

THE 2008 SALMON CONTROL PLAN

WITH

CONTAINER INTEGRITY PROGRAM

AND

EXAMPLE CANNED SALMON
HACCP PROGRAM

A Voluntary Cooperative Agreement Between

Participating Salmon Packers,

The Seafood Products Association,

The Food and Drug Administration

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
INTRODUCTION	1
DEFINITIONS.....	1
GENERAL REQUIREMENTS FOR COMPLIANCE WITH THE PLAN	3
1. Participation, Benefits and Statement of Intention to Comply.....	3
2. Inspection of Operations and Penalties.....	4
HAZARD ANALYSIS CRITICAL CONTROL POINT PROGRAM.....	5
3. Hazard Analysis Critical Control Point Program.....	5
IN-PLANT CONDITIONS	6
4. Sanitation and Operational Requirements and Guidelines.....	6
a. Plant and Boat Sanitation.....	6
b. Water Supply and Ice.....	7
c. Raw Material.....	8
d. Rigid Metal Cans	8
e. Flexible Retortable Pouches.....	9
f. Can Seaming Equipment.....	9
g. Flexible Retortable Pouch Sealing Equipment	10
h. Retorting	11
i. Waste Disposal	11
j. Personnel.....	11
PROCEDURE FOR HANDLING PROCESS DEVIATIONS.....	11
5. Scope.....	11
6. Disposition.....	12
PROCEDURE FOR HANDLING PACK	12
7. Uniform Lot or Bookkeeping Code as Unit of Control	12
8. Coding System and List of Codes Packed	12
9. Packer to Appoint Representative.....	13
10. Sampling Procedures and Notification to Packer and Administration of Examination Results	13
11. Shipments and Warehousing	15
12. Coordination of Association and Administration Activities.....	15
13. Imported Foreign Packed Salmon.....	15
PROCEDURE FOR RECONDITIONING OR DESTRUCTION.....	15
14. Reconditioning.....	15
15. Packer and Association to Notify Administration	16
16. Duties of the Reconditioner	16
17. Sampling of Reconditioned Salmon	17
18. Investigation of Reconditioning Operation.....	17
CONTAINER INTEGRITY EXAMINATION	18
19. Scope.....	18
20. Disposition.....	18
MODIFICATION OF PLAN	19
21. Procedure	19

THE CONTAINER INTEGRITY PROGRAM	23
22. Equipment.....	23
a. Deflection Gauge	23
b. Standard Scale	23
c. Dud Detector.....	24
d. Checkweigher	24
23. CWALO Definition	24
24. Set-up Procedures	24
a. Dud Detector.....	24
b. Checkweigher	25
25. Operational Procedures.....	26
a. Dud Detector.....	26
b. Checkweigher	26
c. Failure of Challenge	27
d. Handling of Ejected Cans	27
26. Identification of Product Requiring Special Handling	27
27. Special Handling Procedures	28
a. Dudding and Checkweighing Examination	28
c. Manual Examination.....	28
d. Verification of Special Handling Procedure	28
28. Records	28
29. Examination of Hand Labeled/Cased Product.....	29
a. Before Labeling - Rigid Metal Cans	29
b. Before Labeling/Casing - Flexible Retortable Pouches.....	30
c. Disposition of Set-outs	30
d. Results	30
30. Variation Procedure for Product to be Exported Directly from Alaska.....	30
31. Imported Foreign Packed Salmon.....	31
CONTAINER INTEGRITY GUIDES AND FORMS.....	32
APPENDIX 1 EXAMPLE CANNED SALMON HACCP PROGRAM WITH SANITATION STANDARD OPERATING PROCEDURES, A RECOMMENDED GUIDE	37
APPENDIX 2 RISK ASSESSMENT TOOLS	39

THE SALMON CONTROL PLAN

INTRODUCTION

The Salmon Control Plan (hereinafter called the “Plan”) is a voluntary cooperative agreement between the participating Packers, the Seafood Products Association (hereinafter called the “Association”) and the Food and Drug Administration (hereinafter called the “Administration.”)

All obligations, benefits, and penalties set forth in the Plan are entered into voluntarily by the participating packers. These self-imposed Plan requirements are over and above mandatory Federal requirements, where applicable, including the following acts and regulations:

21 USC 301 et seq. - Federal Food, Drug, and Cosmetic Act, as Amended

21 CFR 101 - Food Labeling

21 CFR 108 - Emergency Permit Control

21 CFR 110 - Current Good Manufacturing Practice in Manufacturing, Processing, Packing or Holding Human Food

21 CFR 113 - Thermally Processed Low-Acid Foods Packaged in Hermetically Sealed Containers

21 CFR Part 123 - Fish and Fishery Products

21 CFR 161.170 - Canned Pacific Salmon, Identity and Fill of Container

Participation in the Plan demonstrates each packer’s intent to assure the production of food that is safe, wholesome and unadulterated. The examination of representative samples of the pack is in addition to each participating packer’s quality control procedures.

The Association’s Center for Northwest Seafood acts as advisor and mediator in the operation of the Plan and cooperates with the Administration in monitoring compliance. The Association also examines representative samples of the canned and pouched salmon pack and provides the packers with compliance technical support that could not be duplicated on an individual company basis.

The Administration assists the Association in monitoring the Plan by conducting inspections, sample collection, and sample analysis at participating facilities. The Administration also reviews information provided by packers and the Association.

DEFINITIONS

In addition to the regulations set forth above, the following definitions, for the purpose of the Plan, shall apply.

Bookkeeping code means information permanently marked on a container that indicates the establishment where packed, the species of salmon contained therein, the year packed, the day packed, and the period packed. Additionally, the bookkeeping code may contain information such as line number, container size, retort load, or style of pack.

CWALO is an acronym used in the Container Integrity Program to refer to a Code Within A Label Order, which is evaluated separately from any other codes in the label order.

(See Section 23)

Canned salmon means salmon that is packed in hermetically sealed containers and thermally processed to achieve commercial sterility.

Code means information permanently marked on a container that indicates the establishment where packed, the species of salmon contained therein, the year packed, the day packed, and the period packed.

Commercial sterility means for thermally processed foods, the condition achieved by the application of heat that renders the food free of microorganisms capable of reproducing in the food under normal non-refrigerated conditions of storage and distribution and free of viable microorganisms, including spores, of public health significance.

Critical control point means a point, step or procedure in a food process at which control can be applied and a food safety hazard can as a result be prevented, eliminated, or reduced to acceptable levels.

Food safety hazards means any biological, chemical, or physical property that may cause food to be unsafe for human consumption.

Forms (see examples on pages 20 through 22):

Examination Record and Report documents the Association's examination results from codes reported on a particular Record of Sampling.

Notice of Detention documents the process and results of examination of suspect product.

Notice of Intention to Recondition or Destroy documents product that has been found to be in violation and the procedures found in Sections 14 and 15.

Report of Destruction documents the process of the destruction.

Report of Odor Only documents the examination of product that was reported on the same record of sampling as product that was held for re-examination.

Report of Reconditioning documents the process and results of the reconditioning.

Report of Reconditioning Examination documents the examination of reconditioned product.

Report of Re-Examination documents the re-examining results of product that failed the initial examination.

Record of Salmon Packed documents the product packed by the packers under the Plan.

Record of Sampling documents the sampling process and is initiated by the plant sampler as an electronic or hardcopy form. A hard copy shall be sent with the representative samples along with an additional copy that is either: uploaded, emailed or mailed to the Association.

HACCP means hazard analysis critical control point.

Hermetically sealed container means a container that is designed and intended to be secure against the entry of microorganisms and thereby to maintain the commercial sterility of its contents after thermal processing.

Hold code means product that has been found to be adulterated. Further disposition is subject to provisions of the Plan.

Initial warehouse means the first warehouse to which the product is shipped from the processing facility.

Lot means either uniform lot or bookkeeping code lot.

May is considered the equivalent of should when the context is recommendation.

Must is considered the equivalent of shall when the context is mandatory.

Repacked means the removal from the pack, of salmon with non-acceptable cosmetic container defects such as rusting or denting or other non-violative quality conditions, and placing product in new containers and reprocessing.

Reconditioning means the removal from the pack, of salmon found to be in violation of the Plan for one or more of the following reasons: either bacteriological or chemical decomposition of the raw fish, presence of foreign substances such as fuel oil or detergents or sanitizers, swollen containers due to spoilage. Non-violative product is placed in new containers and reprocessed.

Retort means any closed pressure vessel or other equipment used for the thermal processing of foods.

Sampling refers to the random selection of containers drawn from throughout the lot in a manner that represents the average composition of the lot.

Salmon includes the following species: *O. tshawytscha*, *O. nerka*, *O. kisutch*, *O. gorbuscha*, *O. keta*, and *O. masou*; and means all styles of salmon including smoked salmon, packed in hermetically sealed rigid metal or glass containers or flexible retortable pouches, and thermally processed to commercial sterility.

Shall is used to state mandatory requirements.

Should is used to state recommended or advisory procedures or to identify recommended equipment.

SSOP means sanitation standard operating procedures.

Uniform lot means a lot packed from salmon that is homogeneous from the standpoint of catch time and subsequent handling conditions from the fishing grounds to the processing facility, including transportation times and temperatures and holding times and temperatures prior to packing. A uniform lot may include a number of bookkeeping codes. However, a uniform lot shall consist of the production from not more than 8 packing hours in any single day.

GENERAL REQUIREMENTS FOR COMPLIANCE WITH THE PLAN

1. Participation, Benefits and Statement of Intention to Comply

- a. Participation in this Plan does not exempt products or packers from legal actions instituted under the Federal Food, Drug, and Cosmetic Act except as follows: Shipments of all domestically packed lots of salmon into initial warehouses by packers participating in the Plan shall be exempt from labeling of the immediate container. All lots of salmon shall be in compliance with the Act upon removal from such warehouses.
- b. A current list of each participating packer and each participating processing facility shall be maintained by the Association and a copy provided to the Administration. The list shall indicate conditional or suspended status and shall include the date of determination of status.
- c. In order to secure the benefits of the Plan, each participating packer shall provide the Association with a signed statement, on forms to be provided by the Association, of the intention to comply with the Plan and its terms and conditions.
- d. All lots of salmon packed by participating packers are subject to the requirements of the Plan.

- e. All records as required by the Act, records required by 21 CFR 113 concerning thermally processed low-acid foods packaged in hermetically sealed containers, records required by 21 CFR Part 123, as well as all records that are specifically required by this Plan, shall be made available during inspections to representatives of the Association and the Administration. In addition, photographs shall be permitted upon notice by the inspector that photographs may be taken during the inspection. It is recommended that the packer take their own photographs at the same time and of the same scenes taken by the inspector. Copies of photographs taken by the inspector may be obtained by the packer under provisions of the Freedom of Information Act.
- f. Lots of salmon packed in British Columbia are exempt from the sections of the Plan dealing with organoleptic examinations and container integrity requirements, since these examinations are conducted in Canada. However, these lots shall be subject to the requirements of 21 CFR Part 123.12.
- g. Lots of salmon packed in the United States may be shipped, without a container integrity examination (as required by sections 22 through 31 of the Plan) only to British Columbia where the Canadian procedures shall be conducted. Records of these procedures shall be retained by the packer and provided to the Administration upon request.

2. Inspection of Operations and Penalties

- a. Inspections of the food processing operations of participating packers are conducted by the Administration and the Association. The inspection by either the Association or the Administration will not restrict the number of inspections made by the other. The packers shall allow inspections of their facilities by the Administration pursuant to Section 704 of the Federal Food, Drug, and Cosmetic Act.

Upon completion of an inspection as provided above and prior to leaving the premises, the FDA representative shall provide the owner, operator or packer in charge information indicating the number of rolls of film exposed, and number of photographs taken, or in the case of digital photography the number of images captured. The FDA representative shall provide to the owner, operator, or packer in charge a receipt describing the samples obtained in the course of the inspection. The FDA representative will also provide, if indicated, a written list of inspectional observations pursuant to Section 704(b) of the Federal Food, Drug, and Cosmetic Act. The FDA representative will also discuss with the owner, operator or packer in charge any conditions or practices observed that are deviations from requirements of the Plan.

- b. To assure that salmon is packed, consistent with the requirements set forth both in the Plan and the Container Integrity Program, the Administration and the Association may inspect the container integrity operations of participating packers at their initial warehouses. Inspections by either the Association or the Administration will not restrict the number of inspections made by the other. The inspections at the initial warehouses will be pursuant to Section 704 of the Federal Food, Drug, and Cosmetic Act.

Upon completion of an inspection as provided above and prior to leaving the premises, the FDA representative shall provide the initial warehouse owner, operator, or packer in charge information indicating the number of rolls of film exposed, and number of photographs taken, or in the case of digital photography the number of images captured. The FDA representative shall provide to the warehouse owner, operator, or packer in charge a receipt describing the samples obtained in the course of the inspection. The FDA representative will discuss, with the initial warehouse owner, operator, or packer in charge any observed conditions or practices that constitute deviations from the container integrity requirements of the Plan or the Program.

- c. If a processing facility is found to be or to have been operating in such a manner or with such equipment as to raise a serious question concerning the production of a safe and wholesome product, or if there are substantial deviations from the Sanitation and Operational Requirements or the Container Integrity Program that are a part of this Plan, or if the container integrity operations are found to be operating in such a manner or with such equipment as to raise a serious question concerning the safety of the food, the packer and/or processing facility may be subject to penalties that may include suspension from participation in the Plan.

In those instances where suspension from the Plan may not be appropriate, for example, assuring the compliance of the pack after the end of the processing season, a written commitment of compliance may be required, the details of which, including reimbursement for monitoring or supervisory costs, will be determined on a case-by-case basis. In such instances, the packer and/or processing facility may be placed on conditional status. Conditional status shall continue until the terms of the commitment for compliance have been satisfied.

- d. The Administration and the Association shall jointly determine the appropriate remedial actions to be required. The packer shall be notified in writing of this determination and shall be afforded an opportunity to discuss and present evidence if he believes the facts do not justify such action. A record shall be made of such meeting and a decision promptly furnished to the packer.
- e. Should a packer and/or processing facility be suspended from participation in the Plan, any salmon packed during the period of suspension shall be dealt with according to procedures mutually agreeable to the Administration and Association and/or in accordance with the Federal Food, Drug, and Cosmetic Act. Suspension shall be that period of time between the violative inspection and a follow-up inspection by either the Administration or the Association showing acceptable conditions. Reinspections shall be made upon the request and statement of the packer that conditions that led to the suspension have been corrected. The Association may continue to perform destructive analysis of lots processed by a facility under suspension; however, the examination reports shall be identified as described in succeeding sections. All lots of salmon distributed from initial warehouses, for which there is no assurance that the food is adequately packaged, shall be handled consistent with the Federal Food, Drug, and Cosmetic Act.

HAZARD ANALYSIS CRITICAL CONTROL POINT PROGRAM

3. Hazard Analysis Critical Control Point Program

- a. Each packer shall conduct a hazard analysis as described in 21 CFR Part 123.6. Sanitation Control Procedures must also comply with regulations in 21 CFR Part 123.11.

- b. Development of a HACCP plan shall consider the following principles:
 - (1) Conduct a hazard analysis. Prepare a list of steps in the process where significant hazards occur and describe the preventive measures.
 - (2) Identify the Critical Control Points in the process.
 - (3) Establish critical limits for preventive measures associated with each identified CCP.
 - (4) Establish CCP monitoring requirements. Establish procedures for using the results of monitoring to adjust the process and maintain control.
 - (5) Establish corrective action to be taken when monitoring indicates that there is a deviation from an established critical limit.
 - (6) Establish effective record keeping procedures that document the HACCP system.
 - (7) Establish procedures for verification that the HACCP system is working correctly.
- c. An example HACCP Program with Sanitation SOP has been developed by Association members and is attached as Appendix 1. For products subject to other regulations, 21 CFR Part 123.6(e) states, “For fish and fishery products that are subject to the requirements of part 113 or 114 of this chapter, the HACCP plan need not list the food safety hazard associated with the formation of *Clostridium botulinum* toxin in the finished, hermetically sealed container, nor list the controls to prevent that food safety hazard. A HACCP plan for such fish and fishery products shall address any other food safety hazards that are reasonably likely to occur.” Therefore, the example HACCP Program in Appendix 1 may be used for companies that choose to implement a HACCP Plan, even though a HACCP Plan may not be required by regulation.

