

SECTION 4

AN INTEGRATED QUALITY MANAGEMENT PROGRAM (IQMP) FOR THE ON-SHORE HANDLING AND PROCESSING OF FRESH AND FROZEN TUNA

4.1 INTRODUCTION

Due to the rising concerns by the countries of the world to eat safe food, requirements are being established in food processing industries to show that they have in place an adequate food safety program for the control of their products intended for human consumption. Plant operators will have to show in writing the procedures that they are using to identify hazards associated with the handling, processing and distribution of tuna and those preventive measures being taken to ensure the safety of the products is guaranteed, such as monitoring at critical control points and applying a preventive action plan if any of the critical points are out of control.

A number of quality control systems exist to ensure the above, the best known is the Hazard Analysis and Critical Control Point (HACCP) system. This system, while an international standard, is a narrowly defined food safety system that requires a number of pre-requisite requirements and does not deal with quality or economic fraud. A more comprehensive program, which incorporates HACCP, its pre-requisite requirements, regulatory requirements and market requirements is the Integrated Quality Management Program (IQMP).

The IQMP specifies a number of generic areas/control points or points of inspection. Each of these areas must be examined to see if there is a control point or critical control point in the process in that area. Annex 4 gives definitions used in this manual to describe "control points" and "critical control points", etc.

Plant owners/operators should conduct a study of their operation using the IQMP as a guide, incorporate the IQMP into their quality control programme and submit this programme to the competent authorities for approval.

As part of GMP Procedures, each Fish Plant Owner/Operator will be required to implement planned procedures for the monitoring of their operations at Control Points or Inspection Points where problems are noted. Detection of problems at the earliest opportunity allows the problems to be related to the factors that caused them and permits the most effective approach to correct them.

Each Control Point or Inspection Point represent an opportunity, before any other processing takes place with the tuna, to evaluate compliance with requirements and take corrective action where necessary.

For each control or inspection point the following information must be specified:

1. The requirements that are being complied with.
2. The standard that is being employed during inspection.
3. Evaluation of the monitoring procedures.
4. The system for collecting data and record keeping.
5. Description of the corrective action that will be implemented when problems are discovered.

There are 12 areas in the processing operation for the handling of tuna on-shore that need to be examined at control or inspection points to ensure compliance with GMP requirements.

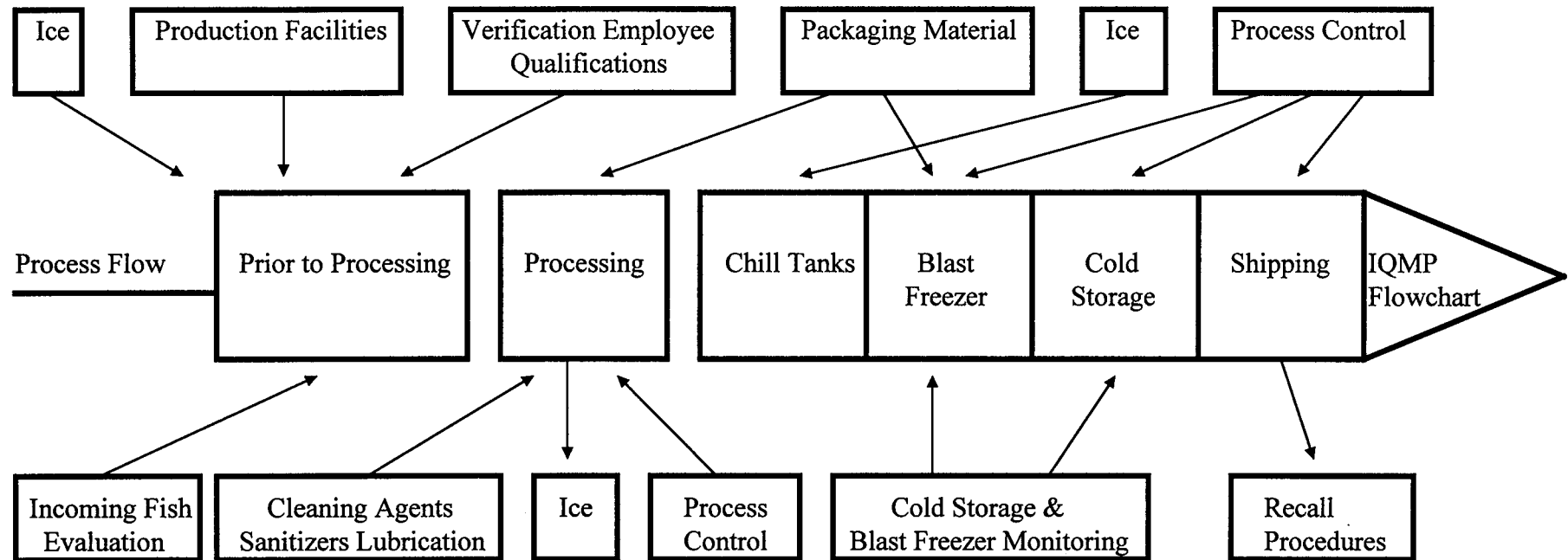
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In establishing the Control or Inspection Points for the processing of tuna, each processor must understand what hazards they are attempting to prevent and the location for inspection which will provide the best opportunity to control the hazard.

A flow chart and table are found in sections 4.1.1 and 4.1.2. They provide an overview of where inspection or control points for each item.

Annex 6 provides the specific information regarding potential Critical Control Points for the processing of fresh/frozen tuna.

