

***Global Aquaculture Alliance
Best Aquaculture Practices***



**SEAFOOD PROCESSING
PLANT STANDARDS**

(Issue 4, Revision 2, December 2015)

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A. Introduction

The Global Aquaculture Alliance (GAA) is an international, non-profit trade association dedicated to advancing environmentally and socially responsible aquaculture. The Alliance was founded in 1997 with 59 members in the Americas, Europe and Asia. It now comprises 1,100 members in 70 countries and has become the most prominent industry organization representing the global aquaculture business (www.gaalliance.org).

Background to the Standard and Standard Scope

This document is the Global Aquaculture Alliance (GAA) – Best Aquaculture Practice (BAP) **Seafood Processing Standard – Issue 4**.

The full scope of the BAP standard is:

- Food Safety Management and Related Requirements (Sections 1-7)
- Glossary (Annex 1)
- Social Responsibility Requirements (Annex 2)
- Effluent Management Requirements (Annex 3)
- Additional Traceability Verification Requirements (Annex 4)
- Third Party Laboratory Sampling and Testing Verification Requirements (Annex 5)
- Water Quality Testing Requirements (Annex 6)

In order to achieve clarity for standards benchmarking, sections 1-7 have been kept separate from the Annexes. However, compliance with all elements (full scope) are required for certification.

The objective of the Food Safety Management and Related Requirements of the GAA BAP Seafood Processing Standard is to specify the food safety and quality criteria required to be in place within a seafood manufacturing or processing organization to achieve certification to the BAP Standard. The format and content of the Standard is designed to allow an assessment of a Company's premises and operational systems and procedures by a competent third party.

The GAA Best Aquaculture Practices - Seafood Processing Standard covers nearly all aquaculture species as follows:

- Finfish
- Mollusks
- Crustaceans.

Standards Development

Through the development of its Best Aquaculture Practices (BAP) program, GAA has become the leading standards-setting organization for farmed seafood.

In 2003 it released its first BAP standard for the certification of shrimp farms and in 2004, in recognition of the critical importance of seafood processing in delivering safe products, it published the BAP Standard for Shrimp Processing Plants.

In 2007 this standard was rewritten to cover a wide range of aquaculture products beyond shrimp.

In June 2008, the GAA began an expert led, extensive Review Project to restructure its Standards and Certification Management to validate that they met the requirements of ISO 65 accreditation and the benchmarking requirement of the Global Food Safety Initiative.

This process was completed in 2009 and included re-formatting the 2007 version of the BAP Seafood Processing Standard to enhance it and improve clarity. The result was The GAA BAP Seafood Processing Standard: Food Safety Management Component: Issue 2 May 2009. In August 2012 Issue 2 was slightly modified to incorporate a few additional clauses per GFSI requirements.

In March 2013, revisions were made to some of the annexes which are not part of the food safety management component. These revisions affected only Annex 2, Social Responsibility and resulted in the present version – Issue 3. In January 2014, Annex 3 incurred a minor revision for the effluent table and therefore remained as Issue 3 Rev. In April 2015, the standard was revised to align all elements of the standard and interpretation guidelines (IG) for clarity, eliminate redundant clauses, and add new clauses to strengthen certain quality, food safety, social responsibility and traceability components.

Acknowledgements

An expert group (Processing Technical Standards Committee) developed and endorsed the Standard, with representatives throughout the supply chain and interested parties including Industry Associations, Processors, Producers, Regulators, Non-Government Organizations and Conformity Assessment and Standards experts.

The GAA is grateful to the members of the Processing Technical Standards Committee who wrote the BAP Seafood Processing Standard and to the other specialists that provided valuable input during the review process:

Monica Drazba, USAID (Committee Chair)
Lisa Goche, Surefish
John Wigglesworth, Darden Restaurants
Jon Bell, LSU
Agnes Saborio, Universidad Centroamericano
Carlos Mario Ramirez, Cartagenera de Camarones
Leyla Umaña, Ministry of Agriculture, Nicaragua
Ana Acosta, Deli Shrimp Farms
Larry Drazba, Camarones de Nicaragua
Eric Bloom, Eastern Fish
Steven Thompson, Empress
Bart Cox, Ocean Beauty
Steve Lamming, Foodvest
Gregg Small, US Seafood Inspection Program
Dan Herman, US Seafood Inspection Program
Bart Lovejoy, Surefish (Seattle)
Robert Csecsinovitis, L&D Foods
Steven Newman, Aqualn Tech Inc.
Sally Ananya Surangpimol, Director of Seafood School, Thailand
Bill More, Aquaculture Certification Council Inc.
Peter Marshall, IFQC / Global Trust Ltd.

As many of the above contributors changed companies, locations or became inactive over the years, a standing Plant Technical Committee was formed in 2014 representing industry, social responsibility, and food safety expertise. The GAA is grateful to the members of the committee who contributed to the revision of the standard undertaken in 2014 and early 2015. As well as to the other third-party experts who participated in reviews and comments.

Victor Garrido – Quirch Foods
Brian Whitters – Underwriters Laboratories
Dr. Stephen Otwell – The University of Florida

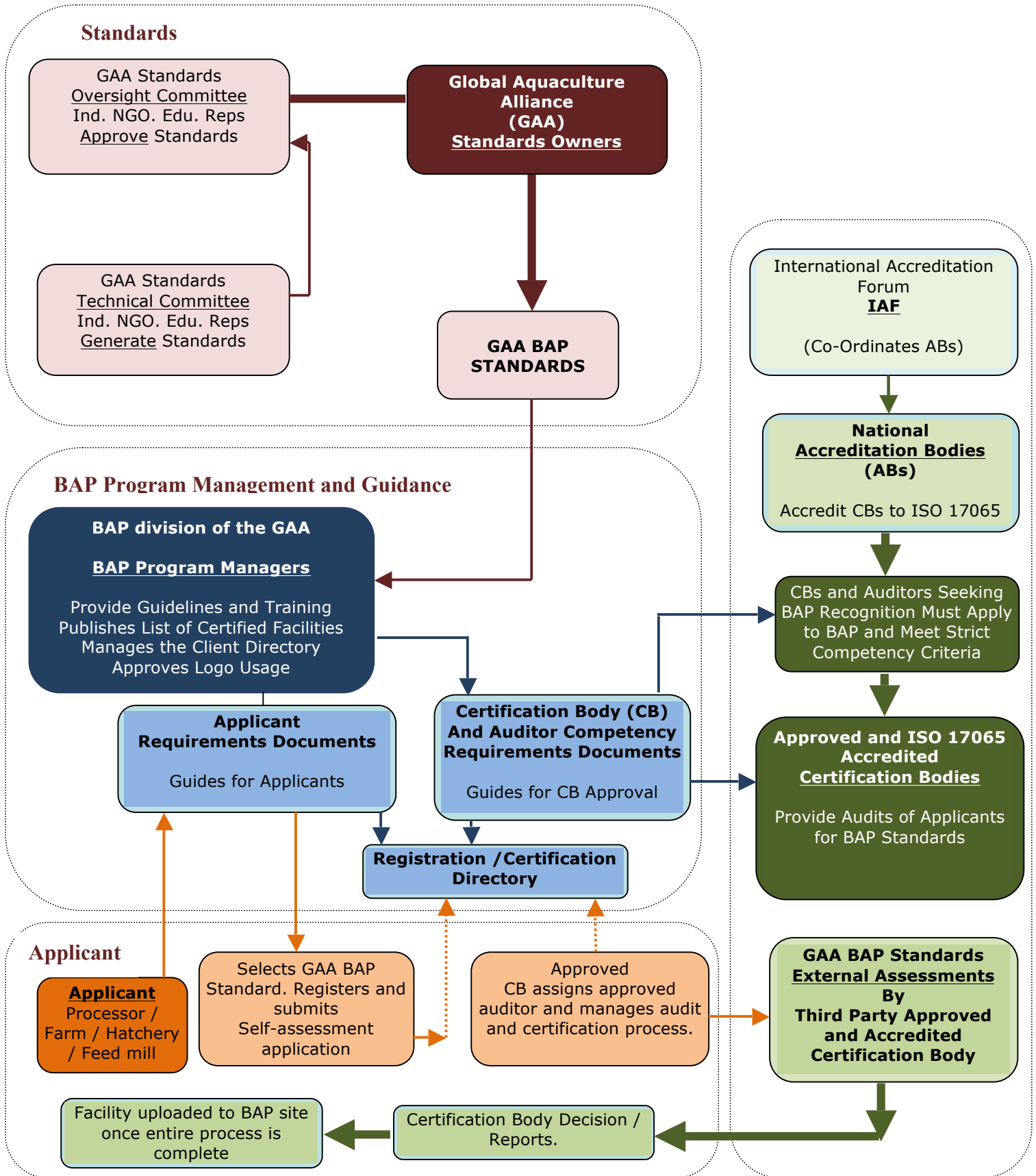
In addition, GAA commissioned a different team at UL to conduct a separate, detailed third-party assessment of Annex 2 – Social Responsibility. This assessment was completed in January 2015, with the results informing several of the changes made to that section.

This Standard will be regularly reviewed to ensure its relevance with legislation and market requirements.

The normative documents from which the initial standard (or subsequent versions as noted) were drawn upon were/are:

- ISO19011:2002
- ISO/IEC Guide 7:1994
- ISO/IEC Guide 65:1996
- Subsequently - ISO/IEC Guide 17065:2012
- ISO/IEC Guide 2:2004
- ISO 9000: 2005
- Global Food Safety Initiative Guidance Document – Issue 5 and subsequently, Issue 6

Diagram 1 – Summary of the Structures Associated with the Certification Program



B. The Certification Process

Program Management

The Best Aquaculture Practices (BAP) division of the GAA (GAA BAP) are the Program Managers for BAP.

Companies who wish to be certified against the BAP Standards must in the first instance apply to the BAP Division. Already certified facilities must re-apply to the BAP division to renew their certification annually. Email addresses for new versus recertifying applications are different, and shown below.

Two International Drive | Suite 105 | Portsmouth, New Hampshire 03801 USA

+1-603-317-5225

For NEW applicants: Email: bap@gaalliance.org

For RECERTIFYING applicants: Email: bapcert@gaalliance.org

bap.gaalliance.org

Self-Assessment

Applicants are required to carry out a self-assessment against the standard in order to ascertain their readiness for a third party Certification Body audit. The application on the website can be used for the self-assessment. It has the same questions as the audit checklist. Applicants are to correct any deficiencies prior to the third party audit.

Assessments

Once a self-assessment has been carried out and the company is satisfied that all non-conformances identified have been corrected, the company can proceed to Certification.

To become certified, Applicants must be able to demonstrate compliance with this Standard, through an independent third-party, on site assessment by a *GAA Approved Certification Body*.

The Certification Body must be approved by the GAA and be accredited to ISO/IECC Guide 17065:2012 (General Requirements for Bodies Operating Product Certification Systems) by an Accreditation Body who is a Member of the International Accreditation Forum and a signatory to the Multilateral Recognition Agreement

The chosen Certification Body will formulate an agreement between the Applicant and the Certification Body detailing the requirements and commitments needed from the Applicant.

The BAP division of the GAA will maintain a list of approved Certification Bodies.

Assessment Frequency

The frequency of assessment to maintain Certification will be set by the GAA. This will be based on the producer's demonstrated ability to consistently comply with the requirements of this standard.

Normally the frequency of assessment will be once per annum. Re-audits, short notice, or unannounced audits shall also be conducted at BAP and CB discretion where facility compliance concerns arise.

Duration of Assessments, and Non-Conformities

The duration of Assessments shall be a minimum of 2 days. Duration is dependent on a number of factors such as the size of the operation. In many cases the duration would be 2.5 to a maximum of 3 days (all on site or combined desk top review in advance, then on site). In all cases it shall be sufficient to ensure that a full assessment against the full scope of the BAP Standards, including the Annexes, is achieved.

The BAP Division will insist upon accurate assessments by the Certification Body with a duration sufficient to ensure integrity of the audit outcome.

The Certification Body shall be mindful that the assessment format is one of systems review and physical inspection of the site and manufacturing process. Time allocation during the Assessment shall be such to provide sufficient and proportionate time for each activity to be carried out in full and where appropriate, additional time given when the Auditor is required to carry out further investigation.

An Assessment will consist of Seven elements:

- opening meeting
- site assessment
- collection of any necessary samples
- Worker Interviews
- review of management systems / records and procedures
- closing meeting
- Provision of non-conformance summary to the facility

Any Non-conformity raised during the assessment will be recorded by the auditor as either:

Critical –Where there is a Critical failure to comply with a food safety or legal issue or a risk to the integrity of the Scheme

The Auditor will immediately inform the Certification Body, who will inform the BAP division. Immediate temporary suspension may ensue pending clarifications.

Major - Where there is a substantial failure to meet the requirements and/or intent of any clause in the Standard but there is no Food Safety risk, legal issue or immediate risk to the Integrity of the Scheme. (Generally Policy)

Objective evidence verifying the proper implementation of corrective action and closing of non-conformities shall be submitted to the Certification Body in a timely fashion.

Minor- Where absolute compliance with requirements and/or the intent of any clause in the Standard has not been demonstrated. The matter does not rise to the level of Major or Critical

and tends to be small issues or isolated instances rather than patterns. Not indicative of an overall breakdown in compliance and systems.

Objective evidence verifying the proper implementation of corrective actions and closure of non-conformities shall be submitted to the Certification Body in a timely fashion.

