Republic of the Philippines
Department of Natural Resources
OFFICE OF THE SECRETARY
Diliman, Quezon City

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42-1

FISHERIES ADMINISTRATIVE)
ORDER NO. 117)

SUBJECT: RULES AND REGULATIONS GOVERNING THE OPERATION OF PROCESSING PLANTS FOR FISH AND FISHERY/AQUATIC PRODUCTS, AND PRESCRIBING/REQUIRING STANDARDS, QUALITY CONTROL AND INSPECTION OF PROCESSED FISH AND FISHERY/AQUATIC PRODUCTS.

Pursuant to the provisions of section 7, 16, and 18 of Presidential Decree No. 704, otherwise known as the "Fisheries Decree of 1975", the following rules and regulations governing the operation of processing plants for fish and fishery/aquatic products and prescribing/requiring standards, quality control and inspection of fish and fishery/aquatic products, are hereby promulgated for the information and guidance of all concerned.

CHAPTER I

DEFINITIONS

Section 1. As used in this Administrative Order the following terms are defined:

(a) Chilling - is a process where the product is cooled to the temperature of melting ice 0°C (32°F).

(b) Dehydration - is the loss of moisture from the frozen product through evaporation.

(c) Fish - includes all fishes and other aquatic animals such as crustaceans (crabs, prawns, shrimps, and lobsters) and mollusks (clams,

mussels, scallops, oysters, snails and other shellfish).

(d) Fishery/aquatic products - include all other products of aquatic living resources in any form.

(e) Fresh shrimps/prawns - are freshly caught shrimps/prawns which have received no preserving treatment, or which have been preserved only by chilling.

(f) Frozen fish - fish which have been subjected to a freezing process sufficient to reduce the temperature of the product to - 18 degrees C (0 degree F) to preserve its quality and to maintain said product at this temperature.

(g) Frozen shrimps/prawns - shrimps/prawns which may be whole, headless with shell on, peeled, peeled and de-veined, cooked or uncooked, which have been subjected to a freezing process sufficient to reduce the temperature of the product to - 18 degrees C (0 degrees F) to preserve its quality and to maintain said product at this temperature.

(h) Glazing - a process in which a thin protective layer of ice is allowed to form on the surface of the frozen product by spraying it with, or dipping it into, potable water plus certain acceptable additives, in order to prevent dehydration and oxidation of said product.

(i) Gutted fish - fish from which the guts or internal organs have been removed.

(j) Person - includes juridical entitites such as partnerships, associations, cooperatives and corporation.

(k) Potable water - fresh water fit for human consumption. Standards of potability should not be lower than those contained in the "International Standards for Drinking Water", World Organization 1963.

(l) Processing plant - an establishment wherein the handling, preparation and processing of fish or fishery/aquatic products are done with the use of processing equipment in accordance with the standards herein prescribed.

(m) Quick freezing - is a process by which the product is frozen hard to the center to a temperature of - 40°C within a period of one hour or less.

(n) Refrigerated sea water - is clean sea water cooled by the addition of clean quality ice and/or by a suitable refrigeration system.

(o) Sharp freezing - is a process by which the product is frozen hard to the center to a temperature of 10°F within a period of three hours.

(p) Steak - is a section of a fish, removed by cutting approximately at right angles to the backbone.

CHAPTER II

MINIMUM REQUIREMENTS FOR PROCESSING PLANTS

Sec. 2. Operation of processing plants for fish and fishery/aquatic products. No person shall operate a processing plant for fish or fishery/aquatic products unless he complies with the minimum requirements prescribed in this chapter: Provided, That existing processing plants are hereby given a period of two (2) years from the effectivity of this Order to comply with said requirements.

Sec. 3. Processing plant to comply with minimum requirements. - To insure that the processing of fish or fishery/aquatic products is undertaken under ideal sanitary and hygienic conditions, the following must be complied with/maintained at all times:

A. The physical plant -

1. Floors - The surface of floors in the working areas where fish or fishery/aquatic products are received, held, processed or packaged should be sloped for effective drainage and constructed of concrete and/or non-slippery tiles or similar materials.