4.1.1 Process Flowchart for Determining Inspection/Control Points



4.1.2 Potential Inspection/Control Points

Items	Hazards	Control Points
Fish	Health and Safety Risks Tainted, Decomposed Unwholesome Tuna Dead, Non-compliance	Prior to Process Before Receiving
Other Ingredients	Contamination of Tuna With Unapproved, Unsafe Compounds/not Meeting Specifications	Prior to Use When Received
Ice	Contamination of Tuna Unsafe, Unclean	Prior to Use When Received During Use
Cleaning Agents, Sanitisers	Contamination to Tuna With Unapproved/unsafe Chemicals	Prior to Use When Received During Application
Plant Design/ Production Equipment	Contamination to Tuna Due to Poor Design of Equipment/building	Prior to Start Up/ During Operation
Operation and Sanitation	Contamination to Tuna Due to Poor Operation And Sanitation Practice	Prior to Use During Inspection Operation/daily
Process Control	Production of Tuna That Don't Comply with Safety, Quality Wholesomeness and/or Fair Trade Requirements	During Operation Washing Cleaning Cooling/icing Packing
Fresh and Frozen Storage Facilities	Decomposition Or Contamination of Tuna Due to Poor Storage	During Operation of Cooling/freezing
Packaging Material	Use of Unapproved Damaged, Unclean Cartons	Prior to Use Immediately Before Use
Final Product	Production of Tuna That Does Not Comply With Safety, Quality And Wholesomeness And Fair Trade Requirements	Prior to Packing of Fresh/frozen Tuna
Recall Procedures	Unable to Trace Tuna to Buyer/customer	During Packing Prior to Shipping
Employee Qualification	Production of Tuna Posing Health And Safety Risks	Prior to Start Up Skilled Trained Personnel

IDENTIFICATION OF
INSPECTION/CONTROL POINTS

Type of Operation: _____

Check off those items which will be mentioned at a control point and identify where/when the point of time of inspection will occur.

<u>Items</u>	<u>Point of Time of Inspection</u>
Fish:	_____
Other Ingredients:	_____
Ice:	_____
Cleaning Agents, Sanitiser, Lubricants:	_____
Plant Design/ Production Facilities:	_____
Operation and Sanitation:	_____
Process Control:	_____
Fresh/frozen Storage Facilities:	_____
Packaging Material:	_____
Final Product:	_____
Employee Qualifications:	_____

Refer to the section indicated for completion of those control points that have been checked off.

4.2 FISH

4.2.1 Requirements:

Under GOOD MANUFACTURING PRACTICES the following requirements are to be followed by the processing plant:

1. No tuna which is decomposed, tainted or unwholesome is permitted to be received or processed for export, or processed for domestic market.
2. Tuna is to be bled properly at time of receiving for further production.
3. No tuna which is improperly gutted is acceptable.
4. No ungutted tuna is permitted to be received at processing plant.
5. Tuna must have all gills removed before delivery.
6. Tuna is to have a temperature of 0°C at time of receiving.
7. Tuna is only to be delivered to processing plant in proper insulated containers, which has been properly cleaned and is free from cracks and crevices and is not contaminated.
8. No tuna is permitted to be placed on the processing floor, this will cause contamination to the product.
9. Tuna is not permitted to be exposed to the air for a long period of time. Tuna if not being packaged immediately after receiving must be placed into slush ice in a proper approved holding tank.
10. Tuna for processing for fresh/frozen loins must be processed immediately after removal from tanks.
11. Tuna is not to be dragged or pulled across the processing floor at any time.

During the receiving of tuna at the processing plant the following information is required to be completed by the processor:

- A. The name of the vessel which the fish came from.
- B. The quantity of tuna received.
- C. The quality of the tuna as inspected when received. Each fish to be graded and the information recorded.
- D. Ensure that there is a discharge chart showing the age of the tuna.
- E. A temperature log showing the temperature of the tuna at time of discharge.

Any equipment which is used in the process for the holding of tuna that is damaged or can cause damage or contamination of the tuna cannot be used.

All fish handling equipment such as tables, chutes, containers and utensils, shall be of a smooth surface, non-absorbent, non-corrodible materials.

All fish holding tanks must be of a smooth surface, free from cracks and crevices so as to prevent contamination to the tuna.

All areas which in the processing plant are used for the production of tuna are to be clean and safe. No areas are to be used which can cause contamination to occur in the tuna.

4.2.2 Fish Defect Deficiency:

A tuna which is received at the processing plant is considered defective if there is any trace of fuel oil or other critical contamination of the flesh odour which is indicative of decomposition or taint.

Tuna which is not bled, cleaned or chilled properly can also become a defect fish.

There are three areas whereby a tuna should be inspected to see if the proper bleeding process has been completed. The three areas are as follows:

- (A) The arteries behind the pectoral fin.
- (B) The arteries which supply the gills with blood.
- (C) The tail section between the third and fourth dorsal finlet from the tail.

Critical contamination is the presence of any material or distinct and persistent odour or flavour of any material which has not been derived from fish and which poses a threat to human health.

4.2.3 Monitoring Procedures:

The following procedures shall be used in determining the condition of the tuna.

Each fish is examined for contamination by fuel oil or other critical contamination source likely to be a threat to human health.

At time of receiving the tuna at the processing plant it must be inspected for flesh colour, freshness, and condition. This process is completed by removing a piece of meat from the tail section between the fifth and sixth caudal finlet.

All lots of raw fish which is landed at a fish processing plant must be inspected at the identified critical points of inspection to ensure that they are derived from raw material which means the minimum regulatory requirements.

4.2.4 Corrective Actions:

The processor will identify the position responsible for taking corrective action and the position responsible for ensuring that the corrective action was carried out. If the processor wants to use their own forms they must supply an example of the type of form they intend to use to record corrective action.

For each instance of non-compliance the processor must have a record of the corrective action that took place and that the records must provide the following information:

- A description of the non-compliance item
- The date the non-compliance item happened
- The date the corrective action took place
- What corrective action was taken
- The outcome
- The signature of the person responsible

The following forms are to be completed by the company:

CORRECTIVE ACTION REPORT

Date: _____ Area Affected: _____

Description of The Problem With The Tuna:

Show What Action Has Been Taken to Correct Problem:

Date Problem Solved: _____

Current Status: _____

Company Name: _____

Inspector: _____

This report must be filled out when there is a problem that is affecting the quality of the tuna.

This report is to be kept on file as a record to show that the corrective action was taken.