At the closing meeting, the Auditor shall present his/her findings, and discuss all non-conformities that have been identified during the assessment, but shall not make comment on the likely outcome of the Assessment.

A written summary of the non-conformities discussed at the closing meeting shall be left with the facility prior to the auditor departing.

As stated above, the Applicant shall provide to the Certification Body, in a timely fashion, suitable and adequate objective evidence that corrective action has been implemented to correct the non-conformity. This evidence shall also address root cause and future prevention. The evidence will be reviewed and the CB will respond either confirming closure of the non-conformity, or requesting further evidence.

Failure to close out non-conformities in the given timescales will result in certification not being offered or maintained.

Audit Reporting and the Certification Decision

The Auditor will provide a full report of the assessment, including the details of any non-conformities issued. The Auditor will submit the report to the Certification Body. The report shall include brief statements of objective evidence of both conformity, and non-conformity.

The report **shall follow the format specified by the BAP division**. The report shall be issued in accordance with the BAP division Report Guidelines.

Within the Assessment Report there shall be a record of the duration of the assessment (expressed as hours) and any reason for the lengthening or shortening of the duration from that which is typical.

The Applicant who commissioned the Assessment owns the Assessment Report. However a written agreement shall be in place between the BAP-approved Certification Body and the auditee for the authorization of the provision of a Report to the BAP division.

When audit reports are sent to the Applicant, they shall be in a secure (PDF) format to prevent modification.

The Assessment report will be considered by a Certification Committee of the Certification Body, who will make the final certification decision

Appeals

The Applicant has the right to appeal the certification decision of the Certification Body. Appeals should be made in writing within seven days of the Certification decision.

A full response will be given by a Certification Body Manager independent of the auditor and Certification Committee.

FULL BAP Certification

In order to achieve full BAP Certification to the Seafood Processing Standard the Applicant must meet the requirements of all components of the Seafood Processing Standard. This means all components of the standard including the Annexes.

C: Standard Requirements

Food Safety Management Requirements

1.0 Regulatory Management

- 1.1 The Applicant shall demonstrate that they are entitled to process and produce products at the site applied for.
- 1.2 Applicants shall ensure that:
 - 1.2.1 Documents are available to prove legal land and water use by the facility.
 - 1.2.2 Documents are available to prove all business and operating licenses have been acquired by the facility.
 - 1.2.3 Documents are available to prove compliance with applicable environmental regulations for construction and operation.
 - 1.2.4 Documents are available to prove that the Applicant is aware of, keeps up-to-date, and complies with, all relevant legislation of BOTH the country they operate in, and the countries they export to. This includes all food safety regulations.

2.0 Quality Management System (QMS)

2.1 General Requirements

- 2.1.1 The Applicant shall have an appropriate Quality Management System that is documented, authorized by senior management, effectively implemented, maintained and continually improved.
- 2.1.2 The QMS shall be reviewed and updated as often as necessary, with a minimum frequency of annually.
- 2.1.3 The Quality Management System shall include a clear Food Safety Management System based on HACCP. (This can either be part of the QMS or a separate document).
- 2.1.4 The Quality and Food Safety Management Systems shall:
 - 2.1.4.1 Identify the processes for the quality and food safety management systems.
 - 2.1.4.2 Determine the sequence and interaction of these processes.
 - 2.1.4.3 Determine criteria and methods required to ensure the effective operation and control of these processes.
 - 2.1.4.4 Ensure the availability of information necessary to support the operation and monitoring of these processes.
 - 2.1.4.5 Implement action necessary to achieve planned results and continual improvement.

2.2 Quality Manual

- 2.2.1 The Applicant shall have an appropriate Quality Manual which incorporates Food Safety that is readily available to all personnel involved in quality management. The Quality Manual shall include controls that address all requirements of the BAP Standard.
- 2.2.2 The Quality Manual shall be appropriate to the range of products to be processed and shall include documented procedures or specific reference to them and describe the interaction of the related processes.
- 2.2.3 The Quality Manual shall clearly define all of the quality attributes for all raw material received, and finished products produced, that shall be monitored and controlled to ensure conformance to legal requirements and customer and facility specifications.
- 2.2.4 The Quality manual shall define the attributes in 2.2.3 to include, at a minimum, conformance requirements for: labelling, net weight, size, proper sensory attributes color, and all appropriate defects such as presence of shell fragments, bones, skin, bruising, trimming defects, and so forth, as appropriate.
- 2.2.5 There shall be a procedure in place where sensory analysis is conducted to detect, or prevent use of, raw material, finished products, or perishable ingredients that are decomposed.
- 2.2.6 The quality manual shall include procedures for calibration or accuracy checks for all items or instruments critical to product legality and quality. Such as checking the accuracy of scales used for weighing ingredients or finished products, colorimeters, and so forth.
- 2.2.7 The Quality Manual shall define the sampling size, testing frequency, procedures, maximum or minimum tolerance levels, corrective action, responsible personnel, and recordkeeping requirements associated with all of the quality management procedures.

2.3 Quality Management System Policy Statement

- 2.3.1 As part of the Quality Manual, the Applicant shall have a clearly defined, documented and authorised Quality Management System Policy statement that reflects its commitment to the entire scope of the BAP standard, including the Annexes.

2.4 Management Responsibility and Organizational Structure

- 2.4.1 The Applicant shall have an organizational chart that reflects the current plant management and, at a minimum, those staff and their back-up personnel responsible for compliance with quality assurance, legality, and food safety requirements.
- 2.4.2 The Applicant shall also define and document job functions, responsibilities and reporting relationships of at least those staff whose activities affect product quality, legality and food safety.
- 2.4.3 The Applicant shall clearly identify the Staff Member accountable for the maintenance of the Quality Management System and for the company meeting and adhering to all of the requirements of the BAP Standard.
- 2.4.4 The Applicant shall identify the membership and competency of the HACCP Team. Competency shall be demonstrated through documented evidence of HACCP training.

2.5 Management Commitment

- 2.5.1 The Applicant's senior management shall demonstrate their commitment to the development, implementation, and continuous improvement of all elements of the Quality Management System in order to ensure compliance with the entire scope of the BAP standard (including Annexes).

2.6 Resource Management

- 2.6.1 The Applicant's senior management shall determine and provide, in a timely manner, all the resources needed to implement and improve the processes of the QMS and to address customer satisfaction.

2.7 Management Review

- 2.7.1 The Applicant's senior management shall be involved in the QMS review of all plans, procedures and systems necessary for compliance with the full scope of the BAP standard (including its annexes).
- 2.7.2 Management reviews shall occur at planned intervals and as a minimum annually. . These reviews shall ensure the plans are up-to date and continue to be effective.
- 2.7.3 Minutes of the management review meeting shall be maintained and available for review. The minutes shall include, at a minimum: attendees, agenda items, key decisions, and follow up actions with time scales and accountabilities. Follow up actions shall be closed out in a timely manner and the results, documented.

2.8 Purchasing & Specifications – Items

- 2.8.1 The Applicant shall document all ITEMS purchased that impact food safety, legality and quality. The purchasing process shall be controlled to ensure these items conform to requirements. (Examples of items include raw material, finished product, packaging, additives and ingredients. See clause 2.9.2 – purchasing of shrimp from peeling/deheading sheds is prohibited).
- 2.8.2 The applicant shall demonstrate control as noted in 2.8.1 through, at a minimum: the appointment of designated purchasing personnel and written purchasing procedures. (See also 2.10 – “Supplier Approval and Performance Monitoring”).
- 2.8.3 The applicant shall also develop and maintain written specifications that include, at minimum, food safety, legality and quality for the items stated in clause 2.8.1.
- 2.8.4 The specifications shall be agreed to between the facility and their suppliers, and shall be signed, dated and authorized by appropriate parties.
- 2.8.5 Specifications shall be kept up-to-date and periodically reviewed (which shall occur at a minimum, annually). Specifications shall be readily available for reference by designated personnel.

2.9 Outsourcing & Specifications – Processes and Services

- 2.9.1 The applicant shall exercise proper control over any entity that is used to outsource any PROCESSES AND SERVICES that may have an impact on food safety, legality, quality, traceability and social responsibility. (See Annex 4 regarding traceability and BAP star status). The control measures over such outsourced processes shall be identified, documented and monitored to ensure compliance with the full scope of the BAP standard, including its Annexes. This clause refers to outsourced activities OTHER THAN the peeling or deheading of shrimp. See 2.9. (Outsourced services or processes under this clause may include, for example – heading, gutting or bleeding of finfish, pest control, sanitation, storage, product transport, etc.)
- 2.9.2 The applicant shall not outsource to, use, or buy shrimp from entities known as “peeling or deheading sheds.” These are defined as independent, third-party “satellite” operations. To be eligible for BAP certification, the peeling and heading of shrimp shall occur only in the facilities owned by and completely controlled by a BAP-certified processing plant. The facilities must be located onsite or in close proximity to the BAP-certified processing plant in order to ensure that they are included as part of the scope of the annual BAP audit.
- 2.9.3 The applicant shall appoint a designated management person or persons with the authority to approve and/or disapprove outsourcing activities and each associated service provider.
- 2.9.4 The applicant shall keep an up-to-date list of all entities they are outsourcing processes and services to, and the specific activity that is outsourced to each.
- 2.9.5 Specifications for outsourced processes and services as described in 2.9.1 shall be developed by the applicant and included as part of a signed contract or service agreement between the facility and the provider. These specifications shall include compliance criteria associated with food safety, quality, legality, traceability and social responsibility. (See also 2.10 – “Supplier Approval and Performance Monitoring”).
- 2.9.6 Specifications shall be kept up-to-date and periodically reviewed (which shall occur at a minimum, annually). Specifications shall be readily available for reference by designated personnel.

2.10 Supplier Approval and Performance Monitoring

- 2.10.1 The applicant shall have a supplier approval program which includes a list of approved suppliers and service providers as described in 2.8 and 2.9 above. This list shall be kept up-to-date and reviewed, at a minimum, annually.
- 2.10.2 The supplier approval program shall include all suppliers described under 2.8.1. The program shall also include criteria for approval, and the facility policy and/or procedure for temporary use of unapproved item suppliers.
- 2.10.3 The supplier approval program shall also include all outsourcing service providers described under 2.9.1. In this case, there shall also be a policy statement AGAINST allowing the temporary use of unapproved OUTSOURCING SERVICE provider.
- 2.10.4 The applicant shall have in place a procedure for regularly monitoring the performance of the suppliers described in 2.8 and 2.9. This monitoring shall be EFFECTIVE and occur annually, at a minimum. Acceptable performance criteria shall be defined as well as actions to be taken where performance does not meet criteria. The results of the performance assessments and follow-up actions shall be recorded.

2.11 General Documents Requirements

- 2.11.1 The Applicant shall have a written documentary control procedure in place that ensures all documents and procedures necessary for compliance with the full scope of the BAP standard (including Annexes) are in place and effectively controlled.
- 2.11.2 The documentary control procedure shall include how versions are controlled, persons with the authority to modify and authorize them, and measures to ensure outdated versions are not used.

2.12 Procedures

- 2.12.1 The Applicant shall prepare and implement standard operating procedures, quality procedures, food safety management procedures, and work instructions for all processes and operations having an effect on product safety, legality and quality.
- 2.12.2 The applicant shall have documented Sanitation Standard Operation Procedures (SSOPs), Good Manufacturing Practices (GMPs), and Hygiene policies and procedures that comply with the standards of both the country in which the facility is located and those countries that receive the final products.

2.13 Record Keeping

- 2.13.1 The Applicant shall maintain records that demonstrate the effective control of product and systems to ensure compliance with the full scope of the BAP standard (including its Annexes).
- 2.13.2 The applicant shall ensure that all records are 100% complete, securely stored, and readily accessible when needed.
- 2.13.3 Records shall be retained for a time period required to meet customer or legal requirements. At a minimum this shall be product shelf life plus one year.
- 2.13.4 All food safety, quality, sanitation, and other records shall be filled out according to the frequencies specified in their associated plans (Quality Manual, HACCP plan, SSOP, GMP and Hygiene plans and policies).
- 2.13.5 All monitoring and corrective action records shall be reviewed by someone other than the person filling them out.
- 2.13.6 All Records and other documentation shall not show evidence of falsification.
- 2.13.7 Where local or national government auditing or inspection programs exist, these records shall be made available for review by the BAP auditor.
- 2.13.8 HACCP Records shall be reviewed by a HACCP-trained individual.

2.14 Corrective and Preventive Action

2.14.1 The Applicant shall ensure that procedures for the determination and implementation of corrective action, in the event of any significant non-conformity, are prepared and documented. These shall cover the full scope of the BAP standard (including its Annexes) and shall also address how future reoccurrences will be prevented.

2.15 Control of Non-Conformity

2.15.1 The Applicant shall ensure that any product which does not conform to requirements, is clearly identified and controlled to prevent unintended use or delivery. This shall include all products that do not conform to food safety, quality, legality, or customer specification requirements.

2.15.2 These activities shall be defined in a documented procedure that is securely stored and readily accessible when needed.

2.16 Serious Incident Management/Business Continuity Plan

2.16.1 The Applicant shall have a documented procedure that describes how product safety and quality will be maintained in the event of a serious incident such as fire, flood, chemical leaks, extended power outages etc. Such procedures shall ensure that any potentially damaged product is not released until their safety and quality have been verified.

2.16.2 Serious incidences that occur at the facility as described in 2.16.1 shall be documented. Records of product handling and disposition during and after the incident shall be maintained.

