contaminated air and the contamination of food products by airborne dust, bacteria or other contaminants.

Establishments constructed after April, 1999, must not have doors allowing direct entry into processing areas (except holding rooms) from outside, with the exception of emergency exits. Holding areas or anterooms must be provided through which persons must pass to enter the processing areas.

Doors and windows must be kept in good condition and cleaned and disinfected as often as required by operating conditions.

1.7 Lighting

Regulation

Schedule I, section 16. Natural or artificial lighting shall be provided at intensities adequate to ensure the effective delivery to the processing operation being conducted, and the light fixtures shall have appropriate covers and be installed for ease of cleaning and disinfection.

Intent

Adequate lighting increases efficiency in determining defects, allows easier monitoring of sanitation and reduces safety hazards. Lighting fixtures must have covers to prevent breakage and be designed to be easily cleaned and disinfected to prevent contamination of work surfaces and products.

Compliance

At minimum, a light intensity of 215 lux (20 foot-candles) or more, as measured by a standard light meter, is required in all processing and support areas to facilitate cleaning. Surfaces where processing and packaging is conducted require stronger lighting; an intensity of 538 lux (50 foot-candles) or more is recommended. More intense lighting, equal to or greater than 1,075 lux (100 foot-candles), is recommended for locations such as inspection stations.

Light bulbs and fixtures in all processing and support areas where there is exposed food, ingredients or packaging materials must be adequately covered or be coated with a shatterproof material or similarly designed, to prevent contamination in case of breakage. Light fixtures must be designed to allow cleaning and disinfection and must be cleaned often enough to prevent the accumulation of dust and debris.

1.8 Refrigeration/Freezing Facilities

Regulation

Schedule I, section 18. (1) Refrigeration facilities shall be built in accordance with good engineering practices and with respect to freezing equipment shall

(*a*) contact freeze a 25 mm-thick block of unpackaged fillets to -18 °C in two hours or less; or

(*b*) air blast freeze fish at a rate that prevents deterioration of the fish, until the thickest section of the fish is at a temperature of -18 °C.

(2) Refrigeration facilities shall be operated in a manner that minimizes frost build-up.

(3) Cold storages shall be equipped with automatic temperature recording devices capable of recording the temperature at least once every 24 hours.

(4) In refrigeration facilities that are not equipped with automatic temperature recording devices, accurate thermometers must be installed and the temperature read and recorded at least once every 24 hours.

(5) An operator of a registered establishment shall keep a record of each temperature recorded there for a period of three years.

Schedule II, section 16. (2) Cold storages shall maintain the temperature of fish at -18 °C or colder.

(3) Coolers shall maintain fish at a temperature from 4 °C to -1 °C.

Intent

Facilities for temperature control during freezing, storage and refrigeration must be capable of maintaining adequate temperatures. Temperature recording is required for all refrigeration facilities to ensure that minimum temperatures are being met.

Compliance

Refrigeration facilities used for fish and fish products must have the capability to provide and maintain adequate temperatures. This includes freezers (facilities and equipment used to freeze fish), cold storages (used to store frozen fish), and coolers (used to cool and store fish in an unfrozen state).

Freezers must be able to rapidly reduce the temperature of fish products to -18 °C (0 °F) or lower, to minimize adverse effects on the product being frozen.

Air blast freezers must have sufficient refrigeration capacity, air velocity and correct air circulation through the product being frozen to minimize adverse effects on the product. Experience has shown that evaporator temperatures of -30 °C (-22 °F) or lower and air velocity rates of 2m/sec or more are sufficient to achieve adequate freezing rates.

Cold storages must maintain a temperature of -18 °C (0 °F) or colder. To maintain a high level of fish quality, it is strongly recommended that they be kept at a temperature of -26 °C (-15 °F). Cold storages must have temperature recording devices that can automatically record the temperature at least once a day, and the temperature recording devices must be sufficiently accurate to

confirm that required temperatures are being met. Manual recording of the temperature is not sufficient for cold storages.

Coolers and other facilities and equipment used for the refrigeration of fresh or unfrozen fish products, cooked or chilled crustaceans and all molluscan shellfish products must maintain a temperature between -1 ° and 4 °C (between 30° and 39 °F). Allowances must be made for the fact that the temperature may vary slightly above this range due to operating conditions.

Specific processes, for example pre-depuration holding or post-cooking cooling, may require cooling to other temperature ranges, and holding rooms for such processes are not required to meet cooler requirements.

Coolers must have the temperature recorded daily (this includes days the establishment is not operating). However, this can either be done with automatic temperature recording devices, or the temperature can be recorded manually using an accurate thermometer.

Temperature records must be kept for a minimum of three years.

Refrigeration facilities must be maintained in good repair and cleaned and disinfected as required.

2. EQUIPMENT, MATERIALS AND STORAGE

2.1 Equipment

Regulation

Schedule I, section 10. (1) Fish processing equipment and ice handling or conveying equipment, including all surfaces, frames and legs shall be constructed of smooth, non-corrodible, non-absorbent and non-toxic materials that are washable, and shall be maintained in a sound condition for ease of cleaning and disinfection.

(2) Despite subsection (1), frames and legs of dryer flakes and dried squid storage bins may be constructed of wood if all surfaces in contact with fish meet the requirements of that subsection.

(3) Despite subsection (1), bloater drying canes may be constructed of wood if they are clean and in a sound condition.

(4) Despite subsection (1), boxes, carts or bins used to hold fresh whole or dressed fish intended for further processing may be made of planed lumber or waterproof plywood and be coated on the interior and exterior with material approved by the President of the Agency.

(5) Despite subsection (1), ice screws or augers that are in contact with ice may be constructed of galvanized metal.

Schedule I, section 11. Cooler or cold storage racking systems on which pallets of fish are stored shall be constructed of metal or other material acceptable to the President of the Agency and shall be maintained in a sound condition for ease of cleaning and disinfection.

Schedule I, section 21. All facilities and equipment shall be maintained in a sound condition so as to minimize the risk of contamination to fish and facilitate cleaning and disinfection, and shall be installed in such a manner as to allow adequate cleaning of the surrounding area.

Schedule II, section 11. (2) Unnecessary material or equipment shall not be stored in a processing area.

Schedule II, section 14. Forklifts and other devices used for moving fish and materials inside an establishment shall be clean and maintained in a sound condition.

Intent

Equipment must be constructed and maintained in such a way that it will not become a potential source of contamination for food products. Equipment must be made of materials that are non-corrosive and non-porous to allow it to be cleaned and disinfected. Wood, since it can harbour micro-organisms, must not be allowed to

come in contact with food products (with the specified exceptions).

Compliance

Equipment on which fish is processed or which comes in contact with ice or food products must be made of non-corrodible metal or other approved material. This includes such equipment as tables, utensils and totes, bins and baskets used to hold fish being processed or final products. Examples of approved materials are stainless steel, saltwater-resistant aluminum, high-density plastics and fiberglass reinforced plastics. Wood is not an acceptable material.

For a listing of materials that have been found by the CFIA to be acceptable for use in food processing establishments, refer to the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products*, available on the CFIA website (see Introduction).

Exceptions to the above are the frames and legs of dryer flakes and dried squid storage bins, which may be constructed of wood if the surfaces that are in contact with fish are of approved material. Bloater drying canes may also be constructed of wood.

Frames and legs may be made of mild steel or galvanized metal provided they are suitably coated with an approved material.

Boxes, carts or bins used to hold fresh whole or dressed fish intended for further processing may be made of planed lumber or waterproof plywood, provided they are coated with an approved material that will prevent moisture from entering the wood. The use of poly liners as a substitute for an acceptable fish contact surface is not permitted. Wooden boxes cannot be used to store ice.

Fish awaiting further processing may be held in wooden boxes inside the processing areas (including coolers) and the fish may be re-iced to preserve the quality prior to further processing. Once the fish enters the processing line to be processed, any subsequent holding, storage or handling must be in containers of approved material (i.e., not wood).

Frozen fish, including brine-frozen roe herring, may be stored in wooden boxes.

Fibre totes or boxes for transporting fish to a registered establishment must be lined with approved material and must only be used when clean and in a sound condition.

In exceptional circumstances, where it can be shown that this is a

market requirement and the use of wood does not pose a sanitary hazard, wood boxes may be used for shipping final products for export. Examples include boxes of salt cod bits lined with wax paper, and boxes of canned fish products.

Equipment must be designed and constructed so that it can be easily cleaned and disinfected, and installed in such a way that it allows cleaning of the surrounding area.

Surfaces that come into contact with fish or other food products must not have gaps, crevices or inaccessible points that may be omitted during cleaning, and must be properly sloped to drain. All welded equipment, including tables, bins and support brackets must have continuous, smooth and uniformly welded joints (not spot welded). Pans and bowls must not have closed rolled rims as these are difficult to clean.

All flumes must be free-flowing and all joints and bends in the flume must be smooth to the extent that debris can be easily removed by flowing water.

Drive motors and transmissions must be located such that incidental lubricant drip is not allowed to reach surfaces that come in contact with fish, ingredients or other food products.

Stands for workers along the processing lines must be constructed of approved materials, be well maintained, and must either be movable or be constructed in such a way that the stands and the floor beneath can be properly cleaned. Wood is not an acceptable material for stands.

2.2 Product Preservation Process Equipment and Monitoring Devices

Regulation

Schedule I, section 19. Equipment that is used to perform product preservation processes shall meet the applicable requirements set out in the establishment's quality management program.

Schedule I, section 20. Devices that are used to monitor the effectiveness of product preservation processes or the performance of equipment used in product preservation processes shall be calibrated and function in accordance with the applicable requirements set out in the establishment's quality management program.

Intent

Equipment used for product preservation processes must not, through improper functioning, allow an unsafe or unacceptable product to be

produced. Devices used to monitor process equipment must be capable of ensuring its proper functioning.

Compliance

Equipment used for product preservation processes must be consistently capable of meeting critical limits applied to the process. A critical limit represents the value that must be met and is used to separate acceptable product from unacceptable product.

For requirements for retort construction, please refer to Chapter 5.2/6.2, Canneries, of the *Facilities Inspection Manual*.

Equipment used for monitoring product preservation processes must be accurate and precise enough to correctly measure the critical limit. Periodic standardization or calibration is also necessary, and should be addressed in the verification section of the establishment's HACCP plan.

2.3 Packaging Storage

Regulation

Schedule I, section 12. Packaging and labelling materials shall be stored in dry and sanitary storage rooms that are intended for that purpose, that are constructed to provide protection from weather, contamination and the entry of insect and animal pests and that, if appropriate, are equipped with adequate temperature-control devices.

Schedule II, section 11. (2) Unnecessary material or equipment shall not be stored in a processing area.

Intent

Storage areas for packaging and labelling materials must not be allowed to become a potential source of contamination for food products or an avenue for the entry of pests. Packaging and labelling materials must not be improperly or unnecessarily stored in processing areas, as this could hinder cleaning and disinfecting.

Compliance

Packaging and labelling materials must be stored in a location that is dry, adequately lit, protected from pests, and can be kept clean and maintained in good repair. Wooden floors are acceptable. There must be sufficient space between either the materials and the walls, or the materials and the floor, to allow for inspection for

the presence of pests.

Trailer bodies are acceptable for storage of packaging and labelling materials provided they meet all requirements of the regulations.

2.4 Ingredient Storage

Regulation

Schedule I, section 13. (1) Ingredients and additives such as salt and vinegar used in the processing of fish shall be stored in sanitary storage rooms that are intended for that purpose, that are constructed to provide protection from weather, contamination and the entry of insect and animal pests and that, if appropriate, are equipped with adequate-temperature control devices.

(2) Despite subsection (1), bulk storage of ingredients and additives in an enclosed area is permitted if the area meets the requirements of sections 3 to 8 of this Schedule.

(3) Doors to areas referred to in subsection (2) shall be constructed of smooth, non-absorbent and non-toxic materials that are washable, properly fitted and hung, maintained in a sound condition for ease of cleaning and disinfection, and so located that ingredients or additives may be unloaded and delivered or conveyed to a processing area in a sanitary manner.

(4) Despite subsection (1), salt may be stored in bags outside of an establishment if the bags are sound, kept off of the ground and are covered with clean, waterproof coverings that protect the salt from contamination, weather and insect and animal pests.

Schedule II, section 11. (2) Unnecessary material or equipment shall not be stored in a processing area.

Intent

Storage areas for ingredients must not be allowed to become a potential source of contamination for food products or attract pests or become an avenue for the entry of pests. Ingredients must not be improperly or unnecessarily stored in processing areas, as this could hinder cleaning and disinfecting.

Compliance

Ingredients and additives must be stored in a location that is dry, adequately lit, protected from pests and can be kept clean and maintained in good repair. Wooden floors are acceptable. There must be sufficient space between the materials stored and either

the walls or the floor to allow for inspection for the presence of pests. If ingredients must be kept within a specific temperature range, storage areas must be equipped with temperature control devices.

Ingredients and additives may be stored in bulk in an enclosed area as long as it complies with the requirements described previously for floors, drains, walls, ceilings, overhead fixtures, windows and doors (see Sections 1.2-1.6 of this Compliance document).

Bags of salt may be stored outdoors provided that the bags are kept off the ground, on pallets or a concrete pad or similar surface, and are covered to protect them from weather, insects and animal pests.

2.5 Chemical Storage

Regulation

Schedule II, section 2.
(2) Any product used for the lubrication of fish processing equipment or machinery and any product used for cleaning and disinfection shall be clearly labelled as to its use, stored in an appropriate location and only used by a person trained to use or apply it in a manner that prevents contamination of fish or contact surfaces.

Schedule II, section 11.
(2) Unnecessary material or equipment shall not be stored in a processing area.

Schedule II, section 17.
(2) No odiferous or toxic substance shall be stored in a processing area.

Intent

Chemicals used for the operation of equipment or for cleaning and disinfecting must not be allowed to become a potential source of contamination for food products. Chemical products must not be improperly or unnecessarily stored in processing areas, as this could hinder cleaning and disinfecting.

Compliance

Chemical products used for lubrication or for cleaning and disinfecting must be properly labelled and stored in a weatherproof location that is maintained in good repair and kept clean. This may include locations outside the establishment. Chemicals must not be stored in close proximity to supplies or materials, or in such a way as to possibly contaminate food products.

Substances that are toxic or have a strong odour must not be stored in a processing area.

2.6 Temperature Control and Storage of Fish

Regulation

Schedule II, section 16. (1) Fish shall be kept iced or chilled and protected from contamination before processing in the establishment and, if the type of process operation conducted so requires, shall be washed before processing.

(2) Cold storages shall maintain the temperature of fish at -18 °C or colder.

(3) Coolers shall maintain fish at a temperature from 4 °C to -1 °C.

Schedule II, section 17. (1) Processed fish shall be stored in locations designated in the quality management program in order to preserve its quality and safety.

Schedule II, section 18. Frozen fish shall be handled and protected in an establishment to ensure that the temperature of the fish does not increase more than 5.5°C during the time the fish

(*a*) is removed from cold storage and returned to it unless the frozen fish is thawed for further processing; or

(*b*) is placed on a conveyance equipped with cold-storage capability.

Intent

Raw and processed fish products must not be allowed to become contaminated during handling and storage. Unprocessed fish must be kept cool to prevent microbial growth and spoilage and be protected from contamination. Frozen fish must be kept frozen with only minor fluctuations in temperature to prevent microbial growth and spoilage.

Compliance

Landing or receiving and unloading of raw materials intended for processing must proceed quickly. Fresh fish intended for further processing must be cooled rapidly to an appropriate temperature and protected from contamination. Processed fish must also be stored at a suitable temperature.

Fresh or unfrozen fish, cooked and chilled crustaceans, and all molluscan shellfish must be kept between -1 ° and 4 °C (between 30 ° and 39 °F). Allowances must be made for the fact that the temperature of the fish or shellfish may rise slightly above

4 °, due to operating conditions. It is important that these rises in temperature must be kept as brief as possible, in order to minimize the hazard of bacterial growth.

Certain other processes, such as pre-depuration holding or post-cooking cooling, may require different holding temperatures.

Areas where processed fish is stored and surfaces that come in contact with fish after processing must be kept in a clean and sanitary condition.

Frozen fish and fish products must be stored at an even temperature of -18 °C (0 °F) or lower; however, to maintain a high level of fish quality, it is strongly recommended that they be stored at a temperature of -26 °C (-15 °F). When frozen fish are temporarily removed from storage or loaded onto a conveyance with cold storage, their temperature must not be allowed to fluctuate more than 5.5 °C (10 °F). An exception is fish that is thawed or partially thawed for further processing, and subsequently subjected to proper refrigeration.

2.7 Utensils

Regulation

Schedule I, section 25. Utensils and cutting surfaces shall be constructed of non-corrodible, non-absorbent, smooth, impervious and washable material that is maintained in a sound condition for ease of cleaning and disinfection.

Intent

Utensils must not be allowed to become a potential source of contamination for food products. Wood, since it can harbour micro-organisms, must not be used in processing areas or allowed to come in contact with food products.

Compliance

All utensils and cutting surfaces used in processing or holding areas must be designed and constructed so that they can be easily cleaned and disinfected. Wood is not an acceptable material for cutting boards, or the handles of utensils; this includes knives, forks, shovels, brooms, squeegees, rakes, etc.

The use of wire mesh may be acceptable provided the wire is of a non-corrodible material and the design allows the mesh to be properly cleaned and disinfected. Mesh with bare galvanized wire or mesh with twisted joints is not acceptable. Examples of wire-mesh construction that are acceptable include welded square mesh of

stainless steel wire or welded square mesh employing mild steel wire that has been covered with an approved plastic coating.

Enamelled utensils are not acceptable in processing operations.

2.8 Conveyors

Regulation

Schedule I, section 26. (1) Conveyors in contact with fish shall be maintained in a sound condition for ease of cleaning and disinfection, be constructed of non-corrodible, non-absorbent, smooth, impervious, light-coloured and non-toxic materials or non-corrodible, non-absorbent, impervious and non-toxic wire mesh or chain link and, if necessary, be equipped with effective spray washers and scrapers.

(2) Conveyors that are used for loading finished and packaged products into conveyances may be made of mild steel or other similar material and shall be maintained in a sound condition for ease of cleaning and disinfection.

Intent

Conveyors must not be allowed to become a potential source of contamination for food products. Conveyors in contact with fish must be constructed and maintained such that they can be easily cleaned and disinfected.

Compliance

Conveyors must be made of acceptable materials and maintained in a sound condition so that they can be easily cleaned and disinfected. Conveyors in contact with fish must be cleaned regularly when in use. Ways that this may be achieved include the use of water sprayers, air sprayers, scrapers, manual spraying, or dips. Exceptions to this can be made only when it can be shown that sanitary conditions can be maintained through some other means.

2.9 Pallets

Regulation

Schedule I, section 27. Pallets used as equipment in a processing area, such as foot stands, stands for vats and pan racks, shall be constructed of non-corrodible, non-absorbent, smooth, non-toxic and washable materials, and be maintained in a sound condition for ease of cleaning and disinfection.

Schedule II, section 15. (1) Subject to subsection (2), no person shall use wooden pallets in an establishment for any purpose other than

(*a*) to handle or transport boxed or otherwise containerized raw material in a holding room; or

(*b*) to transport ingredients, additives, packaging material, raw material, labels, semi-processed saltfish, or packaged, boxed or otherwise containerized finished products into or out of a processing area.

(2) Wooden pallets may be used for the press piling of saltfish or the processing of salmon roe if a barrier of material acceptable for food contact is placed between the wooden pallet and the fish.

(3) Every pallet shall be clean and maintained in a sound condition.

Intent

Pallets must not be allowed to become a potential source of contamination for food products. Wood, since it can harbour micro-organisms, must not be used on a continual basis in processing areas or allowed to come in contact with food products.

Compliance

Pallets used in a processing area must be made of acceptable materials and maintained in a sound condition so that they can be cleaned and disinfected. Wooden pallets may be used for the purposes listed in the regulations. They may be used in coolers and cold storages to hold packaged final products, but fish held prior to packaging should not be held on wooden pallets (with the exceptions stated in the regulations for saltfish and salmon roe).

3. UTILITIES

3.1 Water Supply

Regulation

Schedule I, section 14. (1) Adequate supplies of water that meet one of the following requirements shall be provided in every establishment under a minimum operating pressure of 140 kPa for fish processing, establishment cleaning and disinfection, ice making, employee sanitation and personal hygiene and the operation of toilets:

> (*a*) the water has a coliform bacteria count, determined by a method acceptable to the President of the Agency, of not more than 2 per 100 millilitres; or
>
> (*b*) the water is derived from a source approved by the President of the Agency.

(2) For the purpose of providing a safe and sanitary supply of water to an establishment, an inspector may require that water supply sources be chlorinated or otherwise treated.

(3) Despite subsection (2), the President of the Agency may allow live shellfish to be held in an establishment in untreated water derived from a source approved by the President if

> (*a*) the median or the geometric mean of the faecal coliform most probable number in the water does not exceed 14 per 100 millilitres and not more than 10% of the water samples exceed a faecal coliform most probable number of 43 per 100 millilitres, as determined by a method acceptable to the President; and
>
> (*b*) the use of the water poses no threat of cross-contamination in the establishment.

(9) An establishment may use water that does not meet the requirements of subsections (1) to (3) for fire protection, boilers or auxiliary services if there is no connection between the other water systems providing water to the establishment and all feed lines and pipes are clearly labelled or coloured so that the purpose of each is readily discernable by an inspector.

(10) Adequate supplies of hot water at a temperature of at least 43 ^{o}C shall be provided throughout processing areas for cleaning and disinfection and at all handwash stations.

(11) Hoses and other water-delivery devices in ready-to-eat fish and shellfish process operations shall be equipped with backflow preventers or vacuum breakers.

(12) Each operator of an establishment constructed after the coming into force

of this Schedule shall keep and make available to an inspector, blueprints or other suitable drawings or sketches that show all water supply and water waste disposal systems, including sources of supply, intake locations, piping runs, treatment systems employed, location of water-sampling valves for the taking of water samples before and after its treatment and the outfall or sewage hook-up locations.

Schedule I, section 28. Vessels with enclosed processing areas shall have, in addition to meeting other applicable requirements of this Schedule,

> (*d*) adequate equipment for delivering pressurized clean and sanitary seawater for processing, the intake for which must be situated in a position where it is not possible for the water being taken in to become contaminated or affected by discharges into the sea of waste water, waste and engine coolant.

Intent

Water must not be allowed to become a potential source of contamination for food products. Clean, uncontaminated water is essential for use in cleaning and processing.

Compliance

An adequate supply of clean water must be supplied for processing and sanitation purposes. The water must show a bacterial coliform count, based on standard bacteriological analysis, of two per 100 millilitres (mL) or less, or else its use must be approved by the CFIA. Approval will be based on the general sanitary and environmental conditions of the area, giving consideration to potential sources of chemical and bacterial contamination, and the presence of mud, silt or other material in the water. These requirements apply to municipal water supplies as well.

All source intakes must be located in a manner that prevents contamination of the water, and storage tanks must be designed to prevent contamination as well.

When the water source is not protected from human or environmental contamination or may be exposed to contamination from time to time, chlorination or some equivalent treatment (such as UV light or filtration) is required. In addition, chlorination of water (or other treatment) must be carried out when it is deemed essential by the CFIA.

Health Canada policy states that residual chlorine in the processing water may not exceed 10 ppm (mg/L), when the water will come into direct contact with fish. The use of chlorine is limited to the disinfection of water supplies and as an aid in sanitation. Higher concentrations may be used in sanitation procedures,

provided the water does not contact fish directly. The direct application of excessive levels of chlorine to fish or fish products for the purposes of disinfecting the product is not permitted.

In general, chlorination alone is adequate for water with less than 100 coliform per 100 mL, while chlorination and filtration is needed for water with more than 100 but less than 4,000 coliform per 100 mL. Grossly contaminated sources of water (over 4,000 coliform MPN (most probable number) per 100 mL) will not be approved.

The application of ozone to the water supply is permitted as an acceptable water treatment provided that the following conditions are met:

1. The amount of ozone added to the water does not exceed the minimum required to effectively reduce the microbial levels in the water (including water to make ice) to acceptable levels in accordance with Good Manufacturing Practices (GMPs). (A processor and the manufacturer of the ozone generating equipment should determine and validate the amount of ozone needed to achieve disinfection and no more than that amount would be added.)

2. The concentration of residual ozone in the water that may come into direct contact with the fresh food is negligible (i.e., as indicated above, GMPs would be applied and no more ozone other than that which is needed for disinfection would be applied to the water resulting in minimal or no residual ozone).

3. If present, residual ozone in the water would not bring about a change in the characteristics of the fresh food.

4. The ozone in the system is not used for the purpose of preservation of the fresh food.

Water used for depuration must have a coliform count of less than two per 100 mL after treatment. The quality of the untreated water must be as good or better than that of the harvest area.

The use of untreated water for holding live fish is acceptable, provided that

(a) the source is approved by the CFIA,
(b) there is no cross-connection to any approved system,
(c) the holding tanks are situated in an area where no other fish processing operations are being carried out, and
(d) there is no danger of the overflow from the holding tanks contaminating the floors and processing equipment in other rooms of the facility where processing operations are being carried out.

The water supply in ready-to-eat and shellfish processing operations must be protected against backflow and back siphonage. All outlets subject to back siphonage must be equipped with a vacuum interrupt-type backflow prevention device.

For requirements for retort cooling water, please refer to Chapter 5.2/6.2, Canneries, of the Facilities Inspection Manual.

3.2 Steam

Regulation

Schedule I, section 14. (4) Steam

(*a*) directly in contact with fish shall not contain any substance that is a hazard, and

(*b*) shall be supplied in adequate quantities for retorting and any other purpose as specified in the establishment's quality management program.

Intent

Steam used for cooking or disinfection comes into direct contact with equipment and product and therefore must not be allowed to become a potential source of contamination.

Compliance

An adequate supply of steam must be provided at sufficient pressure when required for the operations of an establishment. Steam used for cooking or disinfecting must not contain any hazardous substances. Boiler additives must be approved for contact with food products.

Steam used in canning operations must meet the requirements of Chapter 5.2/6.2, Canneries, of the Facilities Inspection Manual.

3.3 Ice

Regulation

Schedule I, section 10. (5) Despite subsection (1), ice screws or augers that are in contact with ice may be constructed of galvanized metal.

Schedule I, section 14. (5) Ice making or ice storage facilities shall

(*a*) be operated in a manner that minimizes frost build-up;

(*b*) be maintained in a sound condition for ease of cleaning and disinfection; and

(*c*) if constructed after the coming into force of this Schedule, be built in accordance with sections 3 to 8 of this Schedule.

(6) No ice making facility or ice storage facility constructed after the coming into force of this Schedule shall use wood on any surface that makes contact with ice.

(7) Ice that is for use in an establishment shall be handled and transported in a manner that prevents its contamination.

(8) No ice shall be used in an establishment unless it has been made from water that meets the requirements of this Schedule and is stored in a manner that prevents its contamination.

Intent

Ice comes into direct contact with equipment and food products and therefore must not be allowed to become a potential source of contamination.

Compliance

Ice must be made with acceptable water. All ice making and storing facilities must be cleaned and disinfected as often as required by operating conditions.

Ice making or storing facilities constructed after April 1999 must comply with the requirements described previously for floors, drains, walls, ceilings, overhead fixtures, and windows (Sections 1.2-1.6 of this document). Wood is not permitted as a construction material for any surface that comes in contact with ice.

Ice must be handled and transported, both inside and outside the establishment, in a manner that prevents its contamination. The use of galvanized metal for screws or augers that are in contact with ice will be permitted provided that it does not result in contamination of the ice.

4. SANITATION, PEST CONTROL AND WASTE DISPOSAL

4.1 Sanitation Program

Regulation

Schedule II, section 1. Every establishment shall implement and comply with its sanitation program.

Intent

All fish processing establishments must implement their documented sanitation program. Food products must not be allowed to become contaminated as a result of poor or inadequate sanitation.

Compliance

A registered establishment must have and implement a written sanitation program, documenting the cleaning and disinfecting procedures employed, as part of its QMP. Details of what is required in a sanitation program can be found in the Interpretive Guidelines in Chapter 3, Subject 4 of the Facilities Inspection Manual (to be issued at a later date), under Prerequisite Plan.

4.2 Cleaning and Disinfecting

Regulation

Schedule II, section 2. (1) Equipment and material used to clean and disinfect an establishment and processing equipment shall be provided in adequate quantities and be conveniently located in the establishment.

(2) Any product used for the lubrication of fish processing equipment or machinery and any product used for cleaning and disinfection shall be clearly labelled as to its use, stored in an appropriate location and only used by a person trained to use or apply it in a manner that prevents contamination of fish or contact surfaces.

Schedule II, section 11. (2) Unnecessary material or equipment shall not be stored in a processing area.

Intent

Cleaning and disinfecting equipment and supplies must be available to ensure that the sanitation program can be carried out as written. Chemical products for use in cleaning and disinfecting must not be allowed to contaminate food products.

Compliance

Brushes, brooms, hoses and other equipment and materials needed for proper cleaning and disinfecting, in accordance with the establishment's sanitation program, must be available in adequate quantities at all times. Cleaning equipment must be constructed of approved materials; wooden-handled cleaning equipment is not acceptable.

There must be adequate facilities for the sanitary storage of hoses and other cleaning equipment.

All chemical products used in processing areas for the operation of equipment or for cleaning and disinfecting must be listed in the establishment's sanitation program, and their use must be identified.

For a listing of cleaning and disinfecting products that have been found by the CFIA to be acceptable for use in food processing establishments, refer to the *Reference Listing of Accepted Construction Materials, Packaging Materials and Non-Food Chemical Products*, available on the CFIA website (see Introduction).

Health Canada has approved the use of ozone for the sanitation of food contact surfaces.

Persons using chemical products should receive training, which can include on-the-job training, on the use of cleaning agents and disinfectants. These persons should be familiar with handling practices and the proper use of all the chemicals included on the processor's list.

4.3 Pest Control

Regulation

Schedule II, section 4. Pesticides or any other animal control products shall be applied in a manner that prevents the contamination of fish, packaging, labelling materials and ingredients.

Schedule II, section 5. Animals are not permitted inside an establishment.

Intent

Pests and other animals must not be allowed to become a potential source of microbial contamination or foreign matter for food products. Pest control products must not be allowed to become a potential source of chemical contamination for food products.

Compliance

A registered establishment must set up and implement a pest control

program as part of its QMP. Details of what is required in a pest control program can be found in the Interpretive Guidelines in Chapter 3, Subject 4 of the Facilities Inspection Manual (to be issued at a later date), under Prerequisite Plan.

Protective devices such as rodent-proof drain outlets and tight-fitting doors must be provided. Fly stickers, insecticidal wall paints, insecticidal strips, automatic dispensers of aerosol insecticides and continuous vaporizers of insecticides must not be used in processing areas, and pesticides must not be stored in processing areas. The use of electrical devices to control flies and other insects is acceptable provided they are equipped with a catch basin and are properly located and maintained in order to eliminate the risk of contaminating food products. Care must be taken when using pest control products in processing areas to prevent dead insects from falling on operating processing equipment and food products.

4.4 Offal

Regulation

Schedule I, section 15. (1) Receptacles for the effective disposal of fish offal shall be provided, be clearly marked "For Offal Only" or with other similar wording or be colour coded, and be

(*a*) equipped with tight-fitting covers, as applicable;

(*b*) constructed of non-absorbent and non-corrodible materials and kept in a sound condition for ease of cleaning and disinfection; and

(*c*) if stored outside the establishment, placed on a concrete pad sloped to a drain.

(2) Continuous offal handling systems that carry offal on conveyors or flumes to offal bins shall be constructed so that they pose no threat of contamination to the processing areas or to fish being processed and must

(*a*) be equipped with tight-fitting covers;

(*b*) if located inside the processing areas, be constructed of non-absorbent and non-corrodible materials and kept in a sound condition for ease of cleaning and disinfection;

(*c*) if located outside the processing areas, be kept in a sound condition for ease of cleaning and disinfection and may be constructed of mild steel or other suitable non-absorbent metal; and

(*d*) if delivering offal to the interior of the offal bin, be located over

or surrounded by a concrete pad of suitable size sloped to a drain.

(3) Vessels, barges or conveyances may be used to store or transport offal to designated gurry grounds or fish meal plants if they are operated in a clean and sanitary manner.

Schedule II, section 6. Fish offal shall be

(*a*) collected in handling systems, receptacles or conveyances that are not used for the holding or transport of fish intended for processing;

(*b*) disposed of or stored, before disposal, in a manner that will not attract insect and animal pests, allow the build-up of offensive odours or contaminate the area surrounding the establishment; and

(*c*) removed from the establishment or grounds under the control of the operator of the establishment as frequently as necessary to maintain the sanitation of the establishment, and as specified in the quality management program of the establishment.

Intent

Fish offal must not be allowed to become a potential source of contamination for food products. Offal must be collected, handled and disposed of in a manner that does not attract pests.

Compliance

Bins or receptacles in which fish offal is stored must be clearly marked, watertight, constructed of metal or other approved material and, where necessary to prevent contamination of the establishment or any food products, must have tight-fitting covers. Containers used along processing lines do not require covers.

Containers, bins, receptacles and conveyances used for offal must not be used for holding or transporting fish intended for processing, or for any materials or utensils used in a food processing operation, unless they are cleaned and disinfected after holding offal as specified in the establishment's QMP.

Offal bins stored outside must be placed on a sloped and drained concrete pad, and must not be allowed to attract pests or contaminate the establishment's surroundings.

Continuous systems for conveying offal to a fish meal processing area or other final removal point must be constructed of acceptable materials, maintained in a sound condition, and cleaned and disinfected as often as required. They must be designed and constructed so that offal or liquid waste will not contaminate food products or the processing area, and so that they can be

effectively and thoroughly cleaned.

Some forms of offal, such as fish skins for glue manufacture and frames and waste for animal feed, require special handling. These types of waste materials may be held in receiving or holding rooms, provided that this does not affect the sanitary operation of the establishment.

5. PERSONAL HYGIENE AND HEALTH REQUIREMENTS

5.1 Washrooms

Regulation

Schedule I, section 22. Flush toilets shall be

(*a*) present in adequate numbers for both sexes;

(*b*) conveniently located adjacent to processing areas;

(*c*) designed so that toilet areas do not lead directly into processing areas; and

(*d*) equipped with floor drains that will prevent any overflow of water or sewage from entering or contaminating a processing area, unless an inspector determines that there is no risk of serious contamination.

Schedule II, section 12. Handwash and toilet facilities shall be maintained in good operating order and be properly equipped with single-service towels and toilet tissue, and all effluent and sewage shall be disposed of in accordance with local ordinances or, if none exist, in a manner satisfactory to an inspector.

Intent

Adequate, properly equipped and maintained toilets are essential to ensure that potential contamination from sewage is prevented. Routine maintenance and cleaning are also required to avoid potential contamination.

Compliance

Toilets must be provided in sufficient numbers for both sexes. The following scale gives the minimum number of toilets for a given number of employees:

1 to 9 employees - 1 toilet
10 to 24 employees - 2 toilets
25 to 49 employees - 3 toilets
50 to 100 employees - 5 toilets
every 30 employees over 100 - 1 toilet

The number of toilets for men can be reduced by one for each urinal installed, as long as it is not reduced below two-thirds of the appropriate number specified above.

Where the number of employees is small enough that a single washroom is adequate, separate facilities for men and women are not

required.

Toilet facilities must be close enough to processing areas that they can be conveniently used by employees.

Toilets cannot lead directly into food processing areas. Entrances to toilet rooms from the processing area are acceptable provided that the toilet rooms are equipped with an anteroom which separates them from the processing area. Toilet rooms must be equipped with drains or be otherwise designed to eliminate overflows of water or sewage so that there is no possibility of contaminating processing areas. Toilet rooms must be adequately vented to the outside.

Chemical and portable toilets are generally unacceptable. However, in exceptional circumstances or remote locations where it can be shown that this is the best alternative, their use may be allowed, provided that they are maintained in a clean and sanitary condition.

Sewage and effluent should be disposed of into an approved municipal system whenever possible. In areas remote from municipal or public facilities, sewage must be disposed of in an acceptable manner, according to local ordinances where they exist.

Hand-washing facilities in washrooms must be properly equipped with liquid or powdered soap and single-service towels. Hand-washing reminder signs should be posted.

Waste receptacles must be available in washrooms, and must be maintained in a clean and sanitary condition.

Toilets and hand-washing facilities must be maintained in good operating order and must be cleaned and disinfected as often as needed.

5.2 Hand-washing and Disinfecting

Regulation

Schedule I, section 23. (1) Washbasins shall be equipped with non-hand-operated taps.

(2) Washbasins and other facilities or materials necessary for employee hygiene shall be

(*a*) provided in adequate quantities, and

(*b*) conveniently located in or visible from processing areas.

Schedule II, section 3. (3) No person shall :

(*a*) handle or process fish unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish; or

(*b*) after leaving a production line, return to it unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish.

Schedule II, section 7. Equipment and material provided to clean and disinfect protective clothing and footwear such as handdips and footdips shall be provided in adequate quantities and be conveniently located in processing areas.

Schedule II, section 12. Handwash and toilet facilities shall be maintained in good operating order and be properly equipped with single-service towels and toilet tissue, and all effluent and sewage shall be disposed of in accordance with local ordinances or, if none exist, in a manner satisfactory to an inspector.

Intent

Good personal hygiene practices are essential for preventing contamination of food products with micro-organisms associated with sewage or human disease or infection. In addition, hands, gloves and footwear must not be allowed to become potential sources of contamination.

Compliance

Processing areas must be supplied with washbasins in adequate numbers for employee hygiene, either in the processing area or in a visible location nearby. One washbasin for every ten employees is a minimum requirement. Washbasins should be a minimum size of 61 cm (24 inches). In trough-style facilities, sets of individual faucets 61 cm (24 inches) apart would each be considered equivalent to one washbasin.

Hand-washing facilities must be equipped with non-hand-operated taps, hot and cold (or tempered) running water, liquid or powdered soap, and single service towels or air dryers. Washbasins must be properly plumbed to drains. Hand-washing facilities must be maintained and cleaned and disinfected on a routine basis.

Every person involved in the preparation and handling of fish must wash their hands and disinfect their hands or hand coverings when they begin working and every time they come back to the processing area after an absence or when required by the establishment’s QMP.

Facilities must be provided in a convenient location in processing areas to allow for the disinfecting of hands or hand coverings. Footdips must be provided to allow for footwear to be disinfected, in areas such as sanitary zones and restricted access areas, except where it can be shown that this is not required due to the nature of the processing operation.

Product flow should be considered when determining the location of washbasins. Shellfish operations must have at least one handwashing facility in the packing room for use by packing room workers only.

5.3 Changing Facilities

Regulation

Schedule I, section 24. Changing facilities for personnel and visitors shall be provided in every establishment that is constructed after this Schedule comes into force.

Intent

Street clothing and personal effects are a potential source of contamination and must be kept from coming into contact with food products.

Compliance

Processing establishments constructed after April 1999 must provide facilities where employees and visitors can store street clothing, footwear, coats, personal effects, lunches, etc. and change into protective clothing before entering processing areas. Change facilities can be combined with lunchrooms where necessary.

For previously existing establishments that do not have change facilities, street clothing, footwear and personal effects must be stored under clean and sanitary conditions, to prevent cross contamination of processing areas of the establishment. Storage of these items should also be arranged so that it does not hinder the cleaning and disinfection of the processing area.

Apron and glove racks must be located such that aprons and gloves can be cleaned and stored under sanitary conditions.

5.4 Protective Clothing

Regulation

Schedule II, section 3. (1) Employees shall wear protective clothing such as coveralls, aprons, sleeves, smocks, hand coverings, hair nets or beard nets that are in a clean and sound condition and suitable for the tasks employees are charged to perform.

(2) No person shall enter a processing area unless the person

(*a*) wears the protective clothing designated in the quality management program and appropriate to the tasks they will perform;

(*b*) ensures that their footwear is clean and sanitary and, if appropriate, uses a footdip to do so; and

(*c*) wears a hair net and, if appropriate, a beard net.

(3) No person shall:

(*a*) handle or process fish unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish; or

(*b*) after leaving a production line, return to it unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish.

(4) Immediately on leaving a processing area a person shall remove any protective clothing and store it in a manner that prevents contamination.

Schedule II, section 7. Equipment and material provided to clean and disinfect protective clothing and footwear such as handdips and footdips shall be provided in adequate quantities and be conveniently located in processing areas.

Intent

Street clothing, facial hair and footwear are potential sources of contamination and must not be allowed to come into contact with or contaminate food products. Processors must specify in their QMP plans how every person entering the processing area and those directly involved in the preparation and handling of fish products are to be attired. Protective clothing itself must not be allowed to become a potential source of contamination.

Compliance

Operators of registered establishments must determine and specify in their QMP plan the appropriate protective clothing to be worn by all persons involved in the preparation and handling of fish or fish products. All persons entering a processing area must wear protective clothing as specified in the company's QMP plan.

Footdips are required in areas such as sanitary zones and restricted access areas, except where it can be shown that this is not necessary due to the nature of the processing operation.

Hairnets and beard nets are required in those parts of the processing areas where fish products are open or exposed to potential contamination by hair.

When headgear is worn over hairnets, it must be clean and free of pins and adornments.

All protective clothing must be clean at the start of the production shift and maintained in a reasonably clean condition throughout the production period. Protective clothing must be washable or disposable, in good repair, and should be light coloured. To reduce the risk of contamination, protective clothing should be fastened with snaps, velcro, or similar fastenings.

Racks or hooks in adequate numbers must be provided in processing areas. At each break and change of work station, gloves must be sanitized and waterproof garments, sleeves and aprons must be cleaned. Slime and debris must not be permitted to dry and cake on waterproof garments.

Everyone leaving a processing area must remove their designated protective clothing and store it under sanitary conditions, except where it can be shown that this is not required due to the nature of the work being conducted (for example, a forklift operator repeatedly leaving and entering a processing area).

Protective garments must be properly stored or hung up , and cannot be placed on processing surfaces or other equipment. Headgear such as hard hats and bump helmets must be properly stored when not in use.

5.5 Employee Health

Regulation

Schedule II, section 9. No person who is a known carrier of a disease that is likely to be transmitted through food or who is afflicted with an infected

wound, skin infection, sore, diarrhoea or any communicable disease, shall work in a registered establishment if there is a possibility of contaminating fish with pathogenic organisms.

Intent

Persons suffering from or carrying communicable diseases are a potential source of microbial contamination, and must not be allowed to infect food products. Open cuts or wounds must be prevented from becoming a source of bacterial contamination.

Compliance

A registered establishment must document its hygiene requirements for employees working in a processing area as part of its sanitation program.

No person is permitted to work in any food handling areas while known to be suffering from, or known to be a carrier of, a disease likely to be transmitted through food or while afflicted with a condition which may result in contamination of the food with pathogenic microorganisms.

All persons having open cuts or wounds must not handle food or food contact surfaces unless the injury is completely protected by a secure waterproof covering.

5.6 Personal Adornments and Behaviour

Regulation

Schedule II, section 10. A person engaged in the handling or processing of fish shall not wear any jewellery, fingernail polish or personal adornments that could contaminate or become incorporated into fish being processed.

Schedule II, section 11. (1) No person shall smoke, spit, eat, chew gum or store food or other personal items not used in fish processing in processing areas.

(2) Unnecessary material or equipment shall not be stored in a processing area.

Intent

Jewellery, nail polish and other personal adornments must not be allowed to become potential sources of contamination or potentially introduce foreign matter into food products. Smoking, eating and drinking must be eliminated as potential sources of contamination and foreign matter during processing.

Compliance

All persons entering fish processing areas must remove personal adornments, jewellery that can be removed, and any other object that could lead to potential contamination of food products. Any jewellery that cannot be removed must be adequately covered. Medic Alert bracelets or necklaces are permissible.
Persons engaged in the handling or processing of fish must not wear nail polish.

Tobacco, gum, beverages or food for personal consumption are not permitted in processing areas. Personal effects and street clothing are not to be kept in processing areas and must be stored in a manner that prevents product contamination.

6. REGISTERED PROCESSING VESSELS

Regulation

Schedule I, section 28. Vessels with enclosed processing areas shall have, in addition to meeting other applicable requirements of this Schedule,

(*a*) a clean and sanitary system for conveying fish from the reception area to the processing area;

(*b*) storage areas for finished products that are large enough and designed so that they are easy to clean and, if a fish meal plant operates onboard, a separate hold must be designated for the storage of fish meal and other by-products;

(*c*) adequate equipment for pumping or disposing of processing effluent, cleanup water, waste or fish that are unfit for human consumption directly into the sea or in accordance with any laws regarding ocean dumping, into a watertight tank reserved for that purpose;

(*d*) adequate equipment for delivering pressurized clean and sanitary seawater for processing, the intake for which must be situated in a position where it is not possible for the water being taken in to become contaminated or affected by discharges into the sea of waste water, waste and engine coolant;

(*e*) walls, ceilings and non-slip floors that are easy to clean, in particular if there are pipes, chains or electrical conduits;

(*f*) hydraulic systems arranged or protected in such a way as to ensure that any leakage that could contaminate fish is minimized; and

(*g*) marine type toilet facilities or other sanitary facilities acceptable to an inspector.

Intent

A vessel with fish processing facilities must be designed, laid out and constructed in such a way that it does not become a potential source of contamination for food products. In addition, the system for conveying fish from reception to the processing area, the walls, ceilings and floors of the processing area, storage areas, solid and liquid waste, and the water used for processing must not be allowed to become potential sources of contamination.

Compliance

Vessels with enclosed processing areas must meet the applicable requirements for walls, ceilings, floors, drains, and overhead fixtures in processing areas (Sections 1.2 to 1.5 of this document).

Standards for processing water on vessels are the same as those for onshore processing plants.