IN-PLANT CONDITIONS

4. Sanitation and Operational Requirements and Guidelines

In addition to the specific requirements set forth in the Introduction section, the following requirements and guidelines are intended to insure clean, wholesome food products that are free from chemical and physical contaminants.

- a. Plant and Boat Sanitation
 - (1) The building shall be large enough to accommodate the operation without hampering sanitary practices. Floors, walls and ceilings shall be constructed of material that can be kept clean, sanitary and in good repair.
 - (2) Each room shall have sufficient natural or artificial lighting for the purpose for which it is to be used. Sufficient lighting shall be present in all areas to permit adequate visibility for cleaning and sanitary inspection operations.
 - (3) All lights shall be shatterproof or have protective covering such that if they are broken, product contamination will not occur.
 - (4) Ventilation shall be sufficient to prevent mold growth, objectionable odors or accumulation of excessive condensates in areas where they may contaminate food.
 - (5) Toilets, washrooms and restrooms should be totally enclosed, well lighted and ventilated to the outside. They should be adequately screened and equipped with self-closing doors. Toilet facilities should be adequate, operational and in compliance with city and state codes.

- (6) Effective measures shall be taken to exclude pests from the processing areas and to protect against the contamination of foods in or on the premises by animals, birds, and vermin (including but not limited to rodents and insects).
- (7) All outside conveyers and flumes used for transporting whole or butchered fish and all outside fish holding bins shall be protected so as to prevent contamination.
- (8) Cutting boards at the butchering, sliming and patching tables shall be constructed of non-absorbent materials and shall be replaced or reconditioned as necessary to remove gouged or otherwise worn surfaces and sanitized daily. Wood cutting boards shall not be used.
- (9) Cloth shall not be used at the water outlets on the sliming table.
- (10) Equipment in contact with butchered fish shall be constructed of smooth, non-toxic, corrosion resistant metal or other non-absorbent material or covered by material that is equally effective.
- (11) Hand washing facilities with soap, running water of suitable temperature, and drying facilities shall be provided with instructions posted directing their use before the employee returns to the processing area.
- (12) All utensils and product contact surfaces of equipment shall be cleaned as frequently as necessary to prevent contamination of food and food products. Non-product contact surfaces of equipment used in the operation of food plants should be cleaned as frequently as necessary to minimize accumulation of dust, dirt, food particles, and other debris.
- (13) As part of the facility's Sanitation Standard Operating Procedures (SSOP's), each processing facility should have a written clean-up program that includes the use of appropriate detergents and bactericides. The program should provide for intermediate clean-up between processing periods. The final clean-up and sanitizing of equipment should be completed at the end of the processing day, or at a minimum, once every 24 hours, with a wash down of equipment prior to processing.
- (14) Retorted containers shall be reasonably protected from cross contamination by raw product while they are cooling and/or waiting to be cased or palletized. The practice of employees sitting on, or placing their outer garments, gloves, or aprons on these containers is prohibited. The handling of containers, particularly while they are still warm and wet, shall be minimized and under conditions that will protect food against physical, chemical, and microbial contamination.
- (15) The grounds surrounding the plant that are under the control of the packer shall be free from conditions incompatible with sanitary food manufacturing, processing, packing or holding operations. This may include but is not limited to litter, waste, refuse and inadequately drained areas that may contribute contamination to food products through seepage or foot-borne filth, and by providing a breeding place for insects or micro-organisms.
- (16) All boats used in the catching and transporting of salmon should be so constructed, operated and maintained as to prevent contamination or deterioration of the fish. They should be kept clean. While the packer does not have jurisdiction over non-company owned fishing boats, packers should inspect, where possible, such boats and refuse delivery of fish from these boats if they are operated in an unsanitary manner such as would contaminate the product.

b. Water Supply and Ice

- (1) Fresh water or seawater used in the plant shall be effectively sanitized at the plant unless the water is currently approved by a federal, state or local agency.

(2) Water for unloading, fluming or refrigerated holding of round fish may come from a natural water supply if it has been effectively sanitized, or if it has been approved by a federal, state or local agency, or if the fish are rinsed with effectively sanitized plant water before they enter the plant.

(3) The intake for natural water sources shall be located with the intent of avoiding pollution from shore facilities, marine vessels or processing offal.

(4) Water used to cool containers after retorting shall be chlorinated or otherwise sanitized. There shall be a measurable residual of the sanitizer employed. For cooling canals and for re-circulated water systems, sanitizer checks shall be made at the discharge end of the cooling system. For spray cooling and cooling in the retort where the water is not reused, sanitizer checks shall be made either before or after the water is used for cooling. Sanitizer checks shall be conducted at least two times per day during production. Records showing the times, locations and results of these checks shall be maintained. The container cooling water shall be of acceptable microbiological quality.

(5) Ice shall be made from potable water. It shall be manufactured, handled, stored and used in a sanitary manner.

c. Raw Material

(1) Wholesomeness of the fish shall be monitored by qualified plant personnel designated by the plant superintendent. Raw fish (fresh or frozen) shall be rejected by the packer if they are decomposed or in such a condition that a sound, wholesome product cannot be produced. This shall include, but not be limited to, bacterial spoilage and "freezer burn." Fish judged as not wholesome at the plant shall be disposed of in such a manner that they will not be processed. Hatchery brood stock, that either has been stripped for roe or milt, or has reached maturity and has been held to be used for roe or milt, or fish of similar condition, shall not be processed.

(2) The packer may desire further assurance of the in-plant quality control program, concerning certain lots. Such lots shall be packed, coded, handled and sampled separately from the normal production. Such lots shall be sampled on bookkeeping code lot basis using twice the bookkeeping code sample size. The Association shall be notified of such lots when the samples are submitted and the Association shall promptly notify the Administration.

(3) Fish parts used for salmon oil shall be handled in a sanitary manner. Salmon oil for edible purposes shall be packed in clean sanitary food grade containers.

(4) Raw materials such as salt and containers shall be handled and stored in a sanitary manner and be free from adulteration. Salt shall meet the specifications for food grade salt as listed in the Food Chemicals Codex and otherwise be free from contamination.

d. Rigid Metal Cans

(1) Examinations shall be made to assure that tin stocks, including side seams when present and ends, or pre-formed cans are essentially free from defects. Records shall be prepared covering the use of specific manufacturer lots of tin stock and ends or pre-formed cans with specific lots of canned salmon produced.

(2) Visual examinations as specified in 21 CFR 113.60 of the code end double seams and side seams when present will be performed frequently during the first one-half hour after start-up of salmon packing operations, following a prolonged shutdown, following a jam-up in the seaming head, and after each adjustment of the top seaming equipment. Thereafter, visual examinations shall be made at intervals not to exceed 30 minutes. Records shall be prepared covering the results of these examinations, including notations for all noted irregularities and the corrective actions taken.

(3) Teardown examinations, as specified in 21 CFR 113.60, shall be performed on the code end double seam daily at the start-up of salmon packing operations, following a prolonged shutdown, after adjustment of the top seaming equipment, and otherwise at intervals not to exceed four hours. Records of such examinations shall be maintained and all observations, including all noted irregularities and the corrective actions taken, shall be recorded.

(4) The examination of can seams as required by 21 CFR 113.60 shall include visual examinations of the side seams when present.

(5) Each packer shall implement an in-plant inspection program for container integrity after the filling and closing operation. Damaged, defective or questionable cans shall be handled as stated in Sections 20 and 21 of the Plan.

(6) Cased or palletized canned salmon shall be stored in an area protected from potential contamination and physical abuse.

e. Flexible Retortable Pouches

(1) Examinations shall be made to assure that pouch materials, including manufacturer's seal on preformed pouches, are essentially free from defects. Records shall be prepared covering the use of specific manufacturer lots of retortable pouches with specific lots of finished retortable pouched salmon produced.

(2) Visual examinations of manufacturer and packer seals as specified in 21 CFR 113.60 will be performed frequently during the first one-half hour after start-up of salmon packing operations, following a prolonged shutdown, following a jam-up in the sealing equipment, and after each adjustment of the sealing equipment. Thereafter, visual examinations shall be made at intervals not to exceed 30 minutes. Records shall be prepared covering the results of these examinations, including notations for all noted irregularities and the corrective actions taken.

(3) For retortable pouches, in accordance with 21 CFR 113.60, appropriate detailed inspections and tests shall be conducted by qualified personnel at intervals of sufficient frequency to ensure proper closing machine performance and consistently reliable hermetic seal production. For retortable pouches, these tests should include, but are not limited to internal pressure tests for assuring adequacy of both manufacturer and packer seal strength. Records of such examinations shall be maintained and all observations, including all noted irregularities and the corrective actions taken, shall be recorded.

(4) Each packer shall implement an in-plant inspection program for container integrity after the filling and closing operation. Damaged, defective or questionable retortable pouches shall be handled using applicable procedures as stated in Sections 20 and 21 of the Plan.

(5) Finished retortable pouched salmon shall be stored in an area protected from potential contamination and physical abuse.

f. Can Seaming Equipment

(1) Can seaming equipment shall be operated in a manner to preclude damage to cans during operation. All seaming equipment shall be inspected and, if necessary, adjusted or modified prior to the start of the processing season by a recognized equipment authority. In addition, the packer shall obtain can specifications from the equipment authority for the seaming equipment used during the packing season. These specifications shall identify all critical points that require inspection, and the frequency of each required inspection. The packer shall maintain records of inspections and of all adjustments and/or repairs made pursuant to the schedule by the packer.

(2) Cable conveyors that move empty cans to the filler shall be operated to minimize can damage. Cables shall be shut off when empty can runs are full and cans are not moving.

- (3) The filling operation shall be carried out in such a manner as to prevent excessive overfilling or underfilling.
- (4) Patching tables shall be operated so there is opportunity to examine cans for the presence of skin, bone or meat overhanging the can flanges, and so such cans are removed from the line and properly filled.
- (5) The closing machines shall be maintained, operated and supervised so that the finished seams conform to good commercial practice.
- (6) Can runways, elevators, transfer and handling equipment shall be operated in such a manner as to minimize can damage. Cooler trays, gondolas, crates or other equipment used to hold cans shall be suitable for their intended purposes and shall be kept in good repair. The use of this equipment shall be such that can damage is avoided.

g. Flexible Retortable Pouch Sealing Equipment

- (1) Retortable pouch sealing equipment shall be operated in a manner to preclude damage to pouches during operation. All sealing equipment shall be inspected and, if necessary, adjusted or modified prior to the start of the processing season by a recognized equipment authority. In addition, the packer should obtain a maintenance and specification adjustment schedule from the equipment authority for the sealing equipment used during the season. The schedule should identify all critical points that require inspection, and the frequency of each required inspection. The packer shall maintain records of inspections and of all adjustments and/or repairs made pursuant to the schedule by the packer.
- (2) The filling operation shall be carried out in such a manner as to prevent excessive overfilling or underfilling. Precautions should be taken to prevent seal area contamination prior to heat sealing.
- (3) The sealing machines shall be maintained, operated and supervised so that the finished seals conform to good commercial practice. Sealing machines should be adjusted to deliver the proper seal bar temperature, pressure and dwell time to produce an adequate heat seal. These sealing parameters should be derived through the performance of validation tests by the packer's package or equipment supplier or an outside consultant.
- (4) Retortable pouch transfer and handling equipment shall be operated in such a manner as to minimize pouch damage. Retort trays, gondolas, crates or other equipment used to hold pouches shall be suitable for their intended purposes and shall be kept in good repair. The use of this equipment shall be such that pouch damage is avoided.
- (5) Retortable pouches should be handled with care both before and after retorting. Pouches should not be handled with bare hands until thoroughly dry. Pouches should be packaged for shipment in a protective secondary container so that each pouch is protected from normal handling abuse.

h. Retorting

(1) The equipment and procedures required in 21 CFR 113.40 and process times and temperature recommendations found in the NFPA Bulletin 26-L or their equivalent shall be followed. If the retort equipment or procedures deviate from these requirements, the firm shall have evidence on file documenting that a heat distribution test has been conducted to verify the adequacy of the vent arrangement and vent schedule. In addition, evidence of process establishment for each container, container type, style of pack, and processing method shall be on file. This evidence may be in the form of the packer's copies of the process filing forms required in 21 CFR 108.35. For retortable pouches, heat distribution and heat penetration tests are typically conducted for development of retort operating procedures and thermal process recommendations.

(2) A recording thermometer that is readable to 1°F and with graduations not exceeding 2°F within the range of $\pm 10^\circ\text{F}$ of the processing temperatures shall be present on each retort. [21 CFR 113.40(a)(2)]

(3) All retort baskets, trucks, cars or crates of unretorted food product or some of the containers on top of each basket shall be plainly and conspicuously marked with a heat sensitive indicator or other effective means to indicate whether or not such unit has been retorted. [21 CFR 113.87(b)]

(4) Processing records for each lot shall be evaluated to insure that the product received the scheduled process, and be signed or initialed by a responsible person within one working day after processing. [21 CFR 113.100(b)]

i. Waste Disposal

(1) Offal, rubbish, and effluent from toilets shall be so conveyed, disposed of, or stored as to minimize the development of odor, prevent waste from becoming an attractant and harborage or breeding place for vermin and prevent contamination of food, food contact surfaces, ground surfaces, and water supplies.

(2) Processing facility domestic sewage discharges shall be so located as to avoid contamination of the fish receiving equipment area and water intake lines.

j. Personnel

(1) It shall be the responsibility of the plant management to assure that personnel who are obviously sick, have infected cuts, open sores or other lesions on exposed parts of the body are not employed in food handling areas of the plant.

(2) Personnel employed in food handling operations shall wear clean outer clothing and head and facial hair coverings.

(3) Personnel shall practice good sanitation and health habits and shall not eat, smoke, chew tobacco or expectorate where such practices may affect the contents of the containers.

(4) When state or municipal laws require pre-employment or periodic physical examinations, records of such examinations should be on file and be made available to the inspector upon request.

PROCEDURE FOR HANDLING PROCESS DEVIATIONS

5. Scope

Occasionally, the records review may disclose a process deviation. This may include a short process, low retort temperature, low initial temperature or a temperature drop during the process.

6. Disposition

When a deviation is discovered, the involved containers may be segregated and given a complete reprocess or the retort records shall be reviewed by a competent processing authority to determine whether reprocessing is necessary. After the involved containers have been given a complete reprocess or it has been determined that reprocessing is not necessary, they may be distributed. Complete records of all the involved procedures shall be kept in a deviation file.

PROCEDURE FOR HANDLING PACK

7. Uniform Lot or Bookkeeping Code as Unit of Control

- a. This Plan recognizes as the unit of control the “uniform lot” or “bookkeeping code” rather than the “parcel” or “warehouse receipt number” as used in shipment, storage or sales transactions. Uniform lots or bookkeeping codes shall be as homogeneous in quality and condition as possible and be kept intact during shipment and storage.
- b. If a lot of salmon at the processing facility does not meet the criteria for a uniform lot, samples shall be submitted on a bookkeeping code basis.
- c. If, during laboratory examination, it is determined that a designated uniform lot does not meet the definition of a uniform lot, the Association shall request additional samples. Bookkeeping codes within the uniform lot shall be the basis used for determining the number of additional samples required. Laboratory reports on the bookkeeping codes involved shall be issued after the additional samples have been examined and the decision to release or detain made on a bookkeeping code basis.