2.16.3 The plan shall also include a description of how the business continuity will be maintained in the event of a serious incident. This shall cover at a minimum how product integrity, worker safety, and key facility operations will be maintained.

2.17 Product Recall

2.17.1 There shall be a written Recall Plan that addresses how product that has been shipped will be identified, located, and recalled in the event of rejection or non-conformity related to food safety, legality or quality.

2.17.2 The Recall Plan shall list all personnel that are part of the “recall team”.

2.17.3 The recall plan shall be tested at a minimum, annually through a “mock recall” test. The results of the test shall be documented. The results shall identify, at a minimum: the “mock” incident, identification of all product affected and where it was shipped, how customers that received it were (or would have been) notified, and what percentage of product was successfully identified to be “recalled”. Each test show also state how long the mock recall took,

2.17.4 The “mock recall” trials shall successfully identify 100% of the product. Corrective action shall be taken for any deficiencies identified in the mock recall or traceability system. These corrective actions shall be documented.

2.17.5 There shall be a procedure that identifies a designated area for recalled product as well as a designated management person for determining disposition or disposal. This procedure shall ensure such products are not mixed with others or released inappropriately

2.18 Customer Complaint Procedure

2.18.1 The Applicant shall prepare and implement an effective system for the management of customer complaints to control and correct shortcomings in food safety, quality and legality.

2.18.2 All customer complaints shall be documented. Records shall include: the nature of the complaint, investigation, product affected, root cause analysis, corrective and preventive action, product disposition where appropriate, and final complaint resolution.

3.0 Staff Management

(See Annex 2 for additional requirements related to worker safety, health and other social responsibility issues.)

3.1 Staff Facilities

3.1.1 The facility shall provide safe, healthy and clean conditions in all work, rest, dining, and, where applicable, housing areas, and shall establish and follow a clear set of procedures that ensures occupational health and safety. This includes providing access to potable water, clean toilet facilities, and, where applicable, sanitary food preparation and storage areas.

3.1.2 If provided, employee housing shall meet local and national standards (e.g., safe, water-tight structures, adequate space, heating/ventilation/cooling, pest control, sink, shower and toilet facilities).

3.1.3 The Applicant shall have a sufficient number of toilets and sinks in compliance with local and national laws. These shall be readily accessible to employees and kept in good repair.

3.1.4 The facility shall provide a safe and hygienic place for workers to change into appropriate work attire and to store personal belongings.

3.2 Personal Protective Equipment and Clothing

3.2.1 Safe, appropriate and hygienic protective gear shall be provided, free of charge, to workers commensurate with work activity.

3.2.2 The Applicant shall list the protective equipment and clothing provided to employees (such as smocks, eye protection, gloves, insulated wear for refrigerated areas, boots for wet areas, etc.).

3.2.3 The Applicant shall provide Contractors and Visitors with appropriate protective clothing.

3.3 Medical Care

- 3.3.1 The Applicant shall provide adequate medical care for employees, including access to or communication with medical authorities in case of emergencies or accidents.
- 3.3.2 Applicants shall record the basic medical care provided by their facility.
- 3.3.3 First aid kits shall be readily available to employees close to work and rest areas.
- 3.3.4 The facility shall maintain a list of first aid items kept on hand and, where appropriate, their expiration date. Expired items shall be replaced promptly.

3.4 Training

- 3.4.1 The facility shall have a training program for workers and maintenance personnel that operate or work on machinery and/or other dangerous equipment. Such training shall include but is not limited to boiler operators, welders, forklift drivers and those that operate or work on cutting, peeling, sorting and other potentially dangerous machinery. Where local law requires workers to be licensed to operate or maintain such items, proof of licencing shall be maintained.
- 3.4.2 The Applicant shall have a training program to ensure workers that handle or are exposed to potentially dangerous chemicals, fuels, compounds, or other toxic substances are properly trained in their use. (See also 4.2.5).
- 3.4.3 The Applicant shall maintain a training program that orients new employees in general health, safety, product quality and the prevention of product contamination. The applicant shall also provide refresher training to all employees on these subjects at least annually. (See also more specific training requirements for hygiene and GMPs/SSOPs in clauses 5.9.4 and 5.9.15).
- 3.4.4 Records that verify proper training for all elements described above shall be maintained.

4.0 Environmental and Waste Management

4.1 Storage and Disposal of Plant Supplies

- 4.1.1 Chemical products, fuels, lubricants and other non-food grade and/or toxic compounds shall be properly labeled.
- 4.1.2 Used chemical containers shall not be reused in production or to store potable water, raw material, ingredients, packaging or other edible substances.
- 4.1.3 Chemical products, fuel, lubricants and other non-food-grade and/or toxic substances shall be securely stored in locked containers in areas that are away from kitchens, employee rest areas, and food production, packing and storage areas.
- 4.1.4 All items listed in 4.1.3 shall be safely stored to prevent mixing or water contamination that would result in noxious gases, explosions or other worker or food safety hazards. The storage area shall be well-ventilated and water-tight.
- 4.1.5 Secured storage areas for the items listed in 4.1.3 shall be under the control of designated responsible personnel.

- 4.1.6 Fuel, oil and lubricant storage shall include secondary containment areas to contain possible spills. The containment shall be equal to or greater than 110% of the capacity of the containers.
- 4.1.7 Fuel, lubricant and chemical storage and maintenance areas shall be marked with warning signs as appropriate (e.g. “authorized personnel only”, “flammable”, “no smoking”, “danger”).
- 4.1.8 Precautions shall be taken to prevent spills, fire and explosion. Equipment for managing and cleaning up spills shall be readily available. Employees working in such areas shall be trained in proper clean up procedures and in personal protection.

4.2 Environment – Waste Management

- 4.2.1 Sewage from the facility shall be adequately controlled to avoid contamination of the environment, food production areas, employee rest and housing areas, and water supply. It shall be properly treated through a municipal or plant sewer system.
- 4.2.2 Solid waste in plant production areas and on the plant grounds shall be properly stored and frequently removed. (This includes processing by-products such as heads, shells, bones, viscera, etc., and used packing materials). Such waste shall be disposed of to avoid negative impacts on the community and according to national environmental standards.
- 4.2.3 Used chemical and fuel containers, waste oil, lubricants, and expired chemicals and ingredients shall be disposed of in accordance with manufacturer’s instructions and local government environmental regulations. The applicant shall maintain copies of relevant and up-to-date regulations.
- 4.2.4 Facility personnel responsible for storage, transport and disposal of the items listed in 4.2.2 and 4.2.3 shall be appropriately trained to prevent personnel and food safety hazards as well as potential environmental contamination.
- 4.2.5 Where the local government requires a license or permit for the waste storage and disposal activities described in 4.2.2 and 4.2.3, the facility shall have a current copy of the plant’s or their service provider’s permit or license.

5.0 Food Safety Management

5.1 Food Safety Management System

- 5.1.1 All elements of the Applicant’s Food Safety Management System (e.g. the HACCP, GMP, Hygiene, SSOP and other related plans) shall be documented, implemented, maintained and continually improved.

5.2 Food Safety – Hazard Analysis and Critical Control Point (HACCP) Compliance

- 5.2.1 The Applicant’s HACCP system shall be systematic, comprehensive and thorough and shall be in compliance both with local national legislation and the legislation of the countries the facility exports to.

- 5.2.2 The HACCP plan and hazard analysis shall include, at minimum, at least those hazards identified by Codex Alimentarius, or the USFDA's "Fish and Fisheries Products Hazards and Controls Guide" (aka "FDA Hazards and Controls Guide"), Fourth Edition, April 2011, or both. Depending upon the country of operation and where product is exported to. Where local or export country(ies) requirements are stricter, those requirements shall prevail. In the absence of specific legislation or guidance for local or export country(ies), the hazards defined in the aforementioned "FDA Hazards and Controls Guide" shall become the default position that all applicants shall comply with.
- 5.2.3 The HACCP plan and hazard analysis shall include a list of all allergens present at the facility, including the various species of seafood handled. All allergens shall be effectively controlled throughout receipt, storage, handling and use.
- 5.2.4 In addition to the requirements stated in 5.2.3, there shall be a CCP for labeling the presence of allergens in the finished product. This CCP shall be part of the HACCP plan in order to protect the safety of the consumer.
- 5.2.5 The scope of the HACCP-system shall be defined per product, per process line/or process-location. It shall include verified process flow diagram(s), the description of the product and its presentation(s), intended use, and method of distribution.
- 5.2.6 All Applicants shall apply the seven HACCP-principles to the HACCP System.
- 5.2.7 All Critical control points shall be properly identified and procedures properly followed in order to control or prevent hazards
- 5.2.8 All critical limits set at each CCP shall be properly identified and followed. Critical limits shall be based on validated processes, industry standards or scientific and regulatory guidance.
- 5.2.9 Applicants shall include in the hazard analysis, potential hazards from environmental contaminants at the farm sites they purchase from. This includes chemicals, pesticides or heavy metals that may originate from industrial or agricultural operations near the farm.
- 5.2.10 The HACCP plan shall include monitoring at reception (i.e., receiving) for residues of the aquaculture drugs listed in Annex 5, Table II as appropriate for the species. The facility shall collect 1 sample per receiving lot. (See Annex 1 Glossary for the definitions of "Receiving Lot – Farm Suppliers" and "Receiving Lot – Plant Suppliers"). Tests may be performed by qualified in-house laboratories or by use of third party labs.
- 5.2.11 The use of aquaculture drugs shall not be allowed unless they are approved by BOTH the local country of operation, AND the countries product is being exported to. The facility shall prohibit their suppliers from any usage that is not in compliance with this requirement. Further, the facility shall include in their HACCP plan, testing for other unapproved and/or banned drugs at reception, beyond those listed in Annex 5, Table II, where compliance with local or country of export laws or buyer specifications require it. (Refer to Standard 1 – "Regulatory Management" system requirements).
- 5.2.12 Beyond those aquaculture drugs mentioned in 5.2.10 and 5.2.11, the facility shall conduct a risk assessment/hazard analysis regarding the potential use of aquaculture drugs that are permitted for use by the local country and/or country of export. Where this risk analysis indicates the potential for current or past use or misuse by some producers, the facility shall include residue monitoring at reception for those items in their HACCP plan as well.

(Note: For Value Added/Secondary Re-processors – for processors in this category that receive processed product from a Primary (first) processor, compliance with clauses 5.2.10-5.2.12 are required in one or more of the following ways: A. Address the hazard in the hazard analysis and conduct testing at reception B. Address the hazard in the hazard analysis and justify, where the conclusion is that the primary processor must control it, how that is to be assured. (I.e. incorporate the requirement for them to test as part of the Purchasing specifications and Supplier Approval and Performance Monitoring requirements in sections 2.8 and 2.10).

- 5.2.13 Monitoring procedures adequate to control each hazard at each CCP shall be identified in the HACCP plan. These procedures shall include the monitoring frequency, methods, responsible staff, and associated records.
- 5.2.14 The applicant shall identify in the HACCP plan, corrective actions that shall be taken any time a critical limit is not met at any CCP. The corrective actions taken shall be documented. The corrective actions shall include product disposition, as well as root cause and future prevention. (Reference also clause 2.15 “Control of Non-Conformity”).

5.3 Food Safety - HACCP Procedures Assessment

- 5.3.1 The HACCP Team shall meet regularly to review HACCP compliance and assess the need for plan revisions. Such reviews shall be conducted to assess effectiveness, and any time there is a change in the product, processes, ingredients, etc. that may have an impact on food safety. Records of these meetings shall be kept. Where there have not been any changes, such meetings and plan assessments shall occur at minimum annually.
- 5.3.2 Such a review shall also evaluate the need for changes to other components of the applicant’s food safety management system, including but not limited to specifications, supplier performance monitoring, food safety policy and food safety objectives.

5.4 Food Safety – Food Defense

- 5.4.1 The facility shall have a documented risk assessment system and procedure in place to identify and address food defense risks. This shall be established, implemented and maintained to prevent, reduce or eliminate these risks. The food defense plan and risk assessment shall be reviewed, at minimum, annually. (Note: Food Defense risks are not HACCP related but rather facility security/sabotage related. Intended to prevent, for instance: tampering or adulteration of product or the water supply by entry of unauthorized personnel, entry by disgruntled or terminated employees, uncontrolled access to storage areas, or access to and misuse of toxic compounds in the facility).

5.5 Food Safety - Plant Sanitation - Pest Control

- 5.5.1 The facility shall have in place an effective pest control program/system that prevents, controls and eliminates risk of pest infestation and harborage areas inside the facility and on facility grounds. Pest control shall be performed by either a licensed third party or a properly trained personnel within the facility.

- 5.5.2 Litter and discarded equipment shall be properly disposed of to avoid the creation of pest harborage areas.
- 5.5.3 Windows, doors, walls and other openings to the outside of the facility shall be adequately sealed, screened or covered to exclude pests. In addition, applicants shall ensure all proper steps are taken to prevent pest entry through effective building design, maintenance, operational procedures and staff training.
- 5.5.4 There shall be a sufficient number of pest traps at appropriate locations.
- 5.5.5 All pest traps (electronic, baited, etc.) shall be located so as not to contaminate food-processing areas. Poison bait traps shall not be located inside food production or storage areas.
- 5.5.6 The Applicant shall have a program for pest trap inspection that includes a map of trap locations, regular cleaning and records of pests caught.
- 5.5.7 All pest traps identified on the pest control map in and around the facility and in storage areas shall be in place and fully functional.
- 5.5.8 Processing and primary storage areas in the facility shall show no evidence of pests or pest activity (insects, rodents, birds, dogs, cats, feces, urine, etc.).
- 5.5.9 All items stored in warehouse areas shall be placed on pallets above the floor and away from walls. All food ingredients and packaging shall be stored in clean areas free of dust and debris and covered and protected from pests and other contaminants.