2. Walls - Inside walls in wet-working area where the products are received, held, processed or packaged should basically be made of concrete: Provided, That smooth tiles should line the lower section of the walls from the floor to a

height of not less than four (4) feet depending on the use of that specific area and considering liquid splash due to process operation.

3. Mezzanine floor - No mezzanine floor shall be constructed between the floor and the ceiling of the processing area; Provided, That cat-walks to service and maintain overhead conveyors and other fittings as integral parts of a processing machinery may be constructed. Such cat-walks must be kept clean.
4. Ceiling - The working area where the products are handled from the receiving to the packaging process should have ceilings that are free from cracks, crevices and open joints, and constructed of smooth washable, light colored material to permit easy cleaning and maintenance.
5. Lighting - Illumination of at least twenty-foot candles should be provided on all working areas.
6. Entrances and exits - All entrances and exits must be provided with screened doors swinging outward. Windows must also be screened.
7. Ventilation - Vent blowers must be installed in strategic places in the processing area and filtered air must be provided for adequate ventilation. Intake air blowers may be installed, if so desired.

8. Toilet and toilet facilities -

a. There shall be such number of flush toilets for the use of employees as fixed hereunder:

1 to 9 employees - - - -	1 toilet bowl
10 to 24 employees - - - -	2 toilet bowls
25 to 49 employees - - - -	3 toilet bowls
50 to 100 employees- - - -	5 toilet bowls

for every 30 employees over 100 - 1 additional toilet bowl

The toilet compartments shall have doors that swing outward.

b. Showers shall also be provided.

c. Good drainage for the toilet/shower areas should be maintained.

d. Rules for use of toilet must be posted in the room.

9. Handwashing facilities - The handwashing facilities should be adequate in number and strategically located with a satisfactory supply of hot and cold water, liquid or powdered soap and other conveniences for sanitary practices. They should be visible from the working area so that the supervisory staff can see if handwashing is properly observed and carried out.

10. Plumbing - The water supply should be adequate in volume, safe and approved as potable by the proper government entity. Where there are two kinds of water supply

in the plant, potable water and process water, no cross-econnection between the two water supplies shall be made.

B. Equipment -

1. Installation - The equipment should be so installed and located that cleaning and servicing thereof shall be safe and easy.

2. Food-contact surfaces of equipment - Food-contact surfaces should be cleaned and steam-flushed, chlorinated and/or cold sterilized, as the case may be, at the end of each work shift.

The food-contact surfaces of equipment should be constructed of suitable materials free of cracks, crevices and rust or paint.

3. Non-food contact surfaces - Non-food contact surfaces like frames and legs of all equipment on which fish or fishery/aquatic products are processed or packed should be constructed of metal to facilitate cleaning and easy maintenance. No wooden materials should be used as an integral part of the processing equipment.

4. Lubricants - Lubricants used in processing machinery such as seamers or can closing machines and product sealer must be of food grade ; bearings for conveyors and other machines which are not directly in contact with food during processing

may use the prescribed lubricant and oil.

C. Procedure to be followed in freezing of products -

1. Fish must be washed with clean water and chilled immediately with refrigerated sea water or water with equivalent salinity (approx. 3%).
2. The chilled fish must then be placed in metal trays and be subjected to a freezing process that shall be carried out in an appropriate equipment in such a way that the range of temperature of maximum crystallization is reached quickly. The quick-freezing process shall not be regarded as completed unless and until the product temperature has reached - 18 degrees C (0°degree F) at the thermal centre after thermal stabilization.

D. Cold Storage -

1. Maximum cold storage temperature should be maintained at - 18°C (0°F).
2. Water drainage of storage room must end in a water trap to seal off outside air.
3. Insulated doors must be provided with rubber seal and safety locks.
4. Anteroom must be provided with overhead cooling coils.
5. Non-drip overhead coils must be provided with bunker loft.
6. Dial thermometer should be provided near entrance of storage room.