8. Coding System and List of Codes Packed

- a. The Association shall assign an identification number to each participant’s processing facility. The identification number shall consist of numerals from 00 to 99 and shall appear as the first two symbols of the top line of the container code of the identified processing facility. The assigned identification number shall continue on from year to year unless there is a change in the status of a plant in relation to the Plan. The third symbol that shall appear on the top line shall be a number indicating the current packing year. The remainder of the coding system shall identify the product contained therein, the day packed, and the period packed.
- b. Before the beginning of each packing season, each participating packer shall provide the Association with a document describing the coding system to be used. The Association shall forward one copy to the Administration. The meaning of each letter, figure or symbol of the code shall be given as well as the significance of their order or arrangement. After a continuing coding system has been filed with the Administration and the Association, letters showing minor changes in the coding system may be filed in subsequent years.
- c. At appropriate intervals, packers shall furnish to the Association information on all bookkeeping codes that have been packed at each processing facility during the packing season showing the species of salmon, size of container, number of containers in each bookkeeping code and date of packing. The information should be from a data source independent of the data used for the Record of Sampling. This information shall be reported on the Record of Salmon Packed, or similar hard copy or electronic file format, and should be furnished to the Association in advance or on arrival of shipments.
- d. The provisions of Section 8., paragraphs a., b., and c. apply to all salmon packed by a packer, including that salmon packed on a custom basis. It is the purpose of the Plan that the entire

pack of each participant shall be handled in accordance with the Plan, regardless of whether the salmon is packed for his own account or for the account of another operator.

9. Packer to Appoint Representative

Each packer shall appoint a local representative to whom notice of questionable lots, and other communications, may be sent and who will confer with the Association and/or the Administration and who will take such action as may be necessary for the proper implementation of the provisions of the Plan. This includes the examination of lots under suspicion and their reconditioning or destruction, as may be found necessary. Name and address of the representative shall be sent to the Association before the packing season and supplied by the latter to the Administration. Wherever the term “packer” is mentioned in this Plan, it shall be understood to apply equally, in the absence of the packer, to his representative appointed pursuant to this section.

10. Sampling Procedures and Notification to Packer and Administration of Examination Results

- a. The sampling shall be based on uniform lots or bookkeeping codes. The Association, prior to the packing season, will supply packers and the Administration with sampling schedules and policy.
- b. Representative samples shall be collected in a manner intended to yield information about the average composition of the lot, and submitted as soon as practical. Sampling under the Plan shall be conducted using Association employees or Association trained company employees on a part-time basis in accordance with the “Sampling Agreement” forms. These samplers shall draw samples for destructive laboratory examination and shall submit with these samples the information requested on the Record of Sampling for codes from which these samples were taken, including uniform lot designation. When the samples have been examined, the Association shall forward all the information contained on the Record of Sampling, including the date the product was released, to the Administration.
- c. Audit samples may be collected by the Administration to provide additional assurance of the effectiveness of the Plan. The Administration shall advise the Association and the packer of their intent to sample, verbally and in writing, within 60 days after the Administration receives notice of release of the lot(s) by the Association. The packer shall advise the Administration as soon as these lots become available at the initial warehouse and shall arrange for these lots to be held intact pending sampling and the examination by the Administration. The Administration shall verbally notify the Association of the results of their examinations within one working day after completion. A written report of the results shall be provided to the Association as soon as possible. Lots that have been released but are found to be violative during the audit sample program shall be handled in accordance with the provisions of the Plan whenever possible. In the event the Administration decides a previously requested audit will not take place for any reason, the Administration shall notify the Packer and the Association that the audit has been cancelled.
- d. The Association shall visually inspect the containers and container seams on all sample containers used for the regular destructive examinations and other samples collected for whatever purpose. If a container defect is found during this visual examination, the Association shall notify the packer of the findings, so that appropriate container integrity procedures can be followed.
- e. If the examination for wholesomeness discloses the samples to be of merchantable quality, the Association shall report the results of the examination to the packer on the Examination Record and Report.

- f. If a questionable container is found in a bookkeeping code that was sampled as an individual lot, that code shall be detained for re-examination. If a questionable sample is found in a bookkeeping code that is part of a uniform lot, additional samples shall be requested for all bookkeeping codes in the uniform lot and the decision to release or detain, for each of the codes in the lot, shall be made on an individual bookkeeping code basis. The Association shall report the condition of the lot that the questionable code or codes occur to the packer and the Administration on the Examination Record and Report.
- g. If the decision is made that a lot shall be detained for re-examination, the Association shall immediately notify the packer and the Administration on the Notice of Detention giving the reason for detention. Each Notice of Detention issued shall be assigned, by the Association, a unique case number that shall follow the specific lot through its history. This number shall be included in all future correspondence regarding the lot.
- h. If a packer is notified on the Notice of Detention that a lot is to be detained, the packer should make arrangements for re-samples to be collected and submitted to the Association as soon as practical for examination. In the case of split lots, the packer shall notify any other party holding portions of the lot and arrange for re-samples to be collected.
- i. The results of the re-examination shall be reported to the packer and the Administration on the Report of Re-examination. If the lot is found to be of merchantable quality, the Association will report the results to the packer and the Administration on the Report of Re-examination and the Notice of Detention that the product is released. If the lot is found to be unmerchantable, the packer shall take the necessary steps to hold the lot and ensure that it is not distributed. The unmerchantable lot shall then be handled in accordance with Section 14 through 18. In the case of split lots, the packer shall notify any other party holding portions of the lot. If the lot is found unmerchantable, the packer shall arrange for handling of the entire lot as above.
- j. Notification of status of sampled lots shall be furnished to the packer in as short a time after sampling as may be practical.
- k. The packer shall take the necessary precautions to prevent distribution of all or any portion of lots that have not been released including those that have been detained for re-examination or that have been found to be unmerchantable. In the event that any party to the Plan (packer, Association or Administration) finds that such production has been distributed, all the above parties shall be notified and the packer shall take corrective action acceptable to the Association and the Administration.
- l. In issuing any laboratory report, or other report of sampling or examination, or in performing any other function or action whatsoever under this Plan, the Association acts merely in an advisory capacity and is not responsible for any errors in judgment or other acts of any of its employees, makes no representation to induce the purchase or sale of any goods or their use as collateral and assumes no responsibility to anyone. The Administration participates in this voluntary cooperative agreement, in partnership with the Association and Packers, to enhance product quality and safety. The participation by the Administration is not an endorsement of the Packers and their products, nor the services provided by the Association.
- m. The Examination Record and Report, provided by the Association for each lot examined under the Plan, shall bear in bold print the statement, **“THIS REPORT COVERS SALMON PACKED UNDER PROVISIONS OF THE CURRENT SALMON CONTROL PLAN, AS JOINTLY APPROVED BY THE FIRM INVOLVED, THE SEAFOOD PRODUCTS ASSOCIATION, AND THE FEDERAL FOOD AND DRUG ADMINISTRATION.”**

In the event a processing facility is suspended from participation in the Plan, as previously outlined, the Association may continue to perform the destructive analysis of lots processed by such facility. However, for lots produced during the period of suspension these reports or analyses shall bear in bold print the statement, “THIS REPORT COVERS SALMON PACKED BY A FACILITY SUSPENDED FROM THE CURRENT SALMON CONTROL PLAN.”

The Association may perform destructive analysis of product produced by firms that are not Plan participants. However, when this is done the results shall be reported on non-Plan forms.

11. Shipments and Warehousing

- a. Shipments of unlabeled lots or portions thereof may be made to initial warehouses prior to examination by the Association; however, no further distribution of these lots shall be made prior to examination and release by the Association. Lots that are found to be unmerchantable or violative and that are not located in Pacific Northwest port warehouses shall be handled in accordance with the Plan and in accordance with procedures agreed upon by the Administration and the Association.
- b. All lots of salmon shall be warehoused in specific warehouse lots, readily identifiable by a warehouse number at initial warehouses. The packer or his representative shall maintain records of code marks and the number of cases originally present in each warehouse lot, and the destination and number of cases in each shipment made from each specific warehouse lot, and confirmation that each shipment has undergone container integrity examination.

12. Coordination of Association and Administration Activities

The Association and the Administration shall meet periodically to discuss and evaluate inspectional, sanitation, bacteriological, organoleptic, and chemical data and practices to facilitate the cooperative operation of the Plan.

13. Imported Foreign Packed Salmon

Shipments of foreign packed salmon intended for United States commerce shall be sampled and organoleptically examined as described for domestic pack, considering the following points:

Information on the codes, in accordance with Section 8.b., and the number of containers per code in each shipment shall be provided to the Association.

Samples shall be drawn on the basis of bookkeeping codes, no larger than eight hours production, using a sampling schedule provided by the Association.

If necessary, the examination procedure shall proceed through resampling and reconditioning as with domestic production. All reports including the original Examination Record and Report shall be submitted by the Association to the Administration. The Records of Sampling shall be flagged “IMPORT.”

The above are in addition to the requirements for imported fish and fishery products as set forth in 21 CFR Part 123.12.

PROCEDURE FOR RECONDITIONING OR DESTRUCTION

14. Reconditioning

- a. Lots of salmon found to be in violation of the Plan for one or more of the following reasons may be subjected to an attempt at reconditioning:

- (1) Decomposition of fish - bacteriological or chemical.
 - (2) Presence of foreign substances - fuel oil, detergents, sanitizers, etc.
 - (3) Swollen containers due to spoilage.
- b. Reconditioning of such lots shall be in accordance with the provisions of the Plan as outlined herein. In the event that a lot is considered for reconditioning for reasons not named above, such reasons and the packer's reconditioning proposal shall be evaluated by the Association and the Administration on a case-by-case basis.

15. Packer and Association to Notify Administration

- a. If, upon re-examination in accordance with Section 10, a lot is found to be unmerchantable, the Association shall furnish to the packer the Notice of Intention to Recondition or Destroy and a copy is to be mailed immediately by the Association directly to the Administration. The form, as furnished to the packer, provides a full description of the lot to be reconditioned or destroyed. The packer determines their intent to recondition or destroy and completes the form by identifying who will carry out the reconditioning or destruction and approximately when. Within two weeks of receipt, and prior to destruction or reconditioning, the packer shall complete the form and send the original to the Administration, with a copy to the Association, a copy to the reconditioner (unless destruction is the method of disposal chosen.) The packer should retain a copy for their records.
- b. If voluntary destruction of the lot is decided upon, this may be carried out by a party having no financial interest in the lot. If the destruction is carried out by any other party, such destruction shall be done in the presence of a representative of the Association, the Administration, or some other party mutually agreed upon in writing by both the Association and the Administration. The packer or a representative of the packer shall be present during the destruction to guarantee the adequacy of the method of destruction. A completed and signed Report of Destruction shall state the amount destroyed. A copy of the Report of Destruction shall be given to the Administration, the Association, and a copy retained by the packer.
- c. It is the duty of the owner of such lots of salmon to see that the destruction or reconditioning takes place as soon as practical. Unless a good reason for further delay can be shown, destruction shall take place no later than six months or reconditioning shall take place no later than one year from the date set forth in the Notice of Intention to Recondition or Destroy. If disposition is delayed beyond these dates, these lots shall be segregated and clearly identified. Lots for which no disposition has been made after these time periods may be subject to regulatory action.
- d. If it is mutually agreeable to the Administration and the Association, lots of salmon may be turned over to proper official agencies for appropriate use under supervision of the Association. Such disposition will be reported to the Administration. These lots shall be segregated and clearly identified and arrangements shall be made for pick up by the official agency as soon as possible.

16. Duties of the Reconditioner

- a. The reconditioner is employed by the packer, and performs a very important and responsible service. Reconditioning shall be done at a facility acceptable to the Administration and the Association and under such conditions that adequate supervision and control can be maintained by the Administration and the Association. The reconditioner shall not be financially interested in the lots of salmon upon which he is working unless the

reconditioning is done under Association supervision. The degree of supervision will be determined in advance by the Administration and the Association on a case-by-case basis.

- b. In the performance of his work, the reconditioner shall be required to do the following:
- (1) Keep an exact record of all salmon received for reconditioning whether still owned by the packer or by other persons, giving the actual number of cases and fractional cases received, the number of cases and fractional cases rejected during the reconditioning process, and the number of cases and fractional cases reconditioned as satisfactory.
 - (2) Each lot shall be reconditioned separately and be given an identifying number. The reconditioner shall hold all containers in the reconditioned lot until each portion has been released by the Association. Reconditioning facilities and operations may be inspected by the Administration and/or Association representatives.
 - (3) Complete a Report of Destruction, giving the information required in Paragraph b. (1) of this section, in quadruplicate, send the original to the packer, a copy to the Administration, a copy to the Association, and retain a copy for his own file for inspection at any time.
 - (4) The reconditioner shall report on the Report of Destruction the number of cases destroyed from each lot. The manner of destruction shall be noted on the Report of Destruction, which shall be signed and dated by the reconditioner and by the person or persons actually destroying the rejects.
 - (5) The reconditioner shall notify the Administration at least three working days prior to reconditioning any lot.
 - (6) The top of each container used for reconditioned salmon shall be embossed or otherwise permanently marked with the word "RECANNED" in letters as conspicuous as the coding information.

17. Sampling of Reconditioned Salmon

The Association shall sample the reconditioned lots for verification of the acceptability of the reconditioning, and notify the packer, the Administration and the reconditioner on the Report of Reconditioning Examination as to whether or not, in its opinion, the lot is suitable for shipment.

18. Investigation of Reconditioning Operation

While the Association shall examine and check on reconditioning operations, the Administration may at any time investigate reconditioning operations by inspection of the plant and examination of samples drawn from reconditioned lots.

CONTAINER INTEGRITY EXAMINATION

19. Scope

To assure that the food is adequately packaged; lots of salmon shall not be distributed from the initial warehouse prior to the satisfactory completion of the Container Integrity Program that is part of this Plan.

The packer may arrange for an independent labeling warehouse to conduct the required container integrity examinations that remain the responsibility of the packer. The packer shall designate a responsible person as a warehouse labeling representative: to monitor all container integrity examinations conducted by the independent warehouse for the packer; to maintain the records of such examinations; and to be responsible for compliance of such examinations with the Container Integrity Program. This person shall not be involved in the operation of the labeling line or in any other warehouse work while acting in this capacity. The packer shall inform the Association and the Administration of the names, addresses, and telephone numbers of the responsible persons designated as warehouse labeling representatives and provide updates as needed.

The packer shall prepare records for all container integrity examinations that are conducted. Copies of these records shall be kept on file for a minimum period of at least three years. The Administration and Association shall have reasonable access to these records for review as needed to ensure provisions of the Plan are carried out.

The records shall include the deflection and checkweigher settings used, the container codes, the number of containers examined, and the number of setout containers in the categories defined in the records section of the Container Integrity Program. Containers identified as setouts, shall be classified by the packers representative and a determination as to whether the lot passed or failed shall be made prior to shipment of finished product.

Product may be shipped, unlabeled, without a container integrity examination, from a United States initial warehouse only to a British Columbia warehouse where the Canadian screening procedure will be conducted.

20. Disposition

- a. Defective or questionable containers shall be set aside until a determination of their status can be made. The packer shall be responsible for maintaining control of these containers until a final disposition is determined. The disposition shall take place as soon as possible.
- b. Acceptable containers may be distributed.
- c. Defective containers may be destroyed or handled as follows:
 - (1) Rusty, dirty or water spotted containers may be treated as appropriate to remove the non-acceptable conditions, and then handled pursuant to the terms of the Plan.
 - (2) Dented, paneled or buckled containers may be repacked as soon as possible during the season if the defects occur at the packer's facility. If the defects occur in transit, they may be repacked on a lot or shipment basis as soon as possible. If the defective containers are consolidated or accumulated from more than one shipment or more than one processing facility or company, they may be repacked as a new lot(s).
 - (3) Zero vacuum containers such as swells, puffs and flippers may be repacked or destroyed after a determination of the cause has been made.
 - (4) Short weight containers shall be labeled in accordance with appropriate Federal Food and Drug laws and regulations.

- (5) Containers with defective seams and/or significant defects shall be repacked or destroyed as soon as possible. If these containers are discovered as a result of the packer's seam inspection and records review as required by 21 CFR 113.60(a) (Closures) and 113.100(c) (Written records,) or by other inspection procedures, they may be repacked as a new lot(s).
- d. When containers are accumulated and repacked as new lots in accordance with this section, the following procedures shall be followed.
 - (1) Representative samples of the repacked lots shall be drawn on a bookkeeping code basis according to the sampling schedule as provided by the Association and submitted to the Association for verification of acceptability.
 - (2) Distribution of repacked lots shall not occur before release by the Association.