5.6 Food Safety - Plant Sanitation - Facility Design and Construction

- 5.6.1 The facility's grounds and outside areas shall be maintained to prevent worker safety hazards, and environmental, hygiene and pest harborage risks. This shall include proper drainage, and elimination of shrubs, high grass, equipment and other materials close to the facility.
- 5.6.2 All food contact areas shall be constructed of food grade materials. Bare wood, cloth, corrosive or flaking materials or other non-food grade substances are prohibited.
- 5.6.3 Restrooms and other personal hygiene areas shall open directly into transition areas with proper sanitation controls and not directly into processing areas or areas outside the plant.
- 5.6.4 Internal floors and walls shall be made of a smooth, impermeable material that can be readily cleaned and sanitized.
- 5.6.5 The corners between the walls and floors shall either be rounded, or properly sealed and maintained to prevent the accumulation of waste and contaminants.
- 5.6.6 Floors of the facility shall have adequate drainage, including during peak water volumes, to avoid puddling and the accumulation of waste and contaminants.
- 5.6.7 The Applicant shall maintain sufficient separation of space between finished and unfinished products to prevent cross contamination.
- 5.6.8 All equipment shall be designed, installed, constructed, and used so as to prevent product contamination.

5.7 Food Safety - Plant Sanitation – Maintenance

- 5.7.1 All overhead lights in food production and primary storage areas shall be shielded or made of shatterproof material to prevent glass contamination of product from broken bulbs.
- 5.7.2 The Applicant shall provide sufficient lighting to properly carry out processing activities.
- 5.7.3 The roofs of food production, food packaging, ingredients and chemical storage areas shall be maintained. There shall be no evidence of leaks, mold, rust or flaking paint.
- 5.7.4 Painted surfaces in food production and primary storage areas shall be in good condition and free of chipping.
- 5.7.5 All floor surfaces in food production and primary storage areas shall be in good condition, and free of significant cracks or gouging. Where minor damage exists, the floor shall show that attempts to properly keep up with the maintenance are being made through evidence of repair and appearance on a regular maintenance schedule.
- 5.7.6 All food contact surfaces, including equipment and utensils, shall be in good condition and free of cracks, pits, gouging and abraded areas.
- 5.7.7 An effective maintenance program, including preventative maintenance, shall be in place and documented. This program shall include walls, floors and all items of equipment and other food contact surfaces critical to product quality and safety. The program shall include at a minimum: A. An itemized list of items and areas to be maintained B. A preventative maintenance schedule C. Records of inspections and maintenance performed.

5.8 Food Safety - Plant Sanitation - Cleaning and Sanitation

- 5.8.1 Work surfaces that come in contact with food products (tables, equipment, utensils, employee gloves and clothing) shall be in good condition and adequately cleaned and sanitized before use.
- 5.8.2 Applicants shall maintain a written SSOP that details cleaning frequency and designates implementation and verification responsibilities. The SSOP shall include a program for inspection and monitoring of the effectiveness of all cleaning and sanitizing activities.
- 5.8.3 Planned and frequent microbial analyses (aka “swab tests”) of food contact areas shall be carried out after cleaning and sanitizing to verify the adequacy of the sanitation regime.
- 5.8.4 All records of verification analyses required under 5.8.3 shall include total or standard plate count, *Staphylococcus* spp, and total coliforms at minimum. These records shall reflect consistent effort to improve sanitation, as evidenced by lower microbial counts on food contact surfaces.
- 5.8.5 All walls shall be clean and free of fungal growth. Product shall not come into direct contact with walls.

5.9 Food Safety - Plant Sanitation - Personnel

- 5.9.1 If local laws require regular health examinations of employees, records that report exam results shall be available for all workers in food production and packing areas.
- 5.9.2 Medical screening procedures shall be in operation for employees, contractors and visitors.
- 5.9.3 The facility shall have a documented personal hygiene standard and program that prevents product contamination that, at a minimum, includes the below elements and other related elements of this standard - as well as additional measures as appropriate based on risk.
- 5.9.4 The facility shall have an effective training program for all personnel on the personal hygiene standard and program and records of training shall be maintained.
- 5.9.5 All employees shall be monitored for signs of contagious illnesses (coughing, sneezing, sores, skin infections, etc.) upon arrival and during work in food production and packing areas, those found to be ill shall be removed from the plant site (records shall be maintained).
- 5.9.6 The facility shall have a policy in place that requires employees to report immediately to their supervisor if, during the work day, they become injured or ill.
- 5.9.7 All workers in food production and packing areas shall not wear jewelry (including earrings) and shall not carry items in pockets.
- 5.9.8 Workers shall wear appropriate protective clothing (clean aprons, hair confinement, face masks, boots, etc.) for their assigned tasks. These shall be removed upon leaving the production area.
- 5.9.9 Employees shall keep food and drink out of processing, packing and storage areas, and shall not smoke or chew tobacco or gum.
- 5.9.10 Employees shall keep personal items out of processing, packing and storage areas.
- 5.9.11 The Applicant shall have a sufficient number of foot baths, hand-washing/hand dip and sanitation stations located throughout food production areas. These shall be properly maintained and not easily avoided in order to promote good sanitary practices.
- 5.9.12 The Applicant shall monitor and enforce employee compliance with proper sanitary procedures, hygiene policies, and the use of sanitation stations described in 5.9.11 Workers shall use hand-washing stations routinely throughout the work period, or as needed to maintain the sanitation levels outlined in the facility SSOPs.
- 5.9.13 The Applicant shall provide a sufficient quantity of toilet paper (or where culturally applicable, washing facilities), disposable hand towels or other drying mechanism, and soap in employee sanitary facilities.
- 5.9.14 The Applicants shall monitor sanitary facilities for proper operation and stocking as described in 5.9.13. Applicants shall further ensure employee compliance with proper use of sanitary facilities, including hand washing after toilet use.
- 5.9.15 All Employees shall be trained in the Processing Plant sanitation SSOPs.
- 5.9.16 There shall be a documented policy that instructs contractors and visitors on facility sanitation and hygiene policies, including hand washing, control of personal items, and

the proper use of protective clothing. They shall be required by the facility to follow these policies.

5.10 Food Safety - Plant Sanitation – Ice, Water, Air, Gases and Steam

- 5.10.1 Water used in food production areas shall be checked at least every six months by an accredited independent third party laboratory for microbial and chemical contamination as described in Annex 6.
- 5.10.2 Water used in food production areas shall be assured safe and in compliance with USDFA and/or EU standards for microbial and chemical contaminants and disinfection treatments. Routine water quality checks during production days shall be carried out by the facility for residual disinfectant levels (such as chlorine or ozone). These checks shall occur at a minimum daily. The facility shall also test as for the presence of coliforms at minimum every 2 weeks.
- 5.10.3 The facility shall prevent water contamination through backflow with water supply check valves and proper hose storage.
- 5.10.4 All ice used on product or food production areas in the facility that is purchased from outside sources shall be tested at least every six months by an accredited independent third party laboratory for microbial and chemical contamination as described in Annex 6.
- 5.10.5 All ice produced by the facility itself using water that complies with clauses 5.10.1 and 5.10.2 shall be tested at least every six months by an accredited independent third party laboratory ONLY for the microbial parameters listed in Annex 6.
- 5.10.6 Ice shall be stored in hygienic and well-maintained areas free of dripping condensation, rust, dirt and other contaminants. Ice shall not be re-used and shall be handled so as to avoid cross-contamination from utensils, employee garments, storage and transport bins, and etc.
- 5.10.7 Routine ice quality checks, regardless of source, shall be carried out by the facility for the presence of coliforms at a minimum every 2 weeks.
- 5.10.8 Facilities shall have a procedure in place that ensures the safety of air, compressed air, steam, or other gasses used in direct contact with food or as an ingredient in food. The procedure shall verify that these items do not pose a risk of contamination to food or food contact surfaces.

5.11 Food Safety - Plant Sanitation - Chemical Products

- 5.11.1 All chemicals, including cleaners, sanitizers, phosphates, chlorine, sulfites, etc. shall be approved for use in food plants and used per manufacturer's instructions at recommended safe dosage levels.
- 5.11.2 All employees who handle chemicals (including but not limited to those listed in 5.11.1) shall be properly trained in their use through documentary procedures such as work instructions, SOPs and/or specifications.
- 5.11.3 Monitoring records for all chemicals used during food production shall be maintained and readily available. These shall include at minimum the name of the chemical, concentration level, and tests performed to verify the correct concentration.

5.12 Food Safety - Plant Sanitation - Ventilation

- 5.12.1 There shall be no evidence of condensation which has the potential to contaminate product, packaging materials, ingredients or food contact surfaces.

5.13. Food Safety – Storage, Transportation and Product Labeling

- 5.13.1 Procedures shall be in place to ensure raw materials, packaging, cleaners, sanitizers and ingredients are used in the correct order (first in-first out) and within the allocated shelf life (where applicable).
- 5.13.2 Product, ingredients, packaging, and other food contact items such as utensils, baskets, etc. shall be stored off floors, away from walls and covered.
- 5.13.3 Records for the continuous monitoring of frozen storage areas shall be documented. Product shall be maintained at -18°C or colder with no more than the occasional 3°C fluctuation above -18°C (except during defrost cycles).
- 5.13.4 Raw material and finished product in frozen storage shall be off the floor on pallets. There shall be aisles maintained between pallets and space between pallets and freezer walls to ensure adequate air flow.
- 5.13.5 Products shall be packed in bags, boxes or master cartons that are properly labeled with all information required by local legislation and legislation of the country of destination. Additionally, the lot identification shall also appear on the box or packaging that is in direct contact with the seafood.
- 5.13.6 Product labels shall also include all necessary information to ensure safe handling, storage, display, preparation and use of the product along the supply chain or by the consumer.
- 5.13.7 All vehicles, including contracted out vehicles, used for the transportation of raw materials, ingredients, packaging, intermediate/semi processed product and finished product shall be suitable for the purpose, maintained in good repair, at the proper temperature (where applicable) and be clean.
- 5.13.8 There shall be a written inspection plan for all inbound goods that include, at minimum, the items listed in 5.13.7. Such checks shall ensure the items and delivery containers meet specifications for safety and quality.
- 5.13.9 There shall also be a written inspection plan, as defined in 5.13.7, for outbound containers and items.

5.14 Food Safety - Cross-Contamination

- 5.14.1 The Facility premises, equipment, and flow shall be designed, constructed and maintained to prevent the risk of contamination or cross-contamination to food and food contact surfaces and ingredients. .

- 5.14.2 Raw product areas shall be physically separated from ready-to-eat product by a non-permeable barrier with self-closing doors to ensure contaminants are not transferred into sensitive areas.
- 5.14.3 All items used in ready-to-eat (RTE) areas (e.g. bins, crates, utensils, ingredients, ice, etc.) shall be kept separate from those used in raw areas. Such items shall be readily identifiable as for RTE areas through color coding, labelling, or other effective means. Where completely separate items are not possible, there shall be an effective documented cleaning and sanitation procedure in place for items used in raw areas prior to use in RTE areas. Such procedures shall be monitored daily.
- 5.14.4 All employees working in RTE areas, or moving from raw to RTE, shall be required to change into RTE-wear free of contamination in a designated changing room.
- 5.14.5 Process water shall adequately drain away from high-risk areas (cooking and ready-to-eat) to lower-risk areas where raw product is maintained.
- 5.14.6 There shall be positive air flow and circulation from high risk areas to low risk areas. (To prevent cross-contamination in areas where raw product is in the proximity of ready-to-eat and cooked product).
- 5.14.7 Loading and unloading activities shall be conducted in ways that prevent cross-contamination between raw and finished products, packaging and ingredients. (Physical separation, protective packaging, time separation or other effective means) (
- 5.14.8 Cleaning and sanitizing activities shall not occur where exposed product, packaging, ingredients or utensils are nearby to prevent cross-contamination.
- 5.14.9 All products in chilled and/or frozen storage shall be kept in protective sealed cartons. Ready – to –eat and raw products shall be kept separated from one another within the storage area.
- 5.14.10 There shall be effective procedures in place to prevent cross-contamination between allergen and non-allergen products, ingredients, utensils, and workers throughout receipt, storage, handling and use. Such procedures shall also be in place to prevent cross-contamination between ingredients or products with different allergens. These measures shall include physical separation, color-coding, labeling, time separation, or other effective means.

5.15 Food Safety – Product and Process Testing

- 5.15.1 There shall be a foreign materials prevention program (or series of separate programs), that prevents contamination from all forms of foreign material. Including but not limited to paint, wood, glass plastic, metal, hair, rust, and so forth.
- 5.15.2 There shall be a written program for the use of food additives or chemicals. Such as sulfites, color additives, phosphates, phosphate blends or other moisture retention agents. This program shall also include verification that these items are food grade and used in compliance with legal, customer, and manufacturer's requirements.
- 5.15.3 The facility shall conduct microbiological testing on finished product lots for bacterial pathogens for the parameters and frequency as required by local and country of export legislations and customer specifications.