INSPECTION OF TUNA AT
RECEIVING SITE

Date: _____

Name of Shipper: _____

Name of Processing Company: _____

Species: _____

Outer Appearance of Fish: _____

Colour of Meat: _____

Freshness of Meat: _____

Temperature of Fish: _____

Condition of Inner Belly Wall: _____

Any Noticeable Contamination: _____

Any Other Comments to The Condition Or Handling of The Fish: _____

Inspected by: _____

**RAW PRODUCT
INSPECTION REPORT**

Date: _____ Vessel/Area: _____

Species: _____ Temperature of fish: _____ °C

DEFECTS	SAMPLES									
	1	2	3	4	5	6	7	8	9	10
<i>Raw Fish</i> Decomposed odours (ammonia, sour, vegetable, faecal, putrid)										
Taint odours (rancid oil, abnormal odour associated with feed)										
Broken/perforated belly walls										
Critical Contamination										
<i>Pass or Fail</i>										
Lot Passes <input type="checkbox"/> Lot Fails <input type="checkbox"/>										

INFORMATION TO BE SUPPLIED BY
FISH PROCESSING COMPANY

Type of Fish Processing Operation: _____

Requirements:

We will meet the requirements as specified by the GMP for the processing and handling of tuna. _____

OR

We will provide our own company requirements that will meet or exceed those supplied in the GMP. _____

DEFECT DEFINITIONS and DEFECT TOLERANCES:

We will utilize the defect definitions and defect tolerances as described for the handling of tuna which is being presented in this document. _____

OR

We will provide our own company defect definitions and tolerance that meet or exceed those supplied in this document. _____

MONITORING PROCEDURES:

We will implement the level of monitoring as specified in this document. _____

OR

We will provide our own company monitoring procedures that meet or exceed those supplied by the document _____

FORMS FOR DATA COLLECTION, INSPECTION and RAW PRODUCT:

We will utilize the forms supplied in this report for Corrective Action, Inspection Reporting and Raw Product. _____

OR

We will provide our own company reports for Corrective Action, Inspection Reporting and Raw Product that meets or exceeds those supplied by this document. _____

If the processor is going to supply their own forms, they must produce a copy of the type of forms they will use in this report to the authorities having jurisdiction.

NAME OF COMPANY: _____

DATE: _____

4.3 OTHER INGREDIENTS

4.3.1 Requirements:

No company shall attempt to use any ingredients added to tuna products unless they meet the requirements of the competent authorities having jurisdiction and be acceptable for the manufacturing of food.

4.3.2 Ingredients:

The tuna processing company must keep a list of the ingredients which is added to the tuna products during the processing procedure. The list must contain the following information:

- The amount of Ingredients to be used
- When in the process the ingredients is added
- The concentration of ingredients
- Any special application procedures
- The manufacturer's description of the ingredients

The list must be available to the competent authorities upon request.

4.3.3 Defect Definitions:

The fish processor is only to use those ingredients that meet the requirements of the authorities having jurisdiction. They must ensure that these ingredients are approved for use in tuna products. This information must be acquired from the manufacturer. This information is to be made available to the authorities.

4.3.4 Defect Tolerances:

There is zero (0) tolerance for ingredients or additives which does not reach the requirements.

NOTE: A request made by any tuna processor for the use of ingredients which is not permitted by the local authorities but permitted by the importing country must be accompanied with the following documentation:

- The processor must obtain the proper documentation from the competent authorities of the importing country, stating that the ingredients or additives is of food grade and acceptable for use in that country.
- All products containing ingredients not permitted for use in the country of origin must carry the statement "FOR EXPORT ONLY". This must be clearly printed on the cartons for proper viewing. The first shipment for the year containing non-approved ingredients must be accompanied by a CERTIFICATE from the competent authority.

4.3.5 Monitoring Procedures:

The tuna processing company must provide a monitoring system that ensures

that all tuna products containing ingredients not permitted in the country of origin are not sold in that country.

That the permitted ingredients are only used solely for their intended use and the ingredients added conform to the requirements of the competent authority and manufacturer's specifications.

All ingredients must be properly stored and inspected for contamination and placed in a secured area whereby the ingredients cannot be mixed with another product.

4.3.6 Corrective Actions

The company will identify the person who is responsible for taking the corrective action and ensure that the corrective action is being carried out.

The company must supply forms to an inspector upon request the record of the corrective action taken. The form must contain the following information:

- A description of the non-compliance ingredient
- The identification of information
- The date the non-compliance ingredient was identified
- The date the corrective action was taken
- What corrective action was taken
- What was the outcome
- The signature of the person responsible

4.3.7 Data Collection And Reporting Forms:

The company may use the attached data reporting forms or must provide examples of the type of forms it intends to use in recording incoming ingredients inspection to ensure that the material is approved and is not contaminated. The company must supply a copy of the intended forms that are to be used.

INCOMING INGREDIENT
INSPECTION REPORT

Date: _____

Type of Ingredient: _____

Supplier: _____

Brand Name: _____

Manufacturer: _____

Lot #: _____ Code#: _____

	Yes	No
Has The Ingredients Been Approved?	_____	_____
Ingredient Containers Sound?	_____	_____
Are The Ingredients Uncontaminated?	_____	_____

What Action Needs to Be Taken:

Inspected By: _____

4.4 ICE

4.4.1 Requirements:

Only ice which is made from clean and safe water is permitted to be used in the processing of tuna.

Only properly crushed ice is to be used in the slushing and icing of tuna. Ice is to be properly stored in clean and safe containers.

4.4.2 Ingredients:

Where there is block ice being used, all sawdust and other debris must be removed by washing with approved water under pressure. Ice, at time of use, must have a coliform bacteria MPN count of no more than 2 per 100 millilitres and be approved by the competent authorities having jurisdiction.

4.4.3 Defect Definitions:

No ice which is contaminated is to be used in the production of tuna.

No ice which is transported in unclean trucks or containers is permitted to be used.

Dirty or used ice is not permitted to be used in the processing of tuna.

No ice is permitted to be transported in open trucks. This can cause contamination to the ice and in turn will cause contamination to the tuna products.