MODIFICATION OF PLAN

21. Procedure

It is recognized that this general plan of procedure may not apply to all situations. When a condition arises that is not adequately covered by the Plan and particularly where this condition may be important in its reference to commercial practice, it should be made the subject of further conference and, if considered necessary, the Plan may be modified.

SEAFOOD PRODUCTS ASSOCIATION
 1600 SOUTH JACKSON STREET • SEATTLE, WASHINGTON 98144
 PHONE: (206) 323-3540 • FAX: (206) 323-3543

RECORD OF SAMPLING

LAB NO.: _____ LOT NO.: _____ Part _____ of _____ Parts

COMPANY: _____ PLANT: _____ SPECIES: _____

CONTAINER MANUFACTURER: _____ CONTAINER TYPE/SIZE: _____ NO. OF CONTAINERS: _____ NO. OF SAMPLES: _____

Packed under Section 4.c.(2): _____ Repacked Product: _____

PACKED FOR: _____

COMMENTS:

CODE	CONTAINERS PACKED	NUMBER OF SAMPLES

I hereby certify that the samples listed above were drawn by me in accordance with the sampling instructions provided by the Seafood Products Association.

NAME: _____

DATE: _____

SEAFOOD PRODUCTS ASSOCIATION
 1600 SOUTH JACKSON STREET • SEATTLE, WASHINGTON 98144
 PHONE: (206)323-3540 • FAX: (206)323-3543

EXAMINATION RECORD AND REPORT

THIS REPORT COVERS SALMON PACKED UNDER PROVISIONS OF THE CURRENT SALMON CONTROL PLAN, AS JOINTLY APPROVED BY THE FIRM INVOLVED, THE SEAFOOD PRODUCTS ASSOCIATION, AND THE FEDERAL FOOD AND DRUG ADMINISTRATION

LAB. NO. _____ SHEET NO. _____ DATE _____ EXAMINERS _____ LOT NO. _____

COMPANY _____ PLANT _____

SPECIES _____ CONTAINER TYPE/SIZE _____ / _____ oz. NO. OF CONTAINERS _____ NO. SAMPLES EXAMINED _____

NO.	CODE	NET WEIGHT OUNCES	VACUUM INCHES	INDIVIDUAL REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

NUMBER OF SAMPLES EXHIBITING:

GOOD COLOR MIXED SPECIES VISCERA BRUISES
 ABOVE AVERAGE COLOR IMPROPER FILLING BLOOD OTHER:
 AVERAGE COLOR WATERMARKING FINS
 BELOW AVERAGE COLOR POOR COLOR OIL COLOR: Pink to light yellow TEXTURE: Moderately firm to slightly soft except as noted in individual remarks

GENERAL REMARKS _____ Tare _____

If the samples which we have examined are truly representative of the whole parcel we are of the opinion that this parcel is suitable for shipment, except as noted above. In issuing this Laboratory Report, the Seafood Products Association is acting merely in an advisory capacity and is not responsible for any errors of judgment or other acts of its employees, makes no representations to induce the purchase or sale of any goods or their use as collateral, and assumes no responsibility to anyone.

Signature: _____

SEAFOOD PRODUCTS ASSOCIATION
 1600 SOUTH JACKSON STREET • SEATTLE, WASHINGTON 98144
 PHONE: (206) 323-3540 • FAX: (206) 323-3543

NOTICE OF DETENTION

Company: _____ Date: _____ SPA Lab No.: _____

Plant: _____ Species: _____ Container Size: _____ Uniform Lot No.: _____

The following codes have been detained due to:
Suspected spoilage before packing

Container Code	No. Containers	Order number of samples shown below:			SPA Recommendation	Signed	Date
		Step 1	Step 2	Step 3			

STEP 1 - (ADDITIONAL SAMPLES) Order number of samples shown and deliver to SPA with a copy of this form. Step 1 is to bring this lot into compliance with the Salmon Control Plan, wherein "if a questionable container is found in a bookkeeping code which is part of a uniform lot, additional samples shall be requested for all bookkeeping codes in the uniform lot."

STEP 2 - (DETAINED FOR RE-EXAMINATION) Order number of samples shown and deliver to SPA with a copy of this form. These code(s) have been detained for re-examination due to the questionable quality of the salmon found during our initial examination.

STEP 3 - (DETAINED FOR 2ND RE-EXAMINATION) Order number of samples shown and deliver to SPA with a copy of this form. These code(s) have been detained for a second examination due to the questionable quality of the salmon.

SEAFOOD PRODUCTS ASSOCIATION

NORTHWEST RESEARCH LABORATORY
1600 SOUTH JACKSON STREET
SEATTLE, WASHINGTON 98144
(206) 323-3540

REPORT OF RE-EXAMINATION

LAB NO. _____ DATE: _____
COMPANY: _____ PLANT: _____
SPECIES: _____ CONT. SIZE: _____ NO. CONT.: _____ NO. CONT. EXAMINED: _____
CONTAINER CODE: _____ EXAMINERS: _____

	CLASS I NO. OF CONT.	CLASS II NO. OF CONT.	CLASS III NO. OF CONT.	TOTAL
FIRST EXAMINATION	_____	_____	_____	_____
FIRST RE-EXAMINATION	_____	_____	_____	_____
SECOND RE-EXAMINATION	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____

RECOMMENDATION: _____

EXAMINER _____

IN ISSUING THIS LABORATORY REPORT, THE SEAFOOD PRODUCTS ASSOCIATION IS ACTING MERELY IN AN ADVISORY CAPACITY AND IS NOT RESPONSIBLE FOR ANY ERRORS OF JUDGEMENT OR OTHER ACTS OF ITS EMPLOYEES. MAKES NO REPRESENTATIONS TO INDUCE THE PURCHASE OR SALE OF ANY GOODS OR THEIR USE AS COLLATERAL, AND ASSUMES NO RESPONSIBILITY TO ANYONE.

SEAFOOD PRODUCTS ASSOCIATION

NORTHWEST RESEARCH LABORATORY
1600 SOUTH JACKSON STREET
SEATTLE, WASHINGTON 98144
(206) 323-3540

REPORT OF ODOR ONLY EXAMINATION

LAB NO. _____ DATE: _____
COMPANY: _____ PLANT: _____
SPECIES: _____ CONT. SIZE: _____ NO. OF CONT.: _____ NO. CONT. EXAMINED: _____
CONTAINER CODE: _____ EXAMINERS: _____

	CLASS I NO. OF CONT.	CLASS II NO. OF CONT.	CLASS III NO. OF CONT.	TOTAL
EXAMINATION RESULTS	_____	_____	_____	_____

RECOMMENDATION: _____

EXAMINER _____

IN ISSUING THIS LABORATORY REPORT, THE SEAFOOD PRODUCTS ASSOCIATION IS ACTING MERELY IN AN ADVISORY CAPACITY AND IS NOT RESPONSIBLE FOR ANY ERRORS OF JUDGEMENT OR OTHER ACTS OF ITS EMPLOYEES. MAKES NO REPRESENTATIONS TO INDUCE THE PURCHASE OR SALE OF ANY GOODS OR THEIR USE AS COLLATERAL, AND ASSUMES NO RESPONSIBILITY TO ANYONE.

SEAFOOD PRODUCTS ASSOCIATION

NORTHWEST RESEARCH LABORATORY
1600 SOUTH JACKSON STREET
SEATTLE, WASHINGTON 98144
(206) 323-3540

NOTICE OF INTENTION TO RECONDITION OR DESTROY¹

The code lot of salmon described below has been found to be unmerchantable. The undersigned has decided to recondition / destroy¹ the entire code lot.

SPA Lab. No. _____
Company _____ Plant _____
Container Code _____ No. of Containers Packed _____
Species _____ Container Size _____
Warehouse _____ Under W/R No. _____

If Reconditioning Decided Upon:

Reconditioning shall take place no later than one year from this date.
The Reconditioner shall notify the FDA at least one working day prior to reconditioning.

Reconditioner _____

Approximate date the lot will be reconditioned _____

Signed _____ Date _____

If Destruction Decided Upon:

Destruction shall take place no later than six months from this date.
Destruction may be carried by a reconditioner having no financial interest in the lot. If destruction is carried out by any other party, it shall be done in the presence of a representative of the SPA or the Packer.

Destruction to be done by _____

Approximate date the lot will be destroyed _____

Signed _____ Date _____

^{*} Block out term not applicable.

¹ TO BE COMPLETED AND SIGNED IN QUINTUPLICATE AND MAILED BY THE PACKER WITHIN TWO WEEKS OF RECEIPT:

Original to the Food and Drug Administration, 1000 2nd Avenue, Suite 2400, Seattle, WA 98104
One copy to the Seafood Products Association, 1600 S. Jackson St., Seattle, WA 98144
One copy to the warehouse where the salmon is stored
One copy to the Reconditioner
One copy to be retained in your file
(A copy has been mailed by the SPA directly to the FDA)

SEAFOOD PRODUCTS ASSOCIATION

NORTHWEST RESEARCH LABORATORY
1600 SOUTH JACKSON STREET
SEATTLE, WASHINGTON 98144
(206) 323-3540

REPORT OF RECONDITIONING¹

The code lot of salmon described below has been reconditioned.

SPA Lab. No. _____
Company _____ Plant _____
Container Code _____ No. of Containers Packed _____
Species _____ Container Size _____
Warehouse _____ Under W/R No. _____

Results of Reconditioning:

No. Containers Rejected for Defects _____ No. Containers Received _____

No. Containers Rejected on Odor _____

No. Containers Resealed and Recooked _____ No. SPA Samples _____

Total _____

Disposition of Rejects _____

Reconditioned Code(s) with No. Containers _____

Reconditioner _____ Job No. _____

Signed _____ Date _____

1. TO BE COMPLETED AND SIGNED IN QUADRUPPLICATE:

Original to the Packer
One copy to the Food and Drug Administration, 1000 2nd Avenue, Suite 2400, Seattle, WA 98104
One copy to the Seafood Products Association, 1600 S. Jackson St., Seattle, WA 98144
One copy to be retained in your file

THE CONTAINER INTEGRITY PROGRAM

This program is intended as a quality control procedure to assure container integrity. This assurance is attained through the use of double dud and checkweighing equipment to identify product that may require special handling. When properly adjusted, the double dud detection equipment will eject low deflection, low vacuum cans, that are possibly the result of leakage and the checkweighing equipment will eject low weight cans, which are possibly the result of leakage and resealing with a good vacuum.

In this program the labeling warehouse, under the packer's direction will set-up, challenge and run the equipment and program properly, including the completion of accurate set-out reports.

The packer is responsible for monitoring the program, the final classification and evaluation of defects, determining special handling procedures and maintaining the required records. In the case of product sold to another party, the packer shall either retain control of the product until the container integrity program has been successfully completed or have the sales agreement require that the buyer submit to the packer, copies of all the records showing successful completion of the container integrity program.

The Association will assist as an advisor to the packer in the operation of the container integrity examination program, and will conduct on-site reviews at the labeling warehouses to assure that the program is being properly followed.

The Administration will audit the container integrity examination operations at the labeling warehouses to assure that the examination equipment is properly set up, operated, and challenged; that the set-outs are properly evaluated; that any codes requiring special handling are properly processed; and that all required container integrity examination records are prepared and maintained.

22. Equipment

a. Deflection Gauge

The deflection gauge should be readable to .001 inch. The sensing shaft should move freely without an undue amount of free play. If the gauge is mounted on a Plexiglas platform, the Plexiglas should not show excessive wear that could cause erroneous readings and the can orientation pegs on the platform should be facing in the proper direction. The gauge should be zeroed at the start of each shift using a flat metal or glass surface.

b. Standard Scale

This scale is used in the set-up procedure for both the dud detector and the checkweigher. This scale should be checked using standard weights at the start of each shift. The scale should be checked using both 250 gram and 500 gram weights. The scales should be accurate to ± 2 grams.

c. Dud Detector

This unit shall be either a combination of top and bottom sensors or be two single end sensors in line with a twist between the sensors. The unit should be equipped with either an on/off indicating light near the can ejection mechanism or a drive chain interlock with the transport chain, to minimize the chance of the unit being run with the ejection mechanism turned off. The can discharge chute should be designed to avoid the possibility of cans accumulating at the chute and blocking the discharge of cans from the unit.

A can counter should be installed at the ejection station. The ejected cans accumulation area should be designed to minimize can damage. Dud detector units that automatically accomplish the requirements of the sections on set-up and operation, and provide at least as much information as required in these sections, may be used.

d. Checkweigher

This unit should have a weight averaging feature and may also automatically adjust the eject setting to the average weight. The unit should have rails to prevent cans from falling off the weigh table.

23. CWALO Definition

An acronym used in the Container Integrity Program to refer to a Code Within A Label Order, which is evaluated separately from any other codes in the label order.

24. Set-up Procedures

a. Dud Detector

The following are options that may be used in determining the start-up settings for the dud detector. No defective cans such as zero vacuum cans (swells, puffs and flippers) or cans with significant dents, or cans with critical or major seam defects may be used in any of the set-up procedures. Puncture a can and measure the deflection, then add .005 inches to those measurements to establish the minimum set point.

(1) For manually operated dud detection equipment, select 50 cans at random from the next Code Within A Label Order (CWALO) to be run. Each can shall be manually examined to assure that no defective cans, including zero vacuum cans (swells, puffs and flippers) or cans with significant dents or cans with critical or major seam defects, are used in the set-up procedure. Measure and record the deflections for both ends of each can. Using this information, select the can having the second lowest code end deflection. This is used to set the code end dud sensor. Then select the can having the second lowest non-code end deflection. This is used to set the non-code end dud sensor. The set-up procedure should result in an eject rate of 3% or more.

(2) For dud detection equipment, which automatically sets an eject rate of 3% or more, select the first 50 cans from the CWALO, examine the cans manually to assure that no defective cans, including zero vacuum cans (swells, puffs and flippers) or cans with significant dents or cans with critical or major seam defects are present. If any defective cans are found in the set-up cans, the set up procedure shall be redone with another 50 cans that also shall be examined manually. Any cans run between the first and second set-up shall be rerun.

b. Checkweigher

There are two options that may be used in determining the start-up settings for the checkweigher:

(1) Select 10 cans at random from the first pallet to be run. These cans are then weighed and the weights averaged. The average minus the listed weight eject point is used for the start-up setting.

(2) The packer, based on his experience may assign an average weight for the product to be run. This average minus the listed weight eject point is used for the start-up setting. The checkweigher should be set to eject cans at the following weight eject points:

Talls	No more than 20 grams under the average.
Halves	No more than 15 grams under the average.
Quarters	No more than 10 grams under the average.
Four Pound	No more than 40 grams under the average.

During the set-up, the checkweigher shall be tested for accuracy using a single known weight can. This can should be passed over the weight cell for at least 10 separate passes with the weight that is displayed by the checkweigher noted. The average weight of the passes is then calculated and compared to the actual weight of the can. If the average weight varies from the actual weight by more than ± 3 grams it is necessary to adjust the checkweigher. During the set-up the lightweight can ejection mechanism should also be tested to verify that it is working properly.

25. Operational Procedures

a. Dud Detector

The dud detector is operated to provide a target 3% eject rate and settings may be adjusted to assure this target rate, providing those settings do not go below the minimum eject deflections.

The cans should be oriented the same when run through the dud detector; i.e., either code end up or code end down. If product is jumble packed, either orient the cans by hand so that they are either code end up or down, or set both sensors of the dud detector to eject the greater of the two deflections used to set up the dud detector.

Using the dud detector settings determined above should result in an eject rate that is near the target 3%. During the first 15 minutes of operation, the eject rate is recorded and if necessary adjustments are made to meet the target eject rate. Any new setting used may not be less than the minimum set point established in Set-up Procedure 24.a. However, if it is felt that the original set-up did not represent the actual conditions of the CWALO, the set-up procedure may be repeated to see if new settings should be established. Each can used in the repeated set-up procedure shall be manually examined to assure that no defective cans, including zero vacuum cans (swells, puffs and flippers) or cans with significant dents or cans with critical or major seam defects are used in the repeated set-up procedure.

The ejection rate should be continuously monitored to assure that the target rate is being met throughout the run. The total number of cans run and the total number of cans ejected should be recorded at least once per hour to verify the ejection rate of the dud detector. The percentage of ejects should be computed and filled out on the labeling line by the labelers, so they will know at what percentage they are ejecting cans (see attached 3% eject guide). If settings are changed during the operation and result in ejects being made at a lesser deflection than the set-up deflection, deflections of dud detector ejects should be taken and recorded on the Container Integrity Examination Record to assure that the dud detector settings are not below the minimum deflections established in the set-up.

b. Checkweigher

The can transportation mechanism should be operated in a manner that minimizes the chance of more than one can being on the weight cell at the same time.

When the checkweigher is in operation, it may be set as high as 999 cans for each new average weight determination. Some checkweighers automatically adjust the eject settings to the average weight. However, on machines without the automatically adjusted ejection setting, the checkweigher should be manually reset when the average weight changes by more than 3 grams, as determined by the averaging feature. If the checkweigher does not have an averaging feature, the average can weights should be determined every two pallets for Talls and every pallet for Halves and Quarters, using 10 containers selected at random to determine the new average weight.

The checkweigher shall be challenged approximately every 4 hours. The checkweigher is challenged by passing a known weight container through the unit at least 10 times, noting the machine reading on each pass. The average of the indicated weights should be within ± 3 grams of the known can weight.

The checkweigher can ejection mechanism should also be tested at this time to verify that it is operating properly by passing a can of a known eject weight over the weight cell and having that can ejected.

c. Failure of Challenge

When a piece of equipment fails a challenge, corrective action should be taken before production resumes. The packer or his representative should be notified of the failure and a record made of the reasons for the failure and any corrective actions taken.

d. Handling of Ejected Cans

(1) Ejected cans from the dud detector shall be examined for defects. Cans with visible seam defects should be held in the "Seams" set-out category. Cans with other visible defects should be held in the "Other" set-out category. Zero vacuum cans such as swells, puffs, and flippers with no visible can defects should be held in the Zero Vacuum set-out category. If an excessive number of cans are set out in the Zero Vacuum category, the packer should be notified. All low vacuum cans, including overweight cans, with no visible can defects and that are not zero vacuums, swells, puffs, or flippers, may be returned to the labeling line.

(2) Ejected cans from the checkweigher shall be examined for defects. Cans with visible seam defects should be held in the "Seams" set-out category. Cans with other visible defects should be held in the "Other" set-out category. Ejected cans with no visible defect should then be weighed. Cans that fall below a low weight minimum determined by the packer shall be held as setouts in the low weight category. All other cans may be returned to the labeling line.

(3) The defect areas on each setout can should be highlighted with a marking pen. All setouts should be classified using the categories listed in the section on records. After recording the defects, the cans that are gross leakers shall be destroyed and the non-leaking cans shall be cased and set aside for further classification and evaluation by the packer's warehouse labeling representative.

26. Identification of Product Requiring Special Handling

The determination as to whether product requires special handling or not is based upon the condition of the Code Within A Label Order (CWALO) as indicated by the rate and type of defects in the setouts. Can defects that are major or critical defects and are created on a continual, repetitive, random basis even though they may occur at fairly low frequencies, are counted in this program. Gross conditions that are the result of occasional, non-repetitive accidental damage, for example fork lift damage, while not acceptable, are not included in the determination of product that may require special handling. A critical defect is one that has resulted in leakage as indicated by dry product inside the container, excessive low weight or no vacuum or salmon residue or off odor on the container, any of which obviously resulted from the defect. A major defect is one that is of such magnitude that it is likely to result in leakage but does not show signs of having leaked.

The evaluation of each code shall be independent of the evaluations of any other codes within the label order. If any code within the label order exceeds a rate of 0.4/1,000 major or critical defects, that code shall be removed for special handling. The remainder of the label order may be released. (See attached allowable number of defects table.)

The packer may pre-identify product for special handling at any point prior to the container integrity and labeling operation. Product that is pre-identified should be handled as described in the section on special handling.

Product may be pre-treated at any point prior to the container integrity and labeling operation but such product shall then be subjected to all the procedures required in this program.

27. Special Handling Procedures

Product that has been identified for special handling under this container integrity program should be handled using the procedures described in this section. The procedure followed will depend on the type and number of defects found and will be determined by the packer. The following are procedures that may be used. Special situations may allow the use of other procedures as determined by the packer and the Association.

a. Dudding and Checkweighing Examination

This procedure may be used only when product is to be special handled because of critical defects. The dud detector/checkweigher procedure shall be followed except that the dud detector eject rate shall be at least 7%.

b. Manual Examination

If this procedure is used, the product shall be examined manually, container-by-container. The examination area should have adequate lighting and the examiners should be properly trained to remove the defective containers.

c. Verification of Special Handling Procedure

Product that is special handled shall not be shipped until the procedure has been successfully completed and the success confirmed by verification using the following sampling table:

Verification of Special Handling Procedure			
CWALO Size (containers)	Number of Containers to Sample	Okay to Ship Maj. / Crit.	Re-handle Maj. / Crit.
500 or less*	315	0 / 0	≥1 / ≥1
501 - 10,000	500	≤1 / 0	≥2 / ≥1
10,001 - 35,000	800	≤2 / 0	≥3 / ≥1
35,001 - 150,000	1,250	≤3 / 0	≥4 / ≥1

*If sample size equals, or exceeds, CWALO size, do 100% inspection

AQL = .25

≤ Less than or equal to

≥ Greater than or equal to

28. Records

During labeling, the labeling warehouse shall record the following information on a set-out report: initial settings, changes in dud detector settings, results of challenges, ejection rates within 15 minutes of start-up and hourly thereafter, container codes, number of cans run, number of cans ejected and any corrective actions taken. The labeling warehouse shall also record the number of set-outs using the following categories:

Zero Vacuum - All zero vacuum cans, such as swells, puffs, and flippers, with no visible can defects. The packer shall examine cans in this category to determine the cause.

Dents - All non-leaking dents (includes both body and seam dents), except hooked cans and cans with abrasions.

Rusty - All rusty cans with no visible can defects.

Dirty - All dirty containers (fish residue, oil, etc.) with no visible container defects.

Low Weight - All cans ejected by the checkweigher that are lower than the weight specified as being acceptable and having no visible can defects.

Seams - All cans with visible double seam, side seam, body, or end defects including hooked cans and cans with abrasions (not gross leakers). It will be the responsibility of the packer to classify defects in this category.

Damaged - All containers showing evidence of gross leakage (punctured, crushed, etc.). These containers shall be destroyed.

However, the packer may request that additional information be provided.

These set-out records should be supplied to the packer at the completion of each label order. The packer shall then examine the rejected containers in the set outs, including cans in the zero vacuum category, and record the classification and evaluation of the defects as to the number, type and severity to make a determination as to whether the CWALO passed or failed (see attached example of a form that could be used). The CWALO shall not be shipped until this examination has been performed and recorded that the procedure has been followed. Cans in the zero vacuum category shall be examined to determine what caused the absence of vacuum.

Records of the packer's classification and evaluation of defective containers in the set-outs and determination as to whether the CWALO passed or failed shall be kept. Records of any special handling identified under this procedure shall be kept. Product shall not be shipped until the special handling procedure has been successfully completed. Records of special handling shall include the product identification, the container codes, the reason for special handling, the special handling procedure used, the number and type of defects found and the product disposition. These records shall be subject to the requirements on retention and access, listed in the Plan, Section 19, Container Integrity Examination, Scope.

29. Examination of Hand Labeled/Cased Product

Because of can size and shape or the manual nature of the labeling lines, the automated dud detector and checkweigher examination procedure may not be practical for four pound and oval containers, flexible retortable pouches, or in some instances where the packer does his own labeling by hand outside a public labeling warehouse. In these situations, the following manual procedures shall be followed at the time of labeling.

a. Before Labeling - Rigid Metal Cans

Each can, shall be individually examined for abnormalities by appropriately trained individuals who are not also labeling at the time of examination.

- (1) Seam and Body Integrity - visually examine top seam, bottom seam if present, side seam if present and body of each can for defects.
- (2) Lid Deflection - check to see that ends are pulled in and not loose or bulged.
- (3) Cleanliness - check for dirtiness that may indicate leakage.

b. Before Labeling/Casing - Flexible Retortable Pouches

Each pouch shall be individually examined for abnormalities by appropriately trained individuals who are not also labeling at the time of examination.

- (1) Seal and pouch body integrity - visually examine manufacturer seals, packer seals, and body of each pouch for defects.
- (2) Cleanliness - check for dirtiness that may indicate leakage.

c. Disposition of Set-outs

All setouts shall be examined by qualified personnel.

- (1) Containers that have defects resulting in obvious leakage including containers with dry product inside or excessively low weights or off odors shall be destroyed.
- (2) Cans that have defects that may affect container integrity but do not show signs of having leaked shall be either repacked and reprocessed or destroyed.
- (3) Retortable pouches that have defects that may affect container integrity but do not show signs of having leaked shall be either repacked and reprocessed or destroyed.

d. Results

Results of the examination shall be recorded to confirm that this procedure has been followed. These records should include the number of containers examined in each CWALO, the container code, the number and types of defects found, the disposition of defective containers and the date and signature of the examiner. These records shall be subject to the requirements on retention and access, listed in the Plan, Section 19, Container Integrity Examination, Scope.

30. Variation Procedure for Product to be Exported Directly from Alaska

Product that has been designated for export directly from Alaska, other than product exported to British Columbia, may be shipped without having passed through the automated dud detector and checkweigher examination procedure only on the condition that:

- a. For each shipment the packer will petition the Association for a variation from the Container Integrity Program. Each petition shall outline an examination procedure as set forth in Section 29 above, "Examination of Hand Labeled/Cased Product." There shall be a verification sampling procedure at least equivalent to the criteria set forth in Section 27.c., "Verification of Special Handling Procedures."
- b. The Association will review each petition for variance to determine acceptability. If, after review, the Association finds a petition acceptable they will forward a copy of the petition along with a cover letter to the Administration recommending that the variance be approved.
- c. The Administration will advise the Association and the Packer within 3 working days of receipt of a petition of their decision on the request for a variance. The Administration reserves the right to supervise the examination and to collect samples from the finished CWALO.

31. Imported Foreign Packed Salmon

Shipments of foreign packed salmon intended for United States commerce shall be sampled and examined for container integrity, including dud detection and checkweighing, as described for domestic pack, considering the following points:

Information on the codes and number of containers per code in each shipment shall be provided to the Association.

Visual examination of all containers in the lot may be done in place of dud detection and checkweighing. Results of the visual examination are subject to provisions of Section 26 and 27 of the container integrity program.

The results of the container integrity examinations shall be submitted to the Association as soon as possible. The Association shall provide copies to the Administration. All documents shall be flagged "IMPORT."

CONTAINER INTEGRITY PROGRAM - 3% EJECT GUIDE

No. Cases 48 Basis	No. Cases 24 Basis	No. Cans	No. Ejects at 3%	No. Cases 48 Basis	No. Cases 24 Basis	No. Cans	No. Ejects at 3%
5	10	240	7	260	520	12,480	374
10	20	480	14	265	530	12,720	382
15	30	720	22	270	540	12,960	389
20	40	960	29	275	550	13,200	396
25	50	1,200	36	280	560	13,440	403
30	60	1,440	43	285	570	13,680	410
35	70	1,680	50	290	580	13,920	418
40	80	1,920	58	295	590	14,160	425
45	90	2,160	65	300	600	14,400	432
50	100	2,400	72	305	610	14,640	439
55	110	2,640	79	310	620	14,880	446
60	120	2,880	86	315	630	15,120	454
65	130	3,120	94	320	640	15,360	461
70	140	3,360	101	325	650	15,600	468
75	150	3,600	108	330	660	15,840	475
80	160	3,840	115	335	670	16,080	482
85	170	4,080	122	340	680	16,320	490
90	180	4,320	130	345	690	16,560	497
95	190	4,560	137	350	700	16,800	504
100	200	4,800	144	355	710	17,040	511
105	210	5,040	151	360	720	17,280	518
110	220	5,280	158	365	730	17,520	526
115	230	5,520	166	370	740	17,760	533
120	240	5,760	173	375	750	18,000	540
125	250	6,000	180	380	760	18,240	547
130	260	6,240	187	385	770	18,480	554
135	270	6,480	194	390	780	18,720	562
140	280	6,720	202	395	790	18,960	569
145	290	6,960	209	400	800	19,200	576
150	300	7,200	216	405	810	19,440	583
155	310	7,440	223	410	820	19,680	590
160	320	7,680	230	415	830	19,920	598
165	330	7,920	238	420	840	20,160	605
170	340	8,160	245	425	850	20,400	612
175	350	8,400	252	430	860	20,640	619
180	360	8,640	259	435	870	20,880	626
185	370	8,880	266	440	880	21,120	634
190	380	9,120	274	445	890	21,360	641
195	390	9,360	281	450	900	21,600	648
200	400	9,600	288	455	910	21,840	655
205	410	9,840	295	460	920	22,080	662
210	420	10,080	302	465	930	22,320	670
215	430	10,320	310	470	940	22,560	677
220	440	10,560	317	475	950	22,800	684
225	450	10,800	324	480	960	23,040	691
230	460	11,040	331	485	970	23,280	698
235	470	11,280	338	490	980	23,520	706
240	480	11,520	346	495	990	23,760	713
245	490	11,760	353	500	1,000	24,000	720
250	500	12,000	360	505	1,010	24,240	727
255	510	12,240	367	510	1,020	24,480	734

CONTAINER INTEGRITY PROGRAM - DEFECT RATE

The table below applies to the mechanical examination procedure and should be used as the product is being labeled to identify product that has exceeded the allowable defect rate that is 0.4 defects/1000 cans. The defects in question are those that are classified as critical (defects which are or have leaked) and major (defects of a magnitude such that they are likely to leak). The major defect category includes droops greater than 20% of the average seam height.

ALLOWABLE NUMBER OF DEFECTS

<u>Number Of</u>		<u>Number Of</u>		<u>Number Of</u>		
<u>Cans Run</u>	<u>Defects</u>	<u>Cans Run</u>	<u>Defects</u>	<u>Cans Run</u>	<u>Defects</u>	
		80,000---	82,499	32	160,000 - 162,499	64
0 ----	4,999	82,500---	84,999	33	162,500 - 164,999	65
5,000 ----	7,499	85,000---	87,499	34	165,000 - 167,499	66
7,500 ----	9,999	87,500---	89,999	35	167,500 - 169,999	67
10,000 --	12,499	90,000---	92,499	36	170,000 - 172,499	68
12,500 --	14,999	92,500---	94,999	37	172,500 - 174,999	69
15,000 --	17,499	95,000---	97,499	38	175,000 - 177,499	70
17,500 --	19,999	97,500---	99,999	39	177,500 - 179,999	71
20,000 --	22,499	100,000--	102,499	40	180,000 - 182,499	72
22,500 --	24,999	102,500--	104,999	41	182,500 - 184,999	73
25,000 --	27,499	105,000--	107,499	42	185,000 - 187,499	74
27,500 --	29,999	107,500--	109,999	43	187,500 - 189,999	75
30,000 --	32,499	110,000--	112,499	44	190,000 - 192,499	76
32,500 --	34,999	112,500--	114,999	45	192,500 - 194,999	77
35,000 --	37,499	115,000--	117,499	46	195,000 - 197,499	78
37,500 --	39,999	117,500--	119,999	47	197,500 - 199,999	79
40,000 --	42,499	120,000--	122,499	48	200,000 - 202,499	80
42,500 --	44,999	122,500--	124,999	49	202,500 - 204,999	81
45,000 --	47,499	125,000--	127,499	50	205,000 - 207,499	82
47,500 --	49,999	127,500--	129,999	51	207,500 - 209,999	83
50,000 --	52,499	130,000--	132,499	52	210,000 - 212,499	84
52,500 --	54,999	132,500--	134,999	53	212,500 - 214,999	85
55,000 --	57,499	135,000--	137,499	54	215,000 - 217,499	86
57,500 --	59,999	137,500--	139,999	55	217,500 - 219,999	87
60,000 --	62,499	140,000--	142,499	56	220,000 - 222,499	88
62,500 --	64,999	142,500--	144,999	57	222,500 - 224,999	89
65,000 --	67,499	145,000--	147,499	58	225,000 - 227,499	90
67,500 --	69,999	147,500--	149,999	59	227,500 - 229,999	91
70,000 --	72,499	150,000--	152,499	60	230,000 - 232,499	92
72,500 --	74,999	152,500--	154,999	61	232,500 - 234,999	93
75,000 --	77,499	155,000--	157,499	62	235,000 - 237,499	94
77,500 --	79,999	157,500--	159,999	63	237,500 - 239,999	95

* If one critical defect is found in a code equal to or less than 4,999 cans, the code has exceeded the allowable defect rate.