(Note: Both primary (first) processors and secondary (value added processors receiving from a primary plant) are required to comply with this testing requirement).

- 5.15.4 A properly functioning metal detector or x-ray machine shall be in place to check all frozen finished product. (Where a facility is producing finished products that are not frozen – i.e. chilled – alternate metal detection and prevention methods may be used as described in the “FDA Hazards and Controls Guide, Chapter 20. Provided these are effective.)
- 5.15.5 Process-monitoring instruments critical to food safety and legality shall be calibrated, or tested for accuracy, internally (i.e. by the facility in house). Such instruments would include thermometers, pH meters, salinity meters, metal detectors, or other items that monitor CCPs. (See also 6.3).
- 5.15.6 The Applicant shall maintain a documented calibration/accuracy check schedule that identifies all measuring and monitoring devices referred to in 5.15.5 and 6.3. The schedule shall identify each item, calibration date, scheduled frequency, method or standard calibrated to, and the party that performed the calibration.
- 5.15.7 The process monitoring instruments described in 5.15.5 shall be internally calibrated, or checked for accuracy, correctly, and at an adequate frequency. This shall be, at a minimum, daily.
- 5.15.8 Process controls including, but not limited to temperature, pressure, and time shall be documented for cooked product.

6.0 Verification Management

6.1 Product Release

- 6.1.1 The Applicant shall prepare and implement appropriate product release procedures that identify processes and testing procedures that shall be performed. These shall include food safety, quality and legal specifications that shall be verified as having been met prior to release.
- 6.1.2 The Applicant shall identify the responsible person or persons authorized to release product. Product shall only be released by authorized personnel.

6.2 Internal Audit

- 6.2.1 The Applicant shall have an internal audit system in place that requires self-assessment of the facility’s performance against the full scope of the BAP standard, including its Annexes.
- 6.2.2 Records of the Internal Audits shall be maintained. Records shall reflect results of the internal audit, including conformity and non-conformity. Where non-conformities are found, records shall document corrective actions and time frame for completion for each.
- 6.2.3 The internal audits shall be conducted, at minimum, annually.

6.3 Third Party (External) Calibration

- 6.3.1 The Applicant shall ensure that all measuring and monitoring devices critical to food safety referred to in clause 5.15.5 are externally calibrated at least annually by a qualified third party.

6.4 Sampling

- 6.4.1 The applicant shall prepare a written sampling plan that details frequency and type of product testing. This sampling plan shall comply with the BAP testing requirements for antibiotics, microbial contaminants, and chemical additives described throughout the standard and its annexes. This sampling plan shall also incorporate any testing beyond BAP that are required by the local or country of export buyers or regulatory authorities.

6.5 Laboratory Testing

- 6.5.1 The Applicant shall prepare and implement a system to ensure that all product and ingredient testing and analysis critical to food safety are conducted to ISO 17025 or equivalent (i.e. the “General Requirements for the Competence of Testing and Calibration Laboratories”). This applies to both internal labs and external third party labs.
- 6.5.2 Records of third-party laboratory testing, testing methods, and the accreditations or approvals they have, shall be maintained. (Refer to Annex 5)

7.0 Traceability Management

7.1 Product Identity Preservation, BAP Lot Identification, Logo Use or BAP Claims

(Note: See Annex 1 – Glossary “BAP Star Category Definitions and Key Rules” regarding BAP 1, 2, 3 and 4 star. Products cannot be labeled, claimed or sold in any way as 2, 3 or 4 star unless all of the rules in the Glossary as well as Standard 7 and Annex 4 are complied with.)

7.1.1 **General** - The facility shall properly identify and label products of different BAP star categories whether or not BAP logo is used on packaging. Proper identification shall be maintained for each lot, for each star category, on all documents and at each step of the process flow from raw material receiving, handling, processing, packaging, storage and dispatch. Records shall be maintained to ensure integrity of BAP product claims and also demonstrate product of different BAP star categories are not mixed.

7.1.1.1 Facilities Eligible to Produce Two Star Product – The facility shall identify and separate raw material from BAP certified farms from that of non-certified farms throughout the process flow from raw material receiving, handling, processing, packaging, storage and dispatch.

7.1.1.2 Facilities Eligible to Produce Three Star Product – The facility shall identify and separate raw material from BAP certified farms produced from seed stock of BAP certified hatcheries/nurseries from that of non-certified farms throughout the process flow from raw material receiving, handling, processing, packaging, storage and dispatch.

7.1.1.3 Facilities Eligible to Produce Four Star Product – The facility shall identify and separate raw material from BAP certified farms produced from seed stock of BAP certified hatcheries/nurseries and feed used from BAP certified feed mills from that of non-certified farms throughout the process flow from raw material receiving, handling, processing, packaging, storage and dispatch.

7.1.1.4 BAP Certified Plants Sourcing from Other BAP Certified Plants, and Star Status – Where a BAP certified plant is purchasing products of different BAP star categories from other BAP certified plants, all requirements stated in 7.1.1, 7.1.1.1, 7.1.1.2 and 7.1.1.3 shall be implemented. Records shall clearly show the BAP facility identification of the supplying plant. Records shall also be maintained to demonstrate product of different BAP star categories were not mixed.

7.1.2 The facility shall have a documented label control procedure to ensure integrity of BAP star category claims. The procedure shall include personnel authorised to approve, amend and release labels and its specifications and work instructions to control label use and their storage. The procedure shall also include the prevention of mislabelling of products of different BAP star categories for all applicable species.

7.1.2.1 The label control procedure referred to in 7.1.2 shall include a procedure for the proper labelling and downgrading of the star status of products in the event the facility mixes product of different BAP star categories. Where this occurs, records shall be maintained demonstrating which products of different BAP star categories were mixed, and that the star status of resultant product was properly downgraded. (Example: If 3 star BAP products are mixed with 2 star BAP products, then the entire product lot must be labelled as 2 star BAP product.

The 3 star BAP products will lose its 3 star status. Where 1 and 2 star products are mixed, or 1, 2 and 3 star products are mixed, the entire product lot shall be downgraded to 1 star).

- 7.1.3 The facility shall assign a unique code or lot number separately for products of each BAP star category. This unique code or lot number shall be assigned at receiving and carry forward through each step of production, packaging and storage in order to easily identify and trace every lot of BAP 1, 2, 3 and 4 star products from each other, and from non-BAP products.
- 7.1.4 Product shall not be claimed as BAP 2, 3 or 4 star unless the unique code or lot number stated in 7.1.3 appears on all production documents from receiving throughout to shipping. Or, where product is assigned a different code or number at some stage, the unique code or lot number referenced in 7.1.3 shall also be referenced in the production document(s) together with the new code. These documents shall also bear the BAP certification number of the farm(s), hatchery/nursery and/or feed mill the product was sourced from, and the quantity per lot for each BAP star category.
- 7.1.5 Finished product codes and/or lot numbers that appear on the master carton and inner packaging shall either match the unique codes referenced in 7.1.3, or, there shall be a reference back to those unique codes in finished product documents so that the packaging codes and the unique codes in 7.1.3 are tied to each other.
- 7.1.6 The codes and lot numbers referenced in 7.1.3, 7.1.4 and 7.1.5 shall also be transferred to shipping documents that are provided directly to the purchaser/buyer. The facility shall provide to the auditor the document being used for this purpose and the auditor shall record this information on the audit report.
- 7.1.7 For each shipment, the documents referenced in 7.1.4 shall also record the breakdown of quantities for each BAP star category and its unique code or lot number.
- 7.1.8 The facility shall sign and return to BAP, the BAP Certification Mark Agreement and evidence shall be provided to the auditor at the time of the audit for verification purposes.
- 7.1.9 If the facility is using the BAP logo, they shall provide evidence to the auditor that they have registered logo use with BAP, and the design specifications were met and use was approved by BAP.
- 7.1.10 The facility shall not misuse the BAP logo in any way. Such as applying it to non-BAP products or to 2, 3 or 4 star BAP product lots that cannot be readily verified and proven as such, by the facility - through their traceability system, mass balance records, and proper handling practices.
- 7.1.11 Where BAP products are claimed as such without the use of the BAP logo, the facility shall not claim BAP 2, 3 or 4 star status by any means, for any lot of product that cannot be readily verified and proven as such by the facility - through their traceability system, mass balance records, and proper handling practices.
- 7.1.12 The facility shall fully familiarize themselves with the definitions of what constitutes 2, 3 and 4 star. The facility shall also understand that representing and or selling products as 2, 3 or 4 star that are not, or cannot be verified as such, constitutes fraud.

7.2 Traceability System

- 7.2.1 The facility shall develop and maintain appropriate traceability procedures and systems to include identification of batches of raw material, ingredients, in-process products, rework, packaging, additives, and final product throughout the production process and any out-sourced product, ingredient or service.
- 7.2.2 The facility shall operate a traceability record-keeping process that provides timely, organized, accurate entries, performed and overseen by a designated trained person or traceability team responsible for collecting the data, ensuring it is complete and accurate, and that traceability requirements are met.
- 7.2.3 Where a facility's traceability system consists of paper records, separate documents, forms, notebooks and/or files, this information shall be transferred to a computer database or spreadsheet to allow for transmission and verification of electronic data.
- 7.2.4 Where a facility's traceability system uses an online system or computer database, the facility shall keep copies of the documents or records that were used to transfer data to the electronic system in order to allow verification of the information in the electronic system.

7.3 Traceability Elements

- 7.3.1 Where the facility is eligible to produce BAP 2 star, the facility shall keep an up-to-date list of all of the BAP certified farms that are supplying them since the last BAP audit. This information shall also include the quantity by species actually supplied by each farm, the productive capacity of each farm, and the BAP facility certification number of each farm.
- 7.3.2 Where the facility is eligible to produce BAP 3 and/or 4 star, the facility shall keep an up-to-date list of the BAP certified hatchery/nursery and BAP certified feed mills that supplies each BAP certified farm the facility buys raw material from.
- 7.3.3 **Farm supplies** – Facilities shall maintain documented Farm Data for all farm deliveries received from all BAP certified and non-certified farm suppliers to include the below information, as applicable:
- Farm supplier name
 - BAP farm certification number
 - Production method (pond, cages, reservoir, etc.)
 - Identification of production unit
 - Sources of post larvae/stocking material
 - Date of deliveries and lot numbers (one pond or culture unit on a single day)
 - Unit of measure and total net weight for mass balance
 - Movement document number (if relevant)
 - Feed use (type and lot numbers)
 - Reports of chemical treatments
 - Testing data for the presence of microbes, antibiotics and chemicals in product

7.3.4 **Ingredients/Packaging materials** – Facilities shall maintain complete data for all materials used in the product (including packaging, ingredients, chemical additives) from approved suppliers to include the below information, as applicable:

- Supplier name
- Facility invoice number and/or purchase order number
- Receiving date, quantity and lot number
- Full description of the item (ex: 3 mm poly film, sodium tripolyphosphate, batter, breading)
- All label information including ingredients in, for example, the batter or breading where applicable
- Lot number assigned by the facility when receiving in (if different from receiving lot number)
- Storage location

7.3.5 **Production and Finished Product** – Facilities shall maintain documented records for all finished product production lots to include the below information, as applicable:

- Facility BAP certification number
- Lot number
- Production date (process date or date code)
- Line number and/or shift, if applicable
- Species (common name and scientific name)
- Size grade
- Country of origin
- Product form
- Unit of measure and total net weight for mass balance
- Accurate labelling: for the above and all other required information – ingredients, handling instructions, facility address or registration number where applicable, Amount, source, and other full identification information for raw material used (shrimp, tilapia, etc., delivered from what farm and when)
- Amount and full identification information (see receiving) for any ingredients used (breading, marinades, batter, spices, etc.) for each lot of production
- Amount and full identification for any chemicals used (phosphates, sulphites) for each lot of product
- Amount and full identification for all packaging used for each lot of production

7.3.6 **Outsourcing - Processes**

(Note: Outsourcing of processes represents a break in the traceability chain if the facility does not put strict controls into place. Where outsourcing is done without adequate controls, BAP 2, 3 and 4 star products can no longer be claimed as such).

7.3.6.1 Referring to clause 2.9 “Outsourcing” - Where the facility outsources any part of the production process for BAP products (including but not limited to – bleeding, gutting, gilling, de-heading, peeling, packaging, labeling, storage, etc.) – the facility shall have specific, verifiable, robust traceability procedures and documents in place that clearly demonstrate control is being exercised by the facility over the outsourced entity. These controls shall ensure the proper separation and maintenance of traceability of BAP 1, 2, 3, and/or 4 star products. This shall include procedures to ensure BAP products were not compromised through mixing or substitution with non-BAP products, or through mixing of product of different BAP star categories. The procedures and records shall clearly show controls and traceability at ALL steps: on the way to the outsourced entity, during handling, production, labeling or storage at the outsourced entity, and during transport away from the outsourced entity.

7.3.7 Product Destinations

7.3.7.1 The facility shall keep an up-to-date list of all customer names and locations they ship BAP Certified product to and the star status for each.

7.3.7.2 The facility shall maintain documented records for all production lots that records the below information, as applicable, for each BAP star category the facility is eligible to produce (1, 2, 3 and 4 star):

- Lot number
- Storage location
- Shipping – company, method, date
- Unique shipping identifiers – container or seal number, bill of lading
- Receiving customer information – name, address, invoice or order number
- Breakdown of all species, products, quantities, weight, sizes and lot numbers included in the shipment

7.4 Mass Balance

The facility shall demonstrate that the traceability system is effective and that product identity preservation has been maintained through conducting and documenting mass balance per 7.4.1 and 7.4.2 below.

