

MID ATLANTIC SEAFOODS

(PRITIPAUL SINGH INVESTMENTS INCORPORATED)

SEAFOOD PROCESSING COMPLEX



**ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN (EAMP)
FOR THE OPERATION OF A SEAFOOD PROCESSING COMPLEX AND SUPPORTING FACILITIES
AT LOTS 51 - 52 PLANTATION PROVIDENCE, EAST BANK DEMERARA,
GUYANA, SOUTH AMERICA**

Prepared for:

PRITIPAUL SINGH INVESTMENTS INCORPORATED
Lots 52 and 53 Plantation Providence,
East Bank Demerara

For Submission to:

ENVIRONMENTAL PROTECTION AGENCY
Ganges Street,
Sophia
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DECEMBER xx, 2023

SIGNATURE PAGE

**ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN (EAMP)
FOR THE OPERATION OF A STATE-OF-THE-ART SEAFOOD PROCESSING COMPLEX AND ASSOCIATED FACILITIES
AT LOTS 51-52 PLANTATION PROVIDENCE, EAST BANK DEMERARA
GUYANA, SOUTH AMERICA**

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In keeping with our Company Policy, electronic and hard copy formats of this **Environmental Assessment and Management Plan (EAMP)** will be accessible to all staff of **Pritipaul Singh Investments Incorporated** for its Seafood Processing Plants and Associated Facilities located at Lot 51-52 Plantation Providence, East Bank Demerara, Guyana, South America.

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LIST OF ACRONYMS AND ABBREVIATIONS

BOD	Biological Oxygen Demand
CO	Carbon Monoxide
CO₂	Carbon Dioxide
ESMP	Environmental and Social Management Plan
EMS	Environmental Management System
EPA	Environmental Protection Agency
GEA	Guyana Energy Agency
GFS	Guyana Fire Service
GNBS	Guyana National Bureau of Standards
GW	Guyana Water Incorporated
NO_x	Oxides of Nitrogen
PM	Particulate Matter
PSI	Pritipaul Singh Investments Incorporated
SO₂	Sulphur Dioxide
TSS	Total Suspended Solids
VOC	Volatile Organic Compounds

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SECTION 1: INTRODUCTION

This Environmental Assessment and Management Plan (EAMP) has been prepared for Pritipaul Singh Investments Incorporated (trading as Mid Atlantic Seafoods) by Environmental Solutions with the intention of articulating a project and site-specific plan for managing all the identified significant potential environmental impacts and Health and Safety Hazards associated with the operations of the Seafood Processing Complex located at Lots 51-52 Plantation Providence, East Bank Demerara, Guyana, South America.

This EAMP has been prepared in accordance with the “Guidelines for Preparation of an Environmental Assessment and Management Plan” for submission to the Environmental Protection Agency (EPA) as a pre-requisite for the issuance of an Environmental Permit to Pritipaul Singh Investments Incorporated.

1.1 Scope

This Environmental Assessment and Management Plan (EAMP) will consider the operational and maintenance lifecycle phases of the Seafood Processing Complex and Associated Facilities (Herein referred to as the Proposed Project).

1.2 Objectives

The objectives of this EAMP are to:

- Describe the existing project location and surroundings with the view of orienting the existing project in the context of the local and regional environment;
- Describe all components of the existing project including all the features of the existing Seafood Processing Complex;
- Briefly describe existing environmental baseline conditions of the physical- chemical, biological, and socio-economic components of the environment in and around the project area;
- Identify and describe in a systematic and clear way all the major project related activities/ processes involved in the operation and maintenance phases;
- Identify, predict, analyze, assess, and determine the significance of impacts on the different components of the environment stemming from the proposed project related activities to be undertaken in each lifecycle phase of the project;
- Identify mitigation measures to eliminate, offset or reduce adverse potential impacts in each of the lifecycle phases of the Project;
- Identify applicable laws and regulations for the proposed project-related activities at the proposed site, and relevant standards and guidelines;
- Elaborate the elements of the Administrative Framework that will be used to ensure the sustainability of the overall environmental and social management system for the Seafood Processing Complex and associated facilities.

1.3 Structure of EAMP

This Environmental Assessment and Management Plan (EAMP) has been sub-divided into eight (8) sections:

Section 1: Introduction provides an introduction of the Environmental Assessment and Management Plan (EAMP) identifying its scope, objectives, and the structure of the Plan.

Section 2: Project Description describes the existing project, providing a project overview, background information, a general description of the project location and context, a brief description of all the project elements and the processes employed specifically in the manufacture of a range of seafood products produced and marketed by PSII;

Section 3: Environmental Impacts elaborates on the significant environmental and health and safety aspects and impacts determination methodology; identifies, determines, and briefly elaborates on the significant environmental and health and safety aspects and impacts associated with the operational and maintenance phase in the lifecycle of the Seafood Processing Complex.

Section 4: Impact Mitigation and Risk Control Measures identifies mitigation measures that will be implemented by Pritipaul Singh Investments Incorporated to address the potential significant environmental impacts and Health and Safety Hazards identified;

Section 5: Environmental Management Framework details the Health, Safety, and Environment policy and commitments of Pritipaul Singh Investments Incorporated and outlines the specific roles and responsibilities related to the implementation of the organization's Environmental Management System (EMS). The section concludes by describing the legislative framework that establishes the company's responsibility for environmental protection.

Section 6: Monitoring and Auditing elaborates on the arrangements in place of monitoring and auditing of environmental performance, as well as information on reporting requirements.

Section 7: Annex presents all of the supporting documentation referenced in the body of the Plan.

Section 8: Bibliography presents a comprehensive bibliographical listing of all works referenced in the preparation of this Environmental Assessment and Management Plan (EAMP).

SECTION 2: PROJECT DESCRIPTION

2.1 Project Overview

Pritipaul Singh Investments Incorporated (PSII) officially constituted under the Companies Act No. 29 of 1991 of the Cooperative Republic of Guyana on March 21st 2001 is a privately owned vertically integrated company that is involved in the harvesting, processing, value addition, packaging, cold storage, local wholesale/ retail, and the international export of high-quality (premium) seafood products. The premium seafood products produced and marketed locally and internationally include: (a) **Fish and Special Cuts** of the following fish species: Banga Mary, Butter Fish, Sea Trout, Grey Snapper, Sliver Snapper, Grunt, Rock Snapper, B-Liner, Lane Snapper, Red Snapper, Croaker, Grouper, Mackerel, Blue Fish, Snook, Tarpon, Jack, Barracuda, Cat Fish; (b) **Smoked Fish Products** – Smoked Catfish, Smoked Croaker, and Smoked Red Snapper; and (c) **Shrimp Products** – Prawns and Seabob.

PSII is currently in the final stages of consolidating its local seafood processing operations. In the process of the company's consolidation, its seafood processing plants and complementary facilities at Mc Doom were closed (shuttered) and the acquired dated facilities at Providence have undergone significant rehabilitation and are currently being utilized. The updated facilities include: an upgraded trawler fleet, a new reinforced concrete wharf, new seafood processing plants with automated seafood handling and processing systems, new industrial refrigeration and cold storage facilities; new multi-purpose storage facilities, new well water abstraction, storage, treatment and supply facilities, power generation systems, fuel storage areas, new equipment servicing/ maintenance areas, installation of emergency resources and environmental protection mechanisms, new self-contained refrigerated container loading area, a new retail outlet and new and improved staff facilities inclusive of but not limited to administrative offices, washroom and changing facilities, a canteen, vehicle parking areas.

The upgraded Seafood Processing Complex at Lots 51 -52 Plantation Providence within the jurisdiction of the Eccles /Ramsburg Neighbourhood Democratic Council (NDC) District along the Eastern Bank of the Demerara River represents an investment of USD\$ 23,947,765 (or G\$ 5 billion).

This development currently employs 547 Guyanese workers and is envisaged to provide innumerable benefits to the Guyana economy over the project's 25 years operational life.

2.2 Project Background

Pritipaul Singh Investments Incorporated is the brainchild of Mr. Pritipaul Singh (Snr.) who is currently the Chief Executive Officer (CEO). In the early 1990s, after benefiting from training provided by an experienced trader, Mr. Singh started trading on his own small items between Guyana, Trinidad and Tobago and Barbados. From Guyana Mr. Singh took Colgate (tooth paste), watches and small quantities of seafood and sold them in Trinidad and Tobago. From Trinidad, Mr. Singh would purchase vegetables such as cabbage and carrots, taking them to be sold in Barbados. And in Barbados, purchases of apples and grapes, and these he brought back to Guyana to be sold.

After trading these items for about four years, Mr. Singh decided to venture into the Seafood industry by purchasing prawns from locally owned trawlers, processing, freezing, and exporting them to Barbados. With the proceeds from these trading activities a number of investments were made in the 1990's in a sawmill at Friendship and a gas station at Supply on the East Bank of Demerara. During this period, designs for a Seafood Processing Plant were prepared. With financing from local financial institutions, Mr. Singh was able to purchase his first trawler and began using the Demerara River behind the gas station as the center of the operation. With funding from local banks and proceeds acquired from the operations of the gas station, sawmill, and seafood business, nine (9) additional trawlers were acquired. In 1999, the operators of the now defunct Marine Food Complex at Mc Doom on the East Coast Demerara put the property up for rental. Seeing the potential of the location, Mr. Pritipaul Singh prepared a Proposal to the Government of Guyana and was granted the permission in 1999 to acquire the complex.

After acquiring the complex, PSI Investments started selling its seafood products inclusive of shrimp and fish exclusively to Nobel House Seafoods Limited and BEV Processors Incorporated. Recognizing the potential for greater revenue generation by processing the shrimp and fish and marketing them in overseas territories, decisions were made to expand the processing facilities, increase the number of intermodal storage containers, and increase the number of staff involved

in seafood processing. These actions allowed PSI Incorporated to increase its seafood product export capabilities from one twenty (20) foot container per month to one forty (40) foot container per week.

Pritipaul Singh Investments Incorporated (PSII) in May 2005 acquired the trawling vessel fleet, existing Prawn processing plant along with essential supporting infrastructure including trawling/ vessel repair operation from Georgetown Seafoods and Trading Company Limited (GSTCL) located at Providence, on the Eastern Bank of the Demerara River which was operated by Salman Seafoods Incorporated (SSI) – a family-owned company located in Tampa, Florida. In the process, PSII was able to purchase the property, retain the staff and maintain the trading name, Bee Gee products. After the acquisition, given the state of the infrastructure of the complex established since the 1940's, PSII found it necessary to comprehensively upgrade and expand all the facilities of the complex. First, a number of basic infrastructural upgrades were undertaken and a Tuna Processing plant and supporting facilities commissioned.

Several factors have since forced PSI Incorporated to operate differently. First, with the commencement of Oil and Gas Activities within the Economic Exclusive Zone (EEZ) of Guyana there was a noticeable decline in the amount of Fin Fish and Seabob/ Prawns caught. Secondly, owing to strict COVID-19 measures which were in place both locally and internationally PSII experienced significant declines in the demand for finished seafood products in traditional high consumption markets. These new realities have made it necessary for us to make serious decisions in relation to our operations.

These new realities have forced us to take a number of strategic measures to stem the tide of revenue loss. First, more immediately, we have had to re-evaluate our operations and scale down or close non-feasible elements of our facilities. As a consequence, we have had to reduce our staffing. Secondly, we have had to embarked upon an ambitious but feasible plan to consolidate our local Seafood Processing operations at Providence. We have started the process of winding down our operations at Mc Doom with the view of eventually closing same in 2023. And at the same time, PSI has been undertaking significant upgrading works to our facilities at Plantation Providence. These are expected to be completed in 2023.

Today, Pritipaul Singh Investments Incorporated is the largest family-owned vertically integrated seafood operation in Guyana. The facility is designed to meet the highest standards of safety, efficiency, and environmental sustainability. PSI is committed to maintaining the highest standards of quality and safety. PSI is British Retail Consortium (BRC) Issue 9 certified and is working toward attaining ISO 22000:2018 certification. This is testimony to our commitment to excellence in every aspect of our operations and continual improvement. PSI is also a member of the Guyana Manufacturing and Services Association, which promotes the interests of the manufacturing sector in Guyana.

PSI serves a diverse range of customers in Guyana and around the world. PSI's clients include major retailers, wholesalers, and distributors in the seafood industry. The company's products are exported to USA, Caribbean, Canada & European Union (EU).

2.3 Project Location

The existing upgraded Seafood Processing Plants and Associated Facilities operated by Pritipaul Singh Investments Incorporated is located at Area "S" and Lots S1" and S2" being portions of the South Half of the Frontlands of Plantation Providence, situated on the Eastern Bank of the Demerara River in the County of Demerara.