4.4.4 Monitoring

The processing company will describe how it ensures that the ice they use will be only ice that has been approved and uncontaminated. The processor will describe how it ensures that the ice is stored in proper insulated containers or in a proper clean and safe ice house. Where ice is being trucked to the plant from outside source, the processor must describe how it ensures that the ice they are receiving is free and safe from any contamination. This information in regards to ice must be recorded and presented to the competent authorities on request.

4.5 CLEANING AGENTS, SANITISERS, LUBRICANTS

4.5.1 Requirements

Only cleaning agents, sanitisers, lubricants, pesticides that have been approved by the competent authorities are permitted to be used in the tuna processing operations.

The processing company is responsible to ensure that the compounds used meet all requirements.

4.5.2 Specifications

The processing company must maintain a list of all cleaning agents, sanitisers, lubricants, pesticides and any other chemicals that are used in the maintenance of equipment and plant facilities, and produce proof of the approval of those chemicals. The list must show where each chemical is to be used in the plant, when it is to be used, and any special manufacturing instructions regarding of how it to be used.

4.5.3 Monitoring Procedures

The processor will show what procedures they will implement to ensure that only approved chemicals are used in the process for the production equipment which is used in the tuna operation.

4.5.4 Corrective Action

The company will identify who is responsible for taking the corrective action and list what action has been taken. The form must show the following information:

- A description of the non-compliance item
- The lot # or identification of information
- The date the non-compliance item was identified
- The date the corrective action was taken
- What method of corrective action was taken
- The outcome
- The signature of the person responsible

4.5.5 Forms for Data Collection and Reporting

The processor is required to provide samples of the type of forms it intended to use in recording the results of the incoming chemicals. A copy of the type of form which should be used is given in 4.5.5.1.

INCOMING CHEMICAL REPORT

Date: _____

Type of Chemical: _____

Supplier: _____

What is The Chemical Used For in The Processing Area:

Brand Name: _____

Manufacturer: _____

	Yes	No
Has The Chemical Being Approved?	_____	_____
Are The Containers Safe?	_____	_____
Are The Chemicals Protected From Contamination?	_____	_____
Do The Chemicals Meet The Company Specifications And Requirements?	_____	_____

If There is A Problem Then List The Problem And The Action That Will Be Taken to Eliminate The Problem:

This inspection report is to be completed for each chemical which is to be used in the processing plant. This form when completed is to be signed and kept on file for future reference.

Inspected by: _____

4.6 PLANT CONSTRUCTION/PRODUCTION FACILITIES/PLANT EQUIPMENT

The requirements that a processing plant must meet to be able to process fresh/frozen tuna products are as listed below:

4.6.1 Building

The building must be properly constructed in accordance with the requirements laid down in the GMP for processing plants.

4.6.2 Floors

Floors are to be properly constructed of a durable surface material which is properly sloped so as to ensure that the proper drainage occurs.

There are to be no cracks or crevices whereby they become large enough to have improper cleaning which will cause the build up of bacteria.

4.6.3 Drains

All drains are to be properly constructed. They are to be smooth and properly sloped to ensure proper removal of waste from the processing area.

All drains which are connected to a sewer line are to have a proper check backwater valve installed to prevent a backflow.

Drains which are exposed to the outside must be equipped with a metal flap or covering to prevent entrance to rodents and or animals.

Drains are to be constructed deep enough so as to prevent an overflow onto the production floor which can cause bacterial problems.

4.6.4 Walls

The surface of walls in all production areas must be constructed of a smooth surface, with waterproof material to prevent a build up of bacteria.

Walls should be of a light colour so as to be able to detect dirt. Light colour also gives the establishment a bright and sanitary appearance.

Walls which are constructed of sheeting material, where it meets the floor there must be a proper water tight curb installed to prevent any build up of bacteria. Also walls constructed with sheeting, must have the joints made water tight by the use of suitable jointing material to protect the build of bacteria.

4.6.5 Ceilings

All ceilings are to be constructed of materials free from cracks, crevices and open joints.

4.6.6 Overhead Lighting

All overhead lighting must be placed up into the ceiling to prevent any build-up of dust and debris. All bulbs and lighting must be constructed of shatterproof material to prevent contamination of foreign material into the tuna.

4.6.7 Overhead Pipes

There are to be no overhead pipes in any area of the production for the processing of fish.

4.6.8 Toilet Facilities

As to the regulations for the number of toilet facilities to accommodate the number of employees, this is in the GMP Requirements for the processing plant regulations.

All toilet rooms should be constructed of a smooth surface, washable, light-coloured and the floors must be constructed of approved materials. There should be wherever possible a floor drain in the facilities.

All doors to the washrooms should be self-closing.

All toilet facilities must be properly vented to the outside air.

4.6.9 Water Supply

An adequate supply of safe, sanitary water that has a coliform bacteria count of less than two per hundred millilitre.

OR

A water supply which has been approved by the competent authorities having jurisdiction.

4.6.10 Floor Tanks

All floor tanks for the cooling and holding of tuna must be properly constructed of a non-corrodible material. The construction of these tanks shall be so constructed that the surfaces are smooth, free from cracks and crevices, and can be properly drained. All floor tank top section must be at least 30 cm up from the floor surface.

4.6.11 Equipment

The equipment used for the processing of tuna must be made of non-corrodible material such as stainless steel, salt water resistant aluminium alloys, fibreglass reinforced, and or plastic which is of approved materials. Any of these materials must be made of a smooth surface, free from cracks and crevices.

4.6.12 Freezing Equipment

All freezing equipment must be able to freeze the tuna to a core temperature of -60°C as quickly as possible. Cold storage facilities must be able to

maintain an air temperature of -50°C or below. Both the blast freezer and the cold storage must have a continuous temperature recorder to monitor the change in the temperatures.

4.6.13 Guidelines For Corrective Action:

The company must identify what action will be implemented for deficiencies of a critical nature -- a condition or practice which:

- (A) results in the production of a product that is unwholesome,
- (B) presents a threat to the health and safety of the consumer, or
- (C) is not in accordance with regulations.