7.4.1 The facility shall document the total quantity of incoming raw material for each species and star status, and the total quantity of finished product produced per star status, per species and product form. The facility shall conduct a mass balance on this data. The quantities and mass balance results shall be provided to the auditor for verification.

7.4.2 The facility shall also conduct mass balance tests on a per lot basis for each star category per species and product form. Per lot mass balance verification data shall be provided to the auditor for verification.

7.4.3 Results from 7.4.1 and 7.4.2 shall clearly show that the quantity of inputs versus the outputs for each test are appropriate, and that no mixing of BAP certified products with non-certified products occurred. (If the facility mixes product of different BAP star categories together in a lot, this situation shall be handled as described under 7.1.2.1). Calculations shall also reflect what the expected recovery/yield percentage for each final product form is and how they were derived. (See Appendix 1, Glossary, for definition of Mass Balance)

7.5 Sample Retention

7.5.1 The facility shall retain frozen samples of 3 lots for each primary product form (see Annex 1 Glossary for the definition of “Primary Product Form”) for every month they are in production. A sample is defined as a minimum of 4 ounces (113 grams). Samples shall be stored for one year from the time the lot is shipped. After one year the samples can be disposed of.

ANNEX 1

Glossary

Accreditation

Procedure by which an authoritative body gives formal recognition of the competence of a certification body to provide certification services, against an international standard.

Accreditation Body

Agency having jurisdiction to formally recognize the competence of a Certification Body to provide certification services.

Accuracy Checks

Checking if an instrument is working properly by comparing it to a known-accurate item, typically against a single point of reference (such as the boiling point of water). If the thermometer cannot be calibrated/adjusted by the facility, then it is not “calibration” but an accuracy check. Where an inaccurate item cannot be adjusted it is NOT to be used. See “calibration” below as well as “internal calibration/accuracy checks” and “external calibration/accuracy checks”.

Allergen

Food causing an adverse reaction that is mediated by an immunological response. Different countries have different recognized allergens. Facilities and auditors must ensure they are aware of the recognized allergens in the local country and countries that product is exported to in order to ensure they are properly addressed.

Assessment

Examination of production facilities, in order to verify that they conform to requirements.

Audit

Systematic and functionally independent examination to determine whether activities and related results comply with a conforming scheme, whereby all the elements of this scheme should be covered by reviewing the suppliers’ manual and related procedures, together with an assessment of the production facilities.

Auditor

Person qualified to carry out audits for or on behalf of a Certification Body.

BAP Star Category Definitions and Key Rules

Product cannot be claimed as 2, 3 or 4 star unless the rules in the standard and stated here are strictly followed.

Use of the BAP logo, or making any BAP claims about certified products, requires registration with BAP. The logo and any claims associated with BAP are registered trademarks of the GAA/BAP.

Product cannot be called 2, 3 or 4 star unless each facility as below is certified as part of a registered 2, 3 or 4 star group. Registered as such with BAP and appearing on the BAP website.

2 Star Example: Product can only be claimed as 2 star from a BAP certified plant with farmed product that only comes from a BAP certified farm. If for example there are 5 farms supplying the BAP Certified plant, but only 1 of them is BAP certified, ONLY the product from that 1 BAP certified farm is allowed to be claimed, represented and sold as BAP 2 star. The product from the other farms shall be kept separate and cannot be claimed in any way as BAP 2 star (whether verbally, on documents, or using the BAP logo).

The same principal applies for 3 and 4 star product claims.

1 Star = Product produced by a BAP Certified Plant

2 Star = Product produced by a BAP Certified Plant + BAP Certified Farm(s) only

3 Star = Product produced by a BAP Certified Plant + BAP Certified Farm(s) only + BAP Certified Hatchery or Feed Mill only

4 Star = Product produced by a BAP Certified Plant + BAP Certified Farm(s) only + BAP Certified Hatchery only + BAP Certified Feed Mill only

Note: facilities eligible to produce BAP product of 2 or more stars must be listed on the BAP website as part of a 2, 3 or 4 star group. With the names of the certified facilities that make up the group listed.

Calibration

As with "Accuracy Checks", checking an instrument by comparing it to a known-accurate item. However in this case the check would be against multiple points of comparison across the range of the instrument's operation. And, the instrument can then be adjusted back to accuracy where it is out of calibration.

Certification

Procedure by which Accredited Certification Bodies, based on an audit, provide written or equivalent assurance that food safety management systems and their implementation conform to requirements.

Certification Body

Provider of certification services, accredited to do so by an Accreditation Body.

Certification Standard

A normative document, established by consensus and approved by a recognized body that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context.

Certification System

A system that has its own rules of procedure and management for carrying out Certification.

Conflict of Interest

Where either a Certification Body or any Auditor are in a position of trust requiring them to exercise judgement on behalf of others and also has interests or obligations (whether financial or otherwise) of the sort that might interfere with their exercise of judgement.

External Calibration/Accuracy Checks

Done by a third party that is qualified to do the checks and certifies or attests to the instruments accuracy

Finished Product Lot:

A processed batch of shrimp, fish, etc., produced by the plant during 1 day or 1 shift (day code).

HACCP Hazard Analysis and Critical Control Points (HACCP) is a systematic preventive approach to food safety and pharmaceutical safety that addresses physical, chemical, and biological hazards as a means of prevention rather than finished product inspection. HACCP is used in the food industry to identify potential food safety hazards, so that key actions, known as Critical Control Points (CCP's) can be taken to reduce or eliminate the risk of the hazards being realized.

Internal Calibration/Accuracy Checks

Done "internally" (i.e. by the facility) to regularly monitor if instruments are functioning properly. External Calibration/accuracy checks are then also done for verification as needed but at least annually.

Mass Balance

The comparison of the weight of incoming raw material to finished products. Calculations are done using appropriate recovery rates for the finished product form, taking into account weight loss or gain during the process, as applicable.

Non-conformity

Deviation of product or process from specified requirements, or the absence of, or failure to implement and maintain, one or more required management system elements, or a situation which would, on the basis of available objective evidence, raise significant doubt as to the conformity of what the supplier is supplying.

Primary Product Form and Sampling Instructions:

As referred to in the BAP standard – "Primary Product Form" examples are: raw, cooked, raw ready-to-eat, breaded, smoked, pickled, marinated, etc. On a per species basis. For instance if a facility produces 3 forms of raw shrimp = peeled and deveined, whole, and butterflied tail on, that is 3 different forms of raw, all with the same hazards. So, for the purposes of this definition they are all the same Primary Product Form = Raw. Samples from the various raw primary forms shall be selected from the lots that represent the majority of the production. So for instance if most of the 3 forms of raw produced is whole, the samples should be taken from the whole form. For breaded shrimp, while that is also raw, it is a different, value added form with different potential hazards. Therefore it is considered a different Primary Product Form = breaded shrimp. Cooked is therefore also a separate Primary Product Form = cooked shrimp. So for example, if a plant produces shrimp of the following forms: cooked, breaded, raw ready to eat, marinated, and 3 forms of peeled and/or deveined for a total of 7 products, the number of Primary Product Forms to be sampled = 5, (Cooked, breaded, raw ready-to-eat, marinated, and raw). Since this is per species, if the plant were also producing raw tilapia fillets, for instance, that would be a 6th Primary Product form that would need to be sampled.

- Sampling Examples as in clauses 5.15.3, Annex 5 – 1.0, Annex 5 – 2.0 and Annex 5 – 3.0 – 1 sample each, each sample from 3 different finished product lots, for every primary product form, per species the facility produces):

1. The facility produces Tilapia Fillets, Breaded Tilapia, 3 different forms of raw shrimp, breaded shrimp, and cooked shrimp:

Total number of Primary Product Forms = 5

Total number of species = 2

Number of samples to collect:

Tilapia fillets = 1 sample from 3 different lots = 3, composited into 1 sample = 1

Breaded Tilapia = as above = 3, composited = 1

Raw Shrimp = as above = 3, composited = 1

Breaded Shrimp = as above = 3, composited = 1

Cooked Shrimp = as above = 3, composited = 1

Total number of samples = 5

2. If a facility produces raw salmon fillets and cold smoked fillets or portions:

Total number of Primary Product Forms = 2

Total number of species = 1

Number of samples to collect:

Salmon fillets = 1 sample from 3 different lots = 3, composited into 1 sample = 1

Cold smoked salmon = as above = 3, composited = 1

Total number of samples = 2

3. If a facility produces raw tilapia fillets and raw pangasius fillets:

Total number of Primary Product Forms = 1

Total number of species = 2

Number of samples to collect:

Tilapia fillets = 1 sample from 3 different lots = 3, composited into 1 sample = 1

Pangasius fillets = as above = 3, composited = 1

Total number of samples = 2

As the above examples show, samples from different species cannot be mixed (i.e., composited), and samples of different Primary Product Forms cannot be mixed (i.e., composited).

Ready to Eat (RTE)

Items sold that require no cooking or limited re-heating. Such as cooked shrimp, smoked salmon, raw fish for sushi or sashimi.

Receiving Lot – Farm Suppliers

A batch of shrimp, fish, etc. delivered by a single farm, identified per culture unit (i.e. pond, cage, tank, etc.) to the BAP plant or BAP applicant plant

Receiving Lot – Plant Suppliers

A processed batch of shrimp, fish, etc. produced by a plant that is supplying a BAP plant or BAP applicant plant during 1 day or 1 shift (date code).

ANNEX 2 (Not part of the Food Safety Management Component)

GAA BAP: Social Responsibility Management Requirements

1 General

- 1.1 Applicants shall operate in compliance with this standard and all local, national, and international laws, rules and regulations. The applicant shall have in place policies and procedures pertaining to, but not limited to: worker health and safety and compliance with requirements regarding wages, benefits, hours, hiring practices, minimum age, status of workers, and good employee relations.

2 Wages and Benefits

- 2.1 The Applicant shall ensure that workers are paid at least the legal minimum wage or the wage rate established by an employment contract or collective bargaining agreement, whichever is higher. Regular wages and compensation shall cover the workers' basic expenses and allow for some discretionary funds for use by workers and their families.
- 2.2 The Applicant shall provide benefits that, at minimum, are required by local or national law. (Such as paid holidays, maternity leave, health insurance, paid sick time, etc., as applicable)
- 2.3 The Applicant shall compensate workers for overtime hours worked beyond the nationally mandated regular work week, at a premium rate, as required by local law.
- 2.4 The facility shall not make deductions from wages that are unauthorized or not provided for by national law. Facilities shall not make deductions from wages as part of a disciplinary process.
- 2.5 The facility shall maintain all relevant documents that verify any contracted/subcontracted workers, whether through a labor employment service, recruiter, or otherwise, are paid in compliance with all local wage and overtime laws.
- 2.6 The facility shall maintain all relevant documents that verify piece workers (those paid a fixed "piece rate" for each unit produced or action performed regardless of time) are paid in compliance with local law, including equivalence to or exceeding minimum requirements regarding wages, overtime and holiday pay.

3 Working Hours

- 3.1 The facility shall set working hours that comply with local or national laws, contractual agreements where applicable, or industry standards in the country, whichever affords greater welfare to the workers. However, in no case shall the regular work week (excluding overtime) exceed 48 hours.
- 3.2 Overtime shall not exceed 12 hours per week except as permitted by national law in a voluntary contractual agreement.
- 3.3 Facilities shall comply, at a minimum, with national laws regarding meal and rest breaks during work shifts.

- 3.4 Facilities shall maintain records that verify compliance with working hour laws and provisions, as stated in 3.1 – 3.3 above, for all workers regardless of their status (piece-rate workers, contractors/subcontractors, hourly, salary, temporary, and so on).

4 Forced, Bonded, Indentured, Trafficked and Prison Labor

- 4.1 All work, including overtime, shall be voluntary, and shall not be under threat of any penalty or sanctions.
- 4.2 The facility shall not engage in any form of forced or indentured labor. This includes human trafficking, the holding of original identity papers, or other coercion intended to force anyone to work. This also includes prison labor when not used in compliance with ILO Forced Labor Convention 29.
- 4.3 Bonded labor is prohibited. The facility shall not require the payment of deposits, bonds or other financial guarantees that may result in debt bondage. This includes recruitment fees, fines, and deductions from wages, and withholding of pay that are not part of a legal contractual agreement with the employee.
- 4.4 Workers shall have the right to leave the premises after their work shift. Workers shall also have the right to terminate their employment after reasonable notice.

5 Child Labor and Young Workers

- 5.1 The applicant shall not engage in or support the use of child labor. The applicant shall comply with local child labor laws regarding minimum working age, or the age of compulsory education, or, the ILO Minimum Age Convention 138, whichever is higher. While ILO Minimum Age Convention 138 states the minimum age shall be 15, local law of minimum age of 14 may apply if it is in accordance with developing nation's country exceptions under this convention.
- 5.2 The employment of young workers (above the minimum age but under 18 years old) shall be in compliance with local laws, including required access to compulsory education.
- 5.3 Young workers shall not be subjected to conditions which compromise their health, safety, or moral integrity, or which harms their physical, mental, spiritual, moral or social development. This includes restrictions on working hours and prohibiting night work and hazardous work.