CONTAINER INTEGRITY EXAMINATION RECORD

CAN CODE = _____ SPECIES = _____
W/R # = _____ CAN SIZE = _____
L-O # = _____ CAN TYPE = _____
OPERATORS NAME / LINE # = _____ CANNERY = _____

DUD-DETECTOR-RESULTS

TIME	CAN COUNT	EJECTS	TOTAL		CODED-END		NON-CODED-END		HIGH LIMIT	CODED-END ADJUST		LOW LIMIT	NON-CODED-END ADJUST		TEST-STATUS
			%ACTUAL	%TARGET	EJECTS	%ACTUAL	%TARGET	EJECTS		%ACTUAL	%TARGET		HIGH LIMIT	LOW LIMIT	

CHECK-WEIGHER-RESULTS

AVERAGE WEIGHT _____ CHECK WEIGHT CHALLENGE _____ WEIGHT EJECT POINT _____
TOTAL WEIGHT EJECTS _____ TIME-----CAN WT. -----AVE. WT. _____ T / -20 1/2 /-15 1/4 /-10

CASE-UP-RESULTS

----- CASE SIZE -----
6 12 24 48 TOTAL CASES LABELED _____

DEFECTS REPORT

LABELERS SET OUTS B _____ VAC TEST C _____ DAMAGED DESTROYED V _____ DENTS W _____ RUST X _____ DIRTY Y _____ LOW WT. _____ SEAMS _____ O VACUUM _____ OTHER	PACKERS USE ONLY MINOR CRITICAL MAJOR 1 _____ SIDE - SEAMS 2 _____ FAULTY TIN PLATE 3 _____ DROOPS 4 _____ CUT OVERS 5 _____ K.D. FLANGE 6 _____ K.D. END 7 _____ ABRASIONS 8 _____ HOOKS 9 _____ OTHER _____ OTHER	TOTAL MAJOR - CRITICAL _____ ----->PASS _____ FAIL _____
--	---	--

PACKERS USE ONLY

HOLD: SEE REMARKS - DATE RELEASED _____
SPECIAL HANDLE - W/O# _____
ON LINE SPECIAL HANDLE - W/O# _____
PASS - OK TO SHIP _____
REMARKS _____

APPROVED BY _____
DATE _____
TOTAL _____ DESTROYED TOTAL _____ TO RECAN

CONTAINER INTEGRITY SPECIAL HANDLE RECORD

CONTAINER CODE: _____ COMPANY: _____
NO. CASES: _____ PLANT: _____
INSTRUCTIONS: _____ W / R NO.: _____
_____ ORDER NO.: _____
_____ CONTAINER SIZE / TYPE: _____
_____ DATE: _____ PAGE NO.: _____

MIRROR LINE (RECORD ONCE PER HALF-HOUR)				HAND VISUAL	DUD DETECTOR* (RECORD ONCE PER HOUR)				NUMBER OF SET - OUTS	
INSPECTORS INITIALS		TIME	CHALLENGE RESULTS	INITIAL	INSPECTORS INITIALS	TIME	PERCENT EJECT	DEFLECTION CODE NON - CODE		
										Zero Vacuum
										Dents
										Rusty
										Dirty
										Damaged/Destroyed
										Seams
										TOTAL

RESULTS OF 1152 CONTAINER VERIFICATION EXAMINATION
(ACCEPT 0 CRITICAL - ACCEPT 3 MAJOR DEFECTS)

NO. OF CRITICAL: _____ NO. OF MAJOR: _____ PASS _____ FAIL _____

* Dud Detector used for critical defects only - eject at 7% or more.

APPENDIX 1

EXAMPLE CANNED SALMON HACCP PROGRAM WITH SANITATION STANDARD OPERATING PROCEDURES

A RECOMMENDED GUIDE

This example canned salmon HACCP program was developed by the Seafood Products Association and members of the seafood processing industry trained in the principles of HACCP. It is intended as a guide for the development of a safety based HACCP program. It is intended to be modified as necessary to meet the specific needs of individual processing facilities.

Note: The Food and Drug Administration (Administration) has not endorsed Appendix 1, Example Canned Salmon HACCP Program and associated documents as it is not required for canned salmon under 21 CFR Part 123. The Administration has not issued any guidance document on this subject.

HACCP

Canned Salmon

Prepared by the Seafood Products Association Salmon Control Plan Committee
Last revised: March 2008

Product Description

Intended Use

Hazard Analysis Summary

Process Flow Diagram for Canned Salmon

Hazard Analysis

Canned Salmon HACCP Plan Summary

PRODUCT DESCRIPTION

Canned salmon is made from fresh or frozen salmon. “Regular” packs are made from sections or steaks, and the contents normally contain skin and bones. Other types of packs include “skinless and backbone removed,” “minced salmon,” “salmon tips or tidbits,” and “no salt added.” Edible salmon oil is the only optional ingredient, other than salt, permitted by the standard of identity for canned Pacific Salmon (21 CFR 161.170).

The raw salmon is filled into 307 x 200.25 cans that are then hermetically sealed, and processed in retorts. The processes, that are scientifically designed to produce commercially sterile products, also soften the bones. The shelf life for quality is several years under normal conditions, and there is no threat to public health at the end of this shelf life.

Canned Pacific Salmon is a low-acid food with a pH above 6.0 and a relatively high water activity. In addition, the salt is not present at levels that would inhibit the growth of bacteria.

There is no special handling instructions required on the product label, nor special distribution controls required to ensure the safety of the product.

Prior to each processing season, the Hazard Analysis Critical Control Point (HACCP) Program is reassessed and revised as necessary. In addition, a retort survey is completed and submitted to the Association for review.

The salmon packing season in Alaska normally runs from late June or early July through September. The fish are harvested using gill nets, purse seines, set nets, troll lines and, on rare occasions, traps. Although some fishing boats convey their catch directly to the processing facility, most fishermen off-load their catch onto a tender that may use refrigerated brine or champagne ice.

Once at the processing facility, fish are unloaded using bucket elevators or wet vacuum systems. The fish are sorted by species, condition and size, and they are also routinely examined for quality characteristics. The sorted fish are either processed immediately, or cooled and held before processing in large holding tanks or “fish” bins, that contain refrigerated brine or champagne ice, or in totes with ice.

The butchering operation consists of four steps -- heading, removal of eggs, eviscerating, and cleaning (sliming). The cleaned fish are cut and proceed to the filling machines. The fillers usually consist of piston fillers arranged on a carousel. The filled cans are passed by a checkweigher and onto an inspection area or “patch table” where employees add or remove product from underweight or overweight containers. Skin and bones overhanging the can flanges are trimmed or removed. Covers are applied, and the cans are sealed. The sealed cans are loaded into retort baskets by use of a Busse loading system. The canned product is processed in horizontal retorts using saturated steam to achieve commercial sterility per NFPA Bulletin 26-L and SPA processing authority recommendations. The processed product is partially cooled in the retort, using chlorinated water, and allowed to continue cooling to ambient temperature while air-drying in a warehouse area.

After cooling, cans are put into cartons or brite-stacked on pallets and shipped from the processing facility in container vans to the “forward labeling” warehouses at Clouds Rest, Washington. After storage, the cans are check-weighed and double dud-detected under the Container Integrity Program, labeled and cased prior to shipping.

INTENDED USE

The product is sold to retail, foodservice and institutional customers. The product may be heated before serving (casseroles, main dishes, garnishes, etc.), or be served unheated (appetizers, salads, pates, etc.) It is intended for the general public, and consumers could include at-risk populations, such as the infirm, immune compromised, or elderly.

HAZARD ANALYSIS SUMMARY

The hazard analysis was conducted by considering the risk (likelihood of occurrence and severity) of each potential food safety hazard to determine which hazards are “significant” and, therefore, must be controlled by the HACCP plan. Epidemiological data indicate that canned Pacific Salmon has rarely been reported to be the source of food borne illnesses or injuries.

A. Ingredients

Fresh or frozen salmon is considered to be a possible source of biological hazards. These include spores and vegetative cells of bacterial pathogens, notably *Clostridium botulinum*, and various parasites. Parasites are a known hazard in wild salmon but are not reasonably likely to occur in canned salmon because the subsequent step of retorting provides a substantially greater heat treatment than that required to eliminate the hazard. Water, including untreated seawater, and ice used on the vessels and in the processing facilities may also be sources of pathogenic bacteria and parasites. The salt, edible salmon oil and packaging materials are not considered to be significant sources of biological hazards. Due to the nature of the product, containers and processes, *C. botulinum* is the primary biological hazard associated with canned salmon. Microbial growth and decomposition resulting from time/temperature abuse (holding the product for prolonged periods at elevated temperatures) prior to receipt of the fish at the processing facility, may greatly affect the quality, but not the safety, of the thermally processed products.

There are no significant chemical hazards associated with the packaging materials or use of any of the ingredients. Raw fish are not considered to be a source of any potentially hazardous chemicals, including heavy metals or natural toxins. Contamination of salmon by industrial chemicals derived from the harvest area or transport vessel has occurred on a rare occasion. However, this is an insignificant hazard due to the infrequency of these events, the notification/publicity associated with local industrial chemical spills, and the inspection of vessels, raw fish and processed product which are required when the State of Alaska has made the determination of an emergency situation. Species substitution is not considered to be a significant chemical hazard. Since ABC Salmon Packing Co. does not process other seafood; there is little or no possibility of other seafood contaminating the containers filled with salmon. Fish are classified as an allergen under the Food Allergen Labeling and Consumer Protection Act of 2004. The cans are subsequently labeled at the “forward labeling” warehouse and salmon is declared as an ingredient on the label.

The nature of the non-fish ingredients results in a low risk for physical hazards, and they are not considered to be significant sources of physical hazards. At receipt the salmon may contain foreign objects that could result in injury to consumers but the fish are cleaned and rinsed which would remove any physical hazards. Empty containers may also contain some foreign objects but are inverted and cleaned prior to filling. In addition, since injuries from physical hazards associated with canned Pacific Salmon are not likely to occur, these physical hazards present a low risk and are addressed using normal Good Manufacturing Practices (GMP).

B. Plant Operations/Processing

Prior to thermal processing, the fresh salmon could be subjected to time/temperature abuse leading to microbial growth and decomposition. Although prevention of detectable decomposition is a quality control priority, this condition does not represent a significant safety hazard. Since *C. botulinum* is the primary biological hazard associated with these products, subjecting the filled and seamed cans to a proper thermal process is the primary control in producing a safe product. Thus, the thermal process must be scientifically designed to provide the appropriate destruction of *C. botulinum* spores, the thermal processing equipment must be designed and operated correctly, and all critical factors associated with the delivery of the process must be properly controlled and documented.

For processed salmon, there is a significant biological hazard associated with the integrity of the filled container. Once the cans are processed, hermetic seals are responsible for keeping the products safe by excluding pathogens, particularly *C. botulinum*. Inspection and/or testing protocols are used to assure that the correct can bodies and ends are used, that they are free of serious plate defects, and that double seams of empty cans, where appropriate and filled cans are within specifications.

During water cooling, minute quantities of moisture may enter the cans. If pathogens enter the cans, this could lead to food borne illness. Potable water is used to cool containers in the retort. Due to the use of sanitized cooling water in the retort and the GMP procedures followed during air cooling and drying of the containers, recontamination with pathogens is not likely to occur. Both water and air cooling procedures are considered in the following hazard analysis.

No significant biological hazards are associated with the operations in the “forward labeling” warehouse. Check-weighing and double dud-detection operations are used to verify the integrity of the containers in compliance with the Plan. In addition, procedures are currently in place to handle the disposition of questionable lots or culled containers.

In-plant contamination with chemicals (e.g. cleaners, sanitizers, lubricants) is minimal due to GMPs and Sanitation Standard Operating Procedures (SSOP) that are in place and being followed. Also, over-use or elimination of the optional ingredients---salt and/or edible salmon oil---does not represent a chemical hazard, and the handling of the packaging materials does not present sources of hazardous chemicals. Thus, there are no significant chemical hazards associated with the processing facility or warehouse operations. Fish are classified as an allergen but all cans are labeled at the “forward labeling warehouses” to declare the presence of salmon.

Adherence to GMPs and proper training of personnel appropriately reduces the likelihood of physical hazards being incorporated into containers prior to sealing. In addition, extensive washing/rinsing of the salmon throughout the process minimizes the potential for metal, hard plastic, glass, or other physical hazards to enter the cans prior to sealing, as does the cleaning of empty cans prior to filling. Thus, there are no significant physical hazards associated with the processing facility or warehouse operations.

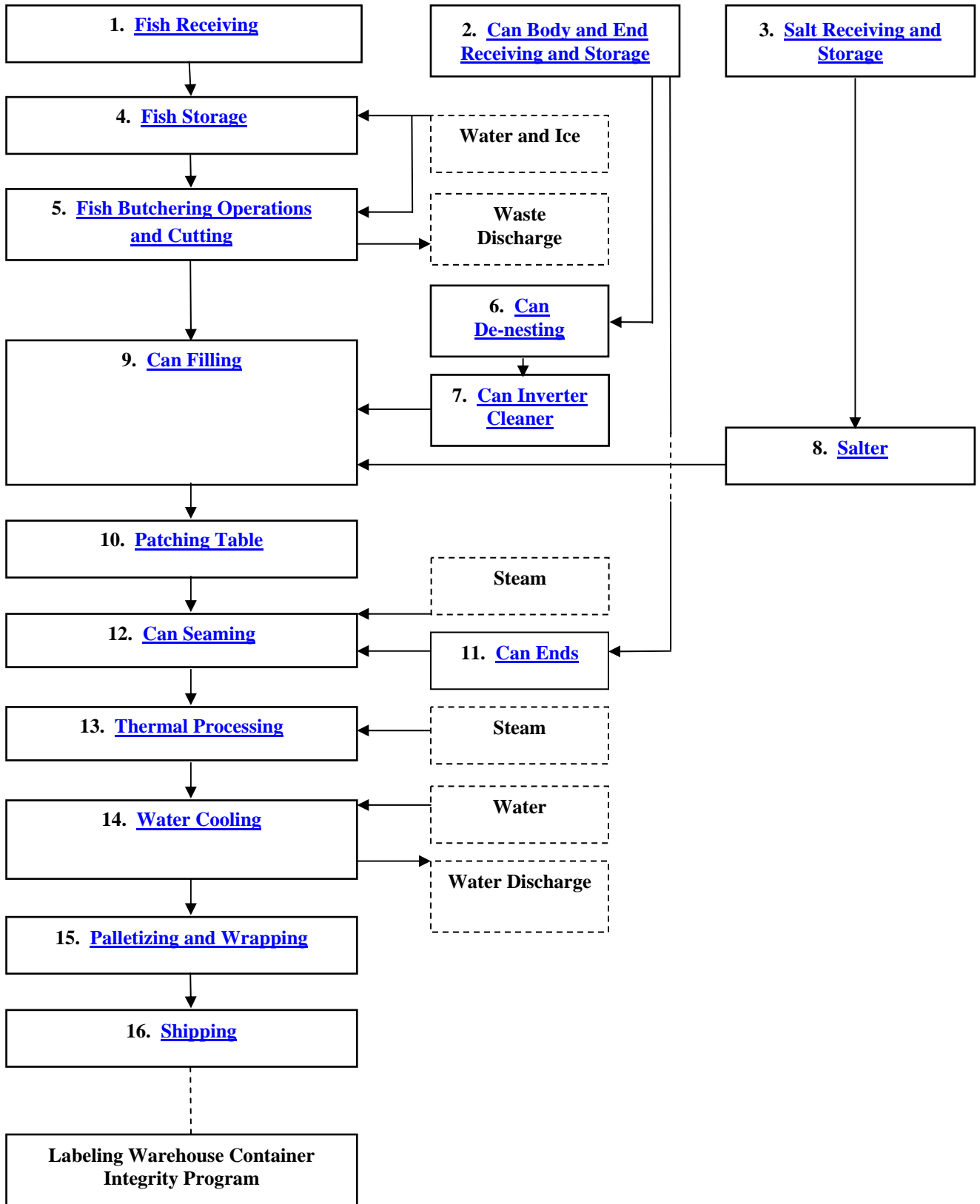
Note: Subsequent sections of this program contain detailed information related to raw ingredients; cans and can ends; seaming, processing and miscellaneous procedures; recordkeeping; and, ABC Salmon Packing Company’s prerequisite programs. In particular, the prerequisite programs, such as the Sanitation/GMP Compliance, are essential to the success of the HACCP plan.

Hazard Analysis and Risk Assessment

Based on the Process Flow Diagram, a team representing the Salmon Control Plan participants conducted the hazard analysis under the requirements and guidelines established by 21 CFR Part 123. The intent was to consider the risk of each potential food safety hazard to determine which hazards were “significant” and therefore, must be controlled, monitored, documented and verify through the remaining basic seven principals of HACCP. The decision tree in Appendix 2 was used during the hazard analysis.

In addition to using the decision tree to identify critical control points, a risk assessment was performed based on the likelihood of occurrence and severity. A summary of the risk assessment is included in Appendix 2.

Process Flow Diagram for Canned Salmon



Hazard Analysis Worksheet

FISH RECEIVING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
1. <u>FISH RECEIVING</u>	Biological – <i>C. botulinum</i> growth	Yes	Pathogens can potentially cause illness.	Thermal processing at subsequent step. Controlled by SSOPs.	No
	Parasites	Yes	Naturally occurring parasites can potentially cause illness.	Thermal processing at subsequent step.	No
	Chemical – None				
	Physical – Metal fragments	No	Not reasonably likely to occur based on current experience, illness data and scientific reports. Extensive washing/rinsing of product subsequent to this step further reduces the likelihood of this hazard occurring.		

Hazard Analysis Worksheet

CAN BODY AND CAN END RECEIVING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
2. <u>CAN BODY AND END RECEIVING AND STORAGE</u>	Biological – <i>C. botulinum</i> toxin formation	Yes	Damaged can bodies and can ends may result in recontamination of the product with pathogens.	Letters of guarantees from suppliers. Hazard is controlled by can body and can end examinations at subsequent steps.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

SALT RECEIVING AND STORAGE

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
3. <u>SALT RECEIVING AND STORAGE</u>	Biological – None				
	Chemical – Chemical contaminants	No	Raw materials may be exposed to contaminants during storage. Controlled by SSOPs.		
	Physical – None				

Hazard Analysis Worksheet

FISH STORAGE

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
4. <u>FISH STORAGE</u>	Biological – Pathogen growth	Yes	Pathogens may potentially cause illness.	Thermal processing at subsequent step. Controlled by SSOPs.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

FISH BUTCHERING OPERATIONS AND CUTTING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
5. <u>FISH BUTCHERING OPERATIONS AND CUTTING</u>	Biological – Pathogen growth	Yes	Pathogens may potentially cause illness.	Thermal processing at subsequent step. Controlled by SSOPs.	No
	Chemical – None				
	Physical – Metal fragments	No	Not reasonably likely to occur based on current experience, illness data and scientific reports. Extensive washing/rinsing of product subsequent to this step further reduces the likelihood of this hazard occurring.		

Hazard Analysis Worksheet

CAN DE-NESTING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
6. <u>CAN DE-NESTING</u>	Biological – <i>C. botulinum</i> toxin formation	Yes	Damaged can bodies may cause double seam defects that may allow recontamination of the product with pathogens.	Examination of can bodies during de-nesting operations. Examination of double seams at subsequent step.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

CAN INVERTER CLEANER

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
7. <u>CAN INVERTER CLEANER</u>	Biological – None				
	Chemical – None				
	Physical – Metal fragments	No	Not reasonably likely to occur based on current experience, illness data and scientific reports.		

Hazard Analysis Worksheet

SALTER

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
8. SALTER	Biological – None				
	Chemical – Salt	No	Salt does not represent a chemical hazard. Only use salt meeting ingredient specifications.		
	Physical – None				

Hazard Analysis Worksheet

CAN FILLING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
9. <u>CAN FILLING</u>	Biological – Pathogen growth	Yes	Pathogens may potentially cause illness.	Thermal processing at subsequent step. Controlled by SSOPs.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

PATCHING TABLE

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
10. <u>PATCHING TABLE</u>	Biological – Pathogen growth	Yes	Pathogens may potentially cause illness.	Thermal processing at subsequent step. Controlled by SSOPs.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

CAN ENDS

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
11. <u>CAN ENDS</u>	Biological – <i>C. botulinum</i> toxin formation	Yes	Damaged can ends may cause double seam defects that may allow recontamination of the product with pathogens.	Examination of can ends during canning operations. Examination of double seams at subsequent step.	No
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

CAN SEAMING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
12. <u>CAN SEAMING</u>	Biological – <i>C. botulinum</i> toxin formation	Yes	Improper seaming may allow for the entry of pathogens after thermal processing.	Maintain appropriate hermetic seal.	Yes (CCP 1)
	Chemical – None				
	Physical - Metal fragments	No	Not reasonably likely to occur based on current experience, illness data and scientific reports.		

Hazard Analysis Worksheet

THERMAL PROCESSING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
13. <u>THERMAL PROCESSING</u>	Biological – Pathogen survival through thermal processing	Yes	Inadequate thermal process may allow for the survival of pathogens, especially <i>C. botulinum</i> spores.	Adequate thermal processing.	Yes (CCP 2)
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

WATER COOLING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
14. <u>WATER COOLING</u> SANITIZED COOLING WATER	Biological – <i>C. botulinum</i> toxin formation	Yes	Potential recontamination of product with pathogens if present in cooling water.	Acceptable water source (SSOP), and monitoring of residual sanitizer.	Yes (CCP 3)
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

PALLETIZING AND WRAPPING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step(1)	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
15. <u>PALLETIZING AND WRAPPING</u>	Biological – None				
	Chemical – None				
	Physical – None				

Hazard Analysis Worksheet

SHIPPING

Product Description: Canned Pacific Salmon

(1)	(2)	(3)	(4)	(5)	(6)
Ingredient/Processing Step	Identify Potential Hazards Introduced, Controlled, or Enhanced at this Step (1)	Are any Potential Food Safety Hazards Significant? (Yes/No)	Justify your decision for Column 3	What Preventive Measure(s) can be Applied for the Significant Hazards?	Is this Step a Critical Control Point? (Yes/No)
16. <u>SHIPPING</u>	Biological – None				
	Chemical – None				
	Physical – None				

Conclusions:

The hazard analysis of all species and process-related food safety hazards has identified the need for a HACCP Plan. The process-related food safety hazard of *C. botulinum* was identified at the Can Seaming, Thermal Processing and Water Cooling.

Canned Salmon HACCP Plan Summary

Critical Control Point	Hazard	Critical Limit(s)	Monitoring				Corrective Action	Records	Verification
			What	How	Frequency	Who			
<p>Can Seaming</p> <p>CCP 1</p>	<p><i>C. botulinum</i> toxin formation</p> <p>(recontamination of product with pathogens)</p>	<p>No container or double seam defects as described in QC manual.</p>	<p>Finished double seamed cans.</p>	<p>Visual exam of containers, including double seams as per 21 CFR Part 113.</p>	<p>Visual at least every 30 minutes.</p>	<p>Quality control</p>	<p>Notify responsible person, resample, hold lot for evaluation if necessary, adjust and restart.</p> <p>Investigate and evaluate cause of problem to avoid future occurrences.</p>	<p>Visual container exam and corrective action records (QC Hold Log).</p>	<p>Review visual container exam and corrective action records within one week of preparation.</p> <p>Reassess HACCP plan annually.</p>
		<p>Meets container seam specifications that are provided to packer annually by the container manufacturer.</p>	<p>Finished double seamed cans.</p>	<p>Container seam exams as per 21 CFR Part 113.</p>	<p>Teardown evaluation of at least one can per seaming head at least every 4 hours, additional exams at start-up and after seamer jam.</p>	<p>Quality control</p>	<p>Notify responsible person, resample, hold lot for evaluation if necessary, adjust and restart.</p> <p>Investigate and evaluate cause of problem to avoid future occurrences.</p>	<p>Seam evaluation, seamer adjustment, seam calibration, equipment and corrective action records (QC Hold Log).</p>	<p>Review seam evaluation, seamer adjustment, and corrective action records (Hold Log) within one week of preparation.</p> <p>Review seam calibration equipment after completion.</p> <p>Calibrate seam measuring equipment with sufficient frequency to insure accuracy.</p> <p>Reassess HACCP plan annually.</p>

Signature of Company Official: _____

Date:

Canned Salmon HACCP Plan Summary (continued)

Critical Control Point	Hazard	Critical Limit(s)	Monitoring				Corrective Action	Records	Verification
			What	How	Frequency	Who			
Thermal Processing CCP 2	<i>C. botulinum</i> toxin formation	Vent for at least 10 minutes and to at least 230°F.	Time and temperature of venting as described in 21 CFR 113.87(d).	Visual observation of time steam on, and time and temperature the vents are closed.	Each retort load.	Retort operator	Re-vent before retort process starts, or hold lot for review. Investigate and evaluate cause of problem to avoid future occurrences.	Daily process, corrective action records (QC Hold Log) and calibration records.	Audit process room procedures. Review daily process and corrective action records within one day of the actual process. Calibration of instruments at least annually. Reassess HACCP plan annually.
	<i>C. botulinum</i> toxin formation	Minimum initial temperature at least 35°F.	Initial temperature (I.T.) of canned salmon.	Average temperature of the coldest container per retort load with calibrated dial \ digital thermometer.	Each retort load.	Retort operator	If minimum I.T. is not reached before starting retort process, use alternate lower I.T. scheduled process, or hold lot for review. Investigate and evaluate cause of problem to avoid future occurrences.	Daily process, corrective action records (QC Hold Log) and calibration records.	Audit process room procedures. Review daily process and corrective action records within one day of the actual process. Calibrate I.T. thermometer with sufficient frequency to insure accuracy. Reassess HACCP plan annually.

Signature of Company Official: _____ Date: _____

Canned Salmon HACCP Plan Summary (continued)

Critical Control Point	Hazard	Critical Limit(s)	Monitoring				Corrective Action	Records	Verification
			What	How	Frequency	Who			
Thermal Processing CCP 2 (continued)	<i>C. botulinum</i> toxin formation	Minimum retort temperature at least 240°F.	Processing temperature indicated on Mercury-In-Glass (MIG) thermometer.	Operator MIG thermometer readings and continuous temperature recorder.	Each retort load.	Retort operator	Fully re-process, or use appropriate alternate process, or hold product for evaluation. Investigate and evaluate cause of problem to avoid future occurrences.	Daily process record, continuous temperature recorder chart, calibration, and corrective action records (QC Hold Log).	Audit process room procedures. Review daily process and corrective action records within one day of the actual process. Calibrate MIG thermometer at least annually. Reassess HACCP plan annually.
	<i>C. botulinum</i> toxin formation	Minimum time of at least 82 minutes at retort temperature (for 307 x 200.25 cans).	Processing time.	Continuous time \ temperature recording device as described in 21 CFR Part 113.87 (d).	Each retort load.	Retort operator	Fully re-process or use appropriate alternate process, or hold product for evaluation. Investigate and evaluate cause of problem to avoid future occurrences.	Daily Process Record, Retort Temperature Recorder Chart, Corrective Action Records and Calibration Records (QC Hold Log).	Audit process room procedures. Review daily process and corrective action records within one day of the actual process. Calibration of recording device at least annually. Reassess HACCP plan annually.

Signature of Company Official: _____ **Date:**

Canned Salmon HACCP Plan Summary (continued)

Critical Control Point	Hazard	Critical Limit(s)	Monitoring				Corrective Action	Records	Verification
			What	How	Frequency	Who			
Water Cooling CCP 3	<i>C. botulinum</i> toxin formation	Measurable residue of Sanitizer.	Sanitizer residual.	Sanitizer test kit.	Each retort load.	Designated person.	Hold product for evaluation. Investigate and evaluate cause of problem to avoid future occurrences.	Cooling water sanitizer and corrective action records.	Audit process room procedures. Review cooling water sanitizer and corrective action records within one week of preparation. Reassess HACCP plan annually.

Signature of Company Official: _____

Date: _____

CCP-1: CAN SEAMING

<u>Operational Step:</u>	Can seaming operation.
<u>Hazard:</u>	Biological: For processed salmon, there is a significant biological hazard associated with the integrity of the filled container. Defective can seams may lead to post-processing contamination of the product with pathogenic microorganisms, particularly <i>C. botulinum</i> .
<u>Critical Limit:</u>	All cans must meet container specifications for safety.
<u>Monitoring Procedures:</u>	Sealed cans are visually inspected and the seams torn down per 21 CFR Part 113.
<u>Frequency:</u>	Cans from each head are visually inspected at least every 30 minutes and a complete seam teardown is performed at least every 4 hours. Additional examinations are performed at start-up and after a seamer jam.
<u>Monitoring Responsibility:</u>	Quality control personnel.
<u>Corrective Action:</u>	If commercially unacceptable seams are found, the packing line is shut down and the plant superintendent and the QA Manager are informed. All products produced since the last “good” check are put on hold. The root cause of the problem is identified and appropriate adjustments are made before the line is started up again.
<u>Documentation:</u>	All can inspection observations are recorded on the Visual Can Examination Log. The seam teardown measurements are recorded on the Seam Evaluation Record. Any adjustments to the closing machines are recorded on the Seamer Adjustment Log. Held product is documented on the Corrective Action Record (QC Hold Log).
<u>Verification:</u>	All can evaluation and product hold documents are reviewed daily by a representative of plant management who is qualified with suitable training and experience. The seam teardown practices are evaluated monthly.

Note: The Container Integrity Program is applied at the labeling warehouses and is an additional verification of the can seams.

CCP-2: THERMAL PROCESSING

<u>Operational Step:</u>	Thermal processing operations.
<u>Hazard:</u>	Biological: <i>C. botulinum</i> is the primary biological hazard associated with canned salmon. Therefore, subjecting the filled and sealed cans to a proper thermal process is the primary control in producing a safe product.
<u>Critical Limits:</u>	Retort venting for at least 10 minutes to at least 230°F. Minimum I.T. at least 35°F. A thermal process of at least 82 minutes at 240°F or equivalent per NFPA Bulletin 26-L thermal process is required for the 307 x 200.25 size can. Other critical factors for thermal processing as specified by process authority and 21 CFR 113.
<u>Monitoring Procedures:</u>	Times and temperatures are monitored during venting and retorting by the operator. Also, times/temperatures are recorded on the retort’s continuous temperature recorder chart. Other critical factors are monitored by appropriate procedures.
<u>Frequency:</u>	Each retort load.
<u>Monitoring Responsibility:</u>	Retort operator.
<u>Corrective Action:</u>	If the venting schedule is not adhered to, venting must be repeated prior to processing. If product was processed without adequate retort venting, all affected product must be put on hold. If process time/temperature requirements or other critical factors are violated, as indicated by Cook Chex™ or records review, product should be placed on hold and procedures recommended by the process authority must be followed.

Documentation: Venting time and temperature are recorded on the Retort Operator's Log. In particular, "time steam on," "time vent closed," and "temperature vent closed" are documented. Process time and temperature are recorded on the Retort Operator's Log. Specifically, "time temperature up," "actual time steam off," "mercury thermometer temperature," and "recorder temperature" are documented. The retort's continuous temperature recorder chart is also used to document the process. Appropriate records are kept for other critical factors. Product placed on hold is documented on the QC Hold Log.

Verification: Appropriate documentation, that includes Cook-Chex™, is reviewed daily by a representative of plant management who is qualified with suitable training and experience. Processing room operations and monitoring procedures are reviewed monthly. The thermometers and retort continuous temperature recorders are calibrated as indicated below, or more frequently if necessary, to ensure accuracy:

Mercury-In-Glass ThermometerAnnually or as necessary
Retort Temperature Recorder.....As needed
Initial Temperature Thermometer Weekly

CCP-3: WATER COOLING

Operational Step: Water cooling cans in the retort.
Hazard: Biological: For processed salmon, improperly sanitized cooling water may re-contaminate the canned product with pathogenic microorganisms, particularly *C. botulinum*.
Critical Limit: There must be a measurable residual of sanitizer in the cooling water.
Monitoring Procedures: Samples of the cooling water are tested for residual sanitizer.
Frequency: At least two times per day during production.
Monitoring Responsibility: Designated person.
Corrective Action: Affected retort load is placed on "hold" for further evaluation.
Documentation: Cooling Water Sanitizer report.
Verification: Cooling Water Sanitizer reports are reviewed daily. Test kits and test procedures are checked weekly against water samples containing no sanitizer versus water samples with sanitizers.

C. Verification Procedures

The ABC Salmon Packing Company uses a variety of verification and validation procedures to comply with the requirements in 21 CFR Part 123.8. A brief description of the verification and validation procedures is presented below.

1. Verification Procedures. Per the requirements in 21 CFR Part 123.8(a), on-going verification activities include: a review of consumer complaints to determine if they relate to the performance of CCPs or unidentified CCPs, calibration of process-monitoring instruments, and reviews of appropriate records. In addition, details concerning prerequisite programs and various verification activities can be found in the HACCP Program.
2. Validation Procedures. Under the direction of an appropriately trained individual per 21 CFR Part 123.10, a reassessment of the HACCP plan will be conducted as needed and at least once a year per the requirements in 21 CFR Part 123.8(a)(1). The procedures used during the reassessment will include evaluations of the HACCP plan to determine if it is adequate and appropriate, relevant records to determine if the HACCP plan is implemented and maintained properly, and prerequisite programs to determine if they are effective and adequate. A report will be issued describing the results of the reassessment, and, if warranted, the HACCP plan will be modified immediately.

RAW INGREDIENTS

- A. Fresh/Frozen Fish
 1. Inspection upon receipt
 2. Storage requirements
- B. Carrier/Vessel Inspection Procedures

EMPTY CANS AND CAN ENDS

- A. Letters of Guarantee
- B. Specifications/Manufacturing Defects
- C. Empty Container Inspection Procedures
 1. Cans
 2. Can Ends

CAN SEAMING REQUIREMENTS

- A. Seaming Machine Adjustment Procedures
- B. Can Seam Evaluation
 1. Visual Examination Procedures
 2. Teardown Procedures

THERMAL PROCESS REQUIREMENTS

A. 21 CFR 113 Requirements

(INSERT COPIES OF APPLICABLE SECTIONS OF 21 CFR 113)

B. Process Establishment

(INSERT DOCUMENTS RELATED TO PROCESS ESTABLISHMENT)

C. Scheduled Process

(INSERT SCHEDULED PROCESS)

D. Operating Instructions

(INSERT PROCESSING ROOM OPERATING INSTRUCTIONS)

E. Process Deviations

(INSERT PROCESS DEVIATION PROCEDURES)

MISCELLANEOUS PROCEDURES

A. Container Coding

B. Formal Hold Procedures

C. SCP Container Integrity Program

D. Equipment Calibration Procedures

RECORDKEEPING

A. Recordkeeping Procedures

(INSERT COPY OF SOPs FOR RECORDKEEPING)

B. Recordkeeping Requirements

Records - The following records are kept in compliance with 21 CFR Part 123.9: monitoring records, corrective action records, verification records, and sanitation control records. Those records contain the name and location of the processor, date and time of the activity being recorded, signature or initials of the person making the record, identity of the product, the production code, if any, and signature and date of review. In addition, records associated with HACCP training of personnel are maintained in the HACCP files. (Note: Processors are required to have and implement written sanitation standard operating procedures per 21 CFR Part 123.11. The requirements include sanitation monitoring and maintenance of sanitation control records.)

Record Reviews - In compliance with 21 CFR Part 123.8(a)(3), records related to CCP monitoring, corrective action procedures, calibration, and in-process and end-product testing are reviewed by appropriately trained personnel (in compliance with 21 CFR Part 123.10). The monitoring and corrective action records are reviewed within one week, and calibration and in-process or end-product testing records are reviewed in a timely manner.

Record Retention and Access - All records required by 21 CFR Part 123 are kept for at least two years. In some instances, e.g., thermal processing records, the records are kept for longer periods as required by regulations. The records of the processing facility operations are stored at the processing facility, and the records of the warehousing operations are accessible at the warehouse. They are accessible to regulatory personnel upon appropriate request. (Note: If the records are transferred to another facility during the off-season, this should be specified, and the records must be made available promptly to regulatory personnel upon appropriate request.)

C. Forms

(INSERT COPIES OF ALL FORMS)

PREREQUISITE PROGRAMS

A. Salmon Control Plan

(INSERT COPY OF SCP HERE)

B. Sanitation/GMP Compliance Program

(INSERT SSOP DOCUMENT - ATTACHMENT 1 HERE)

C. Preventive Maintenance Program

(INSERT COPY OF SPECIFIC PREVENTIVE MAINTENANCE PROGRAM HERE)

D. Product Recall/Withdrawal Program

(INSERT COPY OF SPECIFIC RECALL/WITHDRAWAL PROGRAM HERE)

ATTACHMENT 1

SANITATION STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

I. Introduction

- A. Goal
- B. Scope
- C. Facility

II. Procedures

- A. Water
- B. Food Contact Surfaces
- C. Cross-Contamination
- D. Employee Practices
- E. Protection From Adulteration
- F. Storage, Cleaning Chemicals
- G. Employee Health
- H. Exclusion of Pests

III. Recordkeeping

- A. Report Forms
- B. Examples of Forms

I. INTRODUCTION

- A. The goal of the ABC Salmon Packing Company is to produce a safe, wholesome, unadulterated product to be consumed by our customers.
- B. This program covers the production of canned Pacific salmon from receipt of raw product to the shipping of finished product to the labeling warehouse. Operations normally occur from early June through the end of August.
- C. The facility is located at 123 Kodiak Drive, Cold Tail Lake, Alaska 99999.

II. PROCEDURES

A management-designated individual will monitor the following procedures.

- A. Water - The water used in processing at the ABC Salmon Packing Company is treated by chlorine injection. Before production each day the chlorine injection system will be checked for correct operation. Production will not begin until the system is operating correctly. The injector will be monitored at each break. Non-compliance and corrective action will be noted on the Sanitation Monitoring Report. During production, testing for chlorine content will be performed hourly at the furthest point from the injector. There must be a measurable residual at this point. Failure to detect a residual at this point will be noted on the log and corrective action, specific to each operation, will be taken and recorded on the Chlorine Log.
- B. Food Contact Surfaces - Before production each day, all food contact surfaces will be checked for cleanliness. Production will not begin until cleanliness is satisfactory. All food contact surfaces will be rinsed down at each break to remove particulate material. At the end of production a thorough cleaning and sanitizing of all food contact surfaces will take place. Procedures should list each piece of machinery and include a step-by-step clean-up procedure with chemicals used. Any non-compliance and corrective action will be noted on the Sanitation Monitoring Report.
- C. Cross-Contamination - Raw products and employees handling raw products are to be kept away from the area where finished product is handled. Backflow preventers are to be installed on water lines used for processing and drinking. The methods of separation of raw product from finished product, and the procedures for preventing cross-contamination such as employee practices and movement of materials should be listed. The corrective action for non-compliance should be listed. Non-compliance and corrective action will be noted on the Sanitation Monitoring Report.
- D. Employee Practices - Hand washing facilities with hot water, soap, and single service towels will be available in restrooms. Before production each day, the restrooms and break areas will be checked for cleanliness and adequate supplies of soap, towels, and toilet paper. Hand dip stations will be ready for production with specified concentrations of chlorine or iodine sanitizers. Hand dip solutions should be changed as frequently as necessary to maintain effectiveness. Production will not begin until conditions are satisfactory.

- E. Protection from Adulteration - Throughout production until shipment, product will be monitored periodically for adulteration. The area and frequency of monitoring and the corrective action for non-compliance should be specified.

Before production each day each item of machinery should be checked to see that it is in good repair, and properly cleaned and sanitized. Production will not begin until equipment is properly cleaned, sanitized, and in good repair. During each break and after each breakdown of equipment, machinery will be checked to ensure all damaged and broken parts are accounted for.

Fresh fish are examined on receipt. The general condition of the fish should be surveyed to determine the examination procedure. The fish temperature should be used to determine handling priorities. Decomposed fish should be discarded. Fish should be sorted by species.

- F. Storage, Cleaning Chemicals - Before production each day the warehouse/storage area will be checked for cleanliness. Container storage, salt storage, and chemical storage areas will be in compliance with requirements in 21 CFR Part 110. Chemicals used will be in the USDA List of Proprietary Substances and Nonfood Compounds. Material Safety Data Sheets should be available for each chemical used.
- G. Employee Health - Employees with communicable diseases and other factors covered by 21 CFR Part 110 will be restricted. The chain of command for reporting illness should be listed.
- H. Exclusion of Pests - Before production each day, provisions for exclusion of pests will be checked. Insectocutors will be cleaned daily, or as needed. Requirements in 21 CFR Part 110 will be met. The corrective action for non-compliance should be listed.

III. RECORDKEEPING

- A. Report Forms - Information collected and corrective action taken will be recorded on appropriate report forms. The following Sanitation Monitoring Report may be used as a checklist for plant areas that must be monitored. The following Chlorine Log may be used for chlorine monitoring information. Other logs or report forms should be used for other examinations such as the examination of fresh fish on receipt.
- B. Examples of Forms
 - Sanitation Monitoring Report
 - Chlorine Log

ABC SALMON PACKING COMPANY
123 Kodiak Drive, Cold Tail Lake, AK

SANITATION MONITORING REPORT

Date: _____ Inspected By: _____

DESCRIPTION	COMPLIANCE		DESCRIBE NON-COMPLIANCE	CORRECTIVE ACTION TAKEN
	YES	NO		
Water:				
Fresh				
Sea				
Ice				
Food Contact Surfaces:				
Fish Pump				
Fish Bins				
Fish Totes				
Conveyors				
Header				
Butchering				
Cleaning Line				
Cross-Contamination:				
Water				
Product				
Employee Practices:				
Rest Rooms				
Hand Dip				
Break Area				
Employees Clothing				
Protection From Adulteration:				
Fresh Fish				
Butchering				
Filler				
Seamer				
Storage:				
Container Storage				
Salt Storage				
Chemical Storage				
Brite Stack				
Employee Health:				
Illness				
Unprotected Abrasion				
Exclusion of Pests:				
Grounds				
Receiving Area				
Processing Area				
Storage Area				

Reviewed By and Date: _____

APPENDIX 2

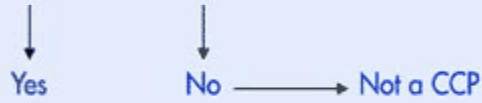
RISK ASSESSMENT TOOLS

This Appendix includes two risk assessment tools:

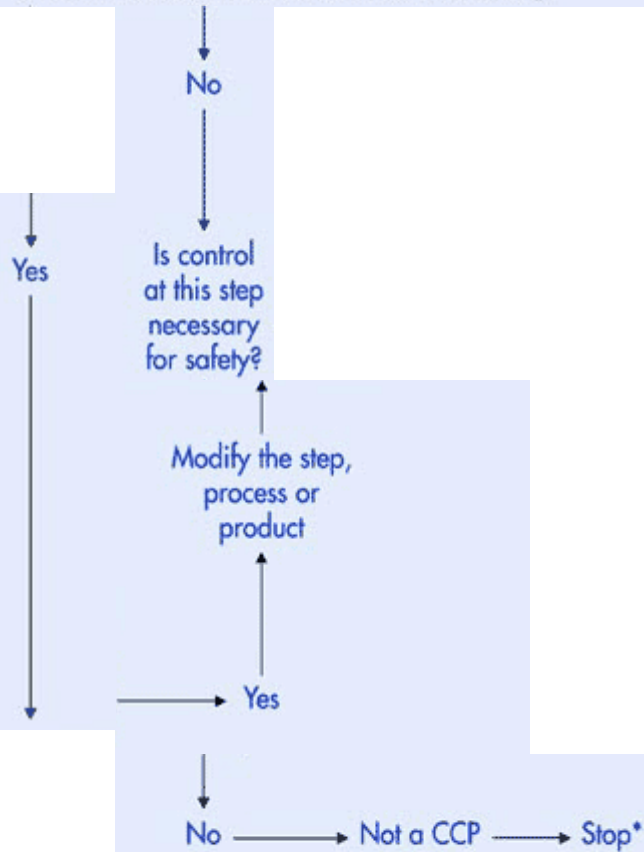
1. The CCP Decision Tree derived from that developed by the National Advisory Committee on Microbiological Criteria for Foods (NACMCF), and is intended to be used for identification of food safety related Critical Control points.
2. A Risk Assessment Decision Matrix modeled after Codex principles for evaluating food safety risks in the context of a HACCP program.

CCP Decision Tree

Q1. Does this step involve a hazard of sufficient risk and severity to warrant its control?



Q2. Does a control measure for the hazard exist at this step?



Q3. Is control at this step necessary to prevent, eliminate or reduce the risk of the hazard to consumers?



** Proceed to the next step in process.*

RISK ASSESSMENT DECISION MATRIX EXAMPLE

			LIKELIHOOD OF OCCURANCE		
			HIGH <u>H</u>	MEDIUM <u>M</u>	LOW <u>L</u>
SEVERITY	CRITICAL <u>C</u>		CCP, RAP, QAP		MODERATE
	MEDIUM <u>M</u>			MODERATE	
	LOW <u>L</u>		LOW		

The above risk matrix is an example modeled after CODEX principles for evaluation of food safety hazards, and may also be used when evaluating regulatory action points and/or quality action points.

QUALITATIVE RANKING OF RISKS
Canned Salmon Model

<u>CANNED SALMON</u>		CRITICAL CONTROL POINTS (CCP's)		REGULATORY (RAP's) (Excludes CCP's)		QUALITY (QAP's) (Excludes CCP's & RAP's)	
<u>PROCESS STEP</u>		LIKELIHOOD OF OCCURRENCE	SEVERITY	LIKELIHOOD OF OCCURRENCE	SEVERITY	LIKELIHOOD OF OCCURRENCE	SEVERITY
1	FISH RECEIVING	L	M				
2	CAN BODY AND END RECEIVING AND STORAGE	Prerequisite Program					
3	SALT RECEIVING AND STORAGE	L	M				
4	FISH STORAGE	L	M				
5	FISH BUTCHERING OPERATIONS AND CUTTING	L	L				
6	CAN DE-NESTING	Prerequisite Program					
7	CAN INVERTER CLEANER	L	L				
8	SALTER	L	L				
9	CAN FILLING	L	M				
10	PATCHING TABLE	L	M				
11	CAN ENDS	Prerequisite Program					
12	CAN SEAMING	M	C				
13	THERMAL PROCESSING	M	C				
14	WATER COOLING	M	C				
15	PALLETING AND WRAPPING	L	L				
16	SHIPPING	L	L				

LIKELIHOOD OF OCCURRENCE: H = High, M = Medium, L = Low

SEVERITY: C = Critical, M = Medium, L = Low

This table is only an example, there may be additional processing steps to consider for your plant and intended market.