CRITICAL DEFICIENCIES MUST BE CORRECTED IMMEDIATELY

Deficiencies of a serious nature -- a condition or practice which:

- (A) prevents proper sanitation, and/or
- (B) may result in the production of a tainted, decomposed or unwholesome product, but which is not considered to be a critical deficiency.

Deficiencies of a major/minor nature: conditions or practices which:

- (A) may inhibit general sanitation, and/or
- (B) may result in the deterioration of product quality, but which is not considered to be a serious or critical deficiency.

The company must also identify who will take the action, what system will be used to record the action and who will verify that the action was taken.

No plant is permitted to operate where there are one or more critical deficiencies or five or more serious deficiencies are identified.

4.6.14 Plant Rating Forms

The company must identify the forms they intend to use to record their inspection of construction/equipment. It is recommended that the plants use the detailed plant rating report form which is provided in Annex 7 in this section.

The Action Report: This report form (Annex 10) is used to summarize the results of a full scale construction/equipment inspection and to indicate a date for the corrective action. This form is also used in the weekly construction/equipment inspection directed at critical control points.

The Detailed Plant Inspection and Rating Report: This report is used in all fish processing operations to record the individual construction and equipment items. This form is used in the inspection and rating the seriousness of the deficiencies.

4.6.15 Guidelines For Corrective Action:

The company must identify each instance of non-compliance and have a record of the corrective action that took place. The record must show the following information:

- A description of the non-compliance item
- The identification of the information
- The date the non-compliance item was identified
- The date the corrective action was taken
- What type of corrective action was taken
- The final outcome
- The signature of the person responsible

4.7 OPERATION AND SANITATION

4.7.1 Requirements:

No person who is a carrier of any disease or has an infected wound or open cut is permitted to be in contact with the processing of tuna products.

NOTE: The processor of tuna is required to ensure that there is no contamination present in their plant.

The owner must ensure that the plant meets the requirements of the official agencies having jurisdiction.

The company must provide assurance that the employees who come in contact with the tuna products do not directly or indirectly contaminate the food with pathogenic microorganisms.

The company must take steps to train their employees in the precautions necessary to prevent contamination to the tuna products.

All companies which are processing tuna products must have a policy in place whereby the employees are required to report any medical conditions which may present a health and safety risk in the production process. This would also include being a carrier of a disease likely to be transmitted through food while being afflicted with infected wounds, skin infections or diarrhea.

All companies should have on a regular basis at least once a week a Employee Hygienic Practice report showing the work habits of the employees. Annex 8 in this section has a form for the Employee Hygienic Practices Checklist.

4.7.2 Sanitation:

The company must ensure that the proper sanitation of the plant is being carried out during clean-up and also during the regular production. The absolute cleanliness of personnel, equipment and premises is very important at all stages of the production of tuna.

Tuna must be protected from contamination by pathogenic micro-organisms which can cause disease in people.

Tuna must be protected from spoilage organisms which can cause

deterioration in the quality of the tuna.

Good standards of cleanliness both with the employees and the method of cleaning and proper sanitation will minimize the risk of rodent and insect infestation.

The most important objective of cleaning is to minimize the risk of CROSS-CONTAMINATION between tuna. Waste tuna material left on equipment, gloves and surfaces can act as a primary source of contamination since it serves to harbour large populations of contaminating micro-organisms.

4.7.3 Plant Rating Forms:

We recommend the Detailed Plant Hygiene Inspection Report form and the Action Report form for operation and sanitation record forms which are attached in this Manual as Annex 9 and 10 respectively, as a guide to determine critical points in operation and sanitation.

4.7.4 Corrective Action:

The company for each corrective action that takes place for each non-compliance must record the following information:

- A description of the non-compliance item
- The area of the non-compliance
- The date the non-compliance was identified
- The date the corrective action was taken
- What method of corrective action was taken
- What was the final outcome
- The signature of the person responsible

4.8 PROCESS CONTROL

4.8.1 Requirements:

Tuna is to be properly washed during and after processing. It is very important that all old blood around the gills are removed and washed properly and the belly wall is properly washed during the processing process before packing. Also before packing the outer skin must also be properly washed.

During the production process the temperature of the fish must be properly controlled.

During the production of loins the area for processing must be properly controlled so as to ensure no contamination will occur with the tuna loins. The area must be kept clean at all times to prevent cross-contamination by improper cleaning during production.

During the production of frozen tuna products the proper controls are to be in place to ensure that the tuna is frozen as quickly as possible.

During the removal of the skin and the trimming of the tuna loins after freezing,

the amount of time that the frozen product in out of the cold storage must be controlled to ensure the minimum rise in temperature.

4.8.2 Defects and Deficiencies:

The improper handling or dragging of tuna is considered a defect control deficiency.

The damage to the outer surface of the skin and outer meat by poor processing and handling procedures is considered a defect control deficiency.

4.8.3 Inspection Requirements:

On a continuous basic there is required during the packing of the fresh tuna to monitor the temperatures of the fish. This is done very easily by placing the temperature probe in the cut which has been already made for bleeding behind the pectoral finlet.

4.8.4 Corrective Action:

The company will identify the person who is responsible for taking the corrective action, ensuring that the corrective action was carried out. The company must provide a copy of the forms they intend to use which must contain the following information.

- A description of the non-compliance items
- The section of non-compliance
- The date that the non-compliance item was identified
- What type of corrective action was needed
- What was the final outcome
- The signature of the person responsible for carrying out the corrective action.

4.9 FRESH/FROZEN STORAGE FACILITIES

4.9.1 Fresh Storage Facility

4.9.1.1 Requirements:

The following are the requirements for the proper storage of fresh tuna:

- (A) All tuna are to be stored when in the processing plant awaiting processing in either insulated containers or in slush bins.
- (B) Either the containers or the tanks are to be properly constructed of non-corrodible material. The surface is to be smooth and free from cracks and crevices.
- (C) The ice for icing the tuna must be made from clean and safe water.
- (D) The water used in the cooling process must be either clean and safe salt water or clean and safe fresh water which is converted to the same strength as salt water.

(E) The core temperature of the fresh tuna must be maintained at 0°C.

4.9.1.2 Inspection Requirements:

The plant is required to inspect the tuna before packing for shipping to ensure that the temperature is maintained at 0°C.

4.9.1.3 Corrective Action:

The processing company must have in place a corrective action so as to prevent any increase in the fresh tuna during processing before shipping. The corrective action form should contain the following information:

- A description of the problem with temperature
- The date that the problem was detected
- The date that the corrective action was taken and what was done to correct the problem.
- The signature of the person responsible for the corrective action being taken.

FRESH TUNA TEMPERATURE
RECORDING LOG

DATE	TIME	STORED IN ICE	TEMPERATURE

Company Name : _____

Date : _____

Company Official : _____

4.9.2 Frozen Storage Facility

4.9.2.1 Requirements:

The following are the requirements for the handling of frozen tuna:

- (A) The core temperature of the tuna must be lowered to -60°C as quickly as possible.
- (B) The cold storage temperature is to be maintained at -50°C or lower at all times.
- (C) When the frozen tuna is being removed from either the blast or the cold storage it must be protected to minimize a rise in the temperature.

4.9.2.2 Inspection Requirements:

The processor is required to have a continuous temperature recording device installed in all freezer rooms so as to ensure that if there is a problem with the temperatures it is recorded and corrective action can be taken.

4.9.2.3 Corrective Action:

The company must show what corrective action is to be taken. They must have a person who is responsible for ensuring that the corrective action is carried out and they are required to have a form completed with the following information:

- A description of the problem with the cold storage.
- The date the problem happened.
- The date the corrective action was taken and a description of what was done to correct the problem.
- The signature of the person responsible.

FROZEN TUNA
COLD STORAGE LOG

DATE	TIME	BLAST FREEZER		COLD STORAGE	TEMPERATURE
		No of Fish	Temp.		

Company Name : _____

Date : _____

COMPANY OFFICIAL : _____

4.10 PACKAGING MATERIAL

4.10.1 Requirements

No person shall export any product unless it is packed properly in a clean safe carton which is free from any contamination.

All cartons for the shipping of either fresh/frozen tuna must be new, clean, and sound. When packing frozen tuna loins each loin must be placed into a proper plastic sleeve. This sleeve is then sealed so as to prevent contamination and dehydration to the product.

All cartons for the shipping of fresh whole tuna must be constructed as follows:

- Carton must be constructed from a strong material. This material must be constructed in such a manner that during transportation they will not crush when stacked on top of each other.
- Cartons must be waterproof to prevent leakage.
- Cartons must be constructed of a material that will minimise temperature fluctuations to its contents.

4.10.2 Specifications

The company is only permitted to use packaging material that has been approved by the competent authorities having jurisdiction. The packaging materials must be of food grade. This means that there is no chance for contamination to the tuna products from the materials used in the construction of the packaging material. The company is responsible for proving that the packaging material used meets those requirements. The company must have from the manufacturer a document stating that the packaging material meets the requirements and is acceptable for the packaging of tuna products.

4.10.3 Defect Definitions

All packaging material that is not approved for food contact, not new, not clean or sound, or otherwise fails to meet the specified requirements of this section shall be considered defective.

4.10.4 Defect Tolerances

The defect tolerance for packaging material is nil.

4.10.5 Monitoring Procedures

The company will describe the monitoring procedures used to ensure that only approved, clean, sound and undamaged packaging material are used for tuna products.

4.10.6 Corrective Action

The company will identify a person responsible for taking the corrective action and ensure that the corrective action is carried out. The company must also supply a form that will be used to record the corrective action that took place, it must show the following information:

- A description of the non-compliance material
- The amount of material involved
- The date that the non-compliance item was identified
- The date the corrective action was taken
- The information showing what was done with the non-compliance material.
- The final outcome
- The signature of the person responsible for ensuring that the corrective action was taken. This information is to be made available to an inspector upon request.

PACKAGING MATERIAL INSPECTION REPORT

Date: _____

Packaging Material Type: _____

Supplier: _____

	YES	NO
Are the containers or packaging material clean?		
Are the containers or packaging material new?		
Are the containers or packaging material undamaged?		
Do the containers or packaging meet the specifications?		

Action:

Company Inspector

4.11 FINAL PRODUCT

4.11.1 Requirements

No company shall import, export or process for export or attempt to import, or export or process any tuna which is tainted, decomposed, or unwholesome or otherwise fails to meet the requirements or regulations which are laid down by the competent authorities having jurisdiction.

All tuna products produced by the processing company must be free from any contamination and must be processed in accordance with the GMP or REGULATIONS issued by the competent authorities having jurisdiction.

4.11.2 Defect Tolerance

Same as mentioned above.

4.11.3 Sampling Plan

Before the shipping of the product, the processor must ensure that all requirements for the processing of fresh and frozen tuna products have been met. No product which does not meet the following standards are permitted to be shipped.

Tuna must be acceptable for human consumption.

The proper core temperatures of fresh/frozen tuna must be according to what is required in the GMP Requirements and regulations issued by the competent authorities.

Fresh tuna, the fish must be properly iced, covered and properly packaged according to the requirements in this report, the regulations in force and GMP procedures.

4.11.4 Corrective Action

The company must identify what action is to be taken to remove unacceptable final product. They must show who is responsible for taking the action and what system will be used to record the action.

The company must supply an example of the type of form which it will use in recording the corrective action. This form must contain the following information:

- A description of the unacceptable final product
- The quantity of the Product
- The date that the non-compliance was identified
- The date it was corrected
- What action was taken to correct the unacceptable product
- Where is the product now
- The signature of the person responsible for taking the corrective action.

4.12 RECALL PROCEDURES

4.12.1 General Requirements for Fresh and Frozen Tuna Products

Every carton and case in which tuna is packed at a processing plant shall be legibly marked on one end in such a manner that the following information is seen properly:

- The name of the fish processor
- The day, month, and year
- The type of product, example: Fresh Tuna

This information must be visible so as it can be read by the authorities.

4.12.2 Specifications for the Documentation of Shipments

All fish processing companies must have in place a recall procedure, that if there is a problem detected after the product has been shipped to the distribution site, it can be removed from the market in a quick and effective manner. This requires the fish processing plant to have the proper up-to-date procedures for all shipments. The following information must be kept in the shipping record document:

- The date of the shipment
- The description of the product
- The lot number
- The lot size
- The code markings
- The shipper
- The carrier
- The consignee
- The destination

4.12.3 Monitoring Procedures

The company will describe the procedures it uses to ensure that all shipments are recorded and may be traced to their first shipping destination:

4.12.4 Corrective Action

The company will identify the person responsible for taking the corrective action and will ensure that the corrective action is carried out. The company will provide a form that will show the following information:

- A description of the non-compliance product
- The lot number
- The date that the non-compliance was detected
- The date that the corrective action was implemented
- What corrective action was taken to recall the product
- What was the final outcome
- The signature of the person responsible for taking the corrective action.

SHIPMENT
RECORD FORM

Date: _____

Product Description: _____

Lot Size: _____

Lot#: _____

Codes: _____

Shipper: _____

Carrier: _____

Consignee: _____

Destination: _____

If Shipped by Air The Way Bill Number: _____

Expected Time of Arrival: _____

Company Official: _____

This information should be completed with each shipment and kept on file.

4.13 EMPLOYEE QUALIFICATIONS

4.13.1 Requirements:

The plant employees are to be properly trained in the proper personal hygienic practices which affect the quality of tuna. These hygienic practices are as follows:

Employee health, employee appearance, smoking, spitting, hand washing, hand disinfection, proper use of foot dips, headgear, outer garments, and the proper procedure when returning to work station after coming from toilet area.

The company agrees to meet the requirements of the GOOD MANUFACTURING PRACTICES for the processing plant and assure that the personnel which work in tuna processing will be trained in the personal hygienic practices.

POTENTIAL CRITICAL CONTROL POINTS
FOR FRESH/FROZEN TUNA PRODUCTS

ITEM	HAZARD	POTENTIAL CRITICAL CONTROL POINTS
1) INPUT MATERIALS		
Fish	Taint Decomposition Unwholesomeness Non-compliance with Regulations	Prior to Processing
Other Ingredients	Not food grade Unsuitable Non-compliance with Regulations	Prior to use
	Unclean Misapplication	Application Area
Packing Material	Not approved for food contact	Prior to Use
	Used, Unclean, Unsound	Packing Area
Ice	Not approved for food	Prior to Use
Cleaning Agents, Sanitisers, Lubricants	Not approved for use in food plants or on food contact surfaces	Prior to Use
	Misapplication	Application Area
2) PRODUCTION CONDITIONS		
Constructing Maintenance of Production Facilities and Processing Equipment	Non-compliance with Regulations	Prior to Processing
Operation and Sanitation	Non-compliance with Regulations	Prior to, during Processing
Process Controls	Non-Compliance with Regulations	During Processing
Storage	Non-compliance with Regulations	During time products are in storage
3) PRODUCTS		
Required Characteristics	Taint Decomposition Unwholesomeness Defects and/or non-compliance with grade designations	During processing a) At/after last process step prior to packing b) After freezing

Required Characteristics	Mislabeled Underweight	During processing, a) At/after packing b) After freezing
Recall Procedures	Inability to trace products to the customers to whom they were sold	Packing area for product coding
4) PERSONNEL		
Hygiene and Health	Employee(s) suffering from/carrying communicable disease. Employee(s) with infected wounds open lesions	Prior to Processing
Quality Management	Responsibility for quality management not clearly identified	Prior to Processing

**DETAILED PLANT INSPECTION
AND RATING REPORT**

(page 1)

PLANT NAME	OPER. TYPE(S)	DATE OF INSP.	TYPE OF INSP.

CONSTRUCTION AND EQUIPMENT REQUIREMENTS							
	Item/Sub-Item	DEFICIENCY SCORE			NA	S C O R E	DEFICIENCY DESCRIPTION/ COMMENTS DATES FOR CORRECTION
		MA/ I	S e	C R			
1	FLOORS - WET WORKING AREA						
	a) Impervious finish						
	b) good repair						
	c) proper slope (1:480)						
	d) proper floor/wall joint						
2	FLOORS - DRY WORKING AREA						
	a) properly constructed						
	b) In good repair						
3	DRAINS						
	a) sufficient capacity						
	b) smooth and impervious						
	c) properly trapped and covered						
	d) rodent proof						
	e) equipped with check valve where necessary						
4	WALLS - WET OR DRY AREAS						
	a) smooth, crack-free surface						
	b) light-coloured						
	c) waterproof						
	d) washable with no obstruction below 1.5 m						
	e) window sills sloped inward						

**DETAILED PLANT INSPECTION
AND RATING REPORT**

(page 2)

PLANT NAME

OPER. TYPE(S)

DATE OF INSP.

--	--	--

TYPE OF INSP.

CONSTRUCTION AND EQUIPMENT REQUIREMENTS							
	Item/Sub-Item	DEFICIENCY SCORE			NA	S C O R E	DEFICIENCY DESCRIPTION/ COMMENTS DATES FOR CORRECTION
		MA/ I	S e	C R			
5	CEILINGS						
	a) smooth, crack-free surface						
	b) light coloured						
	c) washable						
	d) acceptable height						
	e) free of ledges, pipes, etc. over work surface						
6	LIGHTING						
	a) acceptable light levels (min. 20 ft candles)						
	b) protective covers provided if necessary						
	c) designed to facilitate cleaning						
7	VENTILATION						
	a) provides for odour, smoke, steam removal						
	b) prevent condensation						
8	WATER SUPPLY						
	a) safe sanitary water from approved source						
	b) adequate volume and pressure						
9	HOT WATER SUPPLY						
	a) available in sufficient quantity						
	b) minimum of 43°C						

**DETAILED PLANT INSPECTION
AND RATING REPORT**

(page 3)

PLANT NAME

OPER. TYPE(S)

DATE OF INSP.

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TYPE OF INSP.

CONSTRUCTION AND EQUIPMENT REQUIREMENTS							
	Item/Sub-Item	DEFICIENCY SCORE			NA	S C O R E	DEFICIENCY DESCRIPTION/ COMMENTS DATES FOR CORRECTION
		MA I	S e	C R			
10	HAND WASHING FACILITIES						
	a) adequate no. of fixtures						
	b) equipped with hot and cold running water						
	c) soap, towels, waste receptacles provided						
	d) facilities visible from work areas						
11	HAND COVERING DIPS						
	a) facilities provided						
	b) conveniently located						
12	TOILET FACILITIES						
	a) adequate no. of fixtures						
	b) adequately ventilated						
	c) properly constructed (floors, walls, ceiling anteroom)						
	d) drain provided						
	e) toilet room doors of approved type						
13	OFFAL CONTAINERS						
	a) approved construction of container and facilities						
	b) provided with fitted lids						

**DETAILED PLANT INSPECTION
AND RATING REPORT**

(page 4)

PLANT NAME

OPER. TYPE(S)

DATE OF INSP.

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TYPE OF INSP.

CONSTRUCTION AND EQUIPMENT REQUIREMENTS							
	Item/Sub-Item	DEFICIENCY SCORE			NA	S C O R E	DEFICIENCY DESCRIPTION/ COMMENTS DATES FOR CORRECTION
		MA I	S e	C R			
14	BOXES, CARTS, BINS FOR HOLDING FISH PRIOR TO PROCESSING						
	a) if wood, treated to prevent moisture from entering wood						
	b) in good repair						
	c) provided for drainage						
15	a) product contact surfaces of approved material						
	b) joints smooth and watertight						
16	TABLE CONSTRUCTION/DESIGN						
	a) constructed to facilitate cleaning of table and area beneath						
	b) stands for workers of approved material						
17	FRAMES AND LEGS						
	a) of approved material						
	b) properly maintained						
18	PRODUCT CONVEYORS						
	a) equipped with water spray, scraper, etc.						
19	FISH FLUMES						
	a) of approved material						
	b) properly constructed						

**DETAILED PLANT INSPECTION
AND RATING REPORT**

(page 5)

PLANT NAME

OPER. TYPE(S)

DATE OF INSP.

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TYPE OF INSP.

CONSTRUCTION AND EQUIPMENT REQUIREMENTS							
	Item/Sub-Item	DEFICIENCY SCORE			NA	S C O R E	DEFICIENCY DESCRIPTION/ COMMENTS DATES FOR CORRECTION
		MA/ I	S e	C R			
20	CUTTING BOARD, CRACKING BLOCKS AND MALLETS, ROLLER DEVICES						
	a) of approved material						
	b) In good repair, crack-free						
	c) roller devices equipped with Spray washers						
21	RECEPTACLES, TRAYS, TANKS VATS AND UTENSILS						
	a) of approved material						
	b) surfaces smooth, crack-free, In good repair						
	c) provided for drainage, where required						
22	WIRE MESH UTENSILS						
	a) not permitted						
23	ENAMELS UTENSILS						
	a) not permitted						
24	FREEZING FACILITIES - CONTACT FREEZERS						
	a) adequate						
25	FREEZING FACILITIES - BLAST FREEZERS						
	a) adequate						
26	FROZEN STORAGE						
	a) rooms maintained at proper temperature						
	b) rooms equipped with approved thermometer						

**EMPLOYEE
HYGIENIC PRACTICES CHECKLIST**

Plant : _____ Date: _____
 Inspector : _____

REQUIRED PRACTICE	S	N	U	COMMENTS
Employee Health				
Employee Appearance				
Smoking				
Spitting				
Hand washing/Dipping				
Using Foot Dips				
Headgear				
Outer Garments				
Hand Covering				
Toilet Areas				

S = Satisfactory
 N = Needs Improvement
 U = Unsatisfactory

Comments/Action Taken

**DETAILED PLANT HYGIENIC
INSPECTION REPORT**

Company Name : _____
Date : _____

ITEM	OPERATION REQUIREMENTS DEFICIENCY SCORE				DATE OF CORRECTION
	CRI	SER	MAJ	MIN	
<u>Employee Health</u>					
A. No known carrier					
B. No communicable disease or sore					
C. No open wounds or sores					
<u>Hand Wash Facilities</u>					
A. Proper washing of hands					
B. Proper disinfection of gloves					
<u>Washing of Equipment</u>					
A. Properly washed and clean before and after using					
B. Properly sanitized					
<u>Ice</u>					
A. Made of water from approved source free from foreign matter, no contamination					
B. Properly stored in cooling tanks					
<u>Offal Removal</u>					
A. Removed immediately					
B. Equipment kept clean					
C. Proper method of disposal					
<u>Utensil Cleaning</u>					
A. Cleaned and sanitized during processing					

ITEM	OPERATION REQUIREMENTS DEFICIENCY SCORE				DATE OF CORRECTION
	CRI	SER	MAJ	MIN	
B. Cleaned and disinfected after work					
C. Dried and stored in sanitary manner					
<u>General cleaning and maintenance</u>					
A. Facilities and equipment in good repair					
B. Facilities and equipment kept clean					
<u>Chill Tanks</u>					
A. Properly cleaned and sanitized					
B. Proper temperature of ice					
C. Proper protection against a rise in room temperature					
<u>Cold Storage Area</u>					
A. Proper temperature device to record the temperature on a continuous basis					
B. Frozen Tuna properly protected from rise in temperature					
<u>Toilet Facilities</u> Properly cleaned and sanitized					
<u>Outer Plant Surroundings</u> Clean and Tidy					

If during inspection it is found that there are no defects for an item, then you are to record that it is OK in the area marked Date for Corrections.