7. Warning signs for sub-zero temperature at entrance of specific storage room should be provided.

E. Production requirements -

1. The fish or fishery/aquatic products should be inspected and sorted to remove unfit products and then adequately washed with potable water prior to further processing.
2. Boxes, carts, bins and other containers used for holding fish or fishery/aquatic products before they are processed or shipped should be made of metal or plastic material, and must have good drainage.
3. Frozen product packaging materials should be stored properly in a clean and sanitary manner. They should not contain objectionable substance that may be transmitted to the product during the packaging stage of the process. Proper technique should be observed to avoid introduction of contaminants to the product.

F. Personnel of the plant -

1. All employees engaged in processing operations should wear appropriate and washable working clothes and proper headgear.
2. A medical check-up should be required for every employee annually.
3. Employees who handle processed fish or fishery/aquatic products with their bare hands should have short, unpolished

fingernails. No person should be allowed to smoke or spit in the working area.

G. Premises of the plant -

The premises should be free from rodents. A rodent and insect control program should be maintained in the plant: Provided, That when pesticides or rodenticides are used, proper technique in their application should be observed to prevent contamination with the product. Periodic application of pesticides in the form of fumigants should be undertaken during non-production time only, at least once a week.

Waste materials and other refuse should be collected and disposed daily.

H. Use of lifttrucks and forklifts -

Where lifttrucks and forklifts are used, only lifttrucks shall be used inside the processing area; forklifts may be used in the packaging area.

CHAPTER III

QUALITY STANDARDS FOR SHRIMPS/PRAWNS

Sec. 4. Shrimps/prawns to conform with quality standards. - No permit to export shrimps/prawns shall be issued by the Bureau unless the shrimps/prawns have been processed, inspected, and passed to conform with the quality standards hereinafter established.

A. Types - Frozen shrimps/prawns are classified into the following types:

1. Whole - the head is retained
2. Headless with shell on - the head is removed but the shell of the body is retained.
3. Peeled - head and shell are removed.
4. Peeled and de-veined - the shell and vein in the alimentary canal are removed.
5. Cooked or uncooked.

B. Grades - Depending upon appearance, color, flavor and odor, tissue or texture and other factors, shrimps/prawns are classified into four grades as follows:

1. Appearance	Whole shrimp is in its original form. Shrimp which has the head ("carapace" in technical term) completely removed, but still in good form without being split or broken.	Whole shrimp has a fairly good form, or is slightly split or slightly broken. Headless shrimp has the head ("carapace" in technical term) almost completely removed; holds fairly good form, or is slightly split or broken.	Whole shrimp not in good form, or is split or broken. Headless shrimp which leaves the part of the head ("carapace" in technical term") unremoved but does not hold good form/s or is split or broken.	Whole shrimp is deformed conspicuously or is split or broken. Headless shrimp which has the greater part of the head ("carapace") unremoved, or deformed, or split or broken conspicuously.
2. Color	The shrimp keeps the characteristic color of the particular species without any sign of grayish white caused by dehydration, or other changed in color.	The shrimp keeps fair good color or gives slight sign of the gray-white caused by dehydration, or other change in color.	Shrimp which is not of good color, for example grayish white as caused by dehydration. Shrimp possesses dark color in the tail parts.	Shrimp is discolored or gives conspicuously a sign of the grayish white caused by dehydration or other change of color.
3. Flavor and odor	Shrimp has good original flavor; free from such odors as hydrogen sulfide, ammonia, trimethylamine or any other odor that is not characteristic of the particular species of shrimp.	Shrimp has a fairly good flavor; or almost free from such odors as a hydrogen sulfide, ammonia, tremethylamine or any other odor that is not characteristic of shrimp.	Shrimp does not have good flavor, or give such odors as of hydrogen sulfide, ammonia, trimethylamine or any other odor that is not a characteristic of a particular species of shrimp.	Shrimp keeps hardly any flavor; or gives out conspicuously such odors as hydrogen sulfide, ammonia, trimethylamine or any other odor that is not characteristic of particular species of shrimp.

FAO NO. 117

CHARACTERISTICS	GRADE 1	GRADE 2	GRADE 3	GRADE 4
Tissue or Texture	Shrimp with its flesh, reasonably tight and elastic. No signs of a sponge-like tissue or other abnormal tissue that is not characteristic of particular species of shrimp.	Shrimp with tissue fairly tight and elastic or gives slight sign of the sponge-like or other abnormal tissues that is not characteristic of particular species of the shrimps.	Shrimp with tissues which lacks a reasonable or fair tightness and elasticity or gives a sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimp.	Shrimp with tissue which is too soft, or gives a conspicuously sign of the sponge-like or other abnormal tissue that is not characteristic of particular species of shrimp.
5. Uniformity	The shrimps for each type and grade shall be uniform in size and should not be mixed with other species and soft shells.			
6. Undesirable Substances	The shrimps shall be free from foreign materials such as splintered shells, spines, legs and other foreign substances.			
7. Glaze	For export, the glaze shall be clean, non-toxic, even, and thick enough to prevent dehydration.			

C. Quality standard for shrimps/prawns prior to processing - Only shrimps/prawns meeting the following required quality standards shall be processed:

1. must be fresh, clean and wholesome, without any visible sign of spoilage'
2. the color must be typical of freshly caught shrimps/prawns;
3. the meat must be firm and free from hydro-sulfate, ammonia or any other odor, not characteristic of the particular species; and
4. the size in a specific assortment must be almost uniform; different species must not be mixed together.

D. Procedure in processing -

1. The shrimps/prawns that passed the above quality standards must be frozen in containers of suitable size as per specification of the buyer/consignee. The containers must be made either of aluminum, or galvanized or stainless steel, and if galvanized steel it must be free from rust. In all cases, the containers must be clean.
2. The containers must have a uniform coating of wax in the inside surface and/or lined with a suitable waterproof material. The outside surface of the containers shall, if possible, be also given a coat of wax.

3. The shrimps/prawns shall then be chilled to 0°C (32F) and quick-frozen at a temperature of - 30°C to -40°C in the shortest time possible. The time required to freeze the 2.5 cm. thick brick of frozen shrimp shall not exceed three (3) hours.

E. Sampling for the purpose of conducting tests -

For the purpose of conducting tests to determine conformity with quality standards, representative samples shall be taken from such number of master-cartons to be drawn at random from each lot as hereinafter determined:

No. of Master-Cartons in the lot	No. of Master-Cartons to be drawn
Up to 50	2
51 to 100	3
101 to 150	4
151 to 200	5
201 to 300	6
301 and above	7

From each of the master-cartons so selected, draw at random one container the contents of which shall be subjected to inspection and examination.

F. Conduct of the inspection and examination - Inspection and examination shall be conducted by duly authorized employees of the Bureau of Fisheries and Aquatic Resources who shall make an exterior inspection of the cases as regards their general state of condition, marks and labels. Thereafter, they shall proceed to a systematic organoleptic examination of the shrimps/prawns to verify conformity with the requirements of each particular grade.

In case of doubt about the quality, the inspector shall submit samples to the Quality Control Laboratory of the BFAR for the following examinations:

(a) Determination of total bacterial count.

(b) Determination of Escherichia coli.

CHAPTER IV

QUALITY STANDARDS FOR FROZEN TUNA

Sec. 5. Frozen tuna for export must conform with quality standards. - No permit to export frozen tuna shall be issued by the Bureau unless the fish has been processed, inspected and found to conform with the quality standards hereinafter prescribed.

A. Species covered by this Chapter. - Only the following species of tuna are covered by this Chapter:

1. Yellow-fin (Neothunnus macropterus)
2. Blue-fin (Thunnus thynnus)

3. Skipjack (Kateuwonus pelamis)

4. Big-eye (Parathunnus mebachi)

5. Albacore (Germo alalunga)

B. Grades. Depending on the freshness and other characteristics, tuna, prior to freezing, shall be classifed into four (4) grades, to wit:

1. Grade 1 - shall consist of strictly fresh fish possessing the following characteristics:

   (a) clear bright eyes

   (b) bright red colored gills

   (c) fresh odor

   (d) firm flesh

   (e) intact belly walls

   (f) bright body color

   (g) free from discoloration, loose scales, bruises, abrasions, cuts, punctures or other injuries.

   Not more than five per cent (5%) by weight of the fish in any lot may fail to meet the above requirements: Provided, That the fish included in the five per cent (5%) must meet the requirements for the next lower grade.

2. Grade 2 - shall consist of chilled or frozen (quick or sharp) fish which fail to meet the requirements for Grade 1, but which has the following characteristics:

(a) clear bright eyes

(b) bright red colored gills

(c) fresh odor

(d) firm flesh

(e) intact belly walls

(f) normal body color characteristic of the species

(g) free from discoloration, serious damages such as loose scales, bruises, abrasion, cuts, punctures or other injuries.

Not more than five per cent (5%) by weight of the fish in any lot may fail to meet the above requirements: Provided, That the fish included in the five per cent (5%) shall meet the requirements of the next lower grade.

3. Grade 3 - shall consist of fish which fail to meet the requirements of Grades 1 and 2, but which has the following characteristics:

(a) eyes are slightly sunken, pupil grayish

(b) gills are slightly discolored and shiny

(c) body is covered with somewhat milky slime

(d) flesh and backbone are slightly soft

(e) abdomen and belly walls are slightly soft

(f) odor is slightly sour and somewhat like bread or weak acetic acid

4. Off-Grade - shall consist of fish which fail to meet the requirements of Grade 3, must be rejected.

C. Quality standards for tuna prior to processing. - Only tuna of the species mentioned in paragraph A above meeting the following required quality standards shall be processed:

1. must meet the requirements of the particular grade to which they belong;
2. must be fresh as determined by the organoleptic method; and
3. fish must hold its original form without having conspicuous defects left by removal of parasite, green meats and hook marks gaff wounds and bruises.

D. Procedure in processing. -

1. Fish must be gutted, bled properly, washed and cooled down depending upon the export requirements and size.
2. Fish should be glazed to the required thickness to prevent dehydration and oxidation.
3. Fish must be quick frozen in appropriate equipment so that the range of temperature of maximum crystalization is reached as soon as possible. The quick freezing process shall not be regarded as completed unless and until the temperature of the fish reaches - 40°C (-40°F) at the center after thermal stabilization.

4. The fish must be maintained at a low temperature to maintain the quality during transportation, storage and distribution up to, and including the time of, final sale.

E. Sampling for purposes of conducting tests. - To determine conformity with quality standards, representative samples of fish for examination shall be taken for each lot as follows:

No. of fish in shipment	No. of fish in sample
60 to 200	2
201 to 600	4
601 to 2,000	6
over 2,000	8

F. Conduct of inspection and examination. - Inspection and examination shall be conducted by duly authorized employees of the Bureau. In case of doubt regarding the quality of the fish, the inspector shall submit samples to the Quality Control laboratory of the Bureau for the following examination:

1. determination of total bacterial count
2. determination of Escherichia coli

G. Manner of shipment. -

1. the fish shall be shipped in frozen state in containerized sea-going refrigerated vans.
2. the frozen tuna should be sufficiently glazed to give the fish a protective coating during transport from the processing plant to destination.

3. The following information shall appear on the outside cover of each individual container:

(a) The words "Product of the Philippines"

(b) Net weight (expressed in metric units)

(c) Name and address of distributor

(d) Species of fish

(e) Destination

CHAPTER V

PENAL AND OTHER PROVISIONS

Sec. 6. Penalty - Violation of this Order shall subject the offender to a fine of not less than Five Hundred pesos (₱500.00) nor more than Five thousand pesos (₱5,000.00), or imprisonment from six (6) months to four (4) years, or both such fine and imprisonment, in the discretion of the Court: Provided, That the Director of Fisheries and Aquatic Resources is hereby empowered to impose upon the offender an administrative fine of not more than Five thousand pesos (₱5,000.00) or to cancel his permit or license, in the discretion of the said Director.

Sec. 7. Repeal of inconsistent orders, rules and regulations - All orders, rules and regulations inconsistent with the provisions of this Order are revoked and superseded accordingly.

Sec. 8. Effectivity - This Order shall take effect fifteen (15) days after its publication in the Official Gazette and/or two newspapers of general circulation.

JOSE J. LEIDO, JR.
Secretary of Natural Resources

Recommended by:

FELIX R. GONZALES
Director of Fisheries & Aquatic Resources

FAO NO. 117