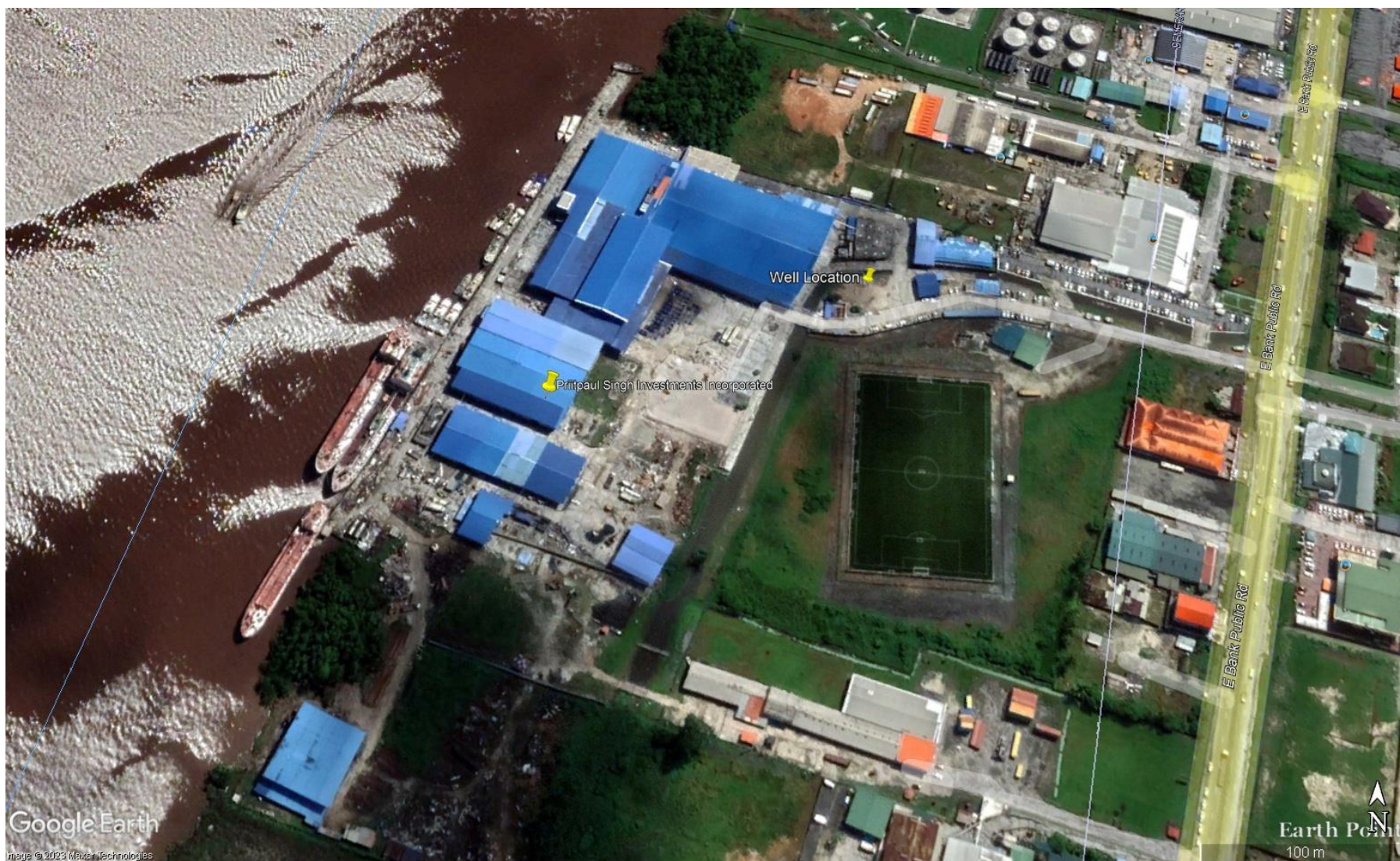
Occupying approximately six (6) acres of land, the existing Seafood Processing Complex is immediately bordered to the **North** by Machinery Corporation of Guyana Limited (MACORP) and the Guyana Oil Company Limited (GUYOIL) Providence Fuel Terminal, to the **East** by the Guyana Football Federation National Training Centre (GFF-NTC), to the **South East** and **South South East** by property held by Demerara Contractors and Engineering Limited (DCEL) – a Demerara Distillers Limited (DDL) subsidiary, Sterling Products Limited (SPL) Manufacturing Facility and Rubis Guyana Providence Fuel Terminal, to the **West** by the Company's existing wharf and the Demerara River and to the **South** by River Defence Reserve. (See Figure 1-4 below)

Figure 1: Location of PSI Incorporate Seafood Processing Complex



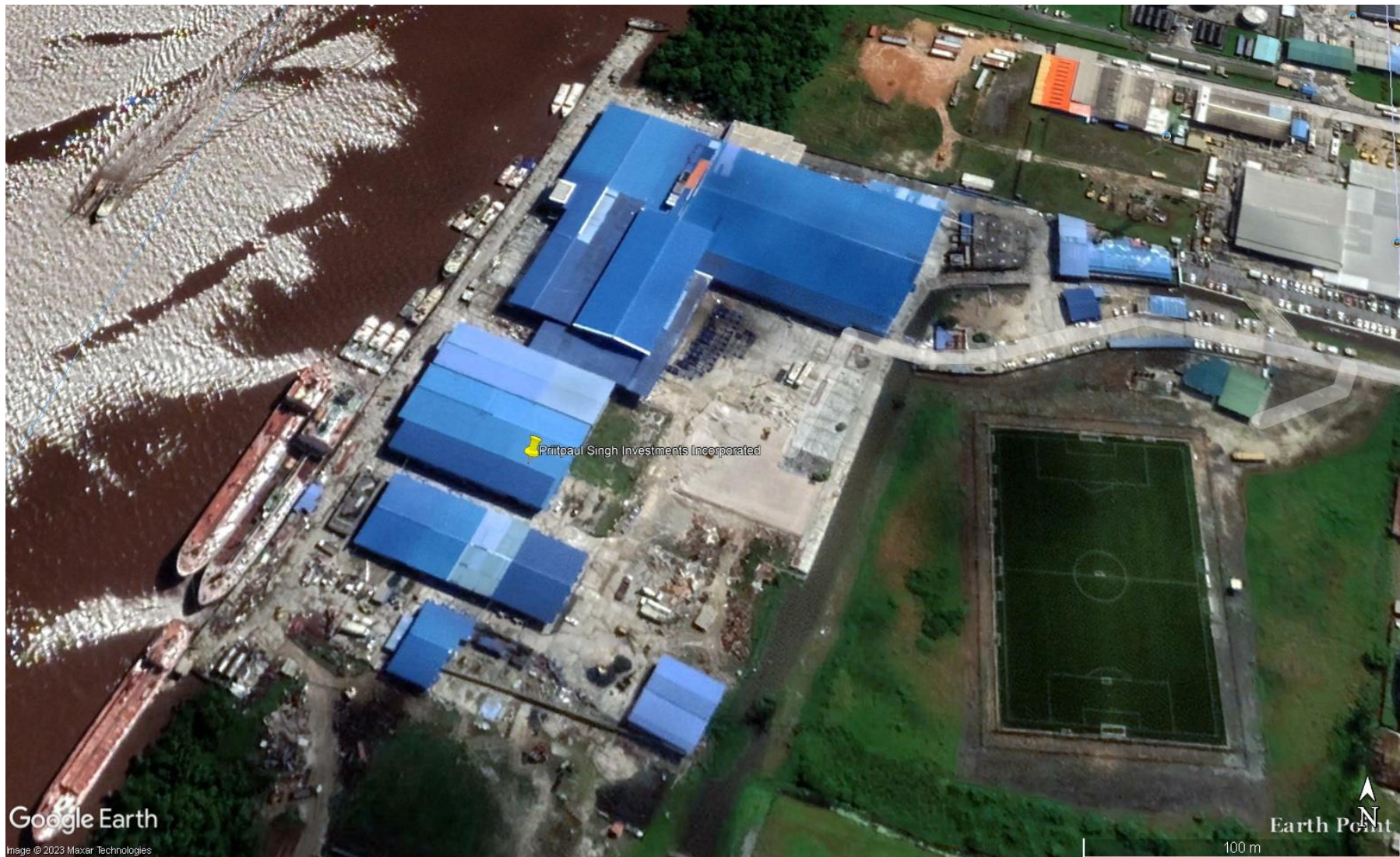
Source: Google Earth, 2023

Figure 2: Location of PSI Incorporate Seafood Processing Complex



Source: Google Earth, 2023

Figure 3: Location of PSI Incorporate Seafood Processing Complex



Source: Google Earth, 2023

Figure 4: Aerial Photo of PSI Seafood Processing Complex



Source: Pritipaul Singh Investments Incorporated, 2023

2.4 Environmental Baseline, Current Conditions and Sensitive Receptors

This sub-section will furnish a description of the environmental context within which the Pritipaul Singh Investments – Seafood Processing Complex will be situated. As part of this description, the physical, climatic, biological, and socio-economic conditions will be elucidated.

2.4.1 Physical Conditions

2.4.1.1 Physiography and Geomorphology

The Pritipaul Singh Investments Incorporated – Seafood Processing Complex is located at Lot 51-52 Plantation Providence, East Bank Demerara, Guyana.

This location is situated in one of the four natural/ physiographic regions of Guyana: The coastal plain/ low coastal plain. This area is a narrow belt of land (ranging from between 8 and 65 km in width with a length of 440 km) which stretches from the Waini Point in the West to the Corentyne River in the East.

2.4.1.2 Soil Resources

According to available information on the Soil resources of Guyana obtained from the Food and Agriculture Organization (FAO) mapping in the mid -1960's which produced a soil map of the whole of Guyana at a scale of 1:1,000,000, and the reclassification by National Agricultural Research and Extension Institute (NAREI) of soil units used in the FAO's mapping into current United States Department of Agriculture (USDA) classification soil units (**See Table 6 Below**), the dominant soils within the project area have been mapped as follows:

- **1a – Low Humic Gleys of high base status, marine phase “Frontlands clay” (hydraquents with sulfaquents, fluvaquents)**
- **2a – Low Humic Gleys of high and medium base status, Fluvio marine phase, riverain soils (Fluvaquents with Endoaquents, Medhemists)**

1a – Low humic gleys of high base status, marine phase “Frontland clay” (hydraquents with sulfaquents, fluvaquents)

This type of soil occurs mainly on the coastal plain of eastern Guyana from the Essequibo to the Corentyne River stretching some 32 kilometers inland in places. It contains relatively fertile, poorly drained clayey soils developed on unconsolidated sediments with associated sandy reefs that are old beach ridges. Some saline soils and organic “pegasse” soils also occur in patches. (**GNLUP, 2013: 40**)

2a – Low humic gleys of high and medium base status, fluvio marine phase, riverain soils (Fluvaquents with Endoaquents, Medhemists). This type of soil occurs mainly between the Berbice and Corentyne Rivers, along the Demerara River as far south as Linden and 100 km up the Berbice River and at the Essequibo River mouth. These soils are poorly drained, deep, silty loam to silty clay textured soils that have developed over alluvial deposits. The soils have moderate to high fertility which decreases away from the Coast. (**GNLUP, 2013: 41**)

Table 1: Soil Map Unit Characteristics

Map Unit	Texture	Depth	Drainage	Fertility	Erosion Hazard	LCC	Limitations
1a	C-ZC (S-SL)	Deep	Poor	Med-High	None	I-II	Drainage (Salinity, Toxicity, AcS)
2a	ZL-C	Deep	Poor	Med – High	None	I-II	Drainage

2.4.1.3 Hydrology, Drainage and Surface Water Quality

The project site is located on the Eastern Bank of the Demerara River that eventually drains into the Atlantic Ocean. The land in the project area has been physically laid out to facilitate agricultural production – particularly sugarcane

production. These lands are still today served by an expansive network of Irrigation canals which bring fresh water under the influence of gravity from the East Demerara Water Conservancy (EDWC) to lands used for agricultural purposes and drains excess water from these lands via a network of drainage canals into the Demerara River via an outlet structure.

Several surface water samples were collected by IMEX Environmental Services Guyana Incorporated on May 06, 2023 from three sampling points in the Demerara River and was analyzed for the following parameters: a) Total Suspended Solids (TSS); b) Temperature; c) Oil and Grease; d) Total Petroleum Hydrocarbon; e) Biological Oxygen Demand (BOD); f) Chemical Oxygen Demand (COD); and g) pH – to establish baseline levels. The prepared report can be found at **Annex 2**.