6 Worker Health and Safety, Facilities and Housing

(For additional requirements regarding medical care, personal protective equipment and clothing, and training on health, safety, chemical and waste management, see 3.0 "Staff Management" and 4.0 "Environmental and Waste Management" portions of the Food Safety Management Section preceding these Annexes.)

- 6.1 Where applicable the Applicant must provide meals which are wholesome and commensurate with local eating customs.
- 6.2 The facility shall appoint a senior management person responsible for ensuring worker health and safety.

- 6.3 The facility shall identify, prevent, eliminate or minimize any workplace health and safety hazards. This includes a requirement for documenting incidents, and investigations of accidents and their cause and correction.
- 6.4 The facility shall ensure proper measures for fire protection and prevention in all work, rest, dining, and where applicable, housing areas. This includes but is not limited to: adequate numbers of functioning fire extinguishers; emergency exits and evacuation routes that are clearly marked, properly lit and kept clear and unlocked while employees are present; proper training and enforcement for handling of flammable liquids and chemicals; and procedures to prevent fires during such activities as welding.
- 6.5 Facilities shall ensure that equipment and machinery are safe through, but not limited to: properly functioning shields or guards; warning signs/pictures; emergency shut-off switches; and implementation of lock-out/tag-out procedures to prevent start-up during maintenance.
- 6.6 Facilities shall ensure the strength, stability and safety of buildings and equipment in work, eating and, where applicable, housing areas. This includes ensuring proper electrical safety through proper wiring, grounding of cables, and coverage of circuit boxes.
- 6.7 Emergency evacuation drills (in case of fire, chemical leak or similar) shall be conducted, at a minimum, annually.
- 6.8 An emergency response plan shall be prepared for serious illnesses or accidents.
- 6.9 Select workers shall be trained in the details of the emergency response plans and in first aid (to include electrical shock, profuse bleeding, drowning and other possible medical emergencies). A list of the trained workers shall be kept.
- 6.10 At least one of the workers described in 6.9 shall be present at the facility at all times during production

7 Hiring and Terms of Employment

- 7.1 Workers shall have a legal right to work in the country they are working in. Work performed and terms of employment shall be in compliance with local law or international labor standards, whichever is stricter.
- 7.2 The facility shall provide to all workers, prior to hire and during employment, with written and understandable information regarding the terms of employment, worker's rights, benefits, compensation, expected working hours, details of wages for each pay period each time they are paid, and facility policies regarding disciplinary actions, grievance procedures, any authorized deductions from pay, and similar. This information must be provided in the prevalent language of a majority of employees. This requirement applies to all workers regardless of status, including but not limited to: hourly, salary, piece rate, temporary and seasonal workers.
- 7.3 Where contracted/subcontracted or temporary workers are hired through a labor or employment service, the facility shall ensure that the labor or employment service they are using provides the above information prior to and during hire, in appropriate languages, to ensure workers are aware of their rights and conditions of employment as described above.

- 7.4 All labor, recruiting, or employment services used by the facility must be licensed to operate by the local or national government as a labor provider.
- 7.5 The facility shall not use contractors, subcontractors, temporary workers, homeworkers, apprentices or other non-full time employment schemes in order to avoid the payment of benefits, social security, etc. required by local law under a regular employment relationship.

8 Discrimination, Discipline, Abuse and Harassment

- 8.1 The facility shall provide for equal opportunity with respect to recruitment, compensation, access to training, promotion, termination or retirement.
- 8.2 The Applicant shall not engage in or permit discrimination in all aspects of employment, including but not limited to recruitment, hiring, compensation, terms of employment, advancement, discipline, access to training, promotion, termination, or retirement on the basis of race, color, gender, national origin/ heritage, religion, age, nationality, social or ethnic origin, maternity, sexual orientation, political opinion, disability or any other status. Terms and conditions of employment shall be based upon the ability to do the job, not on personal characteristics or beliefs.
- 8.3 The facility shall treat workers with dignity and respect and not engage in or permit physical, verbal or sexual abuse, bullying or harassment.
- 8.4 The facility shall have a written disciplinary procedure made available in the prevalent language of the majority of workers. Records shall be maintained of all disciplinary actions.

9 Freedom of Association and Collective Bargaining

- 9.1 Facilities shall respect the rights of workers to associate, organize, and bargain collectively without prior authorization from management. Facilities shall not interfere with, restrict, or prevent such activities and shall not discriminate against or retaliate against workers exercising their right to representation in accordance with international labor standards.
- 9.2 Where the right to freedom of association and collective bargaining is prohibited or restricted under local law, the facility shall not prevent alternative means to facility worker representation and negotiation. (For example, the election of one or more employees by the workers to represent them to management).
- 9.3 The facility shall grant worker representatives access to the workplace in order to carry out their representative functions.
- 9.4 There shall be a written worker grievance process, made available to all workers, that allows for the anonymous reporting of grievances to management without fear of retaliation.

ANNEX 3 (Not part of the Food Safety Management Component)

GAA BAP: Effluent Management Requirements

1.0 Compliance Options

- 1.1 **No Discharge into Natural Water Bodies:** Facilities that do not discharge any effluents directly or indirectly into naturally occurring water bodies and comply with all other BAP requirements are eligible for BAP certification. (Examples: effluents used for irrigation or other purpose preventing discharge to naturally occurring water bodies. Where this is confirmed the requirements to sample and test effluents in Section 2 (below) do not apply.)
- 1.2 **Discharge to Municipal or Private Treatment Plants:** Facilities that have a valid contract with a municipality or industrial park facility that assumes the responsibility to treat and dispose of effluents in compliance with government, regional and local regulations are eligible for BAP certification if all other BAP requirements are met. (Where this is confirmed the requirements to sample and test effluents in Section 2 (below) do not apply.)
 - 1.2.1 Plants shall not exceed local or national government permitted load levels when discharging effluents to a municipal or industrial treatment facility.
- 1.3 **On-Site Treatment:** Facility treats its own effluents and discharges under a valid government permit into a naturally occurring water body (sea, river, estuary, etc.) and all BAP effluent parameters are met as described in Section 2 (below).

2 Effluent Records (Where 1.3 Applies)

- 2.1 For **New Applicants:** At least three consecutive months of effluent data, collected during operation, must be available for effluents that enter natural bodies of water (rivers, streams, canals, estuaries, etc.). Effluent samples shall be analyzed for all the variables listed in the Table in Section 2 (including 3 months' worth for the quarterly variables).
- 2.2 For **Recertification:** Test results ongoing as noted in the table below.
- 2.3 To minimize the chance of disease transmission from effluents discharged to natural waters, plants shall screen out solids and treat effluents by chlorination or another method of disinfection which will kill the disease organisms before release. (Once the effluents are properly treated, disinfectant residues shall be neutralized, removed, or allowed to dissipate prior to effluent discharge)
- 2.4 Records of effluent water quality concentrations entering natural bodies of water shall comply with government regulations, or the BAP criteria (See Table below), whichever is stricter.

Variable (units)	Initial Value*	Final Value (Applicable after 31 December 2018)	Collection Frequency
pH (standard units)	6.0-9.5	6.0-9.0	Monthly
Total suspended solids (mg/L)	200 or less	100 or less	Quarterly
Soluble phosphorus (mg/L)	10 or less	5 or less	Monthly
Total ammonia nitrogen (mg/L)	20 or less	10 or less	Monthly
5-day biochemical oxygen demand (mg/L)	500 or less	200 or less	Quarterly
Oil and grease (mg/L)	30 or less	20 or less	Quarterly

2.4.1 * **Limited Option:** The requirement to meet the Initial Values tabulated above may be delayed until 31 Dec. 2016 for processing plants that can demonstrate that the water quality (as measured by the same set of variables) within the mixing zone (samples taken within a few meters of the discharge pipe) and outside the mixing zone (samples taken upstream from the discharge pipe) does not differ.

2.5 Applicants must record and submit the average annual concentrations for each variable for effluents that entered natural bodies (“receiving waters”) of water from your facility during the last calendar year. This will include:

- i. pH (standard units)
- ii. Total suspended solids (mg/L)
- iii. Total ammonia nitrogen (mg/L)
- iv. Soluble phosphorus (mg/L)
- v. 5-day biochemical oxygen demand (mg/L)
- vi. Oil and grease (mg/L)

2.6 The Applicant must record and provide to the auditor the annual average volume of effluent discharge in cubic meters/day. (Informational purposes only)

2.7 **Collection of Effluent Samples during the Audit and Third Party Laboratory Testing**

Note - instructions to Facilities and Auditors:

The auditor shall supervise the collection of representative effluent samples during every BAP audit where Section 2 applies. Samples shall be taken by the facility, or the facility’s designated third party lab. The auditor is to supervise this process and verify that samples are taken from the correct locations. Once the samples are collected, the auditor is to verify that they were properly marked with the sample number, date, time, facility name, sample location, and influent or effluent. And that the samples were sealed with tamper-proof tape and sent to, or picked up by, the third party testing laboratory prior to completion of each audit. This obviously means that addressing effluent sampling shall not wait until the end of the audit. Nor be done after hours or on weekends when third party labs are closed.

Samples are to be tested for all parameters as described in Section 2. It is the facility's responsibility to ensure the third party laboratory doing the testing is aware of and able to perform BAP required tests. Testing costs are the responsibility of the facility. Test results are to be forwarded for review, in a timely fashion, to the Certification Body responsible for conducting the audit.

2.7.1 Where Section 2 applies – were samples collected properly by the facility or third party lab, from the correct locations, marked and sealed properly and sent to or picked up by the third party lab during the audit? (Auditor to note in comments who collected the sample)

2.7.2 Where Section 2 applies – the auditor shall describe the correct sample label details here for each sample: date, time, sampling location, sample number, and whether it is influent/source water, or effluent.

2.7.3 The auditor shall also record how the sample was packaged, and the name of the third party lab that picked it up. Where the sample was shipped, the auditor shall verify and record that samples were shipped immediately by the facility, the shipping method, and the name of the laboratory that they were sent to). (Informational purposes only).

ANNEX 4 (Not part of the Food Safety Management Component) GAA BAP: Additional Traceability Verification Requirements

This Annex applies to all applicant Seafood Processing Plants eligible to produce BAP 1, 2, 3 and/or 4 star products.

1.0 VERIFICATION SYSTEM

As required in Section 7 – Traceability Management of the Food Safety Management component of the BAP standard, the traceability system at each facility shall include all relevant inputs and outputs. This includes not just the information about the farm source of raw material and date code and lot information for the plant, but also for packaging, ingredients, and to whom the product was shipped to.

- 1.1 A fully operational traceability system shall be in place that allows for accurate and timely trace forward and trace back of all items received used in the product, all production information, and all finished product information including shipping details and destination.
- 1.2 The minimum number of traceability exercises to be performed by the auditor during the BAP facility audit is defined in the tables below, according to plant size. The results of these exercises shall demonstrate compliance with the standard.

Minimum number of Traceability Exercises to be performed by BAP Auditors

Plant Size – Small to Medium (up to 4999 MT)

BAP Star category	Total number of Exercises	Number of Trace Forward	Number of Trace Back	Instructions
1 Star	2	1	1	New facilities not yet certified, or recertifying facilities that are only 1 star approved.
2 Star	2	0	2	For facilities eligible to produce 2 star, do 100% of the exercises against the 2 star product ONLY. Do NOT do any for any 1 star they produce
3 Star	3	1, or 0 (See Instructions)	2, or 3 (See Instructions)	<p>For facilities eligible to produce 3 star, where 100% of their production is 3 star, do 1 trace forward, and 2 trace back exercises.</p> <p>For facilities eligible to produce 3 star that are also producing 1 and/or 2 star, – conduct trace BACK exercises only, against the 2 and 3 star product ONLY. Allocated in proportion to volume. Do NOT do any exercises for 1 star product if they are producing it. (For example, if they produce 40% 3 star and 60% 2 star after subtracting out any 1 star – perform 1 trace back on the 3 star, 2 trace backs on the 2 star. 0 on the 1 star)</p>
4 Star	3	1, or 0 (See Instructions)	2, or 3 (See Instructions)	<p>For facilities eligible to produce 4 star, where 100% of their production is 4 star, do 1 trace forward and 2 trace back exercises.</p> <p>If they are producing 2, 3 and 4 star, perform 1 trace BACK exercise only for each. If a facility is not producing all 3 of these categories, perform 3 trace backs in proportion to the volume of star categories being produced. NO 1 star exercises. NO trace forward.</p>

Plant Size – Large (5000 MT or More)

BAP Star category	Total number of Exercises	Number of Trace Forward	Number of Trace Back	Instructions
1 Star	3	1	2	New facilities not yet certified, or recertifying facilities that are only 1 star approved.
2 Star	3	1	2	For facilities eligible to produce 2 star, do 100% of the exercises against the 2 star product ONLY. Do NOT do any for any 1 star they may produce
3 Star	4	1	3	<p>For facilities eligible to produce 3 star, where 100% of their production is 3 star, do 1 trace forward, and 3 trace back exercises.</p> <p>For facilities eligible to produce 3 star that are also producing 1 and/or 2 star – conduct 1 trace forward on 2 or more stars, choosing the category with the most volume. Perform 3 trace BACK exercises against the 2 and 3 star product ONLY. Allocated in proportion to volume. Do NOT do any exercises for 1 star product if they are producing it. (For example, if they produce 40% 3 star and 60% 2 star after subtracting out any 1 star – perform 1 trace back on the 3 star, 2 trace backs on the 2 star, and 0 on the 1 star)</p>
4 Star	4	1 or 0 (See Instructions)	3 or 4	<p>For facilities eligible to produce 4 star, where 100% of their productions is 4 star, do 1 trace forward and 3 trace back exercises.</p> <p>For facilities eligible to produce 4 star that are producing 2, 3 and/or 4 star = perform 4 trace BACK exercises as follows: 2 exercises on the star category with the most volume (excluding any 1 star). And 1 each for the remaining two multi star categories. NO 1 star exercises. NO trace forward.</p> <p>For facilities that are not producing all 3 categories above (2, 3 and 4 star) = 4 trace backs in proportion to the volume of multi-star categories being produced. NO 1 star exercises. NO trace forward.</p>

- 1.3 The results of the trace-forward and trace back exercises shall be recorded for each star category the facility is authorized to produce. 100% accountability shall be achieved during the exercises.
- 1.4 Once the lots are selected by the auditor for tracing, the results for all of them combined shall be achieved in no more than 4 hours.
- 1.5 Mass balance shall also be recorded for each exercise. The auditor shall also record what percentage of product the facility produced during the previous calendar year for each star category so as to verify the selection of lots and the number of exercises were appropriate as described in the above table instructions. Final results for all exercises shall be in line with expectations.

ANNEX 5 (Not part of the Food Safety Management Component

GAA BAP: Third Party Laboratory Sampling and Testing Verification Requirement

1.0 Prior to Initial Certification (During application phase with BAP. Not auditable points)

New applicant facilities shall submit, to BAP, test results from a third party lab during the initial application phase as described in 1.1.1 and 1.1.2 below. (Testing by government labs can count towards this requirement.)

1.1 Microbiological Pathogens and Aquaculture Drug Tests

1.1.1 Test results for 1 sample each, each sample from 3 DIFFERENT finished product lots from the previous 6 months, for EVERY PRIMARY product form, per species* the facility produces. For each product form per species, the 3 samples from the 3 different lots can be composited into 1. (See “Primary Product Form and Sampling Instructions” definition in Annex 1 – Glossary.)

1.1.2 Testing methods and results shall be in compliance with Table II.

(* See Definitions in Annex 1 – Glossary for Finished Product Lot and Primary Product Form and Sampling Instructions)

2.0 During the Audit – Collection of Product Samples (Auditable Points)

The facility shall arrange for a third party lab compliant with 3.1 below, to be present during the audit for the collection and transport of samples. Testing costs are the responsibility of the facility.

The auditor shall review production records to determine the types of products in inventory and the quantity of each. From this information the auditor shall designate which lots shall be sampled. The third party lab representatives shall collect the samples from the lots the auditor designated. The auditor shall supervise the collection of product samples during every BAP audit.

The number of samples and required testing shall be:

- 1 sample each, each sample from 3 different finished product lots for each primary product form, per species, that the facility produces. For each product form per species, the 3 samples from the 3 different lots can be composited into 1. (See “Primary Product Form and Sampling Instructions” definition in Annex 1 – Glossary.)

- The third party lab is to obtain the Certification Body's contact information and email address for directly forwarding the test results to them in a timely fashion. The facility shall give permission for this to the third party lab.
- 2.1 The auditor shall describe the correct sample label details here for each sample (sample number, lot number, date code, collection date, time, product forms, facility name, and how the samples were packaged. Samples shall be marked and sealed properly with all relevant details stated herein.
 - 2.2 The auditor shall describe the name and address of the third party lab and staff member's name from that lab that collected the samples.
 - 2.3 The auditor shall verify in the audit report that the third party lab sampler recorded the name and contact information for the Certification Body for sending the results directly to the CB. And that the facility authorized this. The auditor shall also record when the sampler removed the samples from the facility, and the method of transport to the lab (hand carry, shipping and method, etc.). (Informational purposes only).

3.0 Once Certified – Plant Ongoing Monitoring (Auditable Points)

- 3.1 The facility shall arrange for a third party laboratory accredited to ISO 17025 or equivalent. The accreditation or approval shall be by a recognized third party such as a laboratory accreditation organization or a government authority.
- 3.2 The facility shall arrange to have a laboratory (as stated in 3.1), to collect samples according to the number and frequency stated in Annex 5 – Table I below. The third party lab representative shall determine which lots to be sampled and collect the samples themselves.
- 3.3 The facility shall have a laboratory (as stated in 3.1) conduct testing for microbiological pathogens and aquaculture drugs according to Annex 5 Table II below, as appropriate for the species the facility produces. Test results and testing methods shall comply with these tables. (Note: Any testing conducted by the government throughout the year for any of the parameters in Annex 5 Table II would count towards meeting this requirement.)
- 3.4 The auditor shall state the testing frequency the facility is going by at the time of the audit, and whether or not they are in compliance with Table I requirements, including the non-compliance rules.

**Annex 5 – Table I
Sampling and Testing Frequency**

Product Test Type	Required tests	Number of Samples to be tested	Compositing?	Enhanced Sampling (Monthly)	Normal Sampling (Quarterly)	Reduced Sampling (Semi-Annually)
<p>Microbiological Pathogens and Aquaculture Drugs*</p> <p><i>*(Value Added/ Secondary re-processors buying from a primary processor are exempt from aquaculture drug testing if they have addressed the hazard in their hazard analysis by requiring controls at the primary processor. Refer to "note" under 5.2.12.)</i></p>	Types of tests, limits, and methods as described in the Annex 5 table II below.	<p>1 sample each, each sample from 3 DIFFERENT finished product lots, for EVERY primary product form, per species.</p> <p><i>(See Annex 1 Glossary for definitions of "Finished Product Lot" and "Primary Product Form and Sampling Instructions)</i></p>	For each product form and species, the 3 samples from the 3 different lots can be composited into 1 sample.	Until 6 months of compliant results achieved. Then switch to quarterly (normal sampling). If any positive result, facility is subject to suspension.	All new facilities start with normal until 6 months of compliant results have been achieved. Then switch to reduced sampling (Semi-annually). If any positive result, switch to monthly (enhanced sampling).	As long as tests remain compliant. If any positive result, switch to quarterly (normal sampling).

ANNEX 5 –Table II
Required Finished Product Testing

Acceptable Tests*	Microbiological Criteria	Limits	Reference	Species
BAM, AOAC	Staphylococcus aureus	Positive for Staphylococcal enterotoxin, Or Level equal to or greater than 1×10^4 /gram (MPN)	1	Finfish/Crustaceans
	Salmonella sp.	Presence in 25 grams	1, 2, 3	Finfish/Crustaceans/Molluscan Shellfish
	Escherichia coli	Out of 5 samples = unacceptable if: 3 or more exceed 4 per gram. Or, if 1 or more exceeds 40 per gram	2	Finfish/Crustaceans
	Escherichia coli	Out of 5 samples = unacceptable if: 1 or more exceeds 330/100g MPN. Or, if 2 or more exceed 230/100g MPN.	1, 2	Fresh or Frozen Molluscan Shellfish not intended to be consumed raw
	Listeria monocytogenes – (For cooked and raw, ready to eat products only)	Presence in 25 grams	1	Finfish/Crustaceans/Molluscan Shellfish
Acceptable Tests*	Aquaculture Drugs Substance/metabolite	All Limits in ppb = µg/Kg	Reference	Species
ELISA assay test kits for Initial screening only. Any positives require a confirmatory test using HPLCMS/MS.	Chloramphenicol	MRPL – 0.3	4	Finfish/Crustaceans
	Nitrofurans Metabolites			
	Furazolidone	MRPL – 1.0	4	Finfish/Crustaceans
	Furaltadone	MRPL – 1.0	4	Finfish/Crustaceans
	Nitrofurantoin	MRPL – 1.0	4	Finfish/Crustaceans
	Nitrofurazone	MRPL – 1.0	4	Finfish/Crustaceans
	Triphenylmethane Dyes			
	Sum of Malachite green & Leuco-malachite green	LOQ – 0.5	5	Finfish/Crustaceans
	Sum of Gentian Violet and/or Leucogentian Violet	LOQ – 0.5	5	Finfish/Crustaceans
	Fluoroquinolones	<i>(no residue permitted – As a minimum performance level of the labs testing for Fluoroquinolones, the lab must have a limit of quantification (LOQ) of at least 1µg/kg)</i>		
	Sarafloxacin	LOQ – 1.0	5	Finfish/Crustaceans
	Ciprofloxacin	LOQ – 1.0	5	Finfish/Crustaceans
	Enrofloxacin	LOQ – 1.0	5	Finfish/Crustaceans
	Quinolones			
	Flumequine	<i>No residue permitted</i>	5	Finfish/Crustaceans
	Oxolinic Acid	<i>No residue permitted</i>	5	Finfish/Crustaceans
	Oxytetracycline	<i>No residue permitted</i>	5, 7	Crustaceans
	Tetracycline	<i>No residue permitted</i>	5	Crustaceans
	Sulfonamide (Parent Drug)	<i>No residue permitted</i>	5	Finfish/Crustaceans (Except Salmonids)

* Other published methods of a sensitivity equal to or greater than the stated method may also be used. Provided such methods are published, and approved by the FDA, EU or Canada, and verifiable documented evidence of their approval provided.

REFERENCES

Microbiological -

1. US FDA Fish and Fisheries Products Hazards and Controls Guidance, Fourth Edition April 2011 –
<http://www.fda.gov/downloads/Food/GuidanceRegulation/UCM252448.pdf>
2. Canadian Food and Inspection Agency CFIA Appendix 2 – Bacteriological Guidelines for fish and fish products – standards and methods manual.
http://www.inspection.gc.ca/DAM/DAM-food-aliments/STAGING/text-texte/fish_man_standardsmethods_appendix2_1348768640119_eng.pdf
3. Commission Regulation (EC) No 2073/2005 on microbiological criteria for foodstuffs: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005R2073&from=EN>

Aquaculture Drugs -

4. Official Journal of European Union Commission Decision 2003/181/EC – 13 March 2003 – as regards the setting of minimum required performance limits (MRPL's) for certain residues in food and animal origin. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:071:0017:0018:EN:PDF>
5. Canadian Food Inspection Agency Standards and Methods Manual (2013) Appendix 1A – CFIA Aquaculture Therapeutant Residue Monitoring.
<http://www.inspection.gc.ca/food/fish-and-seafood/manuals/standards-and-methods/eng/1348608971859/1348609209602?chap=7#s15c7>
6. Official Journal of European Union – EU Commission Regulation 37/2010 – 22 Dec 2009 on pharmacologically active substances.
http://ec.europa.eu/health/files/eudralex/vol-5/reg_2010_37/reg_2010_37_en.pdf
7. Fish and Fishery Products Hazards and Controls Guidance Fourth Edition – APRIL 2011. U.S. Department of Health and Human Services Food and Drug Administration Center for Food Safety and Applied Nutrition.
<http://www.fda.gov/downloads/Food/GuidanceRegulation/UCM251970.pdf>

DEFINITIONS

- **Microbiological Criteria** – Criteria defining the acceptability of a product, a batch of food stuffs or a process based on the absence, presence or number of micro- organisms and/or on the quantity of their toxins/metabolites, per unit(s) of mass, volume, area or batch.
- **MRPL** – Minimum Required Performance Limits – minimum limits for analytical methods used for the detection of banned substances. MRPLs are set by the EU for substances that are banned/not allowed to be used. And have set this limit for the analytical method used for substances for which no safe permitted limit has been established.
- **MRL** – Maximum Residue Limit (MRL) is the maximum amount of residue allowed in a product to be considered safe for human consumption. Levels beyond the MRL are violative of the law and considered adulterated.
- **LOQ** – Limit of Quantification. A laboratory analysing for substances for which an LOQ is stated must utilize an approved method that has a minimum performance level in keeping with the LOQ.
- Residue analysis involves both screening and confirmatory methods for identifying residues include Gas Chromatography (GC), High Performance Liquid Chromatography (HPLC) and Liquid Chromatography with Mass Spectrometry (LCMS/MS).
- **CFU/g** – Colony Forming Units per Gram
- **MPN** – Most Probable Number
- **ppb** – parts per billion ($\mu\text{g}/\text{kg}$)
- **BAM** – Bacteriological Analytical Manual
- **AOAC** – Association of Official Analytical Chemists
- **HPLC** – High Performance Liquid Chromatography
- **LCMS/MS** – Liquid Chromatography/Mass Spectrometry

Annex 6

Water Quality Testing Requirements

		EU Standard ¹	
Test items	Method	MCL Specification	Units
Heavy Metals/Chemicals			
Aluminum (AL)	Modified APHA or other internationally recognized and approved methods for water testing	0.2	mg/L
Antimony(Sb)		0.005	mg/L
Arsenic (As)		0.01	mg/L
Cadmium (Cd)		0.005	mg/L
Chromium(Cr)		0.05	mg/L
Copper (Cu)		2.0	mg/L
Lead (Pb)		0.01	mg/L
Manganese (Mn)		0.05	mg/L
Mercury (Hg)		0.001	mg/L
Nickel (Ni)		0.02	mg/L
Selenium (Se)		0.01	mg/L
Microorganisms			
Coliform	APHA 22nd ed 2012 9222B	0	Per 100mL
E.coli	APHA 22nd ed 2012 9222G/9222H or 9222I	0	Per 250mL
Total Plate Count	APHA 22nd ed 2012 9215B or 9215C	100	cfu/ml at 22°C

Reference:

1. EU Drinking Water Standard – Council Directive 98/83/EC