NATIONAL FISHERIES AUTHORITY

Fish Quality Control (Export) Standards

Guiding Statements

These Fish Quality Control (Export) Standards shall reflect current best practice and be a product of an agreement between the NFA, Processors and International Standards and not the work of any one individual.

The use and design system of its laws, standards and procedures must be fair to all exporters and above all guarantee food safety.

The inspection system must ensure food safety, serve the exporter constructively, be efficient and responsive, adaptable to change and the best in the world. It must also meet overseas import requirements.

This living document must be reviewed and changed to reflect the current needs of PNG. Amendments must be clear,concise and understood by all users.

These Export Standards has taken effect over the last twelve months. During this “transition” period, exporters were and should have been trained in the HACCP and hygiene principles, implement the HACCP plan and upgrade Good Manufacturing Practice (GMP) provisions as prescribed in these Export Standards.

The Export Standards has come into full effect as of 31 December 2001.

Exceptions

Processors and exporters of traditional cured products such as dried/smoked bêche-de-mer, dried sharkfin and similar specific low technology dried products destined for Asian markets are exempted from the application of these Export Standards in recognition of the fact that the costs of upgrading facilities and processing would be unsustainable.

Preface

Distribution List

These Fish Quality Control (Export) Standards shall be used by all Authorised Officers and Exporters. Copies shall be made available to each Fish Exporter and Authorised Officer. The most senior Authorised Officer shall keep a list of current holders. Amendments sent out shall also be recorded on this list.

Review - Process, Schedule and Approval

This document shall be reviewed as needed but not less than annually. Revisions shall be carried out by the most senior Authorised Officer and recommended amendments shall first be approved by the Managing Director.

Revisions that require no amendments need only be signed off in the Revision and Amendment list in these Export Standards by the Authorised Officer or Fish Exporter in-charge of the Fish Quality Control (Export) Standards file, after results of a review has been communicated to them by the reviewer in writing. Copies of these communications shall be kept at the back of these Export Standards.

Revisions that require amendments shall be recorded in the Amendment list in these Export Standards by the Authorised Officer or Fish Exporter in charge of maintaining these Export Standards after written instructions or replacement pages have been issued by the reviewer.

Amendments

It is the duty of the reviewer to have all amendments approved by the Managing Director and distributed accordingly. Amended pages shall be paginated as shown below.

The amendments shall be recorded in the amendment sheet of each Fish Quality Control (Export) Standards by the person in charge of the Fish Quality Control (Export) Standards.

Removal of Obsolete Pages

It is the duty of the reviewer to issue written instructions as to which page shall be removed by holders of this document. Obsolete pages shall be stored at the back of these Export Standards.

Pagination

Each page shall carry at the top:

Name: SECTION 3, SCHEDULE 5	Page 1 of 96	Date of Issue: 1 Jan 2000

"Name" shall include the name of that Part of the Export Standards or the Section Number, followed by the Schedule Number of the item within that Section (if there is one).
"Page X of Y" means page number of the item and total number of pages of the item in the Part, Section or Schedule (e.g. Page 1 of 4).

Amended Pages

Each amended page shall carry at the top:

Name: SECTION 3, SCHEDULE 5	Page 1 of 96	Reference:	Approval:	Date of Issue: 1 Mar 2000

"Reference" means the number or letter allocated to the amendment and shall correspond to the number or letter on the Amendment list, e.g. A1, A2, etc.

"Approval" means signature of the Managing Director.

All other marks are as previously defined.

Revision and amendment list (refer to example below)

"Revision No. and Date of Review" is the number of the review and date e.g. Rev 1- 12/12/1999 and Rev 2- 12/6/2000, Rev 3- 02/02/2002

"Amendment No." is the corresponding amendment numbers or letter made after review e.g., A1, A2, A3, etc.

"Reviewer" is the initials or signature of reviewer.

"Inserted by" is the person inserting the amended pages.

Revision no. and date or Amendment No.:	Pages and Text amended:	Reviewer:	Inserted by: Date:	Comments:
Rev.1- 12/3/97	none	Principal Fisheries Inspector- JT	none	no amendments made
Rev. 2 - 12/3/98	Listed below	Principal Fisheries Inspector- JT		2 amendments
A1	**Section 1, General Standards** pg. 4 of 5 Deleted 5.3 a) Normal Inspection Program	Principal Fisheries Inspector- JT	JT 20/3/1999	Decided to remove this Inspection Program
A2	Section 4, Sch.16 pg. 2 of 8 16.2 removed the word shall to should	Principal Fisheries Inspector - JT	JT 22/3/1999	Changes to current practices recommended this
Rev.3 – 12/12/01	See listed below	Team Leader-ACU AK	12/12/01	
A1	Section 1 – General Standards Pg. 1 of 7-1.1(c) added the clause destined for Asian markets. Pg.1of 7 – 1.2- Approved Terms. Additional terms added Pg 3 of 7- 1.3 – Abbreviations, additional terms included. Pg 4 of 7- 2.3(b) amendment to this clause. Pg 5 of 7-4.0, amendment to this clause Page 6 of 7 -5.7(c) Deleted this clause.	Team Leader-ACU AK As above As above As above As Above As Above As above	12/12/01	Ammendment to current clause. Additional terms included Additional approved terms included. Additional abbreviations included Ammendment to this clause. Ammendment to this clause. Deleted this clause
A2	**Section 3- schedule 3** Pg. 2 of 2, 3.6.2- ammendment done	Team Leader-ACU AK	12/12/01	Ammendment done to this clause
A3	**Section 5- schedule 15** Pg 3 of 4 15.5.8-additions to the table	Team Leader –ACU AK	12/12/01	Amendments done to the table.
A4	**Section 5- Schedule 17** Page 1 of 2- 17.6	As above	12/12/01	Ammendments done to this clause
A5	**Section 5, Schedule 18** Page 2 of 7-18.1.6, 18.1.8 (f) Section 5, Schedule 18 18.1.12 (b) Section 5, Schedule 18 Pg.6 of 7-18.2.5.6 (a)	As above As above As above	12/12/01 As above As Above	Ammendments done As above As above
A6	**Appendix contents** Additional appendix created, named as appendix D	Team Leader-ACU AK	12/12/01	Additions to the appendix

Section 1 - General Standards

1.0 Introduction

These Export Standards and the Fisheries Management Regulations 2000 stand alone in governing the minimum standards required for the export of items as cited in Export Standard 1.1 and are empowered by the Fisheries Management Act 1998, Section 76.

1.1 Citation

a) These Export Standards shall be cited as the Fish Quality Control (Export) Standards for the prescribed goods being fish.
b) These Export Standards control the import of fish for further processing.
c) Traditional cured products such as dried/smoked bêche-de-mer, dried sharkfin and other specific cured products shall be exempt under these Export Standards.

1.2 Approved Terms

Audit of Regulatory Audit	-	A systematic assessment by the NFA audit and Certification Unit of an export facility's conformance to and effectiveness of its written HACCP program.
Audit checklist	-	A tool prepared by the auditor(s), (lead auditor or team), which lists what must be checked during the audit to assess if the written HACCP program is implemented as described and is effective. This checklist is also used to record information found during the audit.
Audit finding	-	A statement of fact made during an audit, substantiated by objective evidence
Audit Team	-	A group of ACU auditors working as a team.
Auditor	-	A person who is identified by NFA and has the qualifications to perform regulatory audits. Auditors are gazetted/authorised officers of the Audit and Certification Unit, formally appointed by the Managing Director of NFA under Section 16(4) of the Fisheries Management Act 1998.
Approved	-	Approved by the Managing Director in writing
Authorised Officer	-	An approved officer formally appointed by the Managing Director under Section 16(4) of the Fisheries Management Act 1998
Batch	-	A number of lots from the same Facility submitted for inspection simultaneously
Brine	-	A mixture of potable water or clean seawater and dissolved food grade salt
Certification	-	A procedure by which the NFA provided written assurance that a facility's HACCP program conforms to requirements
Chiller or chill store	-	An insulated refrigerated chamber used for reducing and maintaining the temperature of fish at or close to $0^{o}C$
Cleaning	-	The removal of soil, food residue, dirt, grease or other objectionable matter.
Cold store	-	An insulated refrigerated chamber used for the storage of frozen fish ($-18^{o}C$ or colder)
Completed CAR	-	When an action plan to correct a deficiency at an export facility for actions to be taken to correct a deficiency identified during an audit
Container	-	The principle covering in which fish are packed
Contaminant	-	Any biological or chemical agent, foreign matter, or other substances not intentionally added to food that may compromise food safety or suitability.
Contamination	-	The introduction or occurrence of a contaminant in food or food environment.

Control (verb)	-	To take all necessary actions to ensure and maintain compliance with criteria established in the HACCP plan.
Control (noun)	-	The state wherein correct procedures are being followed and criteria are being met.
Control measure	-	Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Control Point	-	Any point, step or procedures at which biological, chemical or physical factors can be controlled
Corrective Action	-	Any action to be taken when the results of monitoring at the CCP indicate a loss of control.
Corrective Action Request	-	Formal written notification to the export facility for action to be taken to correct a deficiency identified during an audit.
Critical Control Point (CCP)	-	A step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
Critical Limit	-	A criterion which separates acceptability from unacceptability.
Deficiency	-	A failure to meet specified requirements of the HACCP program as prescribed by the Fish Quality Control Export Standards
Depuration	-	Purification of live bivalve molluscs by immersing them in clean sea water or sea water that has been cleaned by an approved method for the time necessary to remove microbiological contaminants. Shall occur in either an NFA approved sea area (estuarine or lagoon) or in tanks at an NFA approved facility
Deviation	-	Failure to meet a critical limit.
Export Facility or Facility	-	Any building or vessel or area in which food is handled, prepared and stored for export purposes, including the surroundings under the control of the same management.
Fish	-	Means all forms of aquatic life or parts thereof (including but not limited to fresh and saltwater finfish, crocodiles, frogs, aquatic turtles, jellyfish, sea cucumbers, sea urchins) whether live, fresh, chilled, frozen, dried, cooked, canned or otherwise preserved
Flow diagram	-	A systematic representation of the sequence of steps or operations used in the production or manufacture of a particular food item.
Food handler	-	Any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements
Food hygiene	-	All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain
Food safety	-	Assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.
Foreign matter	-	Any organic or inorganic substance that is not permitted in these Export Standards, not indigenous to fish, detrimentally effects the quality of the fish or fitness for human consumption, and is included in or adheres to any part of the fish
Freezer	-	A chamber used solely for the purpose of freezing fish
Frozen	-	Condition of the fish where the temperature is -18^{o}C or colder in all its parts. For purse-seined fish destined for canning purposes only the allowable temperature shall be no higher than -9^{o}C
Good Manufacturing Practice	-	Compliance with the Structural and Operational requirements of Sections 3 and 4 of these Export Standards
HACCP	-	A system that identifies, evaluates, and controls hazards that are significant for food safety.
HACCP Plan	-	A document prepared in accordance with the principles of HACCP to ensure control of hazards that are significant for food safety in the

segment of the food chain under consideration.

HACCP System	-	Includes pre-requisite programs and HACCP plan(s) (document and implementation steps) as defined in the PNG Fish Quality Control Export Standards
Hazard	-	A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.
Hazard Analysis	-	The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP Plan.
Ice room / store	-	A chamber used only for the storage of ice
Imported fish	-	Fish that has been landed, imported or prepared in another country
Ingredient	-	Any substance (including a food additive) used in the processing of fish that ends up in the final product.
Lot	-	A quantity of fish of the same type produced under the same conditions during a particular time interval generally not exceeding 24 hours and from an identifiable processing line
Managing Director	-	The Managing Director of NFA
Monitor	-	The act of conducting a planned sequence of observations or measurements of control parameters to assess whether a CCP is under control.
Official analysis	-	Analysis carried out by an NFA approved Fish Laboratory or on behalf of the Authority at an accredited laboratory
Packing	-	The placement of fish into a container and includes sorting and grading.
Pest	-	Includes insect, rodent, birds, pets, or other vermin
Potable water	-	Water that is fit for human consumption as prescribed by WHO
Practically free	-	The offending characteristic is not present in fish in large enough amounts so as to affect the quality or fitness of fish for human consumption
Processing	-	Includes dismembering, cleaning, chilling, treating, freezing, drying, smoking, cooking, packing of live fish or otherwise preserving.
Refrigerated brine	-	Brine cooled by a suitable refrigeration system
Refrigerated seawater	-	Clean seawater cooled by a suitable refrigerated system.
Salt	-	Food grade Sodium Chloride
Sanitise	-	Adequate treatment of surfaces by a process that is effective in destroying vegetative cells of microorganisms.
Sample unit	-	One immediate container and its contents drawn at random from a batch.
Shall	-	denotes a mandatory requirement
Should	-	denotes a recommended or advisory procedures
Sound	-	Free from disease, mould, decay or deterioration.
Step	-	A point, procedure, operation or stage in the food chain including raw materials, from primary production to final consumption.
Sterile	-	Food that is free of micro-organisms which are capable of growth under the conditions it is likely to encounter during storage and transport
Validation	-	Obtaining evidence that the elements of the HACCP plan are effective.
Verification	-	The application of methods, procedures, tests and other evaluations, in addition to monitoring to determine compliance with

the HACCP plan.

Wholesome - The positive attributes (quality and safety) associated with a product

1.3 Abbreviations

CAC - Codex Alimentarius Commission
CAR - Corrective Action Request
CCP - Critical Control Point
EU - European Union
FAO - Food and Agriculture Organisation
FV - Fishing Vessel
GMP - Good Manufacturing Practice
HACCP - Hazard Analysis Critical Control Points
IQF - Individually Quick Frozen
ISO - International Organisation for Standardisation.
MPN - Most Probable Number
NISIT - National Institute of Science and Industrial Technology
NFA - National Fisheries Authority
QC - Quality Control
QA - Quality Assurance
ppm - parts per million
RSW - Refrigerated Sea Water
SSOP - Standard Sanitation Operating Procedures
WHO - World Health Organisation

2.0 EXPORT OF FISH

2.1 Conditions and Restrictions

The export of fish processed in PNG is prohibited unless the conditions and restrictions in these Export Standards and the Fisheries Management Regulations 2000, Section 2 (Activities Requiring Licence) and Section 7 (Fish Storage Facility, Fish Factory, and Fish Export Facility) have been fully met.

The export of fish to which this part applies is prohibited unless:

a) the Managing Director is satisfied that the fish has been prepared or processed in a licensed Fish Export Facility;
b) a certified Notice of Export has been obtained in accordance with Fisheries Management Regulation 2000, Section 31.

2.2 Fish Export Facility

Fish for export shall be prepared or stored in a licensed Fish Export Facility namely Fish Factory, Fishing Vessel and Fish Storage Facility.

2.3 Licensing of a Fish Export Facility

Where a Fish Export Facility is used for the preparation of fish intended for export, the facility shall:

a) be licensed in accordance with Fisheries Management Regulations 2000 Section 7;
b) obtain approval for major structural alterations including changes to the layout and the processing equipment and the alterations/changes shall comply with these Export Standards.

2.4 Operations in a Licensed Fish Export Facility.

A licensed Fish Export Facility shall operate:

a) in accordance with Fisheries Management Regulations 2000, Section 7;
b) in accordance with these Export Standards;
c) in a hygienic and clean state at all times during catching, processing, packaging and transportation;
d) with an effective means of fish storage to prevent deterioration;
e) under a HACCP approved programs as detailed in Schedule 18 of these Export Standards.
f) to meet import country requirements.

2.5 Canneries
Canneries without exception shall operate with a HACCP program in place. The HACCP program is mandatory and may operate in conjunction with other assurance programs.

2.6 Rejection of Product by an Importing Country
If fish or fish product has been rejected by an Importing country it shall be made known to the Managing Director immediately and shall cause an investigation of the incident to determine and rectify the cause. Should the NFA be notified by another means or persons a suspension of the license may result until the investigation has been completed or problem rectified.

3.0 EXPORT STANDARDS FOR FISH / TRADE DESCRIPTIONS
Fish shall be prepared so as to be fit for human consumption and shall comply with quality specifications, microbiological and chemical standards in Schedule 14 and 15 of these Export Standards before export.

3.1 Permitted Ingredients/Chemicals
Fish shall not contain any ingredients or chemicals unless permitted in these Export Standards, by CAC, or NFA.

NOTE: Export to countries with different standards shall be permitted as long as proof of the importing country's requirements can be shown.

3.2 Trade Description Requirements
Fish and fish products for export shall comply with the Trade Description requirements of the Fisheries Management Regulations 2000 (Section 29), Commerce (Trade Descriptions) Act, the Food Sanitation Act 1991 (Part 4 - Apparatus, Package and Labelling), and the Food Sanitation Regulation 1995 (Part 4 - Apparatus, Package and Labelling). In addition to this fish processed in PNG for export shall do so in accordance with the labelling requirements of these General Standards and shall provide:
a) product statements as required by these Export Standards or as required by the importing country;
b) the licensing number of the last premises to chill, freeze, can, dry or similarly preserve the fish.

3.3 Trade Descriptions Applied to Fish Processed at Sea
Fish processed at sea and intended for further processing in PNG shall contain the following information:
a) a description of the fish type;
b) the licensing facility number;
c) the date of processing at sea.

3.4 Trade Descriptions and Export Requirements
Fish intended for export in accordance with Export Standard 3.3 shall have a full trade description added to accompanying documents as required by Export Standards 4.0.

3.5 Trade Description for Imported Fish
Imported fish that is intended for further processing in PNG shall contain:
a) the mandatory trade description requirements;
b) the words "Packed by" followed by the name and number of the licensed Facility where the product was packed;

c) where self-labels are part of the trade description, the label should not be able to be removed without sustaining damage to itself and the surface it was applied to.

4.0 EXPORT CLEARANCE

Any persons seeking to export must meet the requirements of these Export Standards. Furthermore, those intending to export shall only export if they have been granted approval and are listed in the Approval List.

4.1 Notice of Export

Any persons exporting fish shall provide a Notice of Export according to Fisheries Management Regulations 2000, Section 31.

4.2 Loading for Export

Loading for export shall take place in accordance with the following:

4.2.1. Where fish is being loaded for export, whether into a container, the hold of a ship or an aircraft, or otherwise, an Authorised Officer of NFA shall be afforded a reasonable opportunity to inspect the loading of the fish, and any person involved in the loading operations shall assist the Authorised Officer in this inspection and otherwise comply with the provisions of Section 55 of the Fisheries Management Act 1998.

4.2.2 An officer who has inspected the loading of the fish into a container may, upon completion of the loading, seal the unit by means approved by the Managing Director.

4.3 Certification of HACCP Program, Condition of Product or Foreign Country Requirements

4.3.1 Should an exporter require a specialised document certifying their HACCP program is approved or processes meet importing country requirements it may be requested from an Authorised Officer and shall state the results of the last inspection.

4.3.2 Should the exporter require a specialised document pertaining to the condition of a batch to another country it may be requested from the Authorised Officer.

4.4 Rejection of Export Permit/Re-examination of Fish

Re-examination of fish and revocation of an export permit shall take place in accordance with General Standard 7.0 of these Export Standards.

5.0 INSPECTION AND AUDITING PROCEDURES

5.1 Export Inspections

Arrangements may be made between the exporter and the Authorised Officer to deal with the fish and exporter as specified in Standard 4.2 at any time.

5.2 Inspection Frequency

The Export Facility and its product shall be inspected at a frequency decided by its rating as prescribed in Schedule 18.

5.3 Inspection Programs

5.3.1 The occupier of a Export Facility shall only apply for entry to process, be inspected and audited in accordance with an Approved Inspection program as set out in Schedule 18, namely:

a) HACCP Program

5.3.2 Where the Managing Director considers the Export Facility has complied with the requirements of these Export Standards or importing country requirements approval shall be granted for an inspection arrangement between NFA and Export Facility.

5.4 Inspection Failure and Changes Between Inspection Categories

5.4.1 Where the Facility fails to meet the requirements of the Inspection program, these Export Standards or importing country requirements, the licence of the facility shall be revoked.

5.4.2 A change in an inspection category shall be promptly notified by the Authorised Officer on a form showing:
- a) name, address and license number of the Export Facility;
- b) original and change of categories;
- c) reasons for change, date of implementation of change and signature of the Authorised Officer.

5.5 Additional Inspection Arrangements
An Authorised Officer may carry out additional inspections at the request of the facility's occupier or as they see fit to ensure compliance with these Export Standards or to ensure compliance with a foreign countries requirements only if activities are documented.

5.6 Sampling for Inspection Purposes
Sampling required for the Inspection Program or for export shall be conducted by an Authorised Officer according to the relevant sampling plan in Schedule 15. Sampling shall also be conducted to determine compliance with import country requirements.

5.7 Laboratory Analysis and Samples
a) Laboratory analysis shall only be carried out by an NFA approved laboratory or other accredited laboratories. Tests shall conform to the relevant CAC/FAO procedures. Procedures shall be documented and results kept for at least 3 years.

b) The occupier of an Export Facility shall take samples necessary for examination to ensure compliance with these Export Standards and to meet import country requirements.

6.0 STORAGE AND TRANSPORT
Fish shall be:
a) stored in accordance with Fisheries Management Regulations 2000, Section 7 and 26;
b) stored and transported in accordance with the requirements of these Export Standards;
c) transported between facilities in accordance with the HACCP program requirement.

7.0 FISH UNFIT FOR EXPORT
Fish Unfit for Export shall be treated in accordance with the following standards.

7.1 Rejection of Fish
Where an Authorised Officer inspects fish that does not meet the requirements of these Export Standards or the import country's requirements the officer shall reject the fish for export.

7.2 Resubmitting Rejected Fish for Export
7.2.1 Except for Export Standards 7.2.2 and 7.2.3, fish that is reject under Export Standard 7.1 but is fit for human consumption may be reprocessed and resubmitted for inspection and sampled using the relevant sampling plan in Schedule 15.

7.2.2 Frozen fish subjected to uncontrolled thawing above +12^{o}C shall be rejected and not resubmitted in any form;

7.2.3 Chilled fish whose temperature has risen to above +7^{o}C shall be rejected and not resubmitted for inspection in any form.

7.3 Rejected Fish Not Resubmitted for Export
Fish rejected under Export Standard 7.1 but not handled in accordance with Export Standard 7.2 shall have all references to export or suitability for export removed and shall have marked on it in large letters at least 5 cm in size 'NOT FOR EXPORT';

7.4 Rejected Fish Unfit for Human Consumption
Fish rejected for export in accordance with Export Standard 7.1 that is unfit for human consumption, shall be condemned by the Authorised Officer.

7.5 Condemned Fish Suitable for Pet Food or Bait

7.5.1 Condemned fish that is not diseased but otherwise suitable for conversion to pet food or bait may be converted for these purposes.

7.5.2 Fish used for pet food or bait shall be kept separate from fish intended for human consumption and stored in smooth impervious containers. These containers shall be marked in a conspicuous place and marked in large letters at least 5 cm in size, with the words:

a) CONDEMNED NOT FOR HUMAN CONSUMPTION;
b) PET FOOD ONLY OR ANIMAL FOOD ONLY;
c) BAIT ONLY.

Section 2 - Licensing Requirements

2.1 Application for License

The occupier of an establishment proposing to prepare fish for export shall make an application on an approved form in accordance with the General Standards.

2.2 Copies of Application

Application for an Export Facility Licence shall be accompanied by 2 copies of the facility's plans and specifications and forwarded to the Managing Director of NFA.

2.3 Requirements for Plans and Specifications

Plans and specifications shall be sufficiently detailed to allow evaluation of the Facility's suitability as a food processing establishment. Plans and specifications are examined only in relation to food safety issues.

2.4 Requirements for Construction and Alterations

The facility shall be constructed, altered or extended in accordance with plans and specifications submitted. These constructions or alterations shall be first approved by the Managing Director.

2.5 Plans – Lands-based Facilities

2.5.1 Plans for land-based Facilities shall include:

a) a locality map showing the site;
b) a site plan at a scale of at least 1:500 detailing;
   i) the layout of the entire premises including roads and all prominent features of the site;
   ii) north compass point;
   iii) adjoining and location of neighbours;
c) water supply;
d) storm-water and waste water drainage;
e) on-site waste disposal if any;
f) elevations at a scale of 1:200 of all buildings used by the facility;
g) a floor plan of all food handling areas and auxiliary areas (cold stores, stores) of a scale of at least 1:100 showing all permanent fixtures and layout of equipment;
h) a product flow diagram and main features of product flow;
i) detailed information on major equipment used in fish processing.

2.5.2 The occupier shall notify the Authorised Officer of any factories or hazards within 2 km of the Facility that may affect the hygienic preparation of the food and clearly mark the location of these hazards on the locality map (2.5.1a):

2.6 Plans – Fishing Vessels

Plans of vessels shall include:

a) above and below deck layout and positions of all major items associated with product handling;
b) elevations with cross sections through processing and refrigeration areas;
c) product flow and main features of product flow;
d) equipment used in processing and water supply;
e) water intake and discharge points.

2.7 Specifications Needed to Accompany Plans

Specifications accompanying plans shall include details of the following:

a) construction materials of the facility;
b) construction materials of equipment used in food handling;
c) surface finishes;
d) product or ingredient contact surfaces;
e) essential services;

f) for cold stores: the method of refrigeration, capacity in kilograms and holding temperature;

g) for freezers: the method of refrigeration, capacity in kilograms, time required for a full load to reach -18^{o}C from a stated initial temperature.

h) for refrigerated rooms: operating temperatures and size;

i) where there is more than one room, tank or hold having a similar function, the rooms, tank or hold shall be individual numbered;

j) number of crew or processing personnel.

NOTE: 2.7 (f), (g) shall be obtained from a refrigeration engineer or from original manufacturer's specifications.

Section 3 - Structural Requirements

Schedule 1 Building, Facilities, Location and General Services

1.1 Location – Siting of an Export Facility

The Export Facility shall be sited so that neighbouring buildings or operations and land use present no source of potential contamination for the hygienic operation of the facility and shall be located in an area away from objectionable odours, smoke, dust, other contaminants and flooding. Export facilities shall not be sited close to rubbish tips, sewage treatment plants, cemeteries, cement factories and similar facilities.

1.2 Immediate Surrounds of an Export Facility

1.2.1 Areas immediately surrounding buildings, roads, pathways and other areas serving the Facility shall be kept clean and tidy at all times and be suitably paved, graded, grassed, or landscaped to avoid the risk of dust, pests or other contaminants from entering food handling and storage areas.

1.2.2 Product load in or load out areas shall be suitably covered to protect the product from dust and rain.

1.2.3 There shall be adequate drainage of the surrounds including roads, access ways and pathways and provision shall be made to allow for their cleaning.

1.2.4 Where vehicles are cleaned on the premises a paved and drained area shall be provided for this purpose.

1.3 Building and Facilities

1.3.1 Building and Facilities shall be of sound construction and maintained in good repair. All construction materials shall be of a type that will not transmit any undesirable substances to the food.

1.3.2 Adequate working space shall be provided to allow for satisfactory performance of all operations connected with the preparation of food.

1.3.3 The design of buildings and facilities shall permit easy and adequate cleaning to allow the hygienic preparation of food.

1.3.4 Buildings and facilities shall be designed to prevent the entrance and harbourage of pests and contaminants.

1.3.5 Buildings and facilities shall be designed to provide separation by partition, location or other effective means between operations (including waste disposal) which may cause cross contamination of food.

NOTE: To meet this requirement the following areas namely, areas for processing by-products, offices, engineering workshop, equipment, spare parts store, canteen and garages shall be separate from areas handling fish.

1.3.6 Buildings and facilities shall be designed to facilitate hygienic production, by means of an orderly flow of ingredients, food, packaging, and removal of waste products in the preparation process, from the arrival of the raw materials at the premises through to the final product. Crossover in production between final and raw product shall be avoided.

1.3.7 Areas where raw materials are received or stored shall be separated from areas in which final product preparation or packing is conducted to prevent contamination of the final product. Areas and compartments used for storage, manufacture or handling of edible products shall be separated and distinct from those used for inedible materials.

1.3.8 Laboratories checking for pathogenic micro-organisms shall be separated from food handling areas.

1.3.9 Provision shall be made for all liquid and solid waste, storm-water and sewerage to be disposed of hygienically. Wastes shall be disposed in a way that cannot

contaminate water and food supplies and cannot offer harbourage or breeding places for rodents, insects or other vermin.

1.3.10 An adequate potable water supply shall be made available. It may be necessary to install an in-plant chlorination system to ensure the potability of water at all times.

1.3.11 The electrical supply shall be adequate to maintain normal and efficient operation of all electrically powered equipment and lighting.

1.3.12 Drainage facilities shall include:

a) disposal of works and sewerage effluent;

b) storm-water and site drainage;

and shall be large enough to carry peak loads and constructed to avoid contamination of potable water supplies.

Schedule 2 Design and Construction of Food Handling Areas

2.1 General Requirements

2.1.1 Areas handling and processing fish shall be designed and constructed to:

a) allow efficient handling of the product;

b) provide separated by partition, location or other effective means so that operations will not cause cross-contamination of food or food handling surfaces;

c) provide separate storage of raw material, final product and waste processing material;

d) protect raw material and final product from risk of contamination;

e) prevent product deterioration due to exposure.

2.1.2 Facilities shall be designed so that:

a) product flow takes place from dirty areas to clean areas (raw to final with no cross over);

b) all areas and equipment are easily accessible for inspection and cleaning.

2.1.3 The main processing area in which fish is handled should have only one entrance for processing personnel being independent and separate from any entrances and exits used for raw material and finished product.

NOTE: Entrance used by staff into processing areas should be provided with a permanent footbath that uses a suitable sanitiser equivalent to or greater then 50-ppm free residual chlorine.

2.2 Ceilings

Ceilings shall be designed, constructed, sealed and finished so as to:

a) provide a height of at least 2 meters in all rooms where fish is handled;

b) be lightly coloured, smooth and impervious to moisture;

c) prevent dirt accumulating and be capable of being effectively cleaned;

d) have all overhead machinery and pipes located above ceiling;

e) minimise condensation, mould development and flaking.

2.3 Floors

2.3.1 Floors in land based facilities shall be constructed of dense waterproof concrete or another impact resistant impervious surface that has a smooth, non-slip finish and is easily cleaned. The floor must be constructed so that it slopes towards drains (a minimum slope of 1:50 is recommended).

2.3.2 Floors including enclosed processing areas on Fishing Vessels shall be:

a) water-proof and well drained;

b) non-absorbent, impact resistant and without crevices;

c) washable and of non-slip materials;

d) easily cleaned and disinfected.

2.3.3 All floor joints shall be:

a) sealed with impervious materials;

b) finished flush with the surface.

2.4 Floor Drains

2.4.1 In any area that involves “wet” operations:

a) floors shall be sufficiently graded for liquids to drain to trapped outlets;

b) floor drains shall be adequate in size, number and location to cope with the maximum flow of water under normal working conditions.

2.4.2 All drains shall:

a) be effectively sealed by a water trap;

b) have adequate access for cleaning;

c) where necessary, be adequately vented to the exterior of the building.

2.4.3 Solid traps installed in conjunction with floor drains shall be designed to enable adequate cleaning.

2.4.4 Floor drains shall not be connected to sanitary drainage.

2.4.5 Floor drains should not be connected to the storm water drainage system.

NOTE: Where this occurs they shall be designed and maintained to ensure that flooding of the premises cannot occur due to back-flow.
Drains shall flow away from food handling areas.

2.5 Internal Walls and Partitions

2.5.1 Internal walls and partitions shall:
a) be constructed of water-proof, non-absorbent and washable materials;
b) be smooth, lightly coloured and free from gaps;
c) have all joints sealed that might allow the ingress of water, pests or contaminants;
d) be impact resistant or protected from impact;.
e) be easy to clean and disinfect.

2.5.2 In areas where “wet” operations are carried out, angles between walls and between walls and floors shall be sealed and coved to facilitate cleaning.

2.5.3 Where walls do not touch the ceiling, their tops shall be capped at approximately 45 degrees.

2.5.4 Where internal walls are painted or surface coated, the surface shall be:
a) non-toxic;
b) withstand hosing with hot water and detergents;
c) withstand reasonable impact.

2.5.5 If any room (including a cold store) is built within a food handling room, inaccessible cavities formed between the walls or ceilings of the inner and outer rooms shall be made pest and dust proof.

2.6 Windows, Doors, Hatches, Vents and External Walls

2.6.1 All external and ventilation openings shall be proofed against the entry of pests.

2.6.2 Windows that open are not permitted in areas where food is exposed, processed or packed.

2.6.3 Openable windows and vents shall be fitted with insect-proof screens kept in good repair that are easily removed for cleaning.

2.6.4 Doors and hatches shall;
a) have smooth and non-absorbent surfaces;
b) be close fitting;
c) be impact resistant or protected from impact damage;
d) be of a construction as stated in 2.5.4.

2.6.5 Doors, hatches and other openings to the outside of the building or where physical separation is required shall be constructed to render the opening pest proof.
NOTE: This requirement may be met by effectively employing one or more of these methods:
a) a self-closing curtain, strip curtain or an air curtain;
b) a pest proof annex;
c) a self closing device.

2.6.6 If airlocks are installed they shall be designed to minimise movement of air into or between areas where food is exposed, processed or packed.
NOTE: A low-pressure airlock vented to the exterior with doors that cannot be opened simultaneously will meet this requirement.

2.6.7 If any services, chutes, conveyors or the like pass through external walls, the gap where they pass through, if any, must be sealed against the entry of pests and dust.

2.7 Stairs, Platforms and Stands

Stairs, catwalks, platforms, stands, ladders and the like in processing areas shall be:
a) of a construction and material that is impervious, non-slip, non-corroding, easy to clean and impact resistant;
b) situated and constructed so as not to cause contamination of food processing areas, equipment and product by allowing potential contamination items to fall onto them.

2.8 Equipment, Utensils, and Services: Design, Construction, Installation

All equipment and utensils shall be designed, constructed, installed, operated and maintained so as to prevent hygiene hazards and permit easy and thorough cleaning and disinfecting and where necessary be accessible for inspection.

2.8.2 All equipment and utensils including tubs and bins that are food contact surfaces shall be:

a) smooth, non-absorbent and resistant to corrosion;
b) free from pits, crevices and loose scale;
c) made of materials which do not transmit odour, taste and are non-toxic;
d) unaffected by food products;
e) capable of withstanding repeated cleaning and disinfecting.

2.8.3 The use of wood and other materials which cannot be adequately cleaned and disinfected is prohibited except as set out in 2.9.

2.8.4 Supporting framework for machinery, benches, sinks, work tables, foot-stands, etc. shall be constructed of smooth, impervious materials free from openings, ledges or crevices in which pests or potential contaminants may accumulate.

NOTE: Racks and shelving may accommodate this requirement with a minimum floor clearance of 300mm.

2.8.5 Equipment or fittings adjacent to wall or other equipment shall have any gaps sealed to prevent entry of moisture and dirt or have sufficient space to permit cleaning.

2.8.6 Equipment standing directly on the floor shall be installed:

a) by sealing directly to the floor to prevent the entry of moisture;
b) on a raised plinth coved at the junction of the floor and plinth; OR
c) on legs with a minimum of 300 mm clearance between the underside of the equipment and the floor.

2.8.7 Storage containers, tubs or bins used for inedible material and waste shall be:

a) clearly identified as such;
b) leak proof and impervious;
c) easy to clean or disposable;
d) able to be closed securely if stored externally.

2.8.8 Chutes and other enclosed transport systems shall be:

a) constructed with inspection and cleaning hatches;
b) easily dismantled for cleaning.

NOTE: Sorting trays, chutes, conveyors and bins to meet these requirements may be made high density nylon, aluminium, stainless steel or fibreglass free of crevices and have all internal junctions rounded out.

2.8.9 All overhead structures, services and fittings including lighting shall be easy to clean and:

a) installed so as to avoid contamination either directly or indirectly of food by condensation;
b) installed so as not to hamper cleaning operations;
c) insulated where appropriate and be designed and finished as to prevent the accumulation of dirt, minimise condensation, mould development and flaking.

NOTE: 2.8.9 may be met by locating all pipes and machinery above the ceiling.

NOTE: For ducts, conduits and pipes to meet the requirement of 2.8 they may be recessed into the wall or mounted at least 25 mm clear. Long runs of exposed horizontal pipes should be avoided.

2.8.10 Racks for gloves and aprons shall be provided within or adjacent to the processing area.

2.8.11 Hose points shall be provided together with hose racks made of rust resistant material.

Where fish is to be inspected at the Export Facilities by an Authorised Officer a separate room or suitable area within or adjacent to the processing area but free from steam and fumes shall be provided with:

a) lighting intensity of at least 540-lux;
b) a clean bench or table for examination of the product;
c) a thaw tank or similar capable of defrosting the maximum number of samples from one batch;

d) running water for cleaning instruments.

2.9 Use of Timber

2.9.1 Timber, except as provided in 2.9.2 and 2.9.3 shall not be permitted for use in:
a) product contact surfaces;
b) processing areas;
c) ice-rooms, freezers, cold stores and chillers.

2.9.2 Timber that is used in doors, door jambs, windows, brooms, brushes and the like in processing areas shall be sealed by a durable non-toxic surface coating (e.g. gloss enamel, epoxy or polyurethane paint).

2.9.3 Clean and sound wooden pallets and dunnage are permitted for the carriage of enclosed raw material or processed food in all areas except ice rooms.

2.9.4 Wooden pallets as specified in 2.9.3 and clean timber dunnage shall be permitted in container system units, transport vehicles and the like.

2.10 Cleaning and Sanitising Facilities

2.10.1 Adequate facilities for cleaning and sanitising work implements and equipment shall be provided, where required, in the factory.

2.10.2 These facilities shall be constructed of corrosion resistant, non-absorbent materials capable of being cleaned effectively.

2.11 Sterilising Facilities

2.11.1 If sterilising facilities are required, adequate provision for sterilising work implements/ equipment shall be provided.

2.11.2 If the sterilising medium used is not water the method of sterilising shall be first approved by the Managing Director.

2.11.3 Sterilising facilities shall be:
a) constructed of corrosion resistant materials;
b) capable of being easily cleaned;
c) where necessary fitted with a suitable means of supplying hot and cold water in sufficient quantities.

2.12 Hand Washing Facilities

2.12.1 Hand washing facilities shall be:
a) sufficient in number and provided in accessible locations through out the processing areas for all staff to wash their hands on entering the processing area;
b) located adjacent to personnel access areas;
c) provide a suitably pressured and chlorinated (= or > 0.2-ppm) potable water supply over a sink;
d) provided with taps that are non-hand operated;
e) provided with liquid soap contained with a dispenser;
f) provided with paper towels held in a dispenser with a sufficient number of receptacles for disposing of used towels or with other hygienic means of hand drying;
g) fitted with properly trapped waste pipes leading to drains.

2.12.2 Signs advising persons to wash their hands on entering or re-entering food handling areas shall be provided in a prominent position near food handling area entrances.

2.13 Changing Facilities, Living Areas, Toilets and Hand Washing Facilities

2.13.1 These facilities shall not be used for the storage of any processing ingredients or food.

2.13.2 Suitable and conveniently located changing facilities, toilets and hand washing facilities shall be provided.

2.13.3 Living areas shall be completely separated from food handling areas and not open directly onto these areas.

2.13.4 Changing facilities shall contain a locker for each person employed with the outside of the locker kept clean and the locker installed and maintained according to the requirements for equipment 2.8.

2.13.5 Toilet and toilet areas should be adjacent but separate from change rooms and shall be:

a) completely separated from food handling areas and not open directly onto these areas;
b) designed to ensure hygienic removal of waste matter;
c) well lit, ventilated and maintained in a clean and tidy condition.

The number of toilet bowls to be provided shall be:

No. of persons	No. of bowls
1 to 9	1
10 to 24	2
25 to 49	3
50 to 100	5

for each additional 30 persons in excess of 100, 1 bowl.

NOTE: In male toilets, urinals can substitute for toilet bowls for up to 1/3 of the total

2.13.7 Entrances to toilets from processing areas shall be through either an intervening change room or an airlock that is vented to external air.

2.13.8 Doors for toilet cubicles where they are not in a separate toilet room must be self-closing and full height.

2.13.9 Hand wash facilities shall be provided near toilets and shall follow the requirements of 2.12.

2.13.10 Notices shall be prominently posted in toilet areas directing persons to wash their hands after use.

2.14 Refrigerated, Non-refrigerated, Cartons, Wrapping Materials and Food Container Storage.

2.14.1 Every refrigeration chamber shall:

a) have floors, walls, ceilings, doors and hatches that are constructed, installed and maintained according to the requirements for food handling areas;
b) have other internal structures constructed of smooth, impervious and corrosion resistant material;
c) be capable of reducing or maintaining the temperature of any food as required;
d) be equipped with an accessible and easily readable thermometer read to and accurate to within 0.5^{o}C;
e) shall have its temperature taken and recorded at least once every 12 hours;
f) be designed to allow for adequate drainage of defrosted water away from the refrigeration unit;

2.14.2 Where refrigeration equipment is installed in a processing or packing area sufficient space shall be allowed for cleaning around and between the equipment.

2.14.3 Plastic strip curtains or similar shall be installed to assist in air retention when cold room doors are open.

2.14.4 Where under-floor ventilation pipes are provided they shall be proofed against pests.

2.14.5 The design and construction of ice rooms and storage facilities shall be such that ice can be stored and removed in an efficient, hygienic manner and the ice protected from contamination at all times.

2.14.6 Container system units that are used as cold stores shall:

a) be soundly constructed to meet the requirement of 2.14.1 with no internal or external damage to cladding;
b) have door seals that are sound;
c) have lighting within the unit supplied to a minimum of 220-lux;
e) be installed on a paved area suitably kerbed, graded and drained with all access to the area sealed;
f) be installed with its base at least 300 mm clear of the paved area and with a fall towards the door;
g) have access provided on all sides to permit cleaning and avoid the harbouring of pests.

2.14.7 Non-refrigerated food stores shall be:

a) of sound construction in accordance with requirements of 2.14.1a, b;

b) designed and maintained so as to prevent undesirable physical, microbial and chemical changes to processed food and its packaging which could affect the wholesomeness of the processed food.

2.14.8 Cartons, Wrapping Materials and Food Containers Stores shall:

a) be dust and pest proof.

b) be designed and maintained to prevent undesirable physical, microbiological, bio-chemical contamination.

c) be stored on shelving or racks constructed in accordance with 2.8.4.

Schedule 3 Services in an Export Facility

3.1 Effluent and Waste Disposal

3.1.1 Export Facilities shall have an efficient effluent and waste disposal system maintained in good order and repair.

3.1.2 All effluent lines (sewerage, storm water, processing) shall be large enough to carry peak loads and constructed so as to avoid contamination of the potable water supply.

3.1.3 Sanitary drainage shall not be connected with any other drains within the facility and be directed to a septic tank or sewerage system.

3.1.4 Septic tanks and waste trap systems shall be located so as to avoid a hygiene hazard to the product and located away from any processing area or entrance to the building.

3.1.5 The storm-water drainage system shall not to be connected to the effluent treatment system.

3.2 Storage of Waste and Inedible Material

3.2.1 Provision shall be made for the separate storage of waste and inedible material prior to removal from the factory.

3.2.2 These facilities shall be design to prevent access to waste or inedible material by pests and avoid contamination of food, potable water, equipment, buildings or roadways on the premises.

3.3 Lighting

3.3.1 Adequate lighting shall be provided throughout the factory and light produced shall not distort colours and be shadow free at the inspection surface.

3.3.2 The intensity of illumination at the task area floor shall be a minimum of:

a) 220-lux in the processing areas;
b) 540-lux where the product is being inspected;
c) 110-lux in other areas.

3.3.3 Light fittings shall be:

a) equipped with a diffuser or other means so that breakage will not contaminate the product;
b) recessed into or flush fitted against the ceiling so that no exposed ledge is created.

3.3.4 Where light fittings cannot be installed in accordance with 3.3.3 they may be suspended from the ceiling by cables provided that the top of the fitting is sloped at approximately 45 degrees.

3.4 Ventilation

3.4.1 Adequate ventilation shall be provided to prevent excessive build up of heat, steam, condensation and other undesirable hazards.

3.4.2 Where cooking, canning or boiling operations are carried out extractor fans and canopies shall be installed and have capture velocities capable of conveying all heat, fumes and other aerosols through the exhaust canopy opening.

3.4.3 Airflow shall always be directed from clean areas to dirty areas.

3.5 Water Supply

3.5.1 The complete procedure for the control and treatment of sea and potable water used shall be documented by the Export Facility including treatment and analytical results.

NOTE: Records should be kept of tests showing that effective treatment was maintained or that the microbiological quality was suitable.

3.5.2 An ample supply of water shall:

a) be available under adequate pressure and suitable temperature;
b) be provided with adequate facilities for its storage where necessary and distribution;
c) be provided with adequate protection against contamination.
d) if used in food handling areas meet the requirements of 3.6.1.

3.5.3 Non-potable water may be used for steam production, refrigeration, fire control and other similar purposes not connected with food and shall be carried in completely separate identifiable lines (preferably by colour) with no cross-connections or back-flow into potable water lines.

3.5.4 Non-potable water outlets in processing areas shall be clearly identified.

3.5.5 Clean seawater that does not contain any micro-organisms at levels exceeding 3.6.1 may be used in food handling areas provided it is also free from excessive turbidity, offensive odours, colour and other contaminating substances.

3.5.6 Clean seawater shall be supplied through a pump located forward of toilet or bilge discharge and used only for that purpose or as an emergency pump.

3.5.7 Ice shall be made from potable water and manufactured, handled and stored so as to protect it from contamination.

3.5.8 All storage tanks, cooling towers and pipes used in handling water shall be constructed to facilitate cleaning and inspection.

3.5.9 All storage tanks shall be effectively covered to prevent the entry of pests and other contaminants.

3.6 Water Standards

3.6.1 Water that is used in food handling or required to be potable shall:
a) not contain any *E.coli* or *Salmonella* per 100 millilitres (ml);
b) not contain more than 10 coliform per 100 ml;
c) not contain 1 to 10 coliform in 100 ml in any 2 consecutive samples;
d) for any 12 month period not contain 1 to 10 coliform in 100 ml in any 3 samples.

3.6.2 Water shall be sampled by an Authorised Officer from each land-based facility at least once a year and examined by an accredited laboratory to ensure that standards in 3.6.1 are maintained.

3.7 Water Re-circulation and Circulation

3.7.1 Water reused and circulated within an Export Facility shall be treated and maintained in a condition so that no health hazard can result from its reuse and shall be potable if it comes into contact with food.

3.7.2 Water re-circulation and circulation systems shall be clearly identified and have:

a) no cross connection between potable and non-potable water;
b) non-return devices installed to prevent back flow into the systems;
c) no dead ends;
d) non-potable water outlets clearly identified.

3.7.3 Water can only be used and reused or re-circulated for cooling of a canned product if it is:
a) potable;
b) chlorinated to a level of not less than 0.2-ppm free residual chlorine at the end of the cooling cycle;
c) filtered before re-use;

and all storage tanks, cooling towers, pipelines or the like utilised in handling the water are constructed to facilitate inspection and cleaning.

3.8 Steam

Where steam or other heating media is used it shall be supplied in sufficient volume and pressure for the operation of the equipment and contain no hazardous substances.

3.9 Compressed Air

Compressed air that comes into direct contact with product or equipment surfaces shall:

a) have a filtered air intake located in a clean place;
b) contain no oil or substances hazardous to health.

Schedule 4 Loading Docks, Container Depots and Vehicle Wash Areas.

4.1 Loading Docks

4.1.1 The loading dock shall be:

a) located in an area that is convenient to the product store;
b) enclosed or provided with an awning to protect fish from contamination during loading and unloading.

4.1.2 Where the load has to be assembled prior to loading the marshalling area shall be protected from the elements.

4.1.3 Both the loading dock and associated marshalling areas shall have an illumination of at least 220-lux.

4.1.4 The area nominated for truck movement shall be finished with a well-drained surface that is impervious and durable.

4.1.5 Unloading and landing equipment shall be constructed of a material that is easy to clean and disinfect.

4.2 Vehicle Wash Areas

4.2.1 Where vehicles and container system units used to carry fish are cleaned in an Export Facility, a paved and drained area shall be used.

4.2.2 The surface of the vehicle wash area shall:

a) be durable and impervious;
b) have a drainage gradient of at least 1:50 that slopes towards the drainage system;
c) have an adequate supply of pressured water for disinfecting and cleaning operations.

4.3 Container Depots and Terminals

4.3.1 Road access ways and storage areas for container system units shall be sealed and drained.

4.3.2 On-site or ready access to wash facilities shall be made available for container system units as set out in 4.2

Schedule 5 Additional Requirements for Storage, Brine Freezing, Shellfish Depuration, Clam Shucking and Live Fish Packing Facilities

5.1 Storage Export Facilities

5.1.1 Facilities solely engaged in storing wrapped frozen product shall comply with the refrigeration requirements of Schedule 2 (2.14.)

5.1.2 Premises used as non-refrigerated stores for processed food shall be of sound construction, designed and maintained so as to prevent undesirable physical, chemical or microbiological contamination or changes to the food and its packaging which could affect the wholesomeness of the food.

5.2 Brine Freezing Bulk Whole Fish

5.2.1 Areas or parts of the Facility used solely for brine freezing tuna shall comply with the requirements of 5.2.2.

5.2.2 The areas or parts shall:

a) be suitably clean;
b) be maintained in such a manner that no microbiological, physical, chemical or other objectionable substances can contaminate the fish or make the fish unfit for human consumption;
c) have the area sealed against dust and pests;
d) contain hand washing and toilet facilities that are readily available to processing staff as set out in Schedule 2 (2.13);
e) have a clean dry area for the storage of packing materials.

5.3 Shellfish Depuration

5.3.1 Areas or parts of the Facility used solely for the depuration of shellfish shall comply with 5.3.2.

5.3.2 Depuration tanks must be located, constructed and designed to:

a) prevent contamination of shellfish by other animals or pests;
b) keep unpurified and purified shellfish separate;
c) enable a hydraulic flow with minimum turbulence through the tank.

5.3.3 The purification system shall be designed to provide sufficient water of adequate quality throughout the system in a manner that accomplishes effective purification.

5.4 Clam Shucking

5.4.1 Areas or parts of the Facility used solely for the depuration of shellfish shall comply with 5.4.2.

5.4.2 The areas or parts shall:

a) be suitably clean;
b) be maintained in such a manner that no microbiological, physical, chemical or other objectionable substances can contaminate the clam or make the clam unfit for human consumption;
c) contain hand washing and toilet facilities that are readily available to processing staff as set out in Schedule 2 (2.13);
d) have a clean dry area for the storage of packing materials.
e) have lighting in accordance with Schedule 3 (3.3);

NOTE: A well maintained, galvanised structure with smooth and impervious concrete floor will meet these requirements (e.g. galvanised iron, aluminium colour bonded zinc-alum or similar suitable materials).

5.5 Live Fish Packing

5.5.1 Areas or parts of the Facility used solely for the live fish packing (except shellfish) shall comply with 5.5.2.

5.5.2 The areas or parts shall:

a) be suitably clean;
b) be maintained in such a manner that no microbiological, physical, chemical or other objectionable substances can make the fish unfit for human consumption;
c) contain hand washing and toilet facilities that are readily available to processing staff as set out in Schedule 2 (2.13);
d) have a clean dry area for the storage of packing materials.
e) have lighting in accordance with Schedule 3 (3.3).

NOTE: A well maintained, galvanised structure with smooth and impervious concrete floor will meet these requirements (e.g. galvanised iron, aluminium colour bonded zinc-alum or similar suitable materials)

Schedule 6 Structural Requirements for Fishing Vessels

6.1 Application of this Schedule

This Schedule applies to Fishing Vessels preparing food for export.

6.2 Design and Construction of Fish Handling Areas

6.2.1 Design and construction of fish handling areas on fishing vessels shall comply with the requirements for food handling areas.

NOTE: Sea water intakes for vessels shall be located forward of any toilet or bilge discharge. Decks used for fish handling may be constructed of one or more of the following materials, namely surface coated aluminium, fibreglass, timber sheathed or coated with an epoxy finish or similar.

6.2.2 Where fish does not normally come in contact with the deck and the timber is clean, sound and well-caulked untreated timber is allowed on exposed decks.

6.2.3 Where operations are carried out in daylight hours unenclosed fish handling areas on decks shall be effectively roofed over or protected by a substantial and easily erected awning.

6.2.4 Hydraulic circuits shall be protected in such a way as to ensure no oil leakage can contaminate product.

6.3 Water Supply on a Vessel

Water used at any stage of processing shall comply with Schedule 3 (3.5.1 to 3.5.6.).

6.4 Lighting on a Vessel

6.4.1 Artificial lighting in accordance with 6.4.2 shall be provided:

a) where necessary and where handling, processing and inspection takes place at night;
b) below deck and in enclosed processing areas.

6.4.2 The intensity of illumination shall be a minimum of:

a) 220-lux in the processing area;
b) 540-lux where the product is being inspected.

6.4.3 Light fittings shall be kept clean and have a shatterproof shield to protect the product in case of breakage.

6.5 Refrigeration Facilities on a Vessel

6.5.1 Refrigerated holds and tanks shall comply with the requirements of Schedule 2 (2.14.)

6.5.2 Hatches and hatch plugs shall be effectively sealed to prevent:

a) leakage of cold air from the refrigerated hold;
b) ingress of water into the refrigerated hold.

6.5.3 If it is clean and sound wooden dunnage is permitted.

6.6 Chillers on Vessels

6.6.1 Chilling shall be carried out in:

a) chiller holds;
b) refrigerated sea water tanks;
c) other suitable equipment.

6.6.2 Chiller capacity shall be sufficient to rapidly cool fish from ambient temperature to chill temperature (-1 to +4^{o}C) and hold it at this temperature.

6.7 Freezers on a Vessel

6.7.1 Except as provided in 6.7.2, a freezer shall be:

a) physically separated from the hold in which the frozen food is stored;
b) provided with separated refrigeration.

6.7.2 If the freezer is located within a storage hold where frozen food is stored it shall be:
a) separately refrigerated;
b) provided with doors of a material that ensures its efficiency when operating and effectively divides the freezer from the hold.

6.7.3 Freezer holds, blast freezers, plate freezers and the like shall be capable of reducing the temperature of fish undergoing freezing to –18°C or colder in accordance with Schedule 13.

NOTE: Brine freezers on purse-seining vessels utilised for freezing tuna destined to be processed by canning shall be capable of reducing the temperature of fish undergoing freezing to –9°C or colder

6.8 Cold Storage on Vessels

Cold storage capacity shall be sufficient to maintain frozen fish at a temperature of –18°C or colder.

NOTE: Refrigerated brine storage on purse seining vessels utilised for storing frozen tuna destined to be processed by canning shall be capable of maintaining the temperature of frozen fish at a temperature of –9°C or colder.

6.9 Amenities on a Vessel

6.9.1 Sanitary facilities including toilet and shower facilities shall be sufficient in number for the normal complement of crew.

6.9.2 Any toilet must be equipped with a hand basin located in the toilet room or immediately outside the door and the hand basin shall comply with Schedule 2 (2.12.1 c,d,e,f).

6.9.3 A berth shall be available for each member of the crew and when required for an Authorised Officer.

6.10 Storage

6.10.1 Waterproof and separate storage area shall be provided for the storage of cartons, ship to shore containers and the like.

6.10.2 Cleaning compounds, fuel, and other chemicals shall be stored in a dry area physically separated from fish, cartons and ship to shore containers.

6.11 Exemptions for Smaller Vessels

6.11.1 A vessel that is too small to comply with requirements in this Schedule and is at sea for no longer than 24 hours shall:
a) have deck and gunwales that are smooth, impervious and free from inaccessible services;
b) have an awning over the processing areas;
c) have a sink and processing table;
d) have a hand basin in accordance with Schedule 2 (2.12.1 c, d, e, f and 2.12.2);
e) have a suitable method of providing cold water to the sink and hand basin.
f) comply with the requirements of 6.11.2

6.11.2 Refrigerated or insulated containers for storage shall be provided and shall:
a) be well insulated;
b) be smooth, light coloured and impact and abrasion resistant with internal corners coved;
c) be non-corroding and non-toxic;
d) be covered and self draining;
e) have provision for holding a reasonable quantity of ice or have an alternative means of refrigeration.

Section 4 - Operational Requirements

Schedule 7 Hygiene Requirements for an Export Facility

7.1 General Maintenance of Facilities

7.2.1 Buildings, vessels, equipment, utensils, refrigeration and all other physical aspects of an Export Facility including drains shall be kept in good repair, in a clean and orderly condition and operated in accordance with these Standards.

7.2.2 Repairs shall be carried out as soon as possible without interference to handling and processing and may cause the Facilities closure during certain repairs.

7.2.3 All chemical compounds used as cleaners, sanitisers, soaps, detergents, lubricants or pesticides shall be approved by NFA and the following information provided:

a) trade name and type of chemical compound (active ingredient);
b) method of use.

NOTE: The following cleaning chemicals are acceptable for use in a facility: lime, sodium bicarbonate, sodium metaphosphate and related phosphates, sodium metasilicate and soaps.

The following sterilising chemicals are acceptable for use in establishment: iodine, hydrogen peroxide, quaternary ammonium compounds, chlorine and chlorine compounds.

7.2 Cleaning and Sanitising

7.2.1 Either immediately after the end of work for the day or at such times as may be appropriate to maintain hygienic conditions floors, including drains, additional structures, processing equipment and walls of food handling areas must be thoroughly cleaned.

7.2.2 To prevent the contamination of food, equipment, utensils and surfaces that contact food shall be:

a) cleaned as frequently as necessary;
b) sanitised when there is a risk of contamination but not less than daily.

7.2.3 Surfaces contacting food must be adequately rinsed after the use of any detergents prior to handling of the food.

7.2.4 Adequate precautions shall be taken to prevent food from being contaminated during cleaning or sanitising of rooms, equipment or utensils.

7.2.5 Detergents and sanitisers shall be suitable for use in food handling areas and not impart any flavours, odours or leave toxic residues.

7.2.6 Staff changing facilities, toilets and lunchrooms shall be kept clean at all times.

7.2.7 Roadways, yards and other areas in the immediate vicinity of the Export Facility shall be kept clean.

7.3 Hygiene Control Program

A documented predetermined cleaning and sanitation program shall be in place at each Facility and all cleaning personnel shall be suitably trained in cleaning and sanitising techniques. All cleaning and sanitation procedures shall be monitored and records maintained.

7.4 Inedible By-products

7.4.1 Inedible by-products and other inedible material shall:

a) be stored so as to avoid contaminating food for human consumption;
b) be removed from the food preparation area as often as necessary to avoid contamination.

7.4.2 All equipment used for edible materials shall be identified.

7.4.3 All equipment used for the disposal, storage and treatment of wastes or inedible material shall be clearly identified, stored separately and not used for edible material.

7.4.4 Sanitising of 7.4.2 and 7.4.3 shall not take place together but in a physically separate environment.

7.5 Storage and Disposal of Waste

7.5.1 Provision shall be made for the storage of waste and inedible material prior to the removal of waste from the factory.

7.5.2 Waste storage facilities shall be:

a) away from the processing area;
b) designed to prevent access to waste by pests;
c) designed to avoid contamination of food, potable water, equipment, buildings or road ways on the premises.

7.5.3 Waste shall be removed from food handling areas and other working areas as often as necessary to avoid potential contamination sources.

7.5.4 Immediately after the disposal of waste, receptacles used for the storage and any equipment which has come into contact with the waste shall be cleaned and sanitised.

7.5.5 The waste storage area shall be kept clean.

7.5.6 All waste disposal bins shall be fitted with close-fitting lids that are kept close.

7.6 Domestic Animals

Domestic animals, except guard dogs in perimeter areas are not permitted on Export Facilities premises.

7.7 Pest Control

7.7.1 There shall be an effective and continuous schedule for the detection, control and eradication of pests.

7.7.2 Pest control shall not constitute a hazard to human health and product safety.

Control measures involving treatment with chemicals shall only be undertaken by personnel who have a complete understanding of the health hazards these chemicals may pose to the product.

7.7.3 Accurate and legible records of the location and frequency of servicing bait stations at an Export Facility shall be kept.

7.8 Storage of Hazardous Substances

7.8.1 Pesticides, cleaning agents or other substances which could represent a hazard to health shall be suitably labelled with a warning about their toxicity and use and extreme care taken to avoid the chemicals contaminating food, food contact surfaces and ingredients.

7.8.2 Hazardous substances shall be stored in rooms or cabinets used only for that purpose and handled only by authorised and properly trained persons.

7.8.3 Except when necessary for hygienic or preparation purposes no substances which could contaminate food may be used or stored in food handling areas or be stored with any product, ingredients or product packaging materials.

Schedule 8 Personal Hygiene and Health Requirements

8.1 Personal Effects and Clothing

Personal effects and clothing shall not be worn in food handling areas.

8.2 Hygiene Training

8.2.1 The manager of a Fish Export Facility shall arrange for adequate and continuous training of all food handlers in personal hygiene and hygienic handling of food the precautions necessary to prevent contamination of food is understood.

8.2.2 Training shall include reference to relevant parts of these Export Standards.

8.2.3 Training records for each person trained shall be maintained.

8.3 Communicable Diseases

8.3.1 No person who:

a) is without a current (yearly) medical certificate stating that they are free of any communicable diseases;
b) is suffering from or a carrier of a communicable disease;
c) is suffering from a condition causing a discharge of pus or serum (e.g. weeping sore, infected cuts, boils) from any part of the head, neck, hands or arms;
d) has reason to suspect there is a chance of transmitting a disease producing organism to the product;

shall prepare, pack, or handle any material likely to be used in constructing the product.

8.3.2 If the manager/owner of an Export Facility engaged in direct handling of fish has reason to suspect that any person is likely to transmit a disease producing organism to the product, the manager shall ensure, the person does not enter the Facility until he/she produces a certificate from a medical practitioner indicating that they are free from infection and are non-infective.

8.4 Injuries

Any person with an uninfected wound shall discontinue to work with food or be in contact with any food contact surfaces until the wound is covered with a clean waterproof dressing that is securely attached.

8.5 Personal Cleanliness

8.5.1 All staff while on duty in food handling areas should maintain a high degree of personal cleanliness.

8.5.2 Fingernail polish and wedding bands are not permitted by those persons handling fish with bare hands.

8.5.3 Jewellery including watches shall not be worn in a fish processing area.

8.5.4 Any behaviour which could result in the contamination of food products such as chewing, eating, spitting, smoking and other unhygienic behaviour shall be prohibited in food handling areas.

8.5.5 All personnel shall wash their hands frequently and:

a) on entering product processing areas;
b) immediately after using the toilet;
c) after handling dirty or contaminated materials;
d) after chewing, eating, smoking or drinking;
e) after cleaning procedures, handling sanitisers and similar cleaning chemicals.

8.5.6 All persons shall rinse their boots in a foot-bath prior to entering the plant.

8.5.7 Persons handling food, ingredients and items used in food handling shall wash and sanitise their hands immediately after handling any material that might be capable of transmitting contaminants.

8.5.8 The wearing of clean gloves does not exempt the wearer from having thoroughly washed their hands.

8.6 Protective Clothing

8.6.1 All personnel and visitors entering the processing area shall at all times:

a) wear suitable protective clothing and footwear;
b) wear a head-covering that encloses all hair;
c) if the person is wearing gloves-ensure that the gloves are in a sound, clean and sanitary condition;
d) if involved in medium or high risk product processing, shall wear a head covering that encloses the scalp, hair, any beard and moustache.

8.6.2 If a person wears disposable gloves or other disposable protective in the food handling area the disposable clothing shall be discarded after use and not be reused.

8.6.3 Protective clothing worn by persons in food handling areas shall:

a) be clean and lightly coloured;
b) be either washable or disposable;
c) not have an outer breast pocket or sewed on buttons.

8.6.4 Protective clothing including hats, hairnets, boots, coats, aprons and gloves shall be maintained in a clean condition and in good repair.

8.6.5 Protective outer clothing including footwear, aprons, headgear and gloves used in the processing area shall not be worn outside this area.

8.7 Signs

The occupier shall display signs advising that smoking, eating, drinking and chewing in food handling areas are prohibited.

8.8 Visitors

Precautions shall be taken to prevent visitors to food handling areas from contaminating food. This shall include the use of protective clothing. Visitors shall comply with provisions of this schedule.

8.9 Operators in a Pathogen Testing Laboratory

Operators in pathogen testing laboratories shall change their uniform prior to entering food-handling areas.

8.10 Supervision

The occupier of an Export Facility shall allocate responsibility for ensuring personnel comply with the requirements of these Export Standards to competent supervisory personnel.

Schedule 9 Hygienic Requirements in Production/Harvest Areas

9.1 Requirements for Growing and Harvesting Areas

9.1.1 Fish shall not be harvested from areas where the presence of potential harmful agents such as pesticides, fungicides, pathogenic bacteria, biotoxins or heavy metals could lead to an unacceptable level of such substances in the food.

9.1.2 Fish of the following species: Spanish mackerel, barracuda, coral trout, coral cod, surgeon fish, grouper, red snapper, red bass, red emperor, moray eels or other coral species shall not be harvested from coral reef areas at times when those areas are known to be affected by blooms of dinoflagellates (especially *Gambierdiscus toxicus* - the origin of ciguatoxin).

9.1.3 Growing and Production areas for shellfish shall be first approved by the NFA so as to meet the requirements of 9.1. Changes in the demarcation of areas or temporary or permanent closure shall be announced by the NFA to the affected importers, producers/exporters and operators of depuration facilities.

9.1.4 The location and boundaries of growing and production areas shall be fixed by the NFA to identify areas where shellfish can either be collected for direct human consumption or depurated before consumption.

9.1.5 Shellfish for export without depuration shall not be harvested from areas where faecal material, pathogenic micro-organisms, radionuclides and marine biotoxins are present in concentrations that are harmful to human health.

9.1.6 Shellfish shall not be harvested from an area where the concentration of PSP (Paralytic shellfish poison) equals or exceeds 80 micrograms per 100 grams of the edible portion of raw shellfish.

9.1.7 Shellfish intended for depuration shall not be harvested:

a) from waters where the total coliform median MPN exceeds 700 per 100 ml or more than 10 percent of the water samples exceed an MPN of 2,300 per 100 ml for a 5 tube decimal dilution test;
b) from waters where the faecal coliform median MPN exceeds 88 per 100 ml or more than 10 percent of water samples exceed an MPN of 260 per 100 ml for a 5 tube decimal dilution test;
c) from areas where shellfish flesh exceed the limits of a five-tube, three-dilution MPN test of 6,000 faecal coliform per 100 grams of flesh or 4,600 *E.coli* per 100 grams of flesh in 90 percent of samples.

After depuration the relevant product standard (Schedule 14) and Sampling Plan (Schedule 15) must be met before export.

9.2 Harvesting and Production

9.2.1 Methods associated with harvesting and production shall be hygienic, avoid contamination and shall not cause excessive damage to shells or tissues or significantly reduce product quality or its ability to be treated by depuration.

9.2.2 Equipment and containers used for harvesting and production shall be constructed and maintained so as not to constitute a hazard to health and if reused of a design and construction that permits easy and thorough cleaning.

9.2.3 Containers used for toxic or waste materials shall not be used for holding food, ingredients or equipment.

9.2.4 Dead fish shall not be harvested for processing.

9.3 Removal of Unfit Raw Material

9.3.1 Raw materials which are obviously unfit for human consumption shall be segregated for disposal or treatment during harvesting and production.

9.3.2 Raw materials which cannot be made fit for human consumption by further processing shall be disposed of in a way that avoids contamination of food, water supplies, ingredients and other food contact materials.

9.4 Protection of Raw Materials

9.4.1 Equipment used for harvesting, processing, storage and transport of raw materials shall protect the raw materials:

a) from contamination by:
   i) pests, physical or chemical agents and microbiological contaminants;
   ii) other objectionable substances;
b) from detrimental changes in temperature or other physical parameters caused by crushing, abrasion and vibration.

NOTE: This requirement may be met by transporting fish in either internal compartments of materials and construction as in processing areas or in fishes boxes of appropriate materials so as to prevent crushing. Landing of fish from ship to shore should occur as quickly as possible to avoid deterioration

9.4.2 If ice is used and in contact with food it shall be of a quality required in Schedule 3 (3.6).

Schedule 10 Hygiene, Production and Calibration Requirements for Processing

10.1 Raw Material Requirements

10.1.1 Raw materials, ingredients and packaging stored in an Export Facility shall be:
a) maintained under conditions that will prevent spoilage;
b) protected against contamination;
c) protected against damage.
d) not processed or used unless inspected for contamination, decomposition and parasites before processing and found to be in a sound condition. The nature and frequency of such inspections shall be set by the exporter and approved by NFA.

10.1.2 Stocks of raw materials and ingredients shall be used so as to ensure that the oldest stock is used first.

10.1.3 Suitable provision shall be made for the washing of raw materials as necessary.

10.2 Prevention of Cross-contamination

10.2.1 Effective measures shall be taken to prevent cross-contamination of food.

10.2.2 Effective measures shall be taken to prevent raw material or semi-processed material coming into contact with and contaminating the end product.

10.2.3 For the preparation of high risk processed:
a) contaminated protective clothing worn by a person handling raw materials or partially processed foods shall be discarded before the person comes in contact with high risk processed food;
b) if there is a likelihood of contamination hands shall be washed thoroughly between handling processed food at different stages of processing;
c) all equipment which has been in contact with raw materials or contaminated material shall be to being used for contact thoroughly cleaned and sanitised prior with processed food.

10.2.4 Processes in which there is risk of contamination to the final product include:
a) prawn heading, de-veining, and peeling;
b) lobster heading, gutting and de-veining;
c) dismembering, gutting and scaling of fish;
shall take place in areas physically separated by location or partition from where the product is further processed or packed.

10.2.5 Pet food and fishmeal preparation and packing shall take place in a separate building in which fish for human consumption is processed

10.3 Processing

10.3.1 All steps in the production process including packaging shall be performed without unnecessary delay and under conditions that will minimise the possibility of contamination, deterioration and growth of micro-organisms.

NOTE: If frozen food is thawed or tempered for the purpose of use in production, it shall be done under hygienic conditions that avoid contamination. Melted water produced shall be adequately drained and temperature rises kept to a minimum. It shall be brought to its thawed state as quickly as possible without causing undesirable physical, biochemical and microbial changes to the food.

10.3.2 Visual inspection for parasites shall be carried on a representative number of samples during gutting and filleting operations by an experienced person(s). The nature and frequency of this detection shall be determined. In the case of manual evisceration or filleting, it shall be done continuously by the operative at the time of the action and washing. In the case of manual evisceration, by sampling carried out on a representative being not less than 10 fish or fillets per batch.

10.3.3 Operating practices shall be designed to avoid contamination of product, product surfaces and packaging materials.

10.3.4 Fishing vessels that use seawater to wash up and process shall do so in uncontaminated waters and whilst the vessel is moving in open waters.

10.3.5 Fishing vessels processing and cleaning at secure anchorages shall ensure that:
a) waters are uncontaminated and meet the requirements of Schedule 3 (3.5.1 to 3.5.6);
b) toilet facilities are not operated unless self contained;
c) the vessel is at least 300 meters from the shore and in a depth of water greater than 20 meters.

10.3.6 Item 10.3.4 a, b, c shall not apply to vessels that use a self contained water system as long as the water for washing or processing meets the requirements of Schedule 3 (3.5.1 to 3.5.6).

10.4 Chlorine in Water

10.4.1 A record of chlorine readings shall be:
a) maintained and readings taken at intervals of not less than 8 hours or at the start of each shift;
b) measured 30 minutes after the addition of the chlorine.

10.4.2 Levels of chlorine recommended by WHO suggest drinking water contain 0.25-ppm of measurable residual chlorine.

10.5 Ventilation

10.5.1 Adequate ventilation shall be provided to prevent excessive heat, dust and contaminated air build up.

10.5.2 Airflow shall always be directed from clean areas to dirty areas.

10.6 Processing and Production Records

10.6.1 The occupier of an Export Facility shall keep records of each lot of fish processed for inspection by an Authorised Officer.

10.6.2 Records shall show processing details including records of quantities, processing temperatures and times, details of sampling and other records relevant to show that fish has been processed in accordance with these Export Standards.

10.6.3 For each batch of shellfish and other live fish intended for export or transport to a depuration or processing facility, a document produced by NFA shall be completed by harvesting personnel stating:
a) the harvesting personnel identity and signature;
b) the date of harvesting;
c) the approval number and location of the harvesting area;
d) the species and quantity;
e) the approval number of the place of destination (for export, depuration, or processing facility).

This document shall be date stamped by the receiver and kept for one year.

These documents shall be permanently numbered in sequence.

NFA shall keep a list indicating the numbers of these documents together with names of the harvesters and to whom the documents were issued. If harvesting is carried out by the same staff operating the export, depuration or processing facility of destination a permanent transport authorisation may be granted as long as details as required by 10.6.3 a, b, c, d are kept for each batch.

NOTE: The NFA shall suspend the issue of the document as required by 10.6.3 if the harvesting area has been closed.

10.7 Storage

10.7.1 Food including ingredients shall be stored under conditions that will:
a) minimise the contamination and proliferation of micro-organisms;
b) protect the food against deterioration.

10.7.2 No materials other than those used for immediate processing shall be stored in an area in use or processing.

10.7.3 Vehicles not designed for use in the Export Facility shall be garaged in an area not used for processing.

10.8 Calibration of Equipment

10.8.1 All measuring equipment, gauges and devices used in connection with food shall be graduated so as to be read easily and calibrated so as to be accurate.

10.8.2 A calibration system shall be applied either in-house or by an external authority. The results of the calibration be recorded and records kept for 2 years unless otherwise specified in these Export Standards.

Schedule 11 Requirements for Depuration

11.1 Shellfish shall be stored and handled before depuration in a manner that does not adversely affect their physical activity or allow their bacterial quality to deteriorate.

11.2 Shellfish that are dead, damaged or gaping shall not be depurated.

11.3 Shellfish shall be clean and practically free from mud and weed prior to depuration.

11.4 Shellfish from more than one growing area shall be kept separate during washing, culling and packing.

11.5 Areas used for depuration shall be approved by the NFA and boundaries of the sites be clearly identified by buoys, poles or fixed means. There shall be a minimum distance of 300 meters between depuration areas and also between depuration areas and production areas.

11.6 Sites between depuration areas shall be well separated to prevent mixing of batches. Sites shall only be used for one batch at a time.

11.7 Shellfish shall be depurated in seawater for a time exceeding the period required to reduce the faecal bacterial load so as to meet the product standard in Schedule 14.

11.8 Water used for depuration shall be:

a) maintained within the range +15 to +25^{o}C;
b) be practically free from turbidity or suspended silt load and bacterial pathogens as stated in Schedule 3 (3.6.1a);
c) of a salinity, dissolved oxygen level and pH necessary for the normal functioning of the fish at any point in the tank and in no case shall the dissolved load be less than 50% of saturation.

11.9 During depuration there shall be a complete re-circulation of water in the tanks every 30 minutes and:

a) the water shall not be used for more than one 36 hour cycle;
b) the tank shall be of a flow through design.

11.10 Water circulation shall be such as to ensure adequate cross circulation of the tank.

11.11 Depurated shellfish may be stored in depuration tanks for up to 5 days provided no other shellfish are introduced.

11.12 A person shall not place shellfish from different approved harvesting areas into the same depuration tank.

11.13 Crustaceans, fish or other marine species shall not be kept in the depuration tank where shellfish are undergoing depuration.

11.14 Water circulation and sterilisation shall be maintained as long as fish remain in the tank and shall allow shellfish to resume filter-feeding, remove sewerage content, not to be recontaminated and be able to remain alive after depuration for packaging, storage and transport before being placed on the market.

11.15 The maximum capacity for a depuration tank shall not be exceeded. Shellfish shall be evenly distributed throughout the depuration tank to ensure maximum water circulation and at a density that will ensure the shellfish are permitted to open and undergo depuration. Containers, if used, shall ensure seawater is able to flow through levels of shellfish and not impede their opening.

11.16 Shellfish shall be depurated for at least 36 hours and if any interruption occurs the process shall be restarted.

11.17 Following depuration;

a) shellfish shall be washed thoroughly by hosing with potable water or clean seawater (this may occur in the same depuration tank and washing water shall not be recirculated;
b) all fish shall be protected from contamination and deterioration;
c) shellfish held at a temperature no higher than +10^{o}C.

11.18 Any breakdown of depuration equipment shall be recorded.

11.19 Batches to be depurated and those transported after depuration shall only be accepted if they are accompanied by the document referred to in 11.6.3.

11.20 Permanent records shall be maintained of the source, depuration time, and destination after depuration of batches by operators of the depuration facility.

11.21 Depuration Facilities shall have or secure the services of a NISIT accredited laboratory and shall regularly keep the records of microbiological tests performed for a period of three years.

11.22 Depuration Facilities shall ensure the following records are kept:

a) microbiological tests of purification water system;
b) microbiological tests of undepurated shellfish;
c) microbiological tests of depurated shellfish;
d) dates and quantities of shellfish delivered to depuration centre as stated in 11.19;
e) the times of filling and emptying of depuration (depuration time);
f) dispatch details of batches after depuration .

11.23 Packages containing depurated/purified shellfish shall be accompanied by a label certifying the fact.

11.24 Transport or further processing shall occur in accordance with these Standards.

Schedule 12 Canned, Cooked, Smoked, Salted and Mechanically Recovered Fish

Part 1 - Thermal Processing of Low Acid Canned Food /Approval of the Schedule Processes

12.1 Application of this Schedule

This Schedule applies to the thermal processing of low acid canned food and NFA approval of the process.

12.2 Scheduled Thermal Process

12.2.1 Low acid canned food shall not be prepared in a retort of a particular type in an Export Facility unless:

a) a scheduled thermal process for processing the food in a retort of that type has been determined by an approved cannery person;
b) the Managing Director has approved the use of the scheduled thermal process in that Facility;
c) the food is prepared in accordance with the approved scheduled thermal process.

12.2.2 An application for approval of a schedule thermal process shall be made at least 30 days before the process is to be used for the first time.

12.2.3 If the approved Schedule thermal process is to be altered, the altered process shall be determined and approved as if the process was new in accordance with 12.2.1 and 12.2.2.

12.3 Thermal Process Records

Complete records including data concerning all aspects of the determination of an approved scheduled thermal process, including any associated incubation tests, heat penetration of the can data and thermal distribution within the thermal processing equipment shall be retained at the processing plant for as long as the scheduled thermal process is used.

12.4 Scheduled Thermal Process Designed from Simulated Manufacturing Conditions

If a scheduled thermal process is designed from simulated manufacturing conditions, the results shall be verified in the actual production thermal processing equipment under commercial operating conditions before the scheduled thermal process is used to prepare processed food for export.

12.5 Deviation From the Approved Scheduled Thermal Process

The occupier of a facility where low acid canned processed food is prepared for export shall notify NFA in writing within 7 days of the occurrence of spoilage, deviation from the scheduled thermal process approved in relation to the food or failure to comply with this Schedule.

12.6 Properly Trained Personnel

Thermal processing and associated processing shall be performed and supervised only by properly trained personnel.

12.7 Thermal Processing Equipment and Procedures

The equipment and procedures used for thermal processing of low acid canned processed food shall be designed, operated and maintained to ensure that each can in the batch is processed in accordance with the scheduled thermal process approved in relation to the food.

12.8 Records

Records of the application of scheduled thermal processes and venting procedures used for each processed food shall be kept, including records of:

a) process food name and style;
b) the thermal processing date and the lot identification number or code;
c) the retort temperature recorder chart identification number;
d) the container size;
e) the approximate number of containers per code lot;

f) the minimum initial temperature;
g) the scheduled and actual processing time and temperature;
h) the mercury in glass and recorder thermometer readings;
i) closing vacuum (in vacuum packed products), fill in weights;
j) other critical factors specified in the scheduled process;
k) results of regular production checks of cans for closure defects and corrective action taken;
l) results of teardown examinations for double seam cans and corrective action taken shall be kept for each batch and be retained at the processing plant for not less than 3 years.

12.9 Commencement of Thermal Processing

Thermal processing shall be started as soon as possible after can closing to avoid microbial growth or changes in the heat transfer characteristics of the processed food.

12.10 Baskets or Crates Marked with a Heat Sensitive Indicator

In batch operations, at least one of the cans on top of each retort basket or crate shall be plainly and conspicuously marked with a heat sensitive indicator.

12.11 Food Shall Be Warmer than the Initial Temperature

Low acid canned food shall not be processed unless the temperature of the contents of the coldest can immediately before thermal processing is equal to or higher than the minimum temperature specified in the scheduled thermal process for the food.

NOTE: Sauces or oils should be maintained at a temperature above +65^{o}C to provide free flowing consistency and prevent bacterial growth and be provided with a suitable means of maintaining this temperature.

12.12 Potable Water for Cooling

12.12.1 Water used for cooling cans shall be potable.

12.12.2 If water is made potable by chlorinating it shall show a free residual chlorine level of at least 0.2-ppm after contact with the cans. This shall be checked and recorded after each cooling cycle.

12.12.3 If water is made potable by any other method, the method shall be approved by Inspection and Licensing.

12.13 Clean Cans

Cans shall be cleaned immediately prior to filling to eliminate any foreign matter.

NOTE: This may be achieved mechanically by inverting the containers and spraying with a jet of air or water.

12.14 Checking for Closure Defects

The can seaming equipment should be kept clean, attended and monitored during the operation and cans frequently checked during processing for closure defects and corrective action taken when necessary.

NOTE: Checking seam dimensions every half an hour will meet this requirement.

12.15 Teardown Examination of Double Seam Cans

Teardown examination for double seam cans shall be performed by a person trained in the examination and records of the results shall be kept.

12.16 Inspection and Evaluation of Cans

12.16.1 Cans shall be inspected and evaluated in accordance with Section 6.4.8 of "Inspection of closures", Volume G of "Recommended International Code of Practice for Low-Acid and Acidified Low-Acid Canned Foods" (Second edition 1989) CAC/RCP 23-1979, of Codex.

12.16.2 Checks shall also be carried out by the manufacturer to ensure that the heat treatment has been effective by:

a) incubation tests: +37°C for 7 days or +35°C for ten days or an equivalent combination;
b) microbiological examination of contents or containers by an approved accredited laboratory.

12.17 Post-processing Operations

12.17.1 Cooling and drying procedures shall be conducted in a manner to protect against post-processing contamination.

12.17.2 After thermal processing, cans of processed food shall not be:
a) handled while the seams and seals are wet;
b) handled manually;
c) subjected to mechanical shocks;
until the cans have reached ambient temperature.

12.17.3 Conveyors and other equipment for handling thermally processed cans shall be:
a) kept clean, disinfected and dry;
b) where it is not possible to keep such equipment dry, the equipment shall be sprayed with an appropriate sanitising agent on a continuous or frequent basis during production.

12.17.4 Heat sensitive indicators attached to retort baskets or crates in which cans are thermally processed shall be removed at the same time as the cans are removed from the baskets or crates.

12.17.5 If cans remain in the baskets or crates after thermal processing, the activated heat indicators shall be removed, and the production details shall be firmly attached to the basket or crates to indicate that the product has been thermally processed.

12.18 Determination and Approval of the Scheduled Process

This procedure outlines essential information for use in conducting thermal process determinations and filing Scheduled Processes with the NFA.

12.18.1 **Determining the Schedule Thermal Process**

The following requirements are necessary to satisfy the NFA as to the adequacy of determination of a thermal process.

12.18.2 **The Retort**

a) The retort used for the scheduled process determination shall be specified.

NOTE: If this is not the same retort as will be used for normal production, the heat penetration results must be verified under normal manufacturing conditions before the scheduled process is used to prepare food.

b) Even heat distribution throughout the retort under normal operating conditions shall be confirmed. This may be done either:
i) in conjunction with the actual heat penetration trials on a specific product by ensuring that in addition to the product temperature measurement there are enough exposed thermocouples spaced through the retort to confirm even heat distribution; OR
ii) by reference to a prior test where even heat distribution has already been confirmed under similar processing conditions (e.g. retort loading, spacers, etc.)
c) Each retort should have at least one pressure gauge and one recording thermometer, which records in a permanent form the interior temperature of the retort and records be kept as specified in 12.8.

12.18.3 **The Test Product**

a) Heat penetration tests for a particular product shall be conducted on a minimum of 4 to 6 test products.
b) All intrinsic factors that will effect heat penetration shall be specified, and the range that will be encountered during production determined. Factors shall include where appropriate:
i) viscosity;
ii) fill weight/volume;
iii) solids ratio (including number of pieces, piece size, constituent ratio);

iv) minimum initial temperature;
v) headspace;
vi) vacuum (particularly for flexible packaging).

c) Test products shall reflect a 'worst case scenario' in heat penetration terms, of what could be encountered in normal production.

NOTE: For example, a test product with high solids content, high viscosity and low initial temperature.

d) Measurements of the variables used for the test products for heat penetration tests shall be recorded.

12.18.4 **The Test Scheduled Process**

a) Heating and cooling curves from all the test products, the retort thermocouple temperature, together with retort temperature (and pressure where overpressure is used) as measured by the standard instrumentation shall be recorded.
b) Any process data for preheating carried out in the retort shall be recorded.
c) The stacking pattern of the containers in the retort shall be specified.
d) Any product rotation, or product transport speeds shall be recorded.

12.18.5 **Calculation of the Thermal Process**

Results from the slowest heating curve of the test products shall be used for calculation of the F_o value.

12.18.6 **Submission of Scheduled Process to NFA**

a) Scheduled processes for canned product shall be filed with the NFA before commercial production takes place e.g. description of sample parameters, heat penetration readings calculations etc.
b) Scheduled processes shall only be determined and submitted by a qualified cannery person.

Part 2 - Cooked Crustaceans and Shellfish

12.19 Requirements

Facilities cooking crustaceans and shellfish shall ensure:

a) that any cooking is followed by rapid cooling. Water used for this purpose shall be potable and if no other of preservation is used, cooling shall continue until the temperature approaches that of melted ice;
b) that microbiological checks are carried out by an approved laboratory under the verification step of a company's HACCP program.

Part 3 Smoking

12.20 Requirements

Smoking shall be carried out in a separate facility or special place, if necessary, equipped with adequate ventilation to remove smoke and heat from affecting other parts of the premises where products are processed and stored and;

a) materials used to produced smoke and heat shall be stored away from the place of smoking and be used in such a way that they do not contaminate products;
b) materials used to produce smoke and heat shall not have undergone any chemical treatment such as preservation, varnishing, pesticide treatment, be painted or glued;

and after smoking, products shall be cooled rapidly to a temperature required for preservation before packaging.

Part 4 Salting

12.21 Requirements

Salting operations shall take place in a different premises and be sufficiently removed from other parts the premises where other operations are carried out and;

a) salt and other ingredients used shall be stored so as to preclude contamination and once used shall not be re-used;
b) containers used for salting or brining shall be cleaned before use and constructed so as to preclude contamination during the process.

Part 5 Mechanically Recovered Fish Flesh

12.22 Requirements

Mechanical recovery of fish flesh:

a) shall ensure that the machinery is cleaned and washed frequently but at least every two hours:
b) from whole fish shall ensure that fish are gutted and washed before hand;
c) from guttered fish shall take place without undue delay after filleting using raw material free from guts;

And, after recovery, the flesh, frozen as quickly as possible or incorporated into a product intended for freezing or stabilising.

Schedule 13 Refrigeration, Storage and Transport of Fish.

13.1 Refrigerating Fish

13.1.1 Fish shall be refrigerated within the appropriate temperature range as specified in this Schedule.

13.1.2 The control of product temperature is the major purpose of refrigeration and a variation of refrigeration methods is essential to maintain an acceptable standard in relation to keeping product in a chilled, semi-frozen or frozen state.

13.1.3 Frozen fish shall be protected from dehydration and freezer burn by:
a) the application of a glaze; or
b) enclosed in an impervious wrap.

13.1.4 Blocks of fish or fish product for freezing shall not have a maximum thickness of 80 mm.

13.1.5 Different refrigeration rooms or chambers shall be designated in the premises and shall only be utilised for its designed purpose, e.g. the storage of frozen final product only.

13.2 Chilled Fish

13.2.1 The chilling of fish shall be performed with sufficient rapidity to prevent undesirable physical, biochemical and microbiological deterioration.

NOTE: To control Scombrotoxin formation the internal temperature of the fish should be brought to +10^{o}C or below within 6 hours and once chilled be maintained as close to freezing point as possible. After chilling the fish should not be exposed to temperatures above +4.4^{o}C for a cumulative period of more than 4 hours.

13.2.2 The temperature of fish that has been chilled shall not go below -1^{o}C or above +4^{o}C

13.2.3 Cool room or brine tank facilities or the provision for sufficient ice may be provided in premises for the purpose of cooling product to within the temperature range of -1^{o}C and +4^{o}C. These facilities shall be adequate to cool and maintain the product within that range until the product is removed for further processing.

13.2.5 A chill store used to store chilled fish should be operated at a temperature between -1^{o}C and +4^{o}C.

13.3 Freezing Fish

13.3.1 The term freezing is applied to the continuous process of reducing the thermal core temperature of fish or fish product from an ambient temperature to -18^{o}C or colder.

13.3.2 The freezing process shall be carried out in a way that minimises undesirable, biochemical and microbiological changes.

13.3.3 Fish shall be frozen in a room or chamber specifically designed for this purpose and as rapidly as possible.

13.3.4 The freezing process shall be carried out in one chamber except that fish cooled to -10^{o}C or colder may be transferred to a second freezer for continuation of the process provided the transfer causes only a minimal rise in temperature.

NOTE: Freezing of purse-seined fish in refrigerated brine on board a vessel is acceptable for tuna destined for canning. Brine freezing is applied to the continuous process of reducing the thermal core temperature of purse-seined fish from an ambient temperature to -9^{o}C or colder. The brine-freezer shall be designed for this purpose and freeze the fish as rapidly as possible

13.4 Freezing Capabilities

13.4.1 Freezing chambers or other freezing equipment, when utilised for the initial freezing of unfrozen fish or fish product shall reduce the product temperature through the zone of maximum crystallisation (in most products -1 to -5^{o}C) preferably within 4 hours but not exceeding 6 hours from the commencement of the refrigeration process.

13.4.2 Where the refrigeration process is continued in order to reduce the thermal core temperature to -18°C or colder. The whole refrigeration process shall be completed within 12 hours.

13.4.3 The process shall not be regarded as completed unless and until the product temperature has reached -18°C at the thermal centre after thermal stabilisation.

NOTE: For brine-frozen fish on a purse seining vessel the freezing process can be regarded as being complete when the temperature has reached -9°C at the thermal centre after thermal stabilisation.

13.4.4 Effective measures shall be taken to keep temperature rises to a minimum after the freezing process and during handling and transport.

13.5 Storage and Transport of Fish

13.5.1 The freezing of fish shall not be carried out in a cold store.

13.5.2 After freezing, cold stores shall be operated to maintain fish in a frozen state with the product temperature maintained at -18°C or colder.

NOTE: To prevent scombrotoxin formation of fish that has first been chilled and then frozen for a long time, fish should not be exposed to a temperature rise above +4.4°C from the time it is frozen for a cumulative period of more than 12 hours. An uninterrupted period of exposure should not exceed 6 hours.

13.5.3 A record of cold store temperatures shall be maintained by either:
a) a continuous monitoring system that shall be checked at least twice a day, or,
b) manual readings taken at appropriate intervals. This option shall include an alarm system to indicate when deviation above the prescribed temperature occurs.

13.5.4 The air velocity in cold stores rooms shall be moderate and no higher than necessary to achieve uniform temperatures within the rooms.

13.5.5 Product should be stacked so that air circulation within the storage room is not impaired. Except in jacketed rooms no direct contact with ceilings and floors shall be allowed.

13.5.6 A system of controlled stock rotation shall be employed in cold stores.

13.5.7 Transport of frozen fish shall be done so as to ensure the fish remain frozen

13.5.8 Rises in temperature of frozen fish that occurs during storage or processing shall be reduced to -18°C or colder as quickly as possible.

13.5.9 The temperature of frozen fish for export shall not go above -12°C.

13.5.10 Live Bivalve molluscs shall not be re-immersed in or sprayed in water once packaged except in the case of retail sale.

NOTE: Frozen purse-seined fish destined to be processed by canning, the same conditions apply for storage except that the allowable storage temperature must be -9°C or colder.

13.6 Fish Transport Vehicles

Vehicles used for the transportation of chilled or frozen fish shall be clean and:

a) be insulated, designed and equipped to maintain fish in a chilled or frozen state;
b) have internal surfaces of the cargo area constructed from smooth, corrosion resistant, impervious materials free from cracks and crevices;
c) have internal surface joints that are smooth or flush and sealed to prevent the entry of moisture;
d) have the cargo area proofed against pests and dust;
e) ramps, if provided, shall not be stowed in the cargo area;
f) have the cargo area capable of being drained;
g) if lighting is supplied the light source shall be covered by a shatterproof shield;
h) animals shall never be carried in the cargo area.

13.7 Live Fish Transport Vehicles

Vehicles used for the transport of live fish shall:

a) be clean and capable of being cleaned and drained;
b) be constructed to maintained fish in a healthy condition and ensure a high survival rate;
c) be capable of protecting the fish from the environment and temperature extremes;
d) have any possible food contact surfaces of a construction as set-out in 13.6 b.

13.8 Measuring Temperature

Product temperature is the temperature of frozen product obtained by reading an approved thermometer in the following way:

a) core temperature shall be recorded by inserting the probe of a thermometer into the thermal core of the sample unit:
b) core temperature shall be recorded when the thermometer probe indicates thermal equilibrium has been reached.

Section 5 - Export Standards, Procedures and Inspection

Schedule 14 Export Standards for Fish

Part 1 General Product Requirements

14.1 Product Requirements

14.1.1 **Application**

This Part applies to all parts of this Schedule and where applicable represents the minimum export standards for fish.

14.1.2 **Raw Materials**. The occupier of an Export Facility shall:

a) not accept or use raw materials, ingredients or packaging which contain or carry parasites, hazardous micro-organisms or toxic substances that will not be reduced to an acceptable level by normal plant procedures of sorting or preparing.

b) prepare product from raw materials that are taken from unpolluted waters, sound, in normal condition and in accordance with these Standards.

14.1.3 **Ingredients and Additives.** All ingredients and additives added to fish shall be prepared so as not to present a risk to consumers and shall:

a) not exceed the limits specified in these Standards or Codex, Vol. XIV, "Food Additives" First Edn, 1983;

b) meet the foreign countries requirements. (Documented evidence is required).

NOTE: Ingredients and their method of use may also be approved NFA.

14.1.4 **Packing Medium**. A suitable packing medium shall be used to keep the fish, alive or free from injury and in good condition and shall meet the requirements of 14.1.1 and if applicable the specific requirements 14.2.

14.1.5 **Residues, Metals and Contaminant Content**. All residues (pesticides, antibiotics or other) and metals where applicable shall not exceed the limits as specified by:

a) Codex, Vol. XIII, "Codex Maximum Limits for Pesticides Residues" Second Edn, 1986, including Supplement 1 "Codex Maximum Limits for Pesticides Residues" Second Edn 1988 and Supplement 2 "Codex Maximum Limits for Pesticide Residues" Second Edn, 1989;

b) Codex, Vol. XII, "Codex Standards for Natural Mineral Waters and Edible Ices and Ice mixes" First Edn, 1982);

c) importing country requirements.

14.1.6 **Labelling**. The stated style of presentation of all exported fish shall be accurate and included in the trade description.

14.1.7 **Sampling**. Batches shall be sampled, accepted or rejected according to the relevant sampling plan in Schedule 15**.**

14.1.8 **Net Contents**. Net contents shall be calculated by a method stated in Schedule 16 and shall be within +/- 2% of stated weight.

14.1.9 **Inspection**. Batches shall:

a) be sampled according to the relevant sampling plans in Schedule 15;

b) have each sample unit assessed using the relevant Product Inspection forms in Appendix A of these Export Standards;

c) meet the conditions of the following table and any additional conditions specified in this Schedule:

Defect	Tolerance
Taint, decomposed, fuel oil contamination	nil
Unwholesome material	nil
Abnormal colour, texture, odour	nil
Prohibited ingredient, additive, packing media	nil
Excessive permitted ingredient or additive	nil
Frozen product warmer than -18^{0}C	nil (not handled in accordance with Schedule 14)
Chilled product not within range (-1 to +4^{0}C)	nil (not handled in accordance with Schedule 14)
Damaged packaging	practically free
Reused or dirty packaging or container	nil
Incorrect labelling	nil
Net contents not +/- 2 % of stated weight	nil (measured in accordance with Schedule 17)

Part 2 Product Standards

14.2 Chilled and Frozen Scaly Fish

14.2.1 **Application**. 14.2 applies to chilled and frozen scaly fish, whole or dressed.

14.2.2 **Definition**. This standard shall apply to scale fish derived from the groups of fish termed:

a) Teleosts - bony fish;
b) Elasmobranches - cartilaginous fish.

14.2.3 **Process Description**. Fish to which standard applies shall be chilled (-1 to +4^{o}C) or frozen (-18^{o}C or colder).

14.2.4 **Style of Presentation**. Chilled and frozen scale fish may be presented in the following styles:

a) whole fish, bled or unbled;
b) fish that has been headed, gutted or cleaned;
c) gilled and guttered produced by gilling, gutting, and cleaning;
d) dressed fish with or without head or tail, produced by heading, gilling, gutting and cleaning;
e) fillet fish or fillet fish blocks;
f) any other style that is distinct, correctly labelled and meets the requirements of this Schedule.

14.2.5 **Raw Material**. Chilled, scaled fish shall not be prepared from fish that has been frozen unless the trade description accompanying the fish clearly states that it has been prepared from frozen fish.

14.2.6 **Characteristics**.

14.2.6.1 Chilled and frozen scale fish shall have the following characteristics:

a) be free from dirt, sand, grit and other contaminants;
b) not suffer from parasitic worm infection or physical disease;
c) have a bright appearance with some degree of rigor;
d) have flesh that is firm and elastic to the touch;
e) have an odour typical of the species;
f) where applicable, have abdominal walls that are smooth and entire;
g) where slime is natural to the species, it shall be transparent or creamy white and evenly distributed.

14.2.6.2 Whole fish shall have no leakage of gut contents and the following characteristics:

a) except where whole fish has been in refrigerated seawater, the eyes shall be:
   i) prominent;
   ii) bright and have black pupils;
   iii) clean and moist;

b) the gills shall be:
   i) clean;
   ii) free from coloured slime;
   iii) bright red in colour;
c) where appropriate, the scales shall:
   i) be bright;
   ii) glisten;
   iii) adheres strongly to the skin where this is normal for the species.

14.2.6.3 Headed, Gutted or Gilled and Gutted Fish shall have the following characteristics:
a) opalescent abdominal walls or flaps of the visceral cavity with a black peritoneal membrane that is smooth to touch;
b) red blood along the backbone in the visceral cavity;
c) a fresh typical smell in the visceral cavity and an odour typical of the species;
d) flesh that is firmly attached to the backbone, firm and elastic to the touch;
e) a bright appearance and some degree rigor;
f) abdominal walls that are smooth and entire;
g) if slime is present and natural to the species, it shall be evenly distributed, transparent and creamy white;
h) where appropriate, scales that are bright, glisten and adhere strongly to the skin where this is a characteristic of the species;
i) thoroughly eviscerated.

14.2.6.4 Fillets or fillets blocks shall have the following characteristics:
a) a normal appearance natural to the species;
b) flesh that is firm, rigid and elastic to the touch (dependant on species) with no gapping;
c) an odour typical of the species;
d) where the fish fillet has been skinned it shall be practically free of skin.
e) no flesh discolouration, bones or viscera present.

14.2.7 Inspection.

14.2.7.1 IQF fish may be inspect in a frozen state.

14.2.7.2 Where an officer has reasonable grounds to suspect that frozen fish does not meet the requirements of this division they may inspect after thawing.

14.2.7.3 Each sample unit shall be inspected for defects in accordance with the following table:

Final Product Chilled/Frozen Scale Fish.

Style	Defect	Tolerance
all*	excessive or abnormal slime (thick or yellow)	nil
all*	soft, mushy, gelatinous flesh	nil
all	belly burn or flesh discolouration	nil
all*	improper evisceration	nil
chill	dull, grey sunken eyes	nil
all*	abnormal scales	practically free
all*	blood along the backbone is dark red brown, purple or green with an offence odour	nil
all*	flesh not firmly attached to backbone	practically free
all*	discoloured red brown or purple gills	practically free
whole	brown abdominal walls or leaking gut contents	nil
all	mixed species	nil
all	foreign matter	1% by weight
all	slight dehydration (light freezer burn)	practically free
frozen	deep freezer burn	nil
all	parasites	nil
fillet	bones and viscera present	nil

* Where applicable

14.2.7.4 An inspection that finds a sample unit exhibiting any item in the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.

14.3 Live Fish

14.3.1 **Application**. 14.3 applies to live fish intended for human consumption and export other than bivalve molluscs.

14.3.2 **Definition**. Live fish for export includes crustaceans and scale fish.

14.3.3 **Process Description**. Live fish shall be kept in a manner that ensures a maximum survival rate.

14.3.4 **Style of Presentation**. Fish to which this part applies shall be presented alive.

14.3.5 **Characteristics**. Live fish shall have the following characteristics:
a) an appearance and colour typical of the species;
b) be alive and healthy with no evidence of disease, injury or parasites.

14.3.6 **Inspection**.

14.3.6.1 Each sample unit shall be inspected for defects in accordance with the following table:

Final Product - Live Fish

Style	Defect	Tolerance
all	ailing, deteriorating or dying fish	nil
all	parasites	nil
all	damaged fish	practically free
all	diseased fish	nil
crabs	2 claws missing	nil
	1 claw missing	1% by number
lobster	more than 2 legs and one antennae missing	nil

14.3.6.2 An inspection that finds a sample unit exhibiting any item on the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.

14.4 Chilled or Frozen Lobster

14.4.1 **Application**. 14.4 applies to chilled or frozen Tropical Spiny Rock lobster whether they be whole, tails, meat, cooked or raw.

14.4.2 **Definition**. Tropical Spiny Rock Lobster shall be prepared from the species of the family Palinuridae.

14.4.3 **Process Description**. Fish to which standard applies shall be chilled (-1 to +4^{o}C) or frozen (-18^{o}C or colder).

14.4.4 **Style of Presentation**

14.4.4.1 Chilled or frozen lobster shall be presented in the following styles:
a) whole as captured;
b) whole, split or head on-split into two equal halves down the centre line of the back, including shell but without viscera;
c) tails - head removed, shell on tail intact with intestinal tract and anus removed and a clear cavity;
d) meat - the meat from any part of the lobster without shell;
e) any other style of presentation that is distinct, accurately labelled and meets the requirements of this Schedule.

14.4.4.2 One species of lobster shall be packed in each immediate container.

14.4.5 **Raw Material**. Lobster shall be initially processed from live animals only.

14.4.6 **Ingredients and Additives**. The only ingredients and additives approved for use with lobster are:
a) salt;

b) lemon juice, Ascorbic acid and isomers (no maximum limit)
c) spices and herbs;

14.4.7 **Characteristics**. Chilled or frozen lobster shall have the following characteristics:
a) where raw- flesh that is white or pink and translucent rather than opaque;
b) where cooked- flesh that is white or pink with no translucence indicating under cooking;
c) where in shell- shell that is firm and undamaged as appropriate for the style of presentation;
d) where whole, split and head on- no more than 3 legs and 1 antennae shall be missing;
e) where meat- be practically free from shell, intestine, viscera and blood;
f) all forms of presentation shall be practically free from foreign matter;
g) after thawing and cooking, the product:
   i) has an odour and flavour characteristic of the species;
   ii) has meat that is firm and not mushy or gelatinous;
h) be free from deep freezer burn and practically free from superficial freezer burn;
i) all forms of presentation be free from blackening or other abnormal colouration.

14.4.8 **Inspection**.

14.4.8.1 Where a sample is frozen, each sample unit shall be inspected in a frozen state.

14.4.8.2 Where an officer has reasonable grounds to suspect that frozen lobster does not meet the requirements of these conditions they may inspect after thawing

14.4.8.3 Each sample unit shall be graded and inspected for defects in accordance with the following table:

Final Product- Chilled Or Frozen Lobster

Style	Defect	Tolerance
all	processing dead lobster	nil
all	mixed species	nil
frozen	deep freezer burn	< 5% by area
all	superficial freezer burn	practically free
all-raw	opacity	nil
cooked	translucent	nil
all	damaged, crushed or cracked shell	practically free
meat	shell fragments	< 1% by wt.
meat	incomplete removal of intestine, blood, viscera	< 1% by wt.
tails	one or more segment missing including entire tail fan	nil
tails	incomplete removal of intestines and anus	nil
all	out of grade	nil
whole or whole split	more than 3 legs and one antennae missing	nil
all	blackening, abnormal discolouration of flesh	nil
cooked	abnormal odour or flavour	nil
all	mushy or gelatinous meat	nil
all	soft shell	nil

wt. = weight

14.4.8.4 Tolerance for out of grade shall be taken to the nearest whole number and be within +/- 2 % of the stated weight range using the following grading standards.

Metric grades for lobster

Size	tails (grams)	whole (grams)
A	140 - 179	less than 460
B	180 - 239	460 to under 570
C	240 - 279	570 to under 690
D	280 - 359	690 to under 800
E	360 - 479	800 to under 910
F	480 - 599	910 to under 1140

G	600 and over	1140 to under 1360
H		1369 up wards

14.4.8.5 An inspection that finds a sample unit exhibiting any item on the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.

14.5 Frozen Prawns

14.5.1 **Application**. 14.5 applies to frozen prawns.

14.5.2 **Definition**. Prawns for freezing shall be from the species of the family Penaeidae, Palaemonidae, Pandalidae, Solenaceridae or Crangonidae.

14.5.3 **Process Description**. Fish to which standard applies shall be frozen (-18^{o}C or colder).

14.5.4 **Style Of Presentation**. Frozen prawns shall be presented in the following styles:
a) whole - head on, head and tail fan may be loose but shall be attached;
b) headless - head removed, shell on, tail fan and one body segment may be missing;
c) cutlets - head removed, shell removed to the last segment, tail fan shall be attached but may be without one uropod;
d) peeled - head and all shell removed, meat intact;
e) meat - flesh or pieces - head and all shell removed;
f) de-veined - vein, intestinal tract removed;
g) any other style that is distinct, accurately labelled and meets the requirements of this Schedule.

14.5.5 **Ingredients and Additives**. The only approved ingredients for use with frozen prawns are:
a) salt or sugar used in a glaze;
b) Sodium metabisulphite or related compounds (100 mg/kg in raw flesh or 30 mg/kg in cooked flesh expressed as SO_2);
c) ascorbic acid and isomers - No limit;
d) Citric acid - No limit;
e) approved food colours.

14.5.6 **Packing Media**. The only approved packing medium is a glaze of potable to which sugar or salt may be added.

14.5.7 **Characteristics**

14.5.7.1 Frozen prawns shall have the following characteristics-
a) be easily separate when labelled as IQF;
b) be clean;
c) be free from deep freezer burn;
d) be practically free from-
i) superficial freezer burn;
ii) foreign matter and pieces of shell not attached to the prawn;
e) where peeled- pieces of meat be practically free from pieces of meat;
f) where deveined- be practically free from attached intestinal tract;
g) after thawing- have an odour characteristic of the species.

14.5.7.2 Frozen prawns shall be size graded by count.

14.5.8 **Inspection**

14.5.8.1 IQF shrimp may be inspected in the frozen form.

14.5.8.2 Each thawed sample unit shall be graded by count except those labelled ‘broken’ or ‘Mix’ and inspected for defects in accordance with the following table:

Final Product Inspection

Style	Defect	Tolerance
all	blackspot on flesh	5% by wt.
all	crush, mutilated or torn	2 % by wt.
whole	parasites	nil
all	foreign matter including detached shell, legs, swimmerets, antennae	1% by wt.
all	prawn not of declared size grading	2% by wt.
all	prawn not of declared species	2% by wt.
all	deep freezer burn	nil
all	superficial freezer burn	practically free
IQF	not easily separated	nil

wt. = weight

14.5.8.3 Tolerance for out of grade shall be allowed one grade either side of the declared size grade.

14.5.8.4 An inspection that finds a sample unit exhibiting any item on the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.

14.6 Canned Fish

14.6.1 **Application**. 14.6 applies to all canned fish.

14.6.2 **Definition and Process Description**. Commercially sterile, preserved by thermal processing and enclosed in a hermetically sealed can that does not require refrigeration.

14.6.3 **Style Of Presentation (Tuna only)**.

14.6.3.1 If canned tuna is declared as “skin on” (or words of similar meaning) in the trade description, the tuna shall be practically free of skin.

14.6.3.2 Canned tuna shall if declared in the trade description as:

a) light meat-be practically free of the red muscle known as dark meat; or
b) white meat-not contain any red muscle known as dark meat; or
c) dark meat-be practically free of light meat.

14.6.4 **Ingredients and Additives**. The amount of polyphosphate and related compounds expressed as P_2O_5 shall not exceed 5 g/kg.

14.6.5 **Evaluation of Cans**. A can shall be sound when inspected and evaluated in accordance with the methods specified in Section 7.4.8 (“Inspection of closures”) of Volume G, entitled “Recommended International Code of Practice for Low-acid and Acidified Low-acid Canned foods” (Second Edn, 1989) CAC/RCP 23-1979 of Codex.

14.6.6 **Inspection**.

14.6.6.1 Each sample unit shall be inspected for the following defects.

14.6.6.2 An inspection that finds one or more cans exhibiting any item as specified in 14.5.7 with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective and the batch rejected for export.

Final Product - Canned Fish

Defect	Tolerance
Can percent bodyhook	meet the can manufacturer’s specification
Can overlap percentage	meet the can manufacturer’s specification
Can failure which includes: (listed below) • Perforated external corrosion • Severe body denting (plate fracture with leakage evident) • Severe double seam denting (fracture evident) • Defective or Incomplete side seam weld (wild burn through) • Incomplete open side seam weld (leakage evident)	nil

- Mislocked side seam
- Body puncture
- Hard swell or buckle swell or blown
- Cable-cut (end plate cut through, leakage evident)
- Sharp embossed code (end plate fracture)
- Dead head or skidder
- Incomplete double seam (2nd operation incomplete)
- Cut over or cut through (Plate fracture)
- Torn flange or back curl
- Knocked down curl or flange
- Score line fracture

14.7 Shellfish

14.7.1 **Application**. 14.1 applies to all shellfish.

14.7.2 **Definition and Process Description**. 14.7.2 applies to bivalve molluscs live or frozen.

14.7.3 **Style of presentation**. Shellfish may be presented in shell, meat only or described accurately.

14.7.4 **Raw material**. Shellfish shall be prepared from raw materials that are sound, not in abnormal condition or taken polluted waters and in accordance with these Export Standards.

14.7.5 **Packing media**. The only approved packing media for frozen shellfish is a glaze of portable water to which salt may be added.

14.7.6 **Characteristics**. Live bivalve molluscs shall possess visual characteristics associated with freshness and viability, including shells free of dirt, an adequate response to percussion and normal amounts of intravalvular liquid.

14.7.7 **Inspection.**

14.7.7.1 Each sample unit (for shellfish is one immediate container) shall be inspected for the following defects.

14.7.7.2 An inspection that finds one or shellfish exhibiting any item as specified in 14.6.7 with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective and the batch rejected for export.

Style	Defect	Tolerance
live	dead, gaping or moribund	nil
meat only	shell fragments	practically free
all	mud or weed on shell	practically free except for some encrusted growth
all	presence of disease, injury or parasites	nil

Schedule 15 Sampling

15.1 Batch Identity

Fish for export shall be marked to positively identify all lots contained in the batch and the batch given an identity.

15.2 Rejected Fish

Rejected fish or unassessed fish shall not be mixed with an accepted batch of fish.

15.3 Selection of Sampling Plans and Assessment of Sample Units

15.3.1 The number of sample units required by the relevant sampling plan shall be drawn at random from the batch and if practicable by an Authorised Officer.

15.3.2 The sample units shall be assessed against the applicable product standard in Schedule 15.

15.3.3 Batches of fish other than bulk loaded tuna shall be sampled using Sampling Plan 1.

15.3.4 Where a batch is rejected on the basis of an assessment using Sampling Plan 1, the owner may have the Fisheries Officer reassessed the batch immediately in accordance with the Sampling Plan 2.

15.3.5 Where the owner elects to have the fish reassessed in accordance with 15.3.4, the initial rejection will not count against the Facilities rating unless the fish is rejected again by Sampling Plan 2.

15.3.6 Bulk loaded Tuna and other large fish shall be assessed using Sampling Plan 3.

15.3.7 All Sampling Plans shall be used in conjunction with the Microbiological Sampling Plan.
i.e. After selection and inspection of samples (on site) in accordance with 15.6, samples shall also be selected for Microbiological analysis using the Microbiological Sampling Plan.

15.4 Acceptance

A Batch is considered as meeting the requirements of the appropriate product standard if:

a) the number of defective sample units does not exceed the acceptance number of the relevant Sampling Plan;
b) the samples meet Microbiological requirements of the Microbiological Sampling Plan;
c) the batch complies with these Standards.

15.5 Rejection

15.5.1 A batch will be rejected when:
- a) the relevant Sampling Plan acceptance number is exceeded;
- b) any characteristic or condition of the Fish or Facility that has rendered or may render, the fish Unfit for Human consumption is detected.

15.5.2 A rejected batch may be submitted for export after defective units are removed, reprocessed, relabelled and re-inspected.

15.5.3 An owner who resubmits a batch shall notify the Authorised Officer that it is being resubmitted and not a 'new' batch and of the steps that have been taken to correct the defects.

15.5.4 A resubmitted batch shall be reassessed in accordance with Sampling Plan 2 and should the fault be microbiological it shall be reassessed according to Microbiological Sampling Plan.

15.5.5 Any sample found defective during inspection shall be rejected whether that batch is passed or rejected for export.

15.6 Batch Sampling Plans

15.6.1 Sampling Plans 1, 2 and 3 shall be used to sample fish in conjunction with the Product Inspection Forms.

15.6.2 A sample unit shall be one immediate carton.

15.6.3 Sampling Plan 1

Net contents of immediate container:

1 kg - 4.5 kg Batch size	more than 4.5 kg Batch size	No. of sample units selected	Acceptance number.
	2 - 15 *	2	0
2 - 200 *	16 - 50	2	0
201 - 1200	51 - 300	3	0
1201 - 7200	301 - 1400	6	1
7201 - 15000	1401 - 3500	13	2
15001 - 24000	3501 - 7200	21	3
24001 - 42000	7201 - 15000	29	4
42001 - 72000	15001 - 24000	48	6
72001 - 120000	24001 - 42000	84	9
over 120000	over 42000	126	13

* In these sampling plans where batch sizes are less than 15, only non-destructive inspection shall be performed unless, in the opinion of the Authorised Officer destructive sampling is warranted.

15.6.4 Sampling Plan 2 (For Resubmitted Batches)

Net contents of immediate container:

1 kg-4.5 kg Batch size	more than 4.5 kg Batch size	No. of sample units selected	Acceptance number
	2 - 15 *	3	0
2 - 200 *	16 - 50	5	1
201 - 1200	51 - 300	6	1
1201 - 7200	301 - 1400	13	2
7201 - 15000	1401 - 3500	21	3
15001 - 24000	3501 - 7200	29	4
24001 - 42000	7201 - 15000	48	6
42001 - 72000	15001 - 24000	84	9
72001 - 120000	24001 - 42000	126	13
over 120000	over 42000	200	19

* In this sampling plan where batch sizes are less than 15, destructive inspection shall be done on at least half the sample, non-destructive inspection may be carried out on the remaining samples.

15.6.5 Sampling Plan 3 - Bulk Loaded Tuna / Other Whole Large Fish

Batch size	Number of sample units	Acceptance number
less than 1 ton	3 tuna	0
1 - 25 ton	13 tuna	2
1 - 50 ton	26 tuna	3
over 50 ton	52 tuna	7

15.7 Microbiological / Chemical Batch Sampling Plans

15.7.1 The results obtained after Microbiological analysis shall be accessed using this sampling plan. Each batch for export shall submit samples for Microbiological analysis.

15.7.2 The required number of samples for Microbiological analysis is 5 randomly and aseptically selected sample units of at least 200 grams for each batch.

15.7.3 **Microbiological Sampling Plan**

n = Number of sample units which must be examined to satisfy the requirements of this plan.

c = The maximum allowable number of defective sample units that may exceed "m". Where more than this number are detected, the batch is rejected.
m = Represents a value at or below which is considered acceptable.
M = Represents a value at or above which is considered unacceptable. One sample at or above this value is cause for batch rejection.

15.7.4 Fresh / Frozen Prawns, Lobster and Fish

Tests	Sample plan
Standard Plate Count	n= 5, c= 3, m= 10^6 org/g, M= 10^7 org/g
Total Coliforms	n= 5, c= 3, m= 10^2 org/g, M= 10^3 org/g
Faecal Coliforms	n= 5, c= 3, m= 4 org/g, M= 10^3 org/g
Staphlococcus aureus	n= 5, c= 3, m= 10^2 org/g, M= 10^3 org/g
Salmonella spp.	n= 5, c= 0, m= 0 in 25 g

15.7.5 Chilled Cooked Crustaceans

Tests	Sample plan
Standard Plate Count	n= 5, c= 2, m= 10^6 org/g, M= 10^7 org/g
Escherichia coli	n= 5, c= 1, m= 10 org/g, M= 100 org/g
Staphlococcus aureus	n= 5, c= 1, m= 500 org/g, M= 5,000 org/g
Salmonella	n= 5, c= 0, m= 0 in 25 g

15.5.6 Frozen Cooked Crustaceans

Tests	Sample plan
Standard Plate Count	n= 5, c= 2, m= 10^5 org/g, M= 10^6 org/g
Escherichia coli	n= 5, c= 1, m= 9 org/g, M= 70 org/g
Staphlococcus aureus	n= 5, c= 1, m= 1,000 org/g,
Salmonella	n= 5, c= 0, m= 0 in 25 g

15.5.7 Shellfish

a) Non-depurated Shellfish

Tests	Sample plan
Standard Plate Count	n= 5, c= 1, m= 10^5 org/g, M= 10^6 org/g
Escherichia coli	n= 5, c= 1, m= 2.3 org/g, M= 7 org/g
Staphlococcus aureus	n= 5, c= 1, m= 500 org/g,, M= 5,000 org/g
Salmonella	n= 5, c= 0, m= 0 in 25 g

b) Depurated Shellfish

Tests	Sample plan
Standard Plate Count	n= 5, c= 1, m= 10^5 org/g, M= 500,000 org/g
Escherichia coli	n= 5, c= 0, m= 0.5 org/g, M= 3 org/g
Staphlococcus aureus	n= 5, c= 1, m= 500 org/g,, M= 5,000 org/g
Salmonella	n= 5, c= 0, m= 0 in 25 g

c) All Shellfish

Tests	Tolerance
Concentration of Paralytic Shellfish Poison	Maximum of 80 micrograms/ 100 g edible raw flesh
Diarrhetic Shellfish Poison	Negative result

*The minimum sample size of a sample unit of shellfish is 10 shellfish

15.5.8 Tuna and famlies *Scombridae* and *Clupeidae* - canned, chilled or frozen

Tests	Toleramce
Histamine	9 samples per batch shall not exceed 50-ppm.

15.5.9 **All Fish for the European Union / CCPs for other countries**

Tests	Tolerance
Mercury or Methyl Mercury	2 samples per batch or 2 from same harvesting area shall not exceed 0.5-ppm
TVB-N	1.25mg/100g for spp. Sebates 2.30mg/100g for Pleuronectidae family. 3.35mg/100g spp.Salmo,belonging to Merlucciidae family

Schedule 16 Measurement of Contents

16.1 Determination of Net Contents Declared by Number

16.1.1 The net contents shall be determined by counting and recording the individual items in the container.

16.1.2 The net contents shall not be less than the declared number.

16.1.3 The tolerance for an incorrect declared number is nil.

16.2 Unglazed Frozen Fish

The net contents shall be determined by:

a) measuring and recording the entire contents of the package (food and packaging);
b) remove the food and measure all packaging materials;
c) subtract (b) from (a) to obtain the net contents.

16.3 Glazed Frozen Fish

The net contents shall be determined as follows-

a) measure and record the weight of the perforated container to be used to thaw and drain the sample;
b) place the sample into this container;
c) run water over the sample to thaw its contents until all glaze is melted;
d) allow to drain until drip loss is minimal in all parts of the product;
e) measure the thawed product (d) in the container;
f) subtract the weight of the container (a) from the weight of the product and container (e) to obtain the net contents.

16.4 Canned Fish

16.4.1 Net contents (volume) shall be determined as follows-

a) measure and record the weight of the unopened can;
b) open the can and empty the contents into a dry volumetric container;
c) allow the can to drain for 30 seconds;
d) measure and record the weight of the empty can including the top;
e) subtract the weight of the empty can from the weight of (a) to obtained the net contents.

NOTE: In (b) ensure the entire contents of the can is emptied.

16.4.2 The drained net weight shall be determined as follows-

a) measure and record the weight of an appropriate perforated container;
b) take the contents of 16.4.1b) empty the contents into the perforated container;
c) allow the contents of the can to drain for 2 minutes;
d) measure and record the weight of (c);
e) subtract the weight of the perforated container (a) from (c) the perforated container and drained weight, to obtain the drained net weight.

16.5 Determination of Average Net Contents

The net contents of a batch shall be determined as follows:

a) randomly sample the batch using the relevant Sampling Plan in Schedule 15;
b) measure the stated net contents of each sample unit;
c) add the weights or volumes recorded at (b) and divide by the sample size to obtain the average net contents of the batch.

Schedule 17 Packaging Requirements

17.1 Basic Requirements

17.1.1 The construction of packaging and the materials used for packaging shall be suitable for use with food.

17.1.2 The construction of packaging and the materials used for packaging shall not:

a) cause or permit the food to suffer any undesirable physical, biochemical or microbiological deterioration;
b) impart a taint to the food;
c) contaminate the food;
d) contain a substance that could represent a hazard to health.

17.1.3 The construction, design and sealing of packaging materials shall not cause the food to be exposed once wrapped or during storage and transportation.

17.1.4 The construction of packaging materials shall be sufficiently strong to withstand handling incurred by packaging during transit.

17.1.5 Oysters shall be wrapped with the concave shell downwards.

17.2 Covering and Packing

Foods shall not be exported unless the food is packed and covered in such a way that will enable the goods to reach their destination in a satisfactory and wholesome condition.

17.3 Time Between Processing and Packing

The time that elapses between processing and packing shall not cause the food to suffer any undesirable physical, biochemical or microbiological deterioration.

17.4 Inks and Colourants

17.4.1 The ink used to apply descriptive markings shall not transfer on to the food.

17.4.2 Inks and colourants applied to food shall be non-toxic.

17.4.3 Inks applied to food or packaging shall not contain any of the following substances:

a) antimony;
b) arsenic;
c) cadmium;
d) chromium;
e) lead;
f) mercury;
g) other toxic metals.

17.4.4 Fluorescent brighteners or carcinogens, mutagens and teratogens shall not be used in inks applied to food or packaging.

17.5 Labels, Tags, and Adhesives

Labels, tags and adhesives used in packaging shall not contaminate food.

17.6 Foreign Objects in Packages

A container of food for export shall not contain any foreign objects except the food.

17.7 Internal Lacquers

17.7.1 A lacquer applied to the inner surface or part of the inner surface of a covering shall;

a) cover the inner surface in a continuos film;
b) be uniform in thickness;
c) leave no area of the surface uncoated;
d) firmly adhere to the covering;
e) be compatible and non-toxic with the food being packed.

17.7.2 The lacquer may incorporate a release agent.

17.8 Reconditioned or Reused Packaging

Reconditioned or reuse of packaging materials shall not be permitted unless the reconditioning and cleaning and disinfecting process has been approved by NFA.

17.9 Properties of Plastic Food Packaging Materials.

	Conditions											
MATERIALS	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
LDPE Low density polyethylene	G	E	X	F	F	X	G	G	F	E	F	X
HDPE High density polyethylene	E	E	X	G	G	G	G	X	F	E	F	X
OPP Biaxially oriented polypropylene	E	E	X	G	E	G	G	E	G	X	F	X
CPP Non-oriented polypropylene	G	E	X	F	G	G	X	E	F	G	F	X
PS Polystyrene	F	G	X	F	G	G	G	E	G	X	G	X
PVC R Rigid polyvinyl chloride	G	E	G	G	G	F	X	E	G	G	G	G
PVC S Soft polyvinyl chloride	F	G	X	F	F	X	G	E	X	G	F	X
PET Polyethylene terephthalate	G	E	G	E	E	E	E	E	G	X	G	E
ON Biaxially oriented nylon	F	E	G	E	E	E	E	E	G	X	F	G
N or PA Nylon (polyamide)	F	E	G	E	E	E	E	E	F	X	F	G
PC Polycarbonate	F	E	F	G	E	E	E	E	G	X	G	E
PVDC Polyvinylidene chloride	E	E	E	E	G	E	G	G	X	G	F	E
PVA Polyvinyl alcohol	X	F	E	E	G	G	G	E	G	X	G	E
EVOH Ethylene vinyl alcohol copolymer	F	F	E	E	G	G	G	E	F	X	G	E
Cellophane	X	X	XG	E	G	G	X	E	E	X	E	G
kraft paper	G	X	X	F	G	G	G	X	G	E	G	X
Glass vaporization film	E	E	E	E	G	E	E	E	G	E	G	E
Aluminium metalized film	E	E	G	E	G	E	E	X	E	E	G	E
Al Aluminium	E	E	E	E	G	E	E	X	G	E	G	E

Legend E = excellent G = good F= Fair X = poor
(A combination of two of the above symbols refers to the properties of the two different types of products available)

Conditions:

1 - moisture proof
2 - water proof
3 - gas barrier
4 - oil proof
5 - physical strength
6 - heat resistance
7 - cold proof
8 - transparent
9 - machine suitability
10 - heat sealability
11 - printing suitability
12 - volatile barrier

Schedule 18 Approved Inspection and Auditing Programs

PART 1 General Policy Applicable to all Parts

18.1 Application

This Schedule details inspection protocols to be followed when inspecting / auditing an Export Facility's ability to meet the:

a) structural and operational requirements of these Export Standards;
b) product standards of these Export Standards;
c) HACCP program requirements of this Schedule;

The results of these inspections in conjunction with the risk allocation shall help to designate facility inspection frequencies as in 18.1.6.

18.1.1 **Documentation required and amendments to procedures and documents**

All documents required by the HACCP program, including amendments, shall be sent to the Managing Director. The Managing Director may require amendments to be made to both required documents and procedures.

18.1.2 **Risk categories shall be allocated to each Export Facility**

A risk category, of which there are three (low, medium and high), shall be assigned to each Fish Export Facility by the Managing Director. The risk category shall be the risk associated to the prepared product(s) at the facility as stated in the Risk Selection Table below. Facilities preparing different types of products such as a low, medium or high risk food shall be inspected according to the product with the highest associated risk.

Note: The risk allocated to the food is related to the chance of the hazard occurring, types of hazard(s) associated with the food and the potential severity of the hazard(s).

Risk Selection Table

Low Risk	Medium Risk	High Risk
Live fish, live crustacea Dried sharkfin, dried bêche-de-mer intended for further processing	Frozen or chilled raw fish that is to be fully cooked before eating Frozen battered or breaded fish products Other dried fish and fish products	Sashimi tuna or other scombroid fish, other frozen or chilled fish to be eaten raw or chilled fish packaged in a vacuum or modified atmosphere packages Frozen or chilled cooked fish not required to be re-heated by the consumer All bivalves Low acid, acidified or low acid aseptically packed canned foods.

18.1.3 **Reassignment of risk categories**

The Managing Director may reassign another risk category if it represents a higher potential public health risk when demonstrated by reputable documented evidence or if another risk category has been assigned by an importing country.

18.1.4 **Exceptions of risk allocation**

Storage facilities operating with an approved HACCP program shall be allocated a low risk category.

18.1.5 **Target inspection frequencies**

Target inspection frequencies are shown in the following table. Inspection frequencies shall not be exceeded but if they cannot be met priority shall be given to medium and high risk operations.

18.1.6 **Facility Inspection Frequency and Rating of Facility**

Facility Rating	MI	SE	CR	Low Risk	Medium Risk	High Risk
EXCELLENT	0 - 3	0	0	every year	every 8 months	every 6 months
GOOD *	4 - 5	1 - 2	0	every 9 months	every 6 months	every 4 months
AVERAGE	6 or more	3 - 4	0	every 7 months	every 4 months	every 3 months
FAIL	N/A	5 or more	1	Re-inspect until non-conformance(s) is/are corrected		

MI = Minor Deficiency SE = Serious Deficiency CR = Critical Deficiency

* total number of SEs or MIs does not exceed five. Five or more SEs or one or more CRs is considered a fail

18.1.7 **Ratings change and frequency of inspection**

When the rating of a facility is changed:

a) from AVERAGE to EXCELLENT the next inspection shall occur at the frequency of a GOOD facility;
b) from FAIL to GOOD or EXCELLENT the next Inspection shall occur at the frequency for an AVERAGE facility;
c) any two consecutive similar ratings will result in that rating being the accepted inspection frequency.

18.1.8 **Inspection**

Authorised Officers may conduct inspections of a facility under a HACCP Program to audit, inspect and rate the facility in relation to the NFA HACCP programs and to ensure that:

a) documentation required by the HACCP program at the facility are identical to copies kept by NFA;
b) the process of preparing food occurs as stated in the required documentation;
c) the Facility is implementing and complies with the company's HACCP program;
d) there is sound basis to certify if Export Certification is required by an authorised signatory;
e) the export of food from the facility complies with these Export Standards;
f) Corrective Action requested following an inspection have been implemented on or before the due date.
g) foreign country requirements are being met.

18.1.9 **Re-inspection**

Re-inspection shall be proffered by the Authorised Officer in the following circumstances:

a) where a Critical (CR) deficiency has been detected or the overall score after an inspection causes the exporter to cease processing the Authorised Officer and Exporter shall arrange the next inspection/s when the deficiency is resolved;
b) Batch failure due to the product not meeting the requirements of these Export Standards may cause the Exporter to request a re-inspection of the batch. In this case the Authorised Officer shall commence re-inspection of the failed batch immediately using Sampling Plan 2 as listed in 15.6.3. The result of the product re-inspection shall stand.

18.1.10 **Failure of a Fish Export Facility or Product Batches**

Where the Fish Export Facility has scored a CR or has failed an inspection or the product has failed to meet the minimum requirements of Schedule 14 an investigation shall be carried out to determine if the failure was due to the Exporter's negligence or due to other factors. Consequently:

a) if the Exporter is found to be negligent and has failed to exercise due care the failed rating shall stand;
b) where it is determined that the Exporter is not responsible due to other factors the Authorised Officer may limit enforcement action to product action or request a specific action and amend the Export Facility's rating.

18.1.11 **Recall**

The Owner of a Fish Export Facility shall have a documented procedure for identifying the first destination of the product and be able recall it. Should the owner be unable to demonstrate the "Recall" procedure at the request of the Authorised Officer this shall be listed as a CR.

18.1.12 **Compliance, deficiency types and corrective action requirements**

When using NFA inspection forms:

a) all compliant items shall be denoted with either a tick or as "OK" in the appropriate box;
b) all deficiencies or defects shall be adequately described, scored as Critical (CR), Serious (SE) or Minor (MI) and have assigned to it a written Corrective Action with a due date by which the deficiency must be corrected.

18.1.13 **Critical Deficiencies (CR)**

A Critical Deficiency is a situation where the Fish Export Facility has not followed these Export Standards in such a manner that:

a) there is non-compliance with an Export Standard/s that is intended to ensure safe food production that could result in the food being a health hazard;
b) the product has a fraudulent trade description;
c) the product fails to comply with minimum export standards;
d) the facility fails an "Operation and Sanitation" or "Construction and Equipment " inspection;
e) there is 2 or more Serious deficiencies;

These shall cause the facility to stop operating until both the Authorised Officer and Exporter are satisfied that a CR no longer exists.

Note: Examples of CR could include, severe breakdown in sanitation procedures, waste contaminating foods, use of non-potable water (including ice or steam) or serious pest infestation, a breakdown in specified procedures on the company's HACCP plan or process flow diagram.

18.1.14 **Serious Deficiencies (SE)**

A Serious deficiency (SE) is a situation where the facility has not followed these Export Standards in such a manner that:

a) non-compliance with these Export Standards may result in the food being a health hazard but is not a Critical Deficiency;
b) records are not reliable enough to demonstrate that a CR has or will be avoided;

Any SEs shall be corrected by the next work shift or otherwise processing shall cease until the appropriate action has been taken.

Note: Examples of SE could include, ineffective pest control, failure to collect waste regularly, inadequate cleaning program, inaccurate calibration, failure to label chemicals, inadequate trained staff, premises not in good repair, inadequate stock rotation, slight variation from the set HACCP or process flow.

18.1.15 **Minor Deficiencies (MI)**

A Minor deficiency (MI) is a situation where the facility has not complied with the requirements of these Export Standards but a CR or SE has not resulted and the deficiency shall be corrected at a date agreed to by the processor and Authorised Officer and not be longer than two weeks.

Note: Examples of MI could include equipment not meeting correct standard, inappropriate water temperature, minor sanitation or construction deficiencies, records are only 98% complete.

PART 2 The NFA HACCP Program

18.2. Application

a) This Part applies to all Fish Exporting Facilities.
b) Applications shall be made to the Managing Director in writing stating that the Fish Exporter wishes to participate in the NFA HACCP program. The application should provide the information as required by these Export Standards as specified in 18.2.5.

18.2.1 **Confidential commercial information**

The Managing Director and Authorised Officers shall treat all materials submitted as part of the application for the NFA HACCP Program in the fullest of confidence and shall not disclose any commercial trade information within to any other parties.

18.2.2 **Assessment of application, inspection, inspection frequency and rating of a Fish Export Facility**

Assessment and inspection shall be undertaken by an Authorised Officer and shall entail:

a) a desk audit to ascertain document compliance and note if all hazards have been identified (an example of the checklist form is shown in Appendix C). Authorised Officers will only be required to do this annually as long as there are no amendments;
b) an on-site inspection to ensure that the documentation correctly describes the production process;
c) an on-site inspection to ensure that the HACCP program is in place, being followed and is implemented effectively. Examples of the HACCP program inspection forms are shown in Appendix C;
d) an on-site inspection to ensure that the processed food and the preparation process complies with other Schedules in these Export Standards (construction, GMP's, product requirements, sanitation operations, etc.). Examples of facility inspection forms are shown in Appendix B;
e) where required, an assessment to ensure foreign countries' requirements for HACCP are being met
f) the rating of the Export Facility as designated in 18.1.6, and,
g) setting the date for the next inspection.

18.2.3 **Product inspection and frequency**

Product Inspection frequency shall be related to the frequency of export, product risk and rating of the Fish Export Facility and where possible discussed with the processor, agreed upon and linked with HACCP verification activities and shall consist of:

a) sampling according to the relevant sampling plan in Schedule 15;
b) product Inspection for compliance with Schedule 14 using forms in Appendix A;
c) microbiological and chemical analysis.

Note: Frequency of physical inspections and laboratory analyses may differ depending on previous inspection results.

18.2.4 **Approval**

If the Managing Director is satisfied that the Exporter has successfully met the requirements of 18.2.2 an approval of the program shall be given in writing. Approval may only be given after all on-site inspections have been successfully completed.

18.2.5 **HACCP program and document requirements**

18.2.5.1 Application to participate in the NFA HACCP Program

The HACCP application shall contain:

a) name of company, location address and postal address of the Fish Export Facility.
b) name of the owner of the Fish Export Facility;
c) Export License number;
d) a Company Quality Policy (a statement from management assuring the quality of their product and process);
e) the operation/s and their scope for which approval is sought (Where does the operation start and finish? At what points does the owner take on and relinquish responsibility for the product? Is the HACCP plan restricted to only food safety or does it also include quality aspects as defined by finished product specifications?).
f) name and signature of the manager responsible for the HACCP program;

g) a list of all Quality manuals and other references used;
h) a declaration signed and dated by the owner, or on behalf of the owner of the Fish Export Facility, that he/she will comply with the NFA's HACCP Program.

18.2.5.2 Product Statement required for each type of product

The application shall be accompanied by a product statement detailing:

a) name of the product/s;
b) product description and specifications (composition, weights, etc.);
c) method of preparation;
d) packaging type (inner and outer);
e) method of preservation and storage conditions;
f) distribution conditions;
g) intended use (How will it be eaten? Raw, cooked, reheated etc.)
h) who will be the consumers;

18.2.5.3 Process Flow Diagram

The HACCP application shall be accompanied by a numbered accurate diagram of the process flow and shall:

a) provide details of all individual steps including inspections, storage, delays and transport connected with the operation;
b) indicate when and by who the on-site confirmation of the process flow diagram took place, and
c) be signed and verified by the company's HACCP manager.

18.2.5.4 HACCP Plan Table

The HACCP application shall be accompanied by a completed HACCP Plan Table (see format at the end of this Schedule) and this shall:

a) list the identified CCPs with the corresponding numbered step in the Process Flow Diagram (Column No. 1);
b) for each CCP:
   i) identify the significant hazard (Column No. 2);
   ii) state the established Critical Limit, tolerance or specifications that will be monitored (Column No. 3);
   iii) describe the Monitoring procedures. That is
      - What will be monitored? (Column No. 4)
      - How will it be monitored? (Column No. 5)
      - How frequent it will be monitored? (Column No. 6)
      - Who will be responsible for monitoring? (Column No. 7)
   iv) state the Corrective Action when monitoring indicates that a particular CCP is not under control (i.e. a process deviation). (Column No. 8)
   v) state the Verification procedures that will be used to confirm that the HACCP system is working effectively (see 18.2.5.5 for more details) (Column No. 9)
   vi) state what documents and records will be made and kept (Column No. 10)

Note: In developing and completing the HACCP Plan Table the Exporter should be able to demonstrate to the Authorised Officer that an appropriate assessment of the Hazards (i.e. a Hazard Analysis) had taken place by a suitably qualified team. The Hazard Analysis must be conducted for each step in the flow diagram and all potential Chemical, Physical and Biological hazards carefully considered that potentially could be associated with the raw material or the process itself.

Note: Operations that have a common process flow and completed HACCP Plan Tables where no differences exist between the production process, the identified CCPs and the control of CCPs, may provide

common documents. However this requires prior approval from the Managing Director.

18.2.5.5 Verification Activities

A list of verification activities shall be included in the HACCP Plan Table. Verification shall include at minimum the following items (provide details on how frequent each verification item will take place, and if necessary draw up a separate table for a Verification Schedule):

a) review the adequacy of the HACCP plan and its records;
b) confirm that CCPs are under control;
c) review that the critical limits are appropriate for each CCP;
d) review monitoring procedures and corrective actions are adequate
e) review corrective action records to determine whether improvements can be made;
f) validate the accuracy of measuring devices (calibration)
g) conduct annual independent water analysis
h) confirm chemical and microbiological limits of raw materials and final product are within prescribed limits.

18.2.5.6 Good Manufacturing Practice

a) GMPs are mandatory for the NFA HACCP program. Schedules 7 to 13 detail mandatory and recommended GMPs. GMPs policy shall be developed and documented. They may be directly referenced from the appropriate Schedules found within these Export Standards. If the Exporter writes its own GMPs the details shall be sent to NFA. These shall be reviewed and accepted by NFA, as long as the standards are equivalent or exceed those described Schedules 7 to13.
b) A policy for reviewing GMPs shall be developed and documented and this shall state the person responsible for the review, what will be reviewed and the frequency of review.
c) The Exporter shall monitor and maintain records for these particular areas:
    i) Safety and treatment of water (chlorination, prevention of back-flow, etc.);
    ii) Prevention of cross contamination;
    iii) Cleanliness of food contact surfaces including protective clothing;
    iv) Cleanliness and maintenance of hand-washing, hand sanitising and toilet facilities;
    v) Employee health, hygiene and training;
    vi) Protection of food and food contact surfaces from adulteration by toxic compounds, biological hazards etc.
    vii) Labelling, storage and use of toxic compounds;
    viii) Pest control (location of bait stations, treatments) and exclusion of pests from a Fish Export Facility;
    ix) Production identification and calibration records.
    x) Recall of product
d) Where applicable corrective actions shall be developed and documented for GMPs.

18.2.5.7 Documents shall be controlled

Documents as required by 18.2.5 including all documents used by the HACCP system (reference documents, manuals, work instructions, inspection records, forms) kept by the processor shall be controlled to ensure they are up to date, adequate and available to officials who need them.

Note: To meet this requirement a list of all current documents used shall be maintained with a date of issue and signature of the person responsible and the company shall:

a) name the persons responsible for the issue of new or amended documents;
b) state the procedure for amending documents;
c) state the location of the documents.

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HACCP Plan Form

(1) Step in Flow Diagram plus CCP	(2) Significant Hazards	(3) Critical Limits for each Preventative Measure	Monitoring Procedures				(8) Corrective Action	(9) Verification Procedures	(10) Records and Documents
			(4) What?	(5) How?	(6) Frequency?	(7) Who?			
List number and name of step for each CCP	List the identified significant hazard for each CCP	List the specified tolerances used to determine acceptability from unacceptability	List what is monitored for each separate item for each CCP (Note there may be more than one item to monitor per CCP)	List how each critical limit and preventive measure is monitored for each CCP	List frequency of monitoring	List the person who is responsible for monitoring	List the action taken when there is a process deviation List what is to be done with affected product for the time there is a process deviation	List all the verification procedures to be undertaken that helps to confirm that the HACCP plan is effective.	List the records and documents that will be maintained and where they will be kept.
Next CCP:									
Next CCP:									

Product Description:

Name of Export Facility:

Address of Export Facility:

Signed by (Senior Company Representative):

Date:

Final Product Inspection Checklist CHILLED / FROZEN SCALE FISH A1

Company Name/Ship: _____

Batch Size: _____ **Sample Size:** _____ **Accept. No:** _____

Batch Number: _____ **Species:** _____ **Temp. of Water:** _____

* IQF/fish may be inspected in a frozen state. Where an Authorised Officer has reasonable grounds to suspect that frozen fish does not meet the standard it may be thawed for inspection.
* An inspection that finds a sample unit exhibiting any item in the table with a nil tolerance or fails to meet one or more of the requirements, shall be considered defective.
* Each sample unit shall be inspected for defects in accordance with the following table.

Style	Defect / Tolerance	Samples
chill	temperature not within range -1°C to +4°C/ **nil**	
frozen	temperature warmer than -18°C/ **nil**	
all	Prohibited ingredients, additives, packing media/ **nil**	
all	excessive ingredients, additives / **nil**	
all	Damaged packaging / **nil**	
all	reused or dirty packaging / **nil**	
all	Incorrect labelling (e.g. style, process) / **nil**	
all	Net contents not +/- 2% of stated weight / **nil**	
all	taint, decomposed, fuel oil contamination / **nil**	
all	unwholesome material / **nil**	
all	abnormal odour, texture, colour / **nil**	
all*	excessive or abnormal slime (thick or yellow) / **nil**	
all*	soft, mushy, gelatinous flesh / **nil**	
all	belly burn or flesh discolouration / **nil**	
all*	Improper evisceration / **nil**	
chill	dull, grey sunken eyes / **nil**	
all*	abnormal scales / **practically free**	
all*	blood along the backbone is dark red brown, purple or green with an offence odour / **nil**	
all*	flesh not firmly attached to backbone / **practically free**	
all*	discoloured red brown or purple gills / **practically free**	
whole	brown abdominal walls or leaking gut contents / **practically free**	
all	mixed species / **nil**	
all	foreign matter / **practically free**	
all	slight dehydration light freezer burn / **practically free**	
frozen	deep freezer burn / **nil**	
all	parasites / **nil**	
fillet	bones and viscera present / **nil**	

Comments:

Batch PASS QA Officer: _____ QA Manager: _____

Batch FAIL Date: _____ Date: _____

Final Product Inspection Checklist LIVE FISH A2

Company Name/Ship: _____

Batch Size: _____ **Sample Size:** _____ **Accept. No:** _____

Batch Number: _____ **Species:** _____ **Temp of Water:** _____

* An inspection that finds a sample unit exhibiting any item in the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.
* Each sample unit shall be inspected for defects in accordance with the following table.

Style	Defect / Tolerance	Samples
all	Prohibited ingredient, additive, packing media / **nil**	
all	Excessive permitted ingredient, additive / **nil**	
all	reused or dirty packaging or container / **nil**	
all	dirty packing media / **nil**	
all	Incorrect labelling (e.g. style, process, species) / **nil**	
all	Net contents not + / - 2% of stated weight / **nil**	
all	unwholesome material / **nil**	
all*	unacceptable water quality / **nil**	
all	ailing, deteriorating or dying fish / **nil**	
all	abnormal odour or colour / **practically free**	
all	parasites / **nil**	
all	damaged fish / **practically free**	
all	diseased fish / **nil**	
crabs	2 claws missing / **nil** 1 claw missing / **1% by number**	
lobster	more than 2 legs and one antennae missing / **nil**	

Comments

* where applicable

Batch PASS **QA Officer:** _____ **QA Manager:** _____

Batch FAIL **Date:** _____ **Date:** _____

Final Product Inspection Checklist CHILLED / FROZEN LOBSTER A3

Company Name/Ship: _____

Batch Size: _____ **Sample Size:** _____ **Accept. No:** _____

Batch Number: _____ **Species:** _____ **Temp. of Fish:** _____

* Where a sample is frozen, each sample unit shall be inspected in a frozen state.
* Where an officer has reasonable grounds to suspect that frozen lobster does not meet the requirements of these conditions they may inspect after thawing
* Tolerance for out of grade shall be taken to the nearest whole number and be within +/- 2 % of the stated weight range.
* An inspection that finds a sample unit exhibiting any item on the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.

Metric size grade	Weight tails (grams)	Weight whole
A	140 - 179	less than 460
B	180 - 239	460 to under 570
C	240 - 279	570 to under 690
D	280 - 359	690 to under 800
E	360 - 479	800 to under 910
F	480 - 599	910 to under 1140
G	600 and over	1140 to under 1360
H		1369 up wards

* **Each sample unit shall be graded and inspected for defects in accordance with the following table**

Style	Defect / Tolerance	Samples
chill	temperature not within -1°C and +4°C / **nil**	
frozen	temperature warmer than -18°C / **nil**	
all	prohibited ingredient, additive, packing media / **nil**	
all	excessive permitted ingredient, additive / **nil**	
all	damaged packaging / **practically free**	
all	reused or dirty packaging / **nil**	
all	incorrect labelling (e.g. style, process) / **nil**	
all	Net contents not +/- 2% of stated weight / **nil**	
in shell	processing dead lobster / **nil**	
all	Taint, decomposed, fuel oil contamination / **nil**	
all	unwholesome material / **nil**	
all	abnormal colour, texture, odour / **nil**	
cooked	abnormal odour or flavour / **nil**	
all	mixed species / **nil**	
frozen	deep freezer burn / **<5% by area**	
all	superficial freezer burn / **practically free**	
all-raw	opacity / **nil**	
cooked	translucent / **nil**	
all	damaged, crushed or cracked shell / **practically free**	
meat	shell fragments / **< 1% by wt**.	
meat	incomplete removal of intestine, blood, viscera / **< 1% by wt.**	
tails	one or more segment missing including entire tail fan / **nil**	
tails	incomplete removal of intestines and anus / **nil**	
all	out of grade / **as stated**	
whole or whole split	more than 3 legs and one antennae missing / **nil**	
all	blackening, abnormal discolouration of flesh / **nil**	
all	mushy or gelatinous meat / **nil**	
all	soft shell / **nil**	

Comments

Batch PASS **QA Officer:** _____ **QA Manager:** _____

Batch Fail **Date:** _____ **Date:** _____

Final Product Inspection Checklist FROZEN PRAWNS A4

Company Name/Ship: _____

Batch Size: _____ **Sample Size:** _____ **Accept. No:** _____

Batch Number: _____ **Species:** _____ **Temp. of Fish:** _____

* Tolerances for out of grade shall be taken to the nearest whole number and the out of grade tolerance be allowed one grade either side of the declared size grade.
* An inspection that finds a sample unit exhibiting any item on the table with a nil tolerance or fails to meet 1 or more of the requirements shall be considered defective.
* Thaw each sample unit and inspected for defects in accordance with the following table

Style	Defect / Tolerance	Samples
all	temperature warmer than -18^{0}C/ **nil**	
all	prohibited ingredient, additive, packing media / **nil**	
all	excessive ingredient, additive /**nil**	
all	damaged packaging / **nil**	
all	reused or dirty packaging / **nil**	
all	Incorrect labelling (e.g. style, process) / **nil**	
all	Net contents not +/- 2% of stated weight / **nil**	
all	taint, decomposition, fuel oil contamination / **nil**	
all	unwholesome material / **nil**	
all	abnormal odour, colour, texture / **nil**	
all	blackspot on flesh / **5% by wt.**	
all	crush, mutilated or torn / **2% by wt.**	
whole	parasites / **nil**	
all	foreign matter including detached shell, legs, swimmerets, antennae / **1% by wt.**	
all	incorrect labelling/ **nil**	
all	prawn not of declared size grading / **2% by wt.**	
all	prawn not of declared species / **2% by wt**.	
all	deep freezer burn / **nil**	
all	superficial freezer burn / **practically free**	
IQF	not easily separated / **nil**	

Comments

Batch PASS **QA Officer:** _____ **QA Manager:** _____

Batch FAILS **Date:** _____ **Date:** _____

Final Product Inspection Checklist CANNED FISH A5

Company Name: _____

Batch Name/Size: _____ **Sample Size:** _____ **Accept. No:** _____

Batch Number: _____ **Species:** _____

Equipment: 1.Tone tester 2. Weighing scale 3. Vacuum gauge 4. Can opener 5. Brix refractometer 6. pH paper near neutral range 7. Micrometer

Procedure: 1. Inspect the batch and randomly select samples looking for can failure defects e.g. blown, leakage, denting, etc. 2. If the cans are labelled then note the particulars on the label. 3. Record the embossed code mark on the lid. 4. Observe the external condition of the can failure defects such as rusting, dents, physical damage, seam defects. 5. Test the tone and get an idea of the fill and vacuum. 6. Determine the gross weight. 7. Measure the Vacuum. 8. Measure the countersink depth, double seam width (length and height), double seam thickness. 9. Cut the lid almost completely open. 10. Measure the head space. 11. Drain the contents for 5 minutes and collect the liquid in a measuring jar. 12. Measure the liquid weight. 13. Measure the solid weight. 14. Wash, dry and weigh the empty can. 15. Teardown the seam and obtain seam dimensions. 16. Check the inside of the can and look for skin adhesion, lacquer peeling, blackening. 17. Check the turbidity of liquid. 18. Measure the pH of the liquid. 19. Check solids and liquid for foreign matter. 20. Note the odour. 21. If light meat check for dark. 22. For chunks get %.

ITEM	CAN 1	CAN 2	CAN 3	CAN 4	CAN 5	CAN 6	CAN 7	CAN 8	CAN 9	CAN 10
Batch Code										
Can Defects										
Gross wt.										
Vacuum										
countersink										
double seam width										
double seam thickness										
Headspace										
liquid weight										
solid weight.										
can weight										
net weight										
bodyhook										
coverhook										
end plate thickness										
body plate thickness										
overlap										
tightness rating										
junction rating										
pressure ridge										
lacquer, blackening etc.										
liquid turbidity										
pH										
foreign matter										
odour										
light meat or % chunks										

Comments:

Batch PASS **QA Officer:** _____ **QA Manager:** _____

Batch FAILS **Date:** _____ **Date:** _____

EXAMPLES OF GMP INSPECTION CHECKLISTS FOR FISH EXPORT FACILITIES

B1 Inspection Checklist for Land-based Fish Export Facilities

Company:		**Approval Number:**	
Address:			
Product(s):			
Date:		**Audit type:**	

Schedule / Item / Deficiency		OK	Description / Date of CA
2.2 Ceilings, 2.3 Floors, 2.5 Walls:			
lightly coloured, flake free, non toxic	SE MI		
smooth / waterproof /impervious and washable	SE MI		
proper construction / in good repair	CR SE MI		
proper floor / wall joint	SE MI		
all joints adequately sealed	SE MI		
ceilings-clean and acceptable height	SE MI		
floors-sloped towards drain / no water build up	SE MI		
dry areas: properly constructed/good repair	SE MI		
2.4 Drains: rodent proof	CR		
sufficient number and capacity	CR SE		
finished flush with surface	SE MI		
properly trapped and covered	SE MI		
easy access for cleaning	SE MI		
not connected to sanitary drainage	CR		
2.6 External openings:			
all openings adequately pest proofed	CR SE		
screens and doors in good repair	SE MI		
sills slope inwards or clean	MI		
2.7 Stairs, platforms, stands:			
non-slip, impervious, clean	SE MI		
product contamination not possible	CR SE		
2.8 Food contact surfaces: not wood	CR		
all corrosion resistant	CR SE MI		
all smooth, free from pits, cracks loose scale	CR SE MI		
all in good repair / clean	CR SE		
chutes: easily to clean	CR SE		
containers: easy to clean	CR SE		
inedible containers and equipment identified	CR		
inedible containers fitted with lids, leak proof	CR SE		
2.8.4 Supporting framework:			
installed to facilitate cleaning	CR SE		
fittings sealed to prevent ingress of moisture	CR SE		
overhead structures avoids contamination of product	SE		
proper construction / materials	CR SE		
2.10 Cleaning / sanitation facilities:			
adequate, capable of being cleaned	CR SE		
approved sanitising media	CR		
2.12 Hand-washing facilities: approved type/clean	SE		
adequate in number and location	SE MI		
soap, towels, receptacles	SE		
suitable pressure and volume	MI		

Schedule / Item / Deficiency		OK	Description / Date of CA
2.13 Changing facilities, toilets: well ventilated	SE		
do not open on to food handling areas	CR SE		
toilets, lockers adequate in number	SE MI		
adequate hand washing facilities provided	SE MI		
hand washing notices prominent	MI		
properly constructed walls, floors, drains	CR SE MI		
clean, in good repair	SE MI		
pest proof, no pests	CR SE		
approved disposal of sewerage	CR		
2.14 Storage: pest proof	CR		
cold / chill stores: suitable thermometers	MI		
floors, walls, ceilings meets the standard	CR SE MI		
structures corrosion resistant	SE		
adequate drainage of defrosted water	SE		
maintains correct temp.	SE		
container units meets the standard	SE MI		
temperature monitored and records maintained	SE MI		
freezers: installed to facilitate cleaning	SE MI		
clean and well drained	SE		
reduces temperature appropriately	SE MI		
temperature monitored and records maintained	SE MI		
other storage: pest proof and dust proof	CR SE		
approved construction/clean racks and shelving	SE MI		
maintains condition of item	CR SE		
3.1 Effluent waste disposal:			
septic tanks located to avoid hazard	CR		
all lines sufficient capacity	CR		
3.2 storage facilities for waste are adequate	CR SE		
3.3 Lighting: acceptable levels	SE MI		
protective covers as necessary	CR SE		
designed to facilitate cleaning	SE MI		
3.4 Ventilation: prevents condensation	SE MI		
efficient smoke odour removal	SE MI		
3.5, 3.6, 3.8 Water, ice, steam: sample taken			Number & location
potable water used	CR		
water is analysed and records available	CR		
adequately chlorinated and monitored	CR		
free from foreign matter, no smell	CR		
properly handled and stored, no contamination	CR SE MI		
ice: clean containers used	SE MI		
3.7 Water re-circulation: meets the standard	CR		
non-potable water outlets identified	CR		
4.1 Loading: convenient to product store	SE MI		
protects fish while unloading	CR SE		
truck areas: well drained, paved	CR SE		
4.2 Vehicle wash areas: meets standard	SE MI		
7.1, 7.2 General cleaning:			
plant surrounds, roadways, pathways kept clean	SE MI		
no water build up, properly grassed and drained	SE MI		
facility and equipment kept in good repair	SE MI		
dry work areas: kept clean, in good repair	SE MI		
walls: in good repair, kept clean	SE MI		
drains: no build up of obstructions	MI		
ceilings, light fixtures: kept clean, in good repair	SE MI		
utensils: cleaned, disinfected at end of shift	CR SE		
dried and stored in a sanitary manner	CR SE		
tables, blocks: washed, disinfected at end of shift	CR SE		

Schedule / Item / Deficiency		OK	Description / Date of CA
equipment storage: hygienic	SE MI		
containers: for holding fish kept clean	CR SE		
7.3 Hygiene control program:			
documented cleaning schedule is adequate	CR SE MI		
staff properly trained	SE MI		
programme is monitored and records available	CR		
approved disinfectants, sterilising media	SE		
adequate cleaning equipment	CR SE MI		
food contaminated during cleaning	CR SE		
7.5 Storage and disposal of waste:			
removed twice a day from processing area	SE MI		
removed once a day from facility	SE MI		
storage area: kept clean, avoids contamination	CR SE MI		
no harbourage or evidence of pests	CR SE		
offal, processing waste containers: used only for offal	CR		
offal containers clearly identified	CR		
waste containers washed separately and in separate areas from food containers	CR SE		
7.7 Pests: no evidence of pests	CR SE MI		
control program works	CR SE MI		
correct location of bait stations identified	SE MI		
7.8 Storage: hazardous substances:			
proper labelling of containers	SE MI		
pest-proof	CR		
food contact items stored chemicals	CR		
chemicals stored correctly / locked	CR SE MI		
8. Employee health, hygiene:			
personal effects not worn in processing area	SE		
outside clothing not worn in processing area	SE		
no known carriers of communicable diseases	CR		
no weeping sores or wounds	CR		
no coughing, sneezing, etc. over product	SE		
smoking, eating: not permitted in processing area	SE		
fingernail polish not allowed	SE		
hand washing not done after absence from line	SE		
8.6 Protective clothing			
worn correctly as required	SE MI		
gloves hand coverings sterilised adequately	SE MI		
outer garments, head gear kept clean	SE MI		
garments hung appropriately	MI		
food handling garments not worn in toilet	CR		
processing garments not worn outside	SE		
all garments approved	SE		
10.1/2/3 Processing: uncluttered work areas	SE MI		
fish washed properly before processing	CR SE		
inspected before processing	CR		
heading, gutting,: separation of function	CR SE		
no contamination due to delays, exposure	CR SE MI		
signs advising washing of hands on entering area	SE MI		
10.5 Ventilation: adequate, no condensation	CR SE MI		
10.8 Calibration: records up to date	SE MI		
13.6 Fish transport vehicles: meets standard	SE MI		
clean, maintains temperature of fish	CR SE		

Schedule / Item / Deficiency	OK	Description / Date of CA
18.1.11 Recall: The Authorised Officer shall give the processor a Batch Identification Number and ask for a trace to be made on the origin, storage and distribution record of the batch. An inadequate response will be deemed a CR		

ACTION REPORT (Summary)

Deficiency Description / Rating of Action	Corrective Action and date of action

List number of:	CR:	SE:	MI
Rating of Facility		PASS	FAIL
Authorised Officer:		Plant Manager:	
Date:		Date:	

Notes:

Inspections that result in one or more **Critical Deficiencies (CR)** or five or more **Serious Deficiencies (SE)** not noted by the plant or the corrective action for the deficiencies is unacceptable shall be considered as a (CR) and corrected immediately. Facilities must pass a C and E and O and S inspection to continue processing.

Critical deficiency (CR) is a situation where the facility has not complied with the requirements of Fish Quality Control Standards in such a manner that results in the production of food that is unsafe or a health hazard. Examples could include, severe breakdown in sanitation procedures, wastes contaminating foods, use of non-potable water (including ice or steam) or serious pest infestation. A CR shall cause the facility to stop processing until both the Processor and Authorised Officer are satisfied that the CR no longer exists.

Serious deficiency (SE) is a situation where the facility has not complied with the requirements of the Fish Quality Control Standards in such a manner that results in the production of food that is unsafe but is not a Critical deficiency. Examples could include, ineffective pest control, inadequate cleaning program, inaccurate calibration, failure to label chemicals, inadequate trained staff or premises not in good repair. SE shall be corrected by the next shift or processing shall cease.

Minor deficiency (MI) is a situation where the facility has not complied with the requirements of the Fish Quality Control Standards but a CR or SE has not resulted. Examples could include, equipment not meeting correct standard, temperature of water, minor sanitation or construction deficiencies. The deficiency shall be corrected at a date agreed to by the processor and Authorised Officer and within 2 weeks.

B2 Inspection Checklist for Fishing Vessels

Company:		**Approval Number:**	
Name of Vessel:			
Product(s):			
Date:		**Audit type:**	

Schedule / Item / Deficiency		OK	Description / Date of CA
6.2 Deck: if timber - clean and well chalked	SE MI		
6.2 Fish handling areas: ceilings, floors, walls:			
un-enclosed areas properly roofed	SE MI		
paint: lightly coloured, flake-free, non-toxic	SE MI		
waterproof, impervious, smooth and washable	SE MI		
proper construction / in good repair	CR SE MI		
proper floor / wall joint	SE MI		
all joints adequately sealed	SE MI		
ceilings: free of pipes over processing area	CR SE		
floors: sloped towards drain / no water build up	SE MI		
dry areas: properly constructed / good repair	SE MI		
2.4 Drains: sufficient number / capacity	CR SE		
easy access for cleaning	CR SE		
2.6 External openings: pest proof	SE MI		
2.8 Food contact surfaces: trays, tables ,dip tanks, utensils			
all approved materials/in good repair/clean	CR SE MI		
all smooth, free from pits, cracks loose scale	CR SE MI		
all corrosion resistant	CR		
chutes: easily cleaned, sanitised	CR SE		
containers: easy to clean	CR SE		
inedible containers and equipment identified	CR		
inedible containers fitted with lids, leak proof	CR SE		
2.8.4 Supporting framework:			
installed to facilitate cleaning	CR SE		
fittings sealed to prevent ingress of moisture	CR SE		
overhead structures avoids contamination of product	CR		
proper construction / materials	CR SE		
2.10 Cleaning: adequate provision made for cleaning of utensils, containers	SE MI		
2.12/6.9 Hand-washing basins: approved type/clean	SE		
adequate in number and location	SE MI		
soap, towels, receptacles	SE		
suitable water pressure and volume	MI		
2.13 Toilets, changing rooms: well ventilated	MI		
do not open on to food handling areas	CR SE		
toilets adequate in number	SE MI		
hand-washing notices prominent	SE MI		
clean, in good repair	CR SE MI		
hand-washing signs: clear and visible	SE MI		
6.3 Water supply intakes: located forward of toilet or bilge discharge	CR		
supplied through pump used only for water	CR		

Schedule / Item / Deficiency		OK	Description / Date of CA
2.14/6.5 Chillers, storage, freezers: pest and dust proof	CR		
water proof storage	CR		
adequate drainage of defrosted water	CR SE		
chillers: RSW - galvanised coils	CR SE		
temperature monitored and records maintained	SE MI		
cold storage: appropriate thermometers	MI		
hatches / plugs seal effectively	SE MI		
floors, walls, ceilings meets the standard	CR SE MI		
structures corrosion resistant	SE MI		
maintains correct temperature	CR SE		
if used, clean dunnage	SE MI		
temperature monitored and records maintained	SE MI		
freezers: installed to facilitate cleaning	SE MI		
clean and well drained	SE		
reduces temperature appropriately	CR SE MI		
temperature monitored and records maintained	SE MI		
other storage: pest proof and dust proof	CR SE		
approved construction / clean racks and shelving	SE MI		
maintains condition of item	CR SE		
6.10 Packaging: stored separately	CR		
chemicals: stored separately	CR		
6.4 Lighting: provided where necessary	SE MI		
shatterproof shield where necessary	CR SE		
proper intensity	SE MI		
6.9 Amenities and accommodation: sufficient in number for crew	SE MI		
3.5, 3.6, 3.8 Water, ice, steam: sample taken			Number & location
potable water used	CR		
adequately chlorinated and monitored	CR		
free from foreign matter, no smell	CR		
pest and dust proof storage	CR SE		
properly handled and stored/no contamination	CR SE MI		
ice: clean containers used	CR SE MI		
7.1, 7.2, 7.3 Cleaning program:			
documented cleaning schedule is adequate	CR SE MI		
staff properly trained	SE MI		
program is monitored and records available	CR		
approved disinfectants, sterilising media	CR SE		
adequate cleaning equipment	CR SE MI		
food contaminated during cleaning	CR SE		
floors wet areas: in good repair			
kept relatively clean during processing	MI		
washed, disinfected daily	CR SE		
dry work areas: kept clean, in good repair	SE MI		
walls: in good repair, kept clean	SE MI		
drains: no build up of obstructions	MI		
ceilings, light fixtures: kept clean, in good repair	SE MI		
utensils: cleaned, disinfected at end of shift	CR SE		
dried and stored in a sanitary manner	CR SE		
tables, blocks: washed, disinfected at end of shift	CR SE		
hand-washing facilities: kept clean	SE MI		
equipment storage: hygienic	SE MI		
containers: for holding fish kept clean	CR SE		

Schedule / Item / Deficiency		OK	Description / Date of CA
7.5 Storage and disposal of waste:			
removed twice a day from processing area	SE MI		
removed once a day from facility	SE MI		
storage area: kept clean, avoid contamination	CR SE MI		
no harbourage or evidence of pests	CR SE		
offal, processing waste containers: offal use only	CR		
offal containers clearly identified	CR		
waste containers washed separately and in separate areas from food containers	CR SE		
7.7 Pests: no evidence of pests	CR SE MI		
control program works	CR SE MI		
correct location of bait stations identified	CR SE MI		
7.8 Storage: hazardous substances			
clean and tidy	SE MI		
no pests, pest proof	CR		
food contact items stored with raw materials	CR		
sanitisers stored correctly	CR SE MI		
8. Employee health, hygiene			
personal effects not worn in processing area	SE		
outside clothing not worn in processing area	SE		
no known carriers of communicable diseases	CR		
no weeping sores or wounds	CR		
no coughing, sneezing, etc. over product	SE		
smoking, eating: not permitted in processing area	SE		
hand washing not done after absence from line	SE		
8.6 Protective clothing			
worn correctly as required	SE MI		
gloves hand coverings sterilised adequately	SE MI		
outer garments, head gear kept clean-no hair pins	SE MI		
garments hung appropriately	MI		
food handling garments not worn in toilet	CR		
processing garments not worn outside	SE		
all garments approved	SE		
10.1/2/3 Processing: uncluttered work areas	SE MI		
fish washed properly before processing	CR SE		
inspected before processing	CR		
heading, gutting: separation of function	CR SE		
no contamination due to delays, exposure	CR SE MI		
signs advising washing of hands on entering area	SE MI		
10.5 Ventilation: adequate, no condensation	SE MI		
10.8 Calibration: records up to date	CR SE MI		
13.6 Fish transport vehicles: meets the standard	CR SE MI		
clean, maintains temperature of fish	CR SE		
18.1.11 Recall: The Authorised Officer shall give the processor a Batch Identification Number and ask for a trace to be made on the origin, storage and distribution record of the batch. An inadequate response will be deemed a CR.			

ACTION REPORT (Summary)

Deficiency Description / Rating of Action	Corrective action and date of action

List number of:	**CR:**	**SE:**	**MI**
Rating of Facility		**PASS**	**FAIL**
Authorised Officer:		**Vessel Operations Manager:**	
Date:		**Date:**	

Notes:

Inspections that result in one or more **Critical Deficiencies (CR)** or five or more **Serious Deficiencies (SE)** not noted by the plant or the corrective action for the deficiencies is unacceptable shall be considered as a (CR) and corrected immediately. Facilities must pass a Construction and Equipment and E and O and S inspection to continue processing.

Critical deficiency (CR) is a situation where the facility has not complied with the requirements of Fish Quality Control Standards in such a manner that results in the production of food that is unsafe or a health hazard. Examples could include, severe breakdown in sanitation procedures, wastes contaminating foods, use of non-potable water (including ice or steam) or serious pest infestation. A CR shall cause the facility to stop processing until both the Processor and Authorised Officer are satisfied that the CR no longer exists.

Serious deficiency (SE) is a situation where the facility has not complied with the requirements of the Fish Quality Control Standards in such a manner that results in the production of food that is unsafe but is not a Critical deficiency. Examples could include, ineffective pest control, inadequate cleaning program, inaccurate calibration, failure to label chemicals, inadequate trained staff or premises not in good repair. SE shall be corrected by the next shift or processing shall cease.

Minor deficiency (MI) is a situation where the facility has not complied with the requirements of the Fish Quality Control Standards but a CR or SE has not resulted. Examples could include, equipment not meeting correct standard, temperature of water, minor sanitation or construction deficiencies. The deficiency shall be corrected at a date agreed to by the processor and Authorised Officer and within 2 weeks.

B3 INSPECTION CHECKLIST FOR FISH CANNING PLANTS

This form is to be used issued with a corrective action report and HACCP Audit Form.

Company:		**Approval Number:**	
Address:			
Product(s):			
Date:		**Audit type:**	

ITEM / SCHEDULE	Points	Score/OK /NA
1.1 Location: Plant exposed to contamination or pollution which could contaminate product	C	
1.2 Plant Exterior Surrounding area not of concrete or in poor condition	3	
7.6 Guard dogs have access to plant or loading/unloading areas	C	
15.6 Raw material transport Insulated vehicles not used for road transport	2	
13.6 Product in vehicle exposed to sun, dust, rain or contamination	5	
2.9 Fish in contact with wood of vehicle construction	5	
9.4 Fish boxes not used, or vehicle without compartment	2	
10.1 Fish arrive contaminated	C	
7.2.1 Vehicle not washed and disinfected after loading	4	
13.2 Reception and storage of raw material: Storage of fish at temperature > 5^0C (Chilled)	1 every 1^0C	
13.5.7 Raw material arrives at temperature > -9^{o}C (frozen)	1 every 1^0C	
2.6.1 Precautions not taken to prevent entry of insects to plant	3	
13.5.2 Insufficient facilities for the storage of fish	3	
2.8.2 Tanks or containers for fish storage of improper materials or in poor condition	5	
13.3 Freezing Freezers have insufficient capacity for production load (overload)	4	
13.4 Fish temperature at unloading of freezer > -9^0C	3	
13.5 Temperature of cold store > -9^0C	3	
2.4.1 Plant Construction Floors not graded towards floor drains	1	
2.3 Floors not impermeable, not hard, not easy to clean and in poor condition	4	
2.4.1 Inadequate system of drains and traps	C	
2.5 Walls not impermeable, not easy to clean, not of a light colour or in poor condition	2	
2.8.9 Siting of pipes hinders cleaning	1	
2.6.1 Windows/openings not adequately proofed against pests/insects	C	
2.6.4 Doors not smooth, not impermeable or in poor condition	1	
2.2/3.3 Ceilings and lights (no protective covers) not free from dust, flaking paint or condensation	C	
3.3.2 Inadequate illumination	2	
2.6.1 Ventilation ducts or fans not proofed against the entry of pests/insects	C	
3.4 Build up of odours, condensation or heat in processing areas. (Inadequate ventilation)	3	
Hygiene Facilities in Processing Areas		
8.5.6 No permanent foot-baths at staff entrances to processing areas	3	
2.12 Insufficient number of hand-wash basins in processing areas	4	
2.12 No non-hand operated taps for processing personnel	3	
2.10 Insufficient number of tap, sinks and hoses for washing of plant and equipment	4	
7.2 Cleaning and sanitation Dirty fish boxes	5	
7.2 Deposits of dirt, grease etc. on floors or wells	5	
2.8.2 Equipment, tools, tables of wood or other permeable or corrodible material	3	

ITEM / SCHEDULE	Points	Score/OK /NA
7.2 Equipment, tools or tables in dirty condition	3	
7.2 Inadequate method of cleaning and sanitising	4	
7.7 Evidence of rodents in plant	C	
10.3 Fish handling Fish left on tables/ floors during stoppages	2	
10.1.1 Fish exposed to cross contamination	C	
8.5 Personnel Staff wear jewellery, nail polish, watches etc.	2	
8.3 Fish handlers have communicable diseases (coughing, sneezing, wiping noses-medical checks up to date)	C	
8.6 Persons in the plant not wearing hats, boots and protective clothing	5	
8.6 Persons wearing dirty clothes, or clothing not easily washed	C	
8.5.4 Persons observed to spit, eat, drink or smoke	C	
8.7 Visible prohibition notices not displayed for eating, chewing, drinking, smoking	1	
8.5.5 Persons do not wash hands on entering the plant or after using the toilet	C	
8.5.5 Persons do not rinse boots in the footbath on entering plant	3	
8.4 Fish handlers have open or infected wounds	C	
3.4 Sauce Preparation No additional ventilation to sauce preparation area	3	
7.2 Containers not cleaned adequately (after each batch.)	1	
12.11 No method of heating in sauce storage tanks	1	
12.14 Double seam Can seaming machine not supervised during use	5	
12.15 Cans not sampled, or double seam measurements not made	C	
14.1.3 Additives Use of prohibited additives, colourings, preservatives	C	
12.18.2 Retorts Retorts do not have pressure gauge	5	
12.8 Interior temperature not recorded (recording thermometer)	C	
12.8 No note made of lot code on temperature graphs	5	
12.12 Can cooling: Potable water not used for can cooling	C	
3.7.3 Cooling water has less than 0.2 ppm free residual chlorine	C	
3.7.3 Cooling water in tank not treated appropriately	5	
3.5.9 Tanks for can cooling dirty or exposed to contamination	C	
Labelling GO 3.2 No lot code given to indicate supplier, date and production shift	5	
1.3 Plant layout Storage area for packaging not appropriate.	2	
7.8 Separate storage area for cleaning materials not provided	2	
2.1 No physical separation of areas for: offices	2	
canteens	2	
workshops	2	
stores	2	
garage	2	
12.2 /12.7 No materials or activities in processing area which could contaminate the fish/ingredients	C	
2.1.3 Separate staff entrance not provided	2	
2.13 Sanitary Facilities Sanitary facilities not readily accessible to plant staff	C	
2.13.7 Direct access between processing area and sanitary facilities	3	
2.12 No non-hand operated taps for hand-washing	4	
2.12 Inadequate provision of soap or paper towels (and method of disposal) or hand dryers	C	
2.12.2 No signs advising washing of hands	1	
3.3 Inadequate illumination	2	
3.4 Inadequate ventilation to exterior	2	
7.2.6 Sanitary facilities in poor or dirty condition	C	
3.5.2 Water: Water supply inadequate to satisfy demands	C	
10.4/3.6 Water not treated with chlorine to at least 1 ppm free residual Cl at point of use or does not meet the appropriate standard	C	
3.5 Organoleptic quality of water inadequate	1	
2.8.1 Water tanks of inadequate capacity or inappropriate construction	4	
3.5.2/3.5.9 Tanks not protected against entry of rain, flood and pests	C	
3.5.8 Tanks not provided with inspection hatch	3	
3.5.2 Area surrounding tank is dirty	3	
3.5.5 Use of seawater for unapproved purpose	C	
7.5 Residues & waste Residues and waste not removed regularly from the plant	4	

ITEM / SCHEDULE	Points	Score/OK /NA
7.4/7.5 No provision for separate storage of waste or by products	C	
7.5.6 In appropriate waste receptacles	4	
7.5.2 Evidence of rodents, insects, flies, cockroaches in waste storage area	5	
7.5.4/7.5.5 Waste storage area dirty or has offensive odour	4	
12.2.5 Direct access between cannery and fishmeal plant	3	
Quality Control GO 5.7 Microbiological/Chemical laboratory not NISIT/PNGLAS accredited but follows CAC/FAO standard. Use of an unrecognised standard is scored as C	5	
GO 5.7 Appropriately experienced quality control manager not employed	C	
3.5.1 Water quality analysis not undertaken (Cl, pH, Organoleptic)	5	
10.1 Raw materials not inspected before processing	4	
10.14 Seam dimensions not checked every half hour during processing	C	
GO 5.7 Periodic microbiological testing of surfaces not undertaken	2	
GO 5.7 Canned fish quality not tested for: organoleptic quality	2	
organoleptic quality of liquid	2	
vacuum	2	
3.5.1 Chlorine concentration not checked in- processing (daily) and can cooling water (end of each cycle)	C	
GO 5.7 No permanent records of quality control tests	3	
2.13 Miscellaneous Inadequate number of sanitary facilities	C	
2.13 Inadequate number of hand-wash basins in sanitary facilities	C	
7.3 No documented cleaning and sanitising schedule	1	
8.4 First aid box not provided or without disinfectant or impermeable dressings in adequate nos.	5	
Total Demerits for this plant:		

Calculation of Demerits Points Score = $\frac{(226 - \text{total demerit points})}{226} \times 100 =$ _____

Critical Points = _____

FINAL SCORE: _____

Authorised Officer: _____ **Plant Manager:** _____

Date: _____ **Date:** _____

A pass is a final score of average or above. A list of corrective actions shall be provided with this form and include date of correction.

All critical defects shall be corrected immediately.

ACTION REPORT (Summary)

Deficiency Description	Corrective action / date of action

Notes on Using the Inspection Checklist for Fish Canning Plants

The inspection form for fish canning plants is designed for use by government inspectors, as well as by quality control staff in the plants themselves.

The form is a list of negative criteria that represent practices or aspects of design or construction which should not be present during the processing of canned of fish. Points are assigned to each criterion. The points may be a number of demerit points, or alternatively "critical" points. The points are indicated in the second column of the inspection form, in which is found the number of demerits, or the letter “C”, which refers to a critical point. In the final column a reference is given to the relevant section in the code of practice.

If a criterion is observed in the plant being inspected, the inspector should circle the corresponding points. The demerit points range between 1 and 5 depending on the gravity of the breach. Critical points are reserved for serious issues, which may give rise to contamination of the product with materials or organisms that damage the health of the consumer.

In order to complete an in-depth inspection using the form, some basic equipment should be available. This should include; an electronic digital thermometer to measure the fish temperature at different stages of the process; a comparator for chlorine determination, preferably using tablets; and a means of determining the pH of water supplies using tablets.

However, if the above mentioned equipment is not available it remains possible to complete the inspection, with the omission of the criteria which cannot be evaluated. The inspector should simply pass on to the next criterion, and note at the end of the form that certain criteria have not been evaluated.

Similarly, in cases where a particular criterion does not apply to a plant that is being inspected (If fish is not being pre-cooked) the inspector should pass to the next applicable criterion. It is not necessary to take into account criteria that do not apply to a particular plant.

After doing the inspection, the inspector should sum all the demerit points, and count the number of critical points that have been circled.

There are two ways of classifying the plant using either the demerit points, or the critical points. The final classification is the lowest classification of the two.

Demerit Points

The Demerit score should be calculated using the following formula:

$$\textbf{Score} = \frac{\textbf{(226 - sum of demerit points)}}{\textbf{226}} \times 100$$

The result of this calculation is a percentage that represents the merit-demerit score of the plant. Using this percentage the plant may be classified as follows:

Excellent	Good	Average	Fail	Very poor
> 90 %	71-90 %	51-70 %	31-50 %	< 31%

Critical Points

The number of critical points should be counted and the plant classified as follows:

Excellent	Good	Average	Fail	Very poor
0	1	2	3	>3

Plant Classification

The overall classification of the plant is the lowest category indicated by the classification exercises described above.

Example

A plant achieves 104 demerit points and 3 critical points. What is the final classification?

a) calculation of demerit points

$$\text{Score} = \frac{(226 - 104) \times 100}{226}$$

$$= 54\%$$

54% corresponds to the classification "average" on the demerit point scale.

b) calculation of critical point classification. Three critical points correspond to the classification "poor" according to the above table.

The worst classification arising from the two calculations is "fail", which is the final classification of the plant.

EXAMPLES OF EXPORT FACILITY HACCP AUDIT CHECKLISTS

C1 HACCP DESK AUDIT

This desk audit acts as guide for both Authorised Officers and Exporters as to the adequacy of the required documentation for an NFA HACCP plan. It is not used to rate the Facility. A report shall be generated listing deficiencies and corrective actions for the Exporter.

Company:		**Company HACCP Manager:**	
Address: **Phone:** **Fax:**		**Approval Number:**	
Product(s):		**Facility Risk Rating**	
		Low	**Medium**	**High**
Audit number:		**Date of Audit:**	

Item / Deficiency type	OK	Deficiency description / Description of CA/ Date of CA
18.2.5 Application Document requirements		
.1 Correct name, location, postal address		
Company Quality policy given		
Scope of HACCP plan given		
Manager of HACCP program named		
Signed declaration of HACCP plan by owner		
.2 Product statement for each product		
Product description/specification adequate		
Method of preparation given		
Packaging listed of approved type		
Method of preservation and storage adequate		
Distribution conditions adequate		
Intended use given		
Consumer group identified		
.3 Process flow		
Shows all steps		
Process Flow prepared for each product		
Enables identification of CCPs		
Follows approved outline		
Accurate and clear		
Signed and verified by HACCP manager		
.4 HACCP plan table		
Correctly referenced with Process flow		
Identifies all significant hazards		
Identifies all CCPs		
Describes adequate **Control measures** for each hazard		
States correct **Critical Limits** for each hazard		
Monitoring Procedures: developed for all CCPs		
Are **monitoring** procedures describe appropriately:		
What will be monitored		
How will it be monitored		
Frequency of monitoring		
Who is to monitor		

Item / Deficiency type	OK	Deficiency description / Description of CA/ Date of CA
Is the frequency adequate to keep the CCP under control		
States where records will be kept		
Corrective Actions: developed for all CCPs		
Ensure that CCP is brought under control		
States adequately what happens to product when the process is out of control		
States adequately what will be done to bring the process under control		
States where records will be kept		
.5 Verification activities demonstrate that the:		
HACCP plan is effective		
Control measures are working		
Critical limits are valid		
Monitoring procedures are adequate		
Corrective Actions are adequate		
the CCPs are appropriate and under control		
Are records verified at an adequate frequency		
.6 GMPs		
Has a GMP policy been defined		
Is the GMP policy adequate, are all items covered		
Is GMP policy method for review adequate		
Have Corrective actions been developed		
.7 Documentation		
Work instructions used		
Are documents controlled adequately		

Deficiency Description/ Recommendations

Authorised Officer:_____ **Plant Manager:**_____

Date:_____ **Date:**_____

C2 NFA HACCP ON-SITE FACILITY AUDIT

This audit form shall be used in conjunction with the O & S and C & E forms for an on-site inspection and together shall generate the Facilities rating. A report listing Corrective actions may be required if they are too numerous for these forms. Copies shall be made for the Exporter.

Company:	**Company HACCP Manager:**		
Address/Phone/Fax:	**Licence Number:**		
Products:	**Facility Risk Rating**		
	Low	**Medium**	**High**
Audit number:	**Date of Audit:**		
New rating and date:	**Date of next inspection:**		
Authorised Officer signature:	**Company HACCP manager signature:**		

Item / Deficiency type		OK	Deficiency description / Description of CA/ Date of CA
HACCP documentation available to Authorised Officer	CR		
Are records falsified	CR		
Documented HACCP plan needs revision	CR		
Product statement for each product			
correctly stated	CR		
Process Flow occurs as stated, no deviations	CR		
CCPs			
Monitoring			
Is the frequency of monitoring sufficient to provide assurance that the process is under control	CR SE		
Are monitoring procedures being followed as stated in HACCP plan	CR SE MI		
Are records of monitoring up to date	SE MI		
Are monitoring records correctly filled out	SE MI		
Are monitoring records kept and reviewed by the appropriate personnel	SE MI		
Do monitoring records follow Critical limits	SE MI		
Corrective Actions			
Was corrective action taken when required	CR SE		
Are records of corrective actions up to date	SE		
Does the Corrective Actions bring the process under control	SE MI		
What was done with the affected product and was the action appropriate	CR SE		
Was the Corrective action followed	CR SE MI		
Critical Limits			
Do critical limits ensure a safe product	SE MI		

Item / Deficiency type		OK	Deficiency description / Description of CA/ Date of CA
Verification procedures Do activities demonstrate that the:			
HACCP plan is effective	SE MI		
Control measures are working	SE MI		
Critical limits are valid	CR		
Monitoring procedures are adequate to keep the CCP under control	CR SE		
Corrective Actions are adequate	SE MI		
The CCPs are appropriate and under control	SE MI		
Are records verified at an adequate frequency	MI		
Are verifications up to date	SE MI		
Are verifications being carried out as stated	SE MI		
Are verifications being carried out by the correct personnel	CR		

Deficiency Description	Corrective Action / date of action

Number of defects for HACCP, C&E, O&S forms

HACCP:	**CR:**	**SE:**	**MI:**
GMP	**CR:**	**SE:**	**MI:**

Cannery Inspection Form: list number of		**CR:**	**Rating:**
TOTAL:	**CR:**	**SE:**	**MI:**

A cannery will be rated by the worst rating given either by the Cannery Inspection form or HACCP audit form. For example, HACCP inspection gives a “good” rating and the outcome of the GMP inspection is “average”. The cannery will be rated as average.

Final Rating:_____

NATIONAL FISHERIES AUTHORITY

AUDIT AND CERTIFICATION UNIT

D1 Corrective Action Request (MINOR)

Company:				**Authorisation Number:**	
Address:					
Product(s):					
Date:		**Audit type:**			
A **Description of Deficiency**	**MINOR DEFICIENCY**				
HACCP Program requirement					
Evidence of deficiency					
Potential effect of deficiency					
Date:		Auditee:		Auditor:	
B Action required to correct problem and / or prevent recurrence (to be completed by auditee)					
Date to be completed:		Auditee:		Auditor:	
C Follow-up required to confirm that action has been taken and is effective					
Date to be finalised:		Signed (Auditor):			
CAR Closed on:		Signed (Auditor):			

NATIONAL FISHERIES AUTHORITY

AUDIT AND CERTIFICATION UNIT

D2 Corrective Action Request (SERIOUS / CRITICAL)

Company:				**Authorisation Number:**	
Address:					
Product(s):					
Date:			**Audit type:**		
A **Description of Deficiency**	**SERIOUS**			**CRITICAL**	
HACCP Program requirement					
Evidence of deficiency					
Potential effect of deficiency					
Date:		Auditee:		Auditor:	
B Action required to correct problem and / or prevent recurrence (to be completed by auditee)					
Date to be completed:		Auditee:		Auditor:	
C Follow-up required to confirm that action has been taken and is effective					
Date to be finalised:			Signed (Auditor):		
CAR Closed on:			Signed (Auditor):		