2.4.2 Climatic Conditions

Just near the equator from about 5 degrees North and 5 degrees South, the northeast trade winds and the southeast trade winds converge in a low-pressure zone known as the Inter Tropical Convergence Zone (ITCZ). Guyana, as a territory, is uniquely positioned within this zone of convergence; and as such its weather and climatic conditions are heavily influenced by the seasonal shifts of this zone. The movement of the Inter Tropical Convergence Zone (ITCZ) over Guyana brings with it heavy rainfall that coincides with the rainy seasons generally experienced between May to July; and November to January, respectively.

Meanwhile when the ITCZ lies outside of Guyana's borders from February to April; and August to October, respectively, much lower levels of precipitation are experienced, which coincide, with the two (2) dry seasons experienced. (**Wikipedia, 2023**)

2.4.3 Biological Conditions

It must be stated at the outset that the project site is in an area that has been disturbed by human activity and is not now and has not been in a pristine vegetated state for many years. The location has long been used for heavy commercial activity.

Nonetheless, within the bounds of the property occupied by Pritipaul Singh Investments Incorporated was observed limited types of flora (vegetation) and fauna (animal life). The limited existing vegetation present in areas that are unconcreted is largely grass. Various endemic and common bird species were observed, including: The Great Kiskadee (*Pitangus Sulphuratus*), the Blue-Grey Tanager (*Thraupis Episcopus*), Pale breasted Thrush (*Turdus Leucomelas*), and the House Wren (*Troglodytes musculus*) to name a few.

2.4.4 Socio-Economic Conditions

2.4.4.1 Surrounding Land Uses

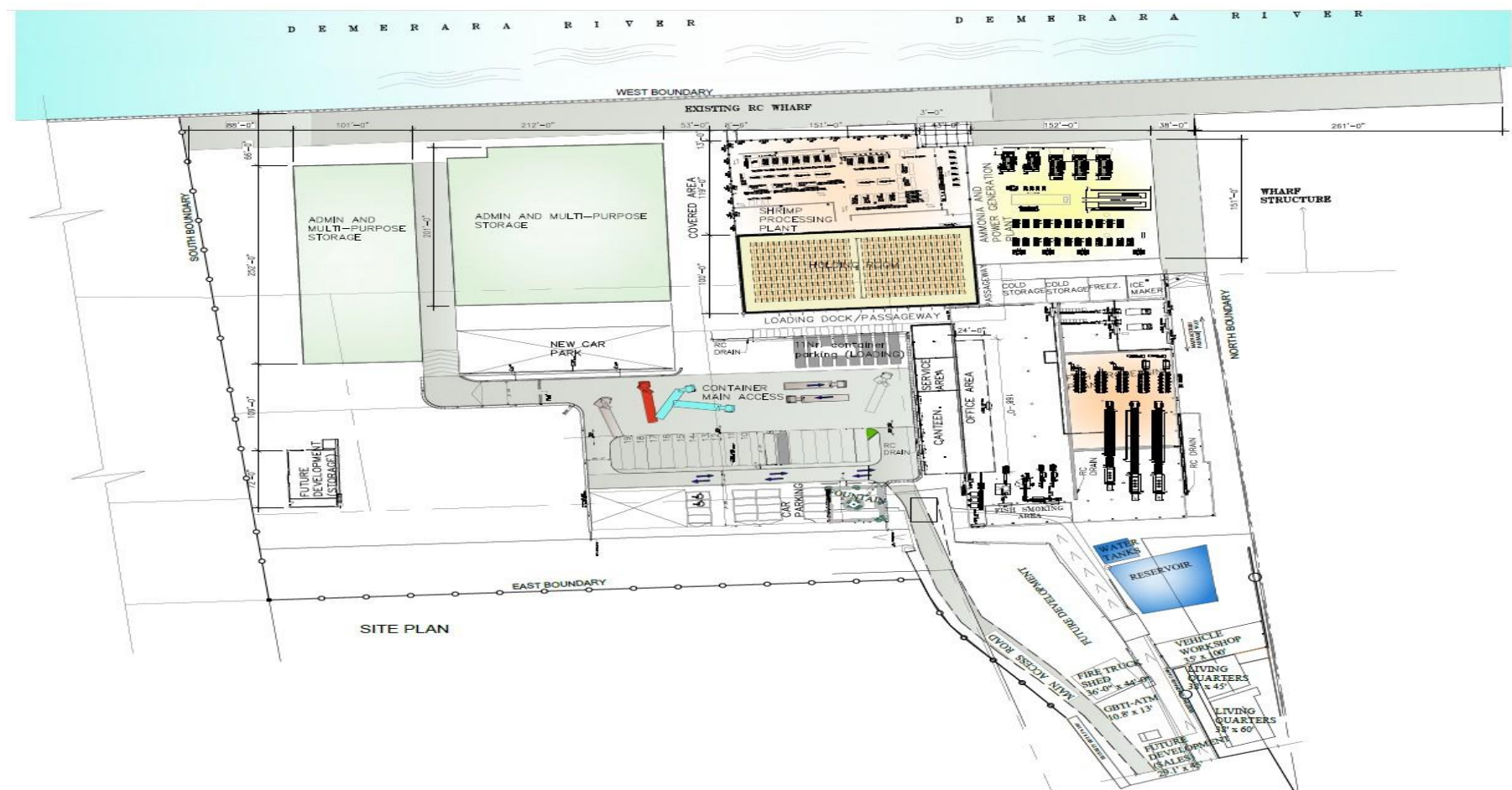
The Seafood Processing Complex is situated on land located within an Industrial/ Commercial Zone.

The property is immediately bordered to the **North** by Machinery Corporation of Guyana Limited (MACORP) and the Guyana Oil Company Limited (GUYOIL) Providence Fuel Terminal, to the **East** by the Guyana Football Federation National Training Centre (GFF-NTC), to the **South East** and **South South East** by property held by Demerara Contractors and Engineering Limited (DCEL) – a Demerara Distillers Limited (DDL) subsidiary, Sterling Products Limited (SPL) Manufacturing Facility and Rubis Guyana Providence Fuel Terminal, to the **West** by the Company's existing wharf and the Demerara River and to the **South** by River Defence Reserve.

2.5 Project Layout of PSI – Seafood Processing Complex

Pritipaul Singh Investments Incorporated – Mid Atlantic Seafoods, Seafood Processing Complex and Associated Facilities is physically laid out as is illustrated in the Site Plan drawing referenced at **Figure 5 Below** and at **Annex 3**.

Figure 5: Site Plan for PSI Seafood Processing Complex and Associated Facilities



Source: PSI Incorporated, 2023

2.6 Overview of Project Elements

The Seafood Processing Plant and Associated Facilities that have been constructed and are currently being operated by Pritipaul Singh Investments Incorporated (PSII) will have the following elements:

- 1. Reinforced Concrete Wharf**
 - a. New Reinforced Concrete Wharf and Associated Fendering System
 - b. Flood and Erosion Control Retaining Wall Structure
- 2. Trawling Vessel Fleet**
 - a. Seabob Shrimp Trawlers
 - b. Fin Fish Trawlers
- 3. Seafood Processing Facility**
 - a. Seabob/ Prawns Shrimp Processing Plant
 - b. Fresh and Frozen Fin Fish Processing Plant
 - c. Hot Smoked Fish Plant
- 4. Refrigeration and Cold Storage Facilities**
 - a. Compressor Room
 - b. Ice Plants
 - c. Refrigeration (Reefer) Containers and Trucks
- 5. Multi-Purpose Storage Facilities**
 - a. Grocery Storage Areas
 - b. Material Storage Areas (Inclusive of Industrial cleaning product storage area, plastic packaging storage area, carton storage areas, secured chemical storage area, Oil bond, Compressed gas cylinder storage area)
 - c. Main Stores
- 6. Well Water Abstraction, Storage, Treatment and Supply System**
- 7. Power Generation Area**
- 8. Fuel Storage Area**
 - a. Marine Vessel Based Fuel Storage
- 9. Dry Docking Facilities**
- 10. Maintenance Workshop Areas**
- 11. Boat Building Area**
- 12. Emergency Resources**
- 13. Retail Outlet for Seafood Products**
- 14. Staff Facilities**

The following sub-sections provide a brief overview of each of the abovementioned elements of the complex.

2.6.1 Reinforced Concrete Wharf

Pritipaul Singh Investments Incorporated has a reinforced concrete wharf on the western boundary of the property that measures **1560 feet long by 40 feet wide** along the eastern bank of the Demerara River.

The existing reinforced concrete wharf has several installed features. On the landward side of the wharf is a flooding and erosion control retaining wall. On the riverside of the wharf is an associated fendering system to prevent approaching fishing vessels from directly colliding into the reinforced concrete wharf damaging both the structure of the wharf and the hull of the approaching or moored trawler vessel.

Directly on top of the reinforced concrete wharf close to the edge there are structures for securing the trawling vessels to the wharf. And lastly, there is one metal pipeline used for both the supply and discharge of fuel, one high pressure PVC line for the supply of water from onsite water treatment area and a flexible hose for the supply of ice from ice production plants to moored vessels. **(See Figure 6 -10 below)**

Figure 6: Reinforced Concrete Wharf



Source: PSI Inc., 2023

Figure 7: Sections of Wharf on the Western Boundary of the PSI Inc (Providence) Property



Source: Environmental Solutions, 2023

Figure 8: Section of Existing Reinforced Concrete Wharf



Source: Environmental Solutions, 2023

Figure 9: Hoisting Equipment Fixed to the Wharf



Source: Environmental Solutions, 2023

Figure 10: Mooring Bollards



Source: Environmental Solutions, 2023

2.6.2 Trawling Vessel Fleet

Integral to the operations of PSII is the ability of its trawling fleet to capture, preserve and consistently supply fresh Finfish and Seabob shrimp of the highest possible quality to its seafood processing complex. In order for this objective to be realized, Pritipaul Singh Investments Incorporated has been able to sustainably extract fin fish and Seabob shrimp year-round from the designated fishing zones offshore Guyana, Suriname, Venezuela and Trinidad and Tobago using a registered fleet consisting of fifty-five (55) vessels.

Within PSI Incorporated's fleet there are three (3) classes of fishing/ shrimping vessels: (i) Sea bob shrimp trawlers, (ii) Red Snapper boats; and (iii) Drift Seine boats. Each of these trawling vessel classes is equipped with facilities for the captain and the crew, systems for navigation, communication, and vessel monitoring⁷, (**See Figures 11 – 12**) specialized gear for the capture of target species (i.e. Fin fish and/or Seabob shrimp and prawns) and the exclusion of sea turtles by means of a Turtle Exclusion Device (TED) and the reduction of bycatch of marine animals by means of a Bycatch Reduction Device (BRD) (**See Figure 13**) and an Ice cargo hold and/or Ice boxes for the preservation of fresh caught Seabob shrimp and/or Fin fish.

Figure 11: Fathom Meter and Global Positioning Systems



Source: PSI Inc, 2023

Figure 12: Very High Frequency (VHF) Radio System



Source: PSI Inc, 2023

Figure 13: Turtle Exclusion and Bycatch Reduction Devices on Trawling Gear



Source: PSI Inc, 2023

2.6.2.1 Seabob Shrimp Trawlers

The first category of vessels in the fleet of PSI Incorporated is the Seabob trawler. **(See Figure 14)** Each Seabob trawler has a captain and a crew of 5-6 crew members. Typically, these vessels go out into the coastal waters of Guyana, which is part of the Guianas – Brazil Offshore Shrimp Fishery for an average of seven (7) days with 20 tons of ice.

Using twin rigged bottom otter trawls 40 feet in length with 8–10-foot doors for the capture of Atlantic Seabob Shrimp (*Xiphopenaeus kroyeri*), each vessel according to company records has been able to land under good conditions between 18,000 – 36,000 pounds of Seabob shrimp per trip, which are immediately stored in ice boxes and/or the ice hold of the vessel.

Figure 14: Shrimping Trawler



Source: PSI, 2023

2.6.2.2 Fishing Boats

The second category of vessel in the fishing fleet of PSI Incorporated is the Fishing Boat/ Vessel. **Red Snapper Boats** and **Drift Seine Boats** which are typically of wooden construction are included in this category. Each fishing vessel usually has a captain and a crew of 4-5 crew members. **(See Figure 15)**

Typically, these vessels go out into the coastal waters of Guyana for an average of 12-21 days with 12 tons of ice. Using drift (gillnets) seines, the nets approximately 2.5 miles long, each vessel is able under good conditions to land between 6,000 – 12,000 pounds of finfish per trip.

Figure 15: Fishing Vessels: Red Snapper and Drift Seine Boats



Source: PSI, 2023

2.6.3 Seafood Processing Facility

Pritipaul Singh Investments Incorporated (trading as Mid Atlantic Seafoods) currently processes Seabob Shrimp and several species of Finfish in two (2) distinct and separate processing areas within a completely enclosed Seafood Processing Plant. The present design of the building affords adequate protection of the processing lines and the products against contamination.

This plant is a large completely enclosed building of metal frame and concrete construction which is internally separated to accommodate fish and shrimp processing sections of the facility. The shrimp processing plant has an area of 5,370 m² (57,802 sq. ft), while the fish processing area is 587 m² (6325 sq. ft). In that space are the shrimp and the fish processing lines which are directly connected to input lines (ice, water, clean containers, packing materials, personnel) and output lines (waste products, offal, dirty containers, and recipients etc.). The smoke fish plant is a separate building of dimensions 74m² (800 sq. ft).

Each of these seafood processing areas is equipped with its own facilities for male and female staff such as locker rooms, apron areas and boots bays, sanitization areas, power and water supply, air conditioning, processing utensil storage, seafood processing and cold storage facilities such as: blast freezers, plate freezers, and holding room spaces.

The sub-sections which follow will provide a detailed description of the processes employed in the production of Shrimp and Fin Fish Products by PSI Incorporated.

2.6.3.1 Shrimp Processing Plant

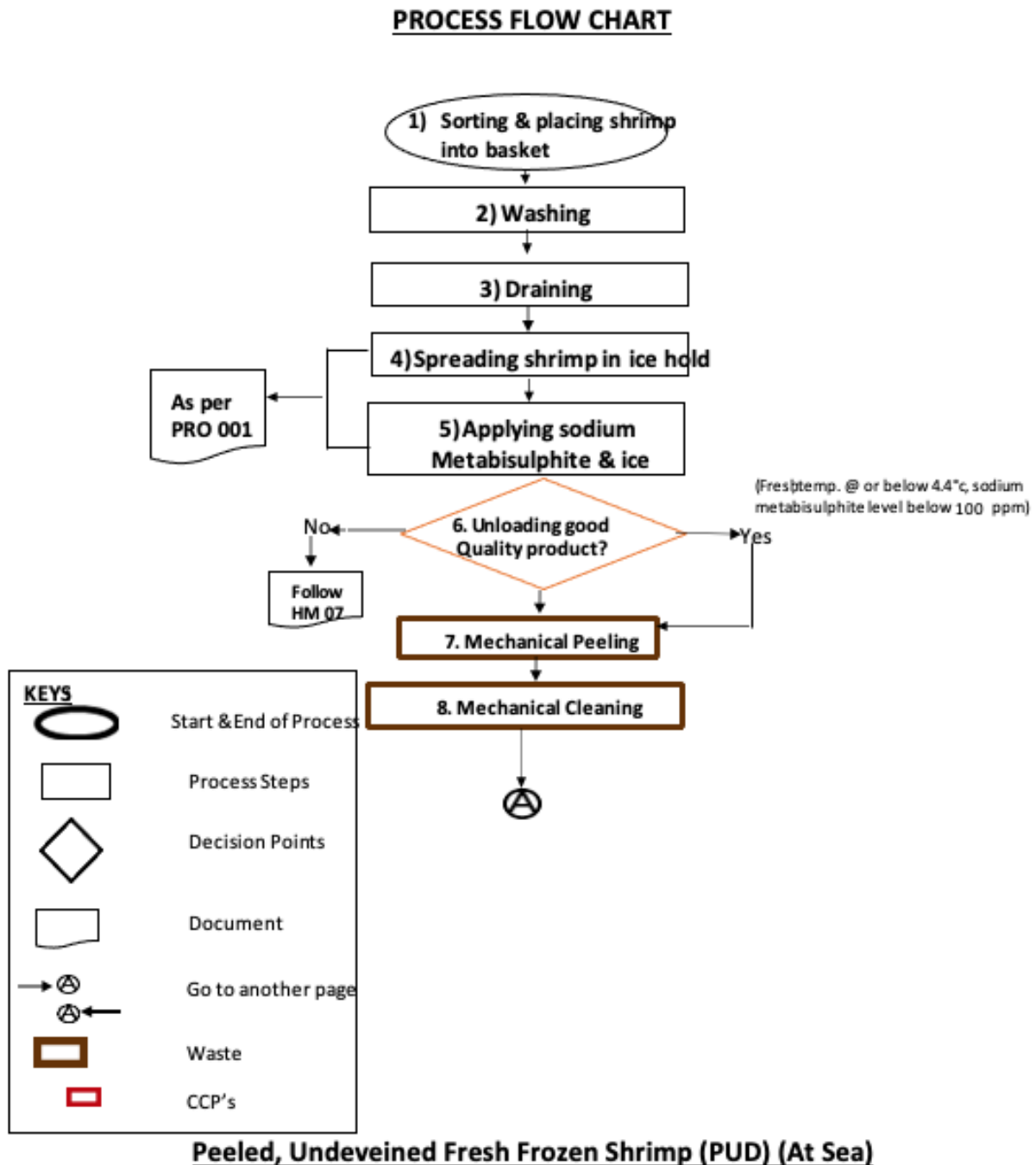
The Shrimp Processing Plant operated by Pritipaul Singh Investments Incorporated is integral for the consistent supply of Shrimp (Seabob) (*Xiphopenaeus Kroyeri*) products of the highest quality. The facilities of Pritipaul Singh Investments have been configured to allow for the semi - mechanical processing of approximately 200 pounds (100 tons) of Seabob shrimp per day using ultra-modern Laitram Shrimp Processing Equipment.

Unlike the process employed in the preparation of fish for processing which occurs at the sheltered wharf of PSI Inc., the preparation of shrimp occurs aboard the shrimping vessels out at sea in accordance with the Process Flow Chart depicted at **Figure 16 below**.

Shrimp that is captured in the twin rigged bottom otter trawl nets are retrieved from the nets and spread on working tables to remove impurities and fish. After the fish and foreign materials are removed, the shrimp is washed in baskets with clean sea water, then allowed to drain for not longer than one minute. After the shrimp has been sufficiently drained, and the ice cargo hold prepared with a 16" thick layer of ice and one pound of Sodium bisulfite, approximately five (5) baskets of shrimp (Seabob) weighing approximately 400 pounds are evenly spread over the prepared layer in the ice cargo hold and a ¾ cup of sodium metabisulphite and a one-inch layer of ice spread over the shrimp. Then another load of load of shrimp is reapplied and the above procedure is repeated until the ice cargo hold is filled with shrimp and returned to the wharf facilities of PSI Inc. (Providence).

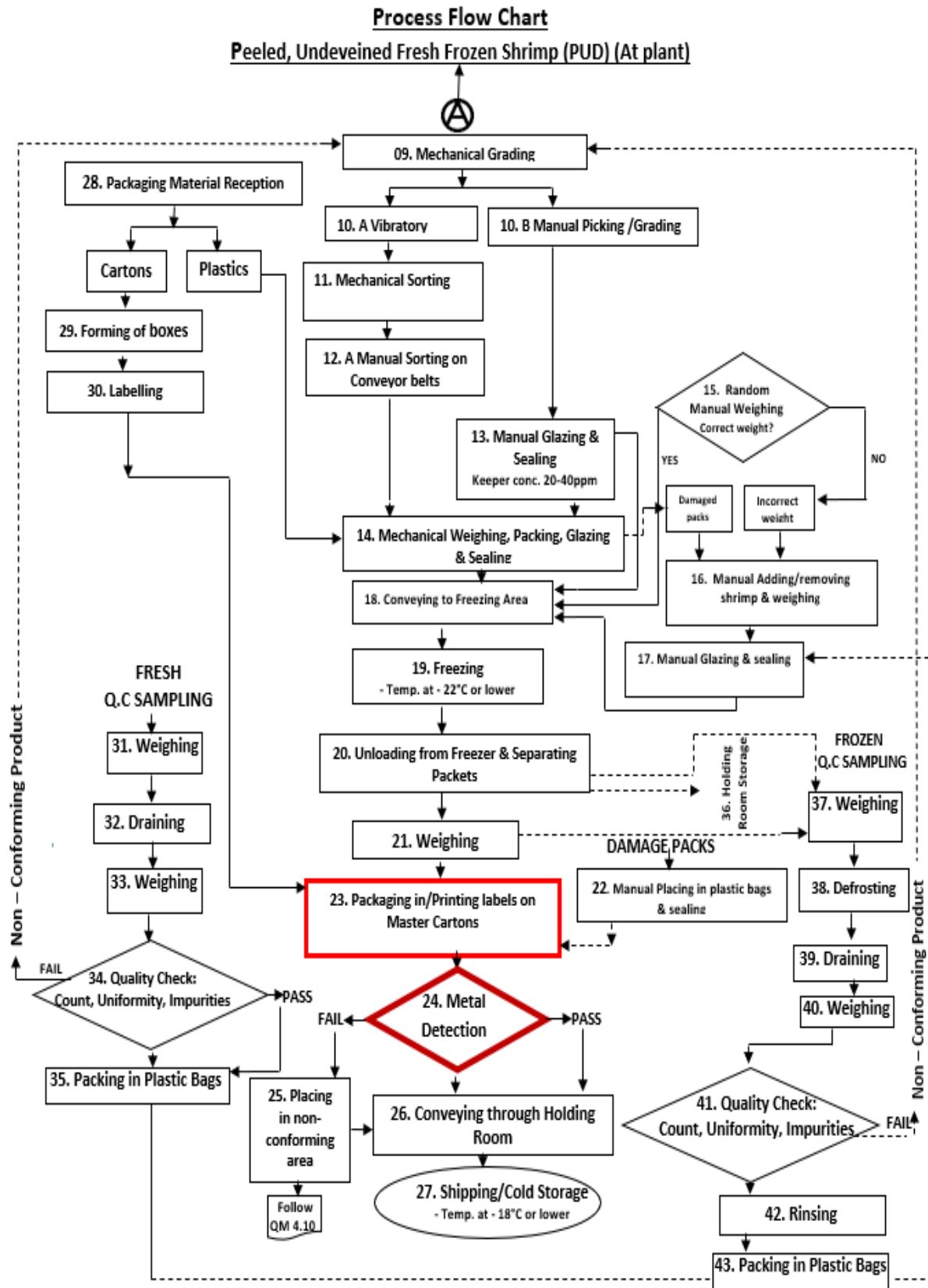
The subsections that follow will elaborate on the processes depicted at **Figure 17 below** that are employed from the point the raw unprocessed shrimp is discharged from shrimping vessels until Peeled, Undeined Fresh Frozen Shrimp (Seabob) products to the point finished products are either stored in the holding room or transferred to refrigerated containers for shipment.

Figure 16: Process Flow Chart - Peeled, Undeveloped Fresh Frozen Shrimp (PUD) – At Sea



Source: Hazard Analysis Critical Control Point Plan for Pritipaul Singh Investments Incorporated, Providence Plant – Shrimp (Seabob) Section, 2023

Figure 17: Process Flow Chart - Peeled, Undeined Fresh Frozen Shrimp (PUD) – At Plant



Source: Hazard Analysis Critical Control Point Plan for Pritipaul Singh Investments Incorporated, Providence Plant – Shrimp (Seabob) Section, 2023

2.6.3.1.1 Shrimp Discharge/ Unloading Area

A small section of the reinforced concrete wharf just outside and contiguous to the shrimp plant on the western boundary of the property measuring 30 feet (9 meters) x 80 feet (24 meters) is used for the discharge/ unloading of frozen Prawns and Seabob shrimp from the cargo hold of recently returned moored shrimp trawlers (**See Figure 18**) laden with precious cargo. This unloading/ discharge area has been fitted with PVC piping to facilitate the fluidized conveyance (transfer) of frozen shrimp/ prawns from the cargo hold of the moored vessel directly into the peeling area within the shrimp plant.

Before any fresh ocean harvested shrimp/ prawns is discharged, the cargo has to be subjected to inspection. Shrimp is spaded into baskets and inspected in the ice hold of the boat by the Discharging Supervisor who rejects or accepts the shrimp. Rejected shrimp (poor quality) is verified by either the Quality Control Supervisor or Shrimp Production Manager and dumped. Good quality shrimp with temperature above 4.4 °C is immediately re-iced and sulfite level above 100 ppm is immediately washed and rechecked. Once this quality inspection is passed and the product deemed acceptable/ conforming, the instruction is given for the discharge process to commence.

A heavy-duty food pump (**See Figure 19**) is subsequently lowered into the cargo hold of the vessel to be discharged using a simple hoisting system that is installed on the wharf. After the food pump is lowered and the hoisting systems are unhitched and retrieved, it is connected to a power source on the wharf and product intake piping which leads into the shrimp processing plant. Finally, a flexible hose used to deliver high volumes of treated water is placed into the open end of the food pump to fluidize the frozen shrimp/ prawns for conveyance into the shrimp plant. (**See Figure 20**)

A team of vessel crew in the cargo hold suited with appropriate personal protection apparel break up the iced Prawns/ Seabob shrimp in the cargo hold and places it using spades and /or buckets into the open end of the activated food pump where it becomes fluidized and immediately transferred via pipework into the mechanical peeling units within the shrimp processing plant. This process is repeated over and over again until the hold of the vessel is emptied. Once the discharge process is completed the food pump is deactivated, power and water supply moved from the unit and the system disconnected from the connections on the wharf. After this the unit is hoisted out of the cargo hold, this storage space and the rest of the vessel is cleaned and sanitized. If there are other vessels to be discharged the product discharge process as elaborated above will occur in another vessel.

Figure 18: Shrimp Trawler to be Discharged/ Unloaded



Source: Environmental Solutions, 2023

Figure 19: Food Pump in Shrimp Discharge Area outside Shrimp Plant



Source: Environmental Solutions, 2023

Figure 20: Intake Pipe within the Shrimp Plant



Source: Environmental Solutions, 2023

2.6.3.1.2 Processing Area

After the frozen Seabob shrimp is discharged from the shrimp trawler by means of a food pump it enters the processing area of the shrimp plant in an ice and frozen slurry form. Within the shrimp processing area which occupies a 54m x 25m space, shrimp is moved along with the aid of specialized seafood product handling systems through three (3) distinct processing stages: mechanical peeling, mechanical cleaning, and mechanical grading.

2.6.3.1.2.1 Mechanical Peeling

The first processing stage that the raw unprocessed shrimp goes through is mechanical peeling. This process is performed by a total of twelve (12) installed fully automatic mechanical peeling systems. These machines quickly and efficiently remove the heads, tails, and exoskeletons of the Seabob shrimp and prawns leaving the meat intact. **(See Figure 21 – 24 below)**

Figure 21: Tank of Mechanical Peeler System



Source: Environmental Solutions, 2023

Figure 22: Automatic Mechanical Peeler System



Source: Environmental Solutions, 2023

Figure 23: Tank of Automatic Mechanical Peeler System



Source: Environmental Solutions, 2023

Figure 24: Automatic Mechanical Shrimp Peeler System



Source: Environmental Solutions, 2023

2.6.3.1.2.2 Mechanical Cleaning

All peeled shrimp exiting the automatic mechanical shrimp peeler system goes through a subsequent stage of processing called mechanical cleaning. During the mechanical cleaning stage semi-peeled shrimp is passed by conveyor belts in a sequential way through an array of cleaning equipment consisting of: washers, waste separators, air separators and inspection belts. Washers take off the extra shells and swimmerets. Waste separators remove loose shells and

swimmerets. Air separators use air pressure to further remove loose shell. Inspection belts expose shrimp so that workers can manually remove any visually detected foreign materials. The cleaned shrimp after leaving the above systems is conveyed to the next processing stage. **(See Figure 25)**

Figure 25: Mechanical Cleaner



Source: Environmental Solutions, 2023

2.6.3.1.2.3 Mechanical Grading

Shrimp transferred from the mechanical cleaners is then conveyed to fifteen (15) mechanical graders which together separate the cleaned shrimp product into seven (7) different sizes classes which are as follows: **Class 1** (90-110); **Class 2** (110-130); **Class 3** (130-150); **Class 4** (150-200); **Class 5** (200-300); **Class 6** (300-500), and **Class 7** (Broken). Each size class of shrimp is then thrown onto its own conveyor belt(s). Shrimp is thereafter conveyed onto five (5) vibratory tables according to size (1-150/ 200), 2-200/300, 1-300/500 and 1 BK) to further assist in the separating the product. **(See Figure 26-27)** After this stage, product is conveyed to the Vision machine.

Figure 26: Mechanical Grader



Source: Environmental Solutions, 2023

Figure 27: Inspection Conveyor Belt after Grader



Source: PSI, 2023

Figure 28: Inspection Belt to CSC to Vibratory Tables



Source: PSI, 2023

Figure 29: Product Conveyance System to Vibratory Tables



Source: PSI, 2023

2.6.3.1.2.4 Mechanical and Manual Sorting

Product leaving the grading area enters the sorting area where it is subjected to mechanical and manual sorting. The first of the two processes occur when the graded product is passed through five (5) installed vision systems used to remove any remaining foreign materials and unwanted sizes of shrimp thereby allowing for the advancement of desirable product sizes. Appropriately graded product (150-200; 200-300, 300 -500 and BK) exiting the vision system are then thrown onto conveyor belt(s) where workers further inspect and remove any foreign material and ensure the size compliance of products. **(See Figures 30 -31-Below)**

Figure 30: Vision Machines



Source: Environmental Solutions, 2023

Figure 31: Inspection Belt after Product Exits Vision Machine



Source: Environmental Solutions, 2023

2.6.3.1.3 Packing Area

2.6.3.1.3.1 Mechanical Shrimp Weighing and Packaging

Shrimp leaving the product grading and sorting area is then conveyed via three (3) incliner conveyance systems to a 15 meter by 12-meter space where automated product weighing, biocide injection and packing occurs. Shrimp is deposited into these systems which then automatically weight approximately five (5) pounds or two (2) kg of Seabob shrimp, drops it into open plastic bags/ packets, injects eight (8) fluid ounces of 20-40 parts per million (ppm) keeper solution – a biocide, seals the packets and prints a label with information on the size of the shrimp, the time packed, boat code and date processed on each packet **(See Figure 32 – 37 below)**

Figure 32: Incliner Conveyance System



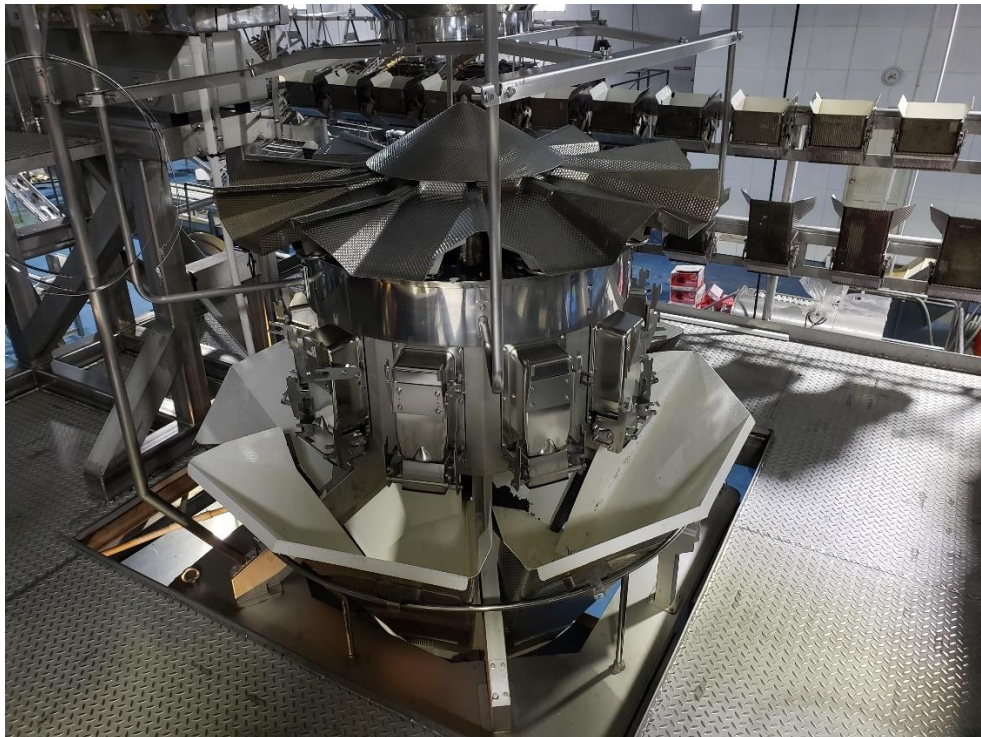
Source: Environmental Solutions, 2023

Figure 33: Hopper of Automated Bagging System



Source: Environmental Solutions, 2023

Figure 34: Dispersion Feeders on Automated Machine



Source: Environmental Solutions, 2023

Figure 35: Dispersion Feeders of Installed Automated Packaging System



Source: PSI, 2016

Figure 36: Mechanical Scale of Automated System



Source: PSI, 2016

Figure 37: Packaged Shrimp Exiting the Automated Packaging Machine



Source: PSI, 2016

2.6.3.1.4 Freezing Area

2.6.3.1.4.1 Conveyance to Freezing Area and Freezing of Processed Seabob Shrimp

Packaged shrimp coming out the Automatic bagging machine is conveyed via conveyor belt to the Plate Freezer area. In this area, the packets of shrimp are placed into aluminum pans and loaded into five (5) plate freezers each with the capacity to freeze 810 five-pound packets of shrimp to (-22°C to -18 °C) in 2 hours. **(See Figure 38-41 below)**

Figure 38: Conveyance System



Source: PSI, 2023

Figure 39: Conveyance System next to Plate Freezer



Source: PSI, 2023

Figure 40: Plate Freezers in Freezing Area



Source: Environmental Solutions, 2023

Figure 41: Shelves in Plate Freezer



Source: Environmental Solutions, 2023

After the 2–3-hour time frame passes, workers fitted with the appropriate personal protection apparel remove the aluminum pans from the plate freezer and onload the frozen pans trays onto a conveyor belt which takes the frozen pans through an overhead water sprinkler that allows the frozen packaged Seabob shrimp to easily detach from the

pan. After the individual packets are detached, the packets are reweighed for verification. Non-conforming packages (based on weight requirements) is sent to the Quality Control Station where it is defrosted, rechecked, reweighed, and repacked. If ruptured packets are detected the bags of shrimp will be manually repackaged and resealed. Packets leaving this general area are then advanced to the packing area by a belt conveyance system and the emptied pans are stowed in a holding area nearby. **(See Figure 42-44)**

Figure 42: Frozen Shrimp Packet Unloading and Separating Area



Source: Environmental Solutions, 2023

Figure 43: Frozen Packets Retrieved from Pans



Source: Environmental Solutions, 2023

Figure 44: Designated Aluminum Pan Storage Area



Source: Environmental Solutions, 2023

2.6.3.1.5 Cartoning Area

2.6.3.1.5.1 Packing in Master Carton Boxes

Based on the size of the shrimp each packet contains, the frozen packs which the Quality Control Officer has verified as having Sodium Metabisulfite and shrimp declaration are then placed into formed thirty (30) pounds or fourteen (14) kilogram master cartoon boxes by workers in the packing section. **(See Figure X-X below)**

Figure 45: Frozen Shrimp Packets being prepared for Packing



Source: Environmental Solutions, 2023

Figure 46: Frozen Shrimp Packets being placed into Cartoon Boxes



Source: Environmental Solutions, 2023

2.6.3.1.5.2 Cartoon Box Folding, Sealing and Foreign Material Detection

After each master cartoon box is filled with frozen conforming product packets, the cartoon box is conveyed through an installed snap fold machine the folds the four lids of the boxes and affixes adhesive tape. After this folding and sealing operation is completed, the sealed boxes are conveyed through a system for detecting foreign materials called a metal detection system. **(See Figures X-X below)**

Figure 47: Snap Fold Machine



Source: Environmental Solutions, 2023

Figure 48: Unsealed Cartoon Boxes Passed Through Snap Fold Machine



Source: Environmental Solutions, 2023

Figure 49: Metal Detection System



Source: Environmental Solutions, 2023

2.6.3.1.6 Conveyance Area

2.6.3.1.6.1 Conveyance/ Transfer of Packaged Product to Cold Storage Facilities/ Reefer Containers

Cartoon boxes of product that pass the metal detector check are transferred via a conveyance system to a receiving area near to a centralized high capacity finished holding room. Within this area, the filled cartoon boxes are placed onto pallets which are then transferred via forklift to the racks within the high-capacity cold storage room. **(See Figure 50 – 51 Below)**

Figure 50: Conveyance System



Source: Environmental Solutions, 2023

Figure 51: Receiving Area near the High Capacity Holding Room



Source: Environmental Solutions, 2023

2.6.3.1.7 Cold Storage Area

2.6.3.1.7.1 Storage of Cartoon Boxes in High Capacity Holding Room

Sealed Cartoon Boxes with finished product are transferred from the reception area via forklift to high-capacity storage racks within the high capacity holding room. This holding room has the capacity to store conservatively store 4200 tons of finished product in storage racks contained therein at temperatures ranging from -18°C to -21°C (See Figure 52-53

below). Finished products are held within this cold storage area until it is retrieved for international shipment or local wholesale and retail.

Figure 52: High-Capacity Cold Storage Room (Northward Facing View)



Source: Environmental Solutions, 2023

Figure 53: High-Capacity Cold Storage Room (South ward Facing View)



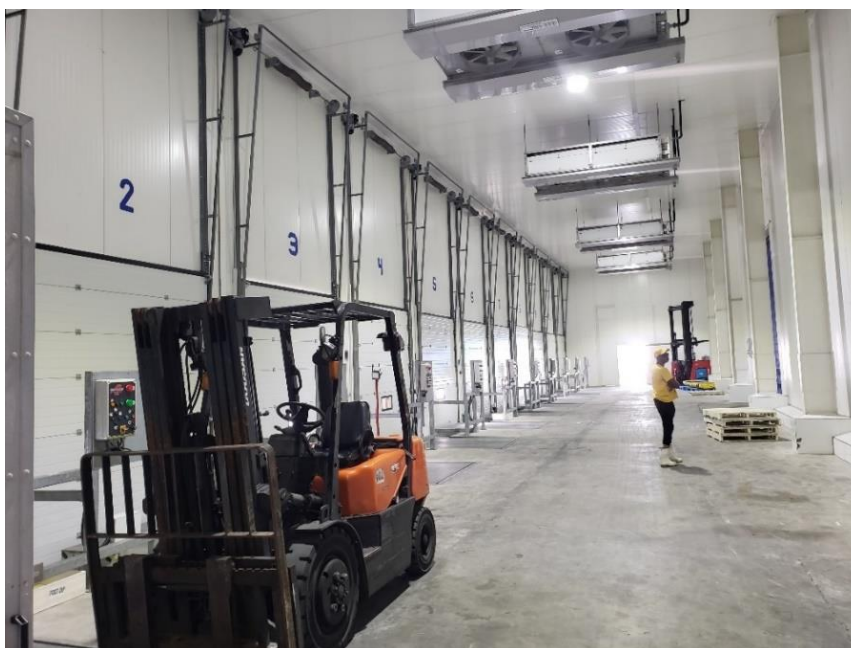
Source: Environmental Solutions, 2023

2.6.3.1.8 Dispatch/ Loading Dock Area

Stored product that has to be shipped internationally and/ or wholesaled and retailed locally must first be retrieved from the high capacity holding room and thereafter be placed into company owned refrigerated (or reefer) containers or trucks. The interface where this retrieval and loading activity occurs is the loading dock. **(See Figure 54)**

This loading dock is a self-contained, air-conditioned space that allows for the retrieval of stored product using hoisting equipment for placement into as much as eight (8) reefer containers/ trucks parked outside of the loading bay door openings without breaking the cold chain. **(See Figure 55 Below)**

Figure 54: Loading Dock– Internal View



Source: Environmental Solutions, 2023

Figure 55: Loading Dock – External View



Source: Environmental Solutions, 2023

2.6.3.2 Fish Processing Plant

The Fish Processing Plant operated by Pritipaul Singh Investments is integral for the consistent supply of fresh frozen fish products of the highest quality. Within this space the fish processing lines are directly connected to input lines (ice, water, clean containers, packing materials, personnel) and output lines (waste products, offal, dirty containers and recipients etc. The revamped fish plant which occupies 661 m² (7,125 sq. ft) is currently configured to allow for the semi – mechanical processing of fish.

The sub-sections that follow will elaborate on the process that is employed by PSI Inc. in the production of its range of fish products.

2.6.3.2.1 Fresh Frozen Seafood Production Area

Pritipaul Singh Investments Incorporated offers a variety of Fresh fin fish and special cut products under the Mid Atlantic Seafoods tradename in the following product cuts/forms: whole gutted, fillets, pan ready, headless, butterfly, nuggets, whole round, chunks/ portions and steaks. **(See Table 2 below)**

Table 2: Fish Species Processed by PSI Incorporated Seafood Processing Complex - Fish Plant

Species		Product Cut/ Form								
Common Name	Scientific Name	Whole Gutted	Fillets	Pan Ready	Headless	Butterfly	Nuggets	Whole Round	Chunks/ Portions	Steaks
Spanish Mackerel	<i>Scomberomorus brasiliensis</i>	X								
King Mackerel	<i>Scomberomorus cavalla</i>	X								
Cavalli	<i>Caranx hippos</i>	X								
Marlin	White- <i>kajikia albida</i> Blue-Makaira <i>nigricans</i>	X	X							X
Mahi Mahi	<i>Coryphaena spp.</i>	X	X							
Caribbean Red Snapper	<i>Lutjanus purpureus</i>	X								
Lane Snapper	<i>Lutjanus synagris</i>	X								
Beeliner/ Vermillion Snapper	<i>Rhomboplites auroruben</i>	X								
Corvina/ Weakfish/ Green Weakfish	<i>Cynoscion virescens</i>	X								
Grey Snapper/ Weakfish	<i>Cynoscion acoupa</i>	X	X		X					
Croaker	<i>Micropogonias furnieri</i>	X		X						
Small eye Croaker/ Butterfish	<i>Nebris microps</i>	X		X						
Snook	<i>Centropomus undecimalis</i>	X								
Tarpon/ Cuffum	<i>Magalops atlanticus</i>	X								
King Weakfish or Bangamary	<i>Macrodon ancylodon</i>	X		X						
Pampano	<i>Alectis ciliaris</i>	X								
Grouper	<i>Epinephelus spp.</i>	X	X							
Blue Fish	<i>Pomatomus spp.</i>	X								
Bashaw	<i>Larimus breviceps</i>	X		X						
Mullet	<i>Mugil spp.</i>									
Silver Snapper	<i>Plagioscion squamosissimus</i>	X								
Cabi/ Cobia	<i>Rachycentron canadum</i>		X							
Grunt	<i>Haemulon spp.</i>	X								
Catfish	<i>Arius spp.</i>		X							
High Water	<i>Hypoplithalmus edentalus</i>		X							
Pagi/ Porgy	<i>Lobotes surinamesis</i>	X	X							
Annafolk	<i>Genyatremus luteus</i>	X								
Shark	Various species (<i>Carcharhinus spp.</i>)	X			X					
Swordfish	<i>Xipias gladius</i>		X							X

Source: HACCP Plan (Frozen Fin Fish, 2023)

The subsections that follow will elaborate on the processes depicted at **Figures 56 - 63 below** that are employed within the Fish Processing Plant depending on the Fish Species being processed (**See Table 2 above**) from the point the raw unprocessed fish is discharged from fishing vessels until Fresh fish products in the above product cuts are either stored or transferred to refrigerated containers for shipment to international markets.

Figure 56: Process Flow Chart #1: Spanish Mackerel, King Mackerel

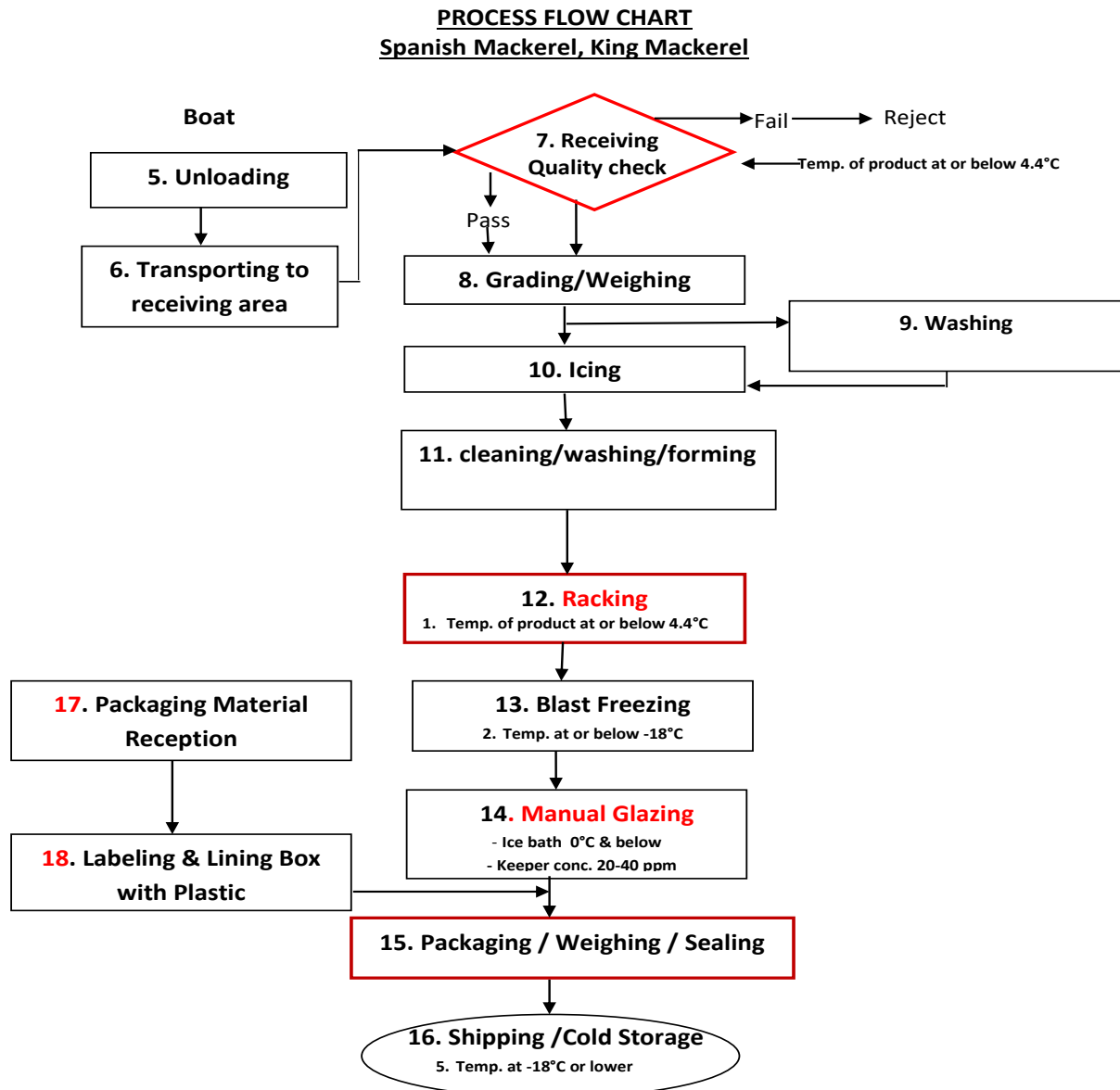
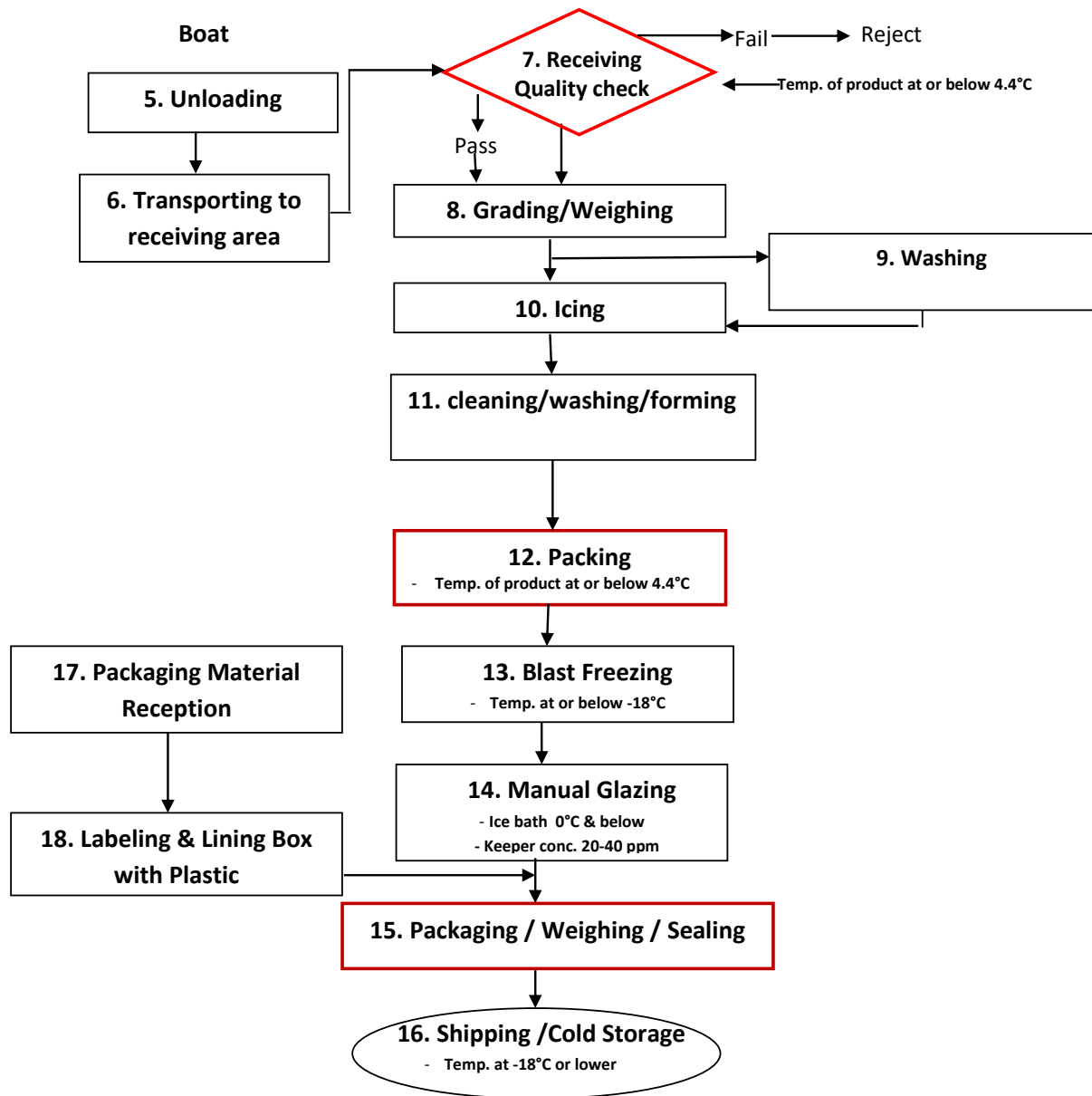


Figure 57: Process Flow Chart #2: Cavalli, Marlin and Mahi Mahi



Source Hazard Analysis Critical Control Point Plan for Pritipaul Singh Investments Incorporated, Providence Plant – Various Species of Finfish Section, 2023

Figure 58: Process Flow Chart #3 – Snappers (Caribbean Red Snapper [*Lutjanus purpureus*] and Lane snapper [*Lutjanus synagris*])
 Natural Toxins and Beeliner/Vermillion snapper [*Rhomboplites aurorubens*])

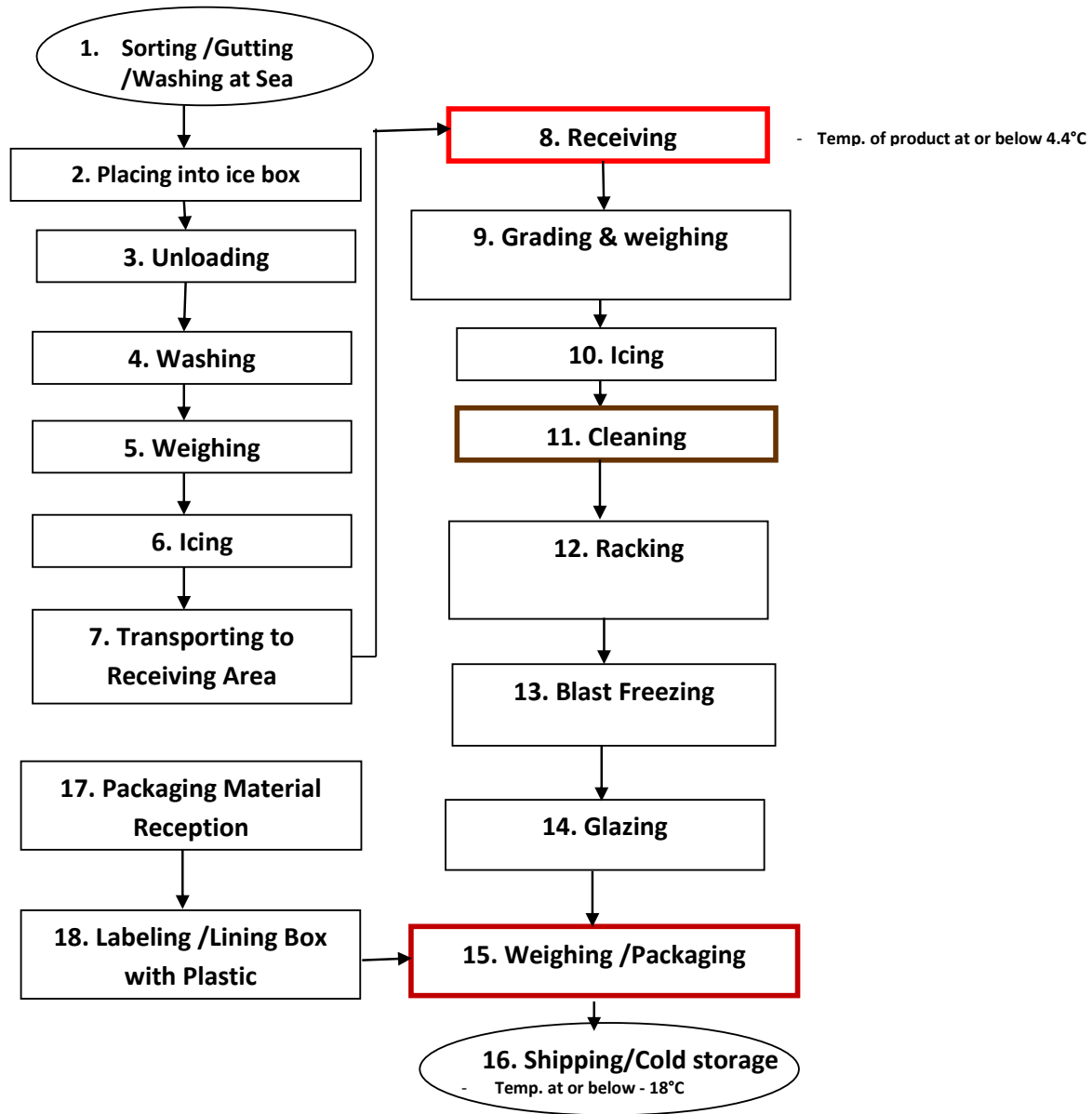


Figure 59: Process Flow Chart #4: Corvina or Weakfish or Green Weakfish (*Cynoscion virescens*); Grey Snapper or Weakfish (*Cynoscion acoupa*) Croaker (*Micropogonias furnieri*); Small eye croaker (*Nebris microps*); Snook (*Centropomus spp.*) Tarpon (*Megalops atlanticus*)

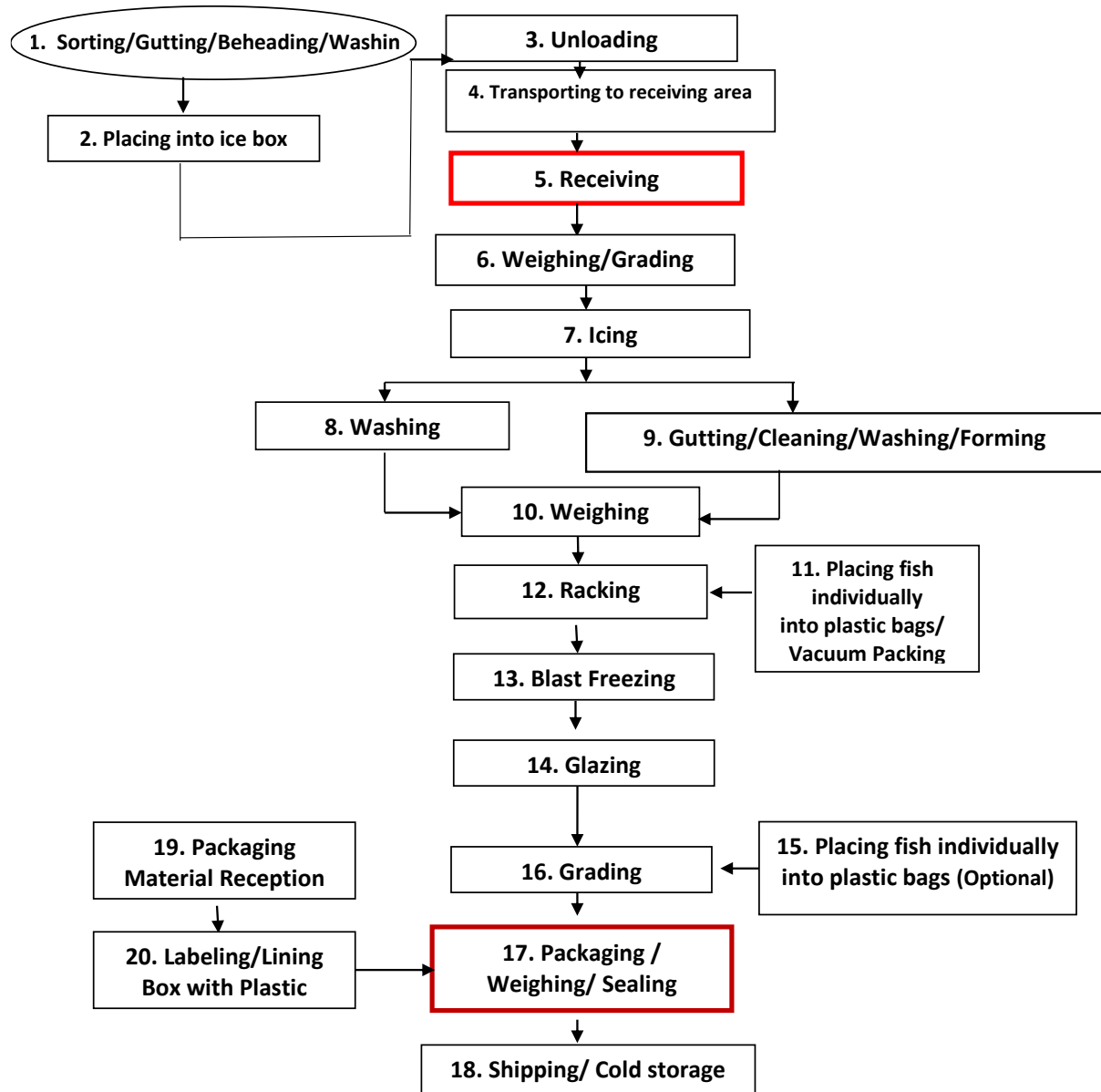


Figure 60: Process Flow Chart #5: Frozen Fish (King Weakfish or Bangamary)

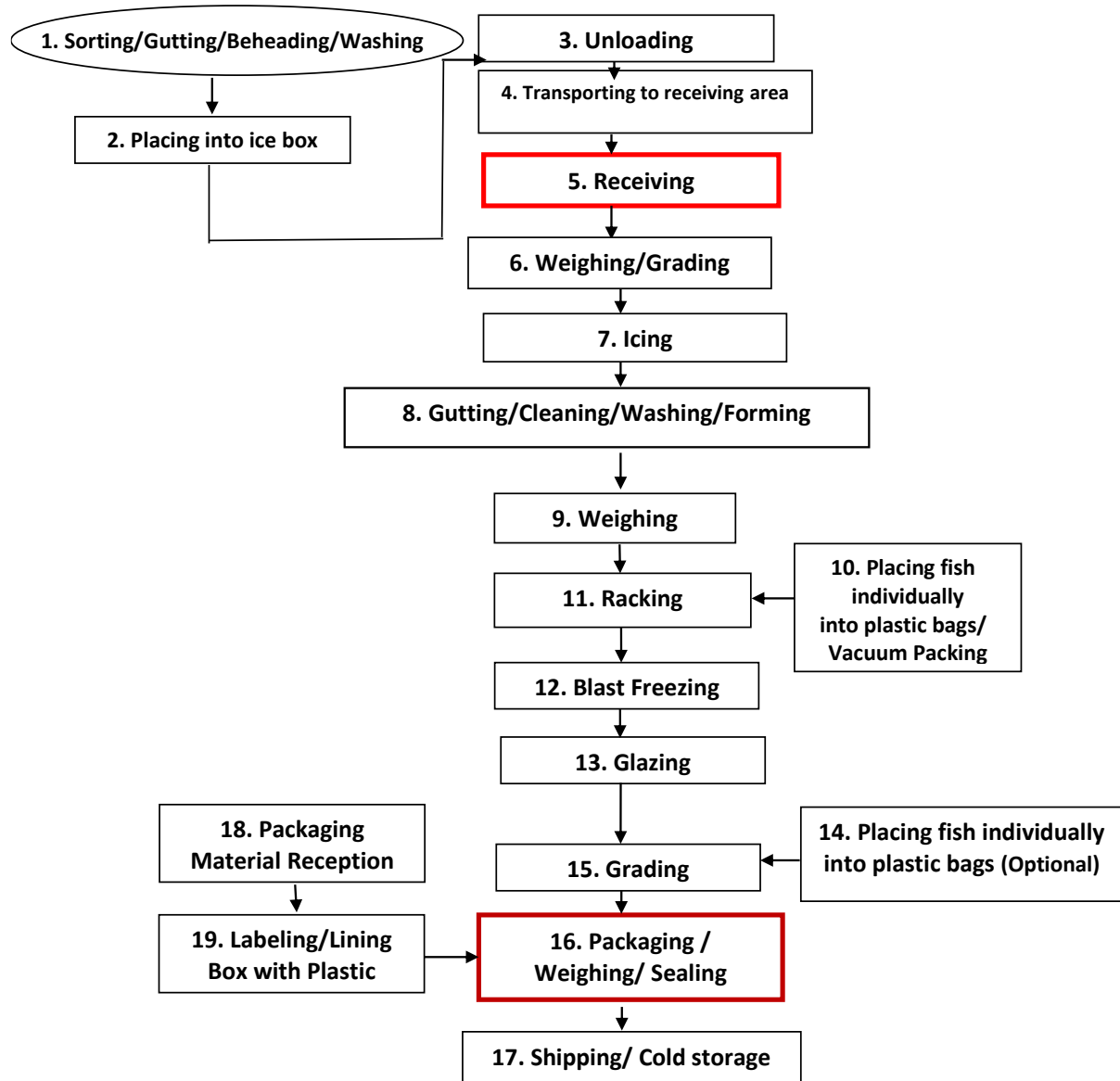


Figure 61: Process Flow Chart #6: Pompano & Grouper

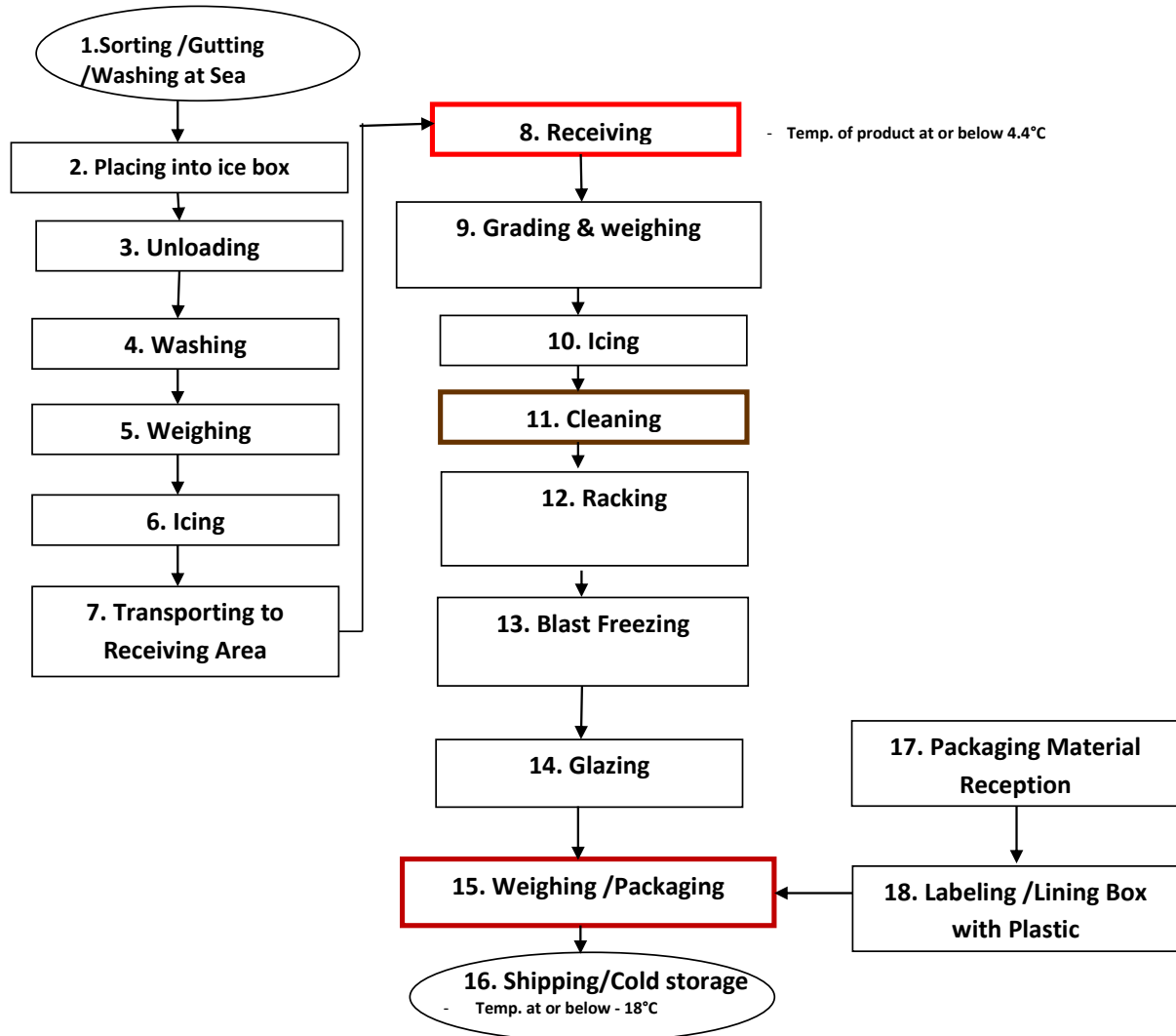


Figure 62: Process Flow Chart #7: Blue Fish, Bashaw, Mullet, Silver Snapper, Cabio/ Cobia

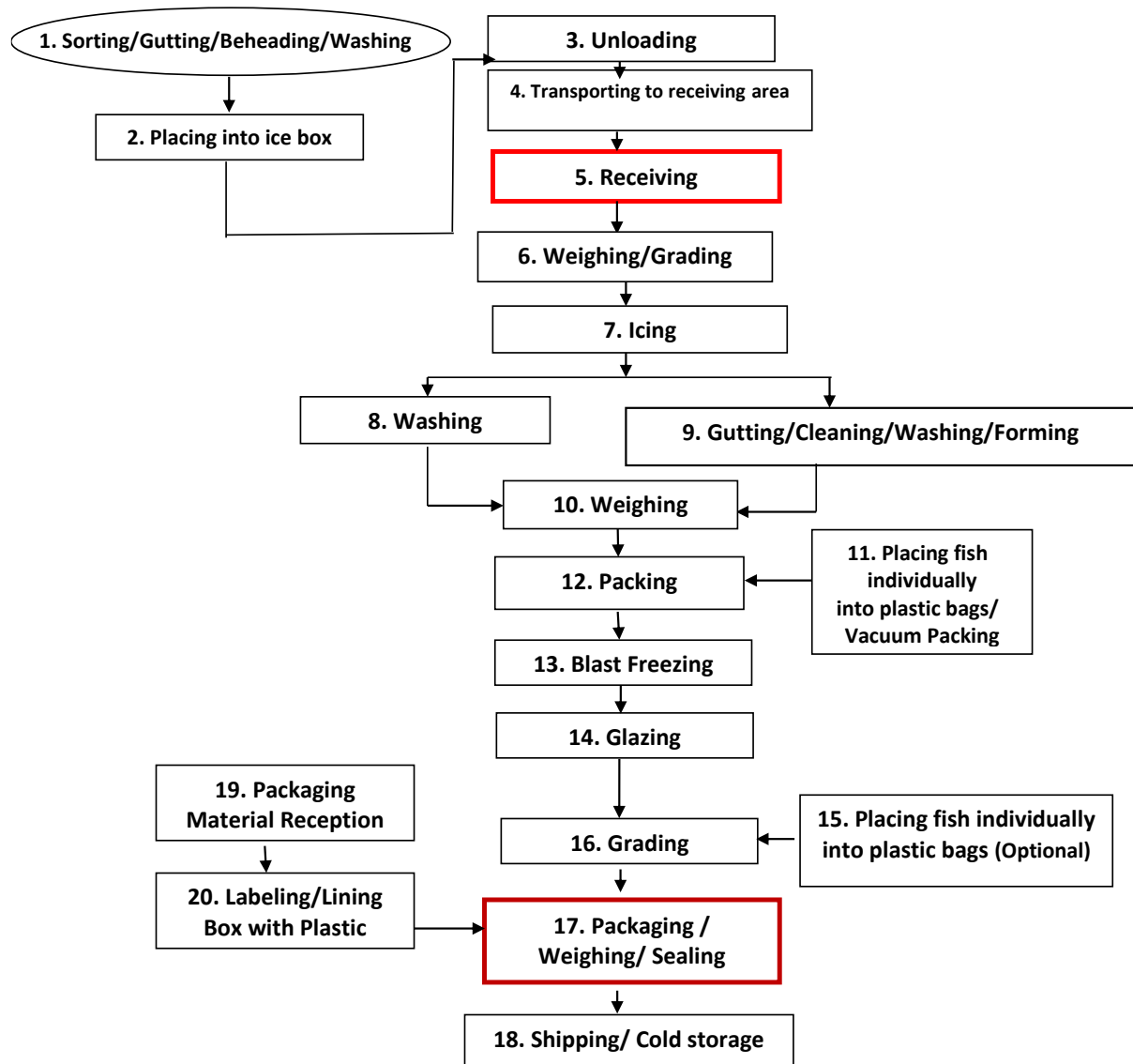
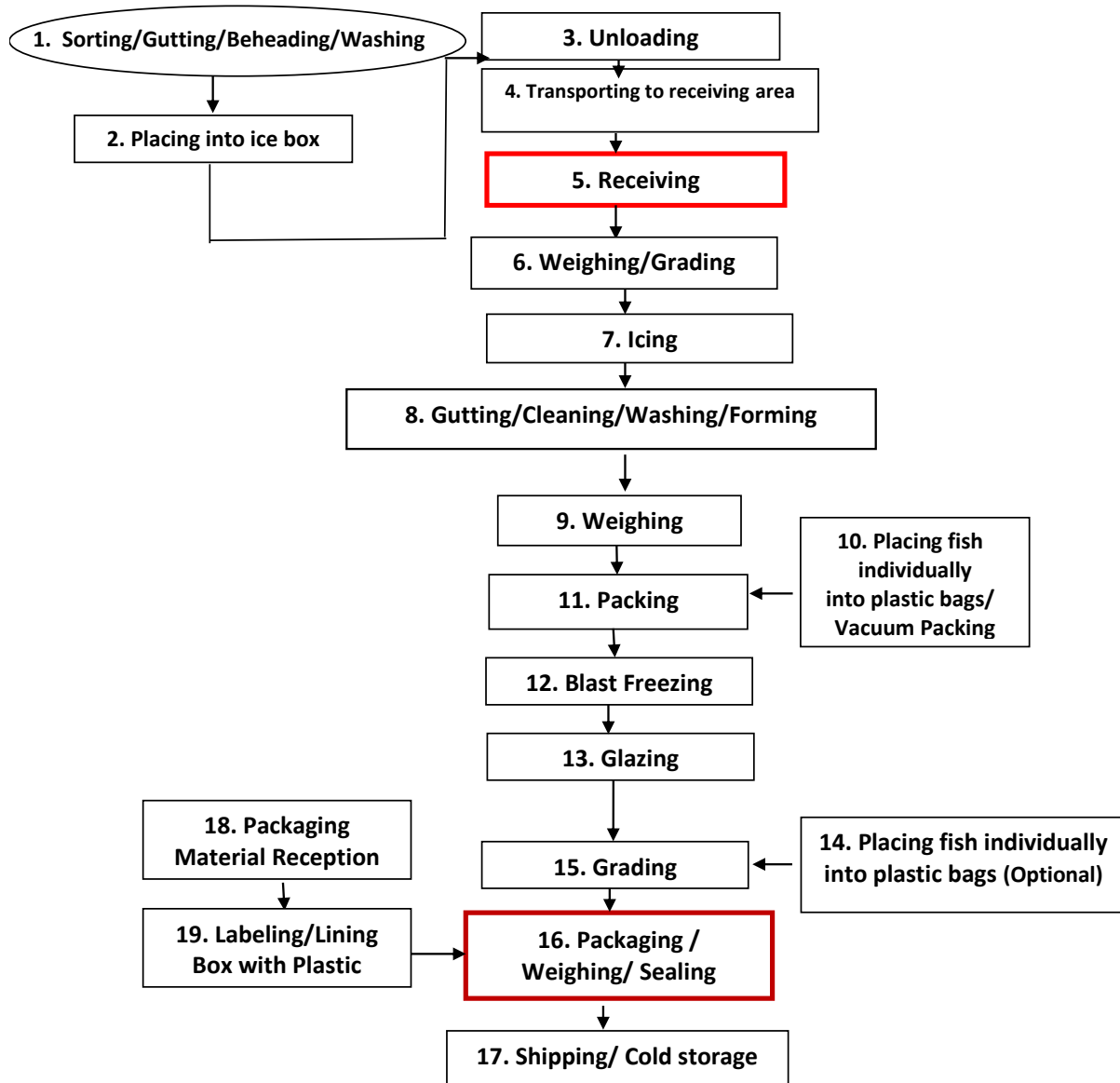


Figure 63: Process Flow Chart #8: Grunt, Catfish, High Water, Pagi, Sea Donkey, Annafolk, Shark, Sword Fish



Source Hazard Analysis Critical Control Point Plan for Pritipaul Singh Investments Incorporated, Providence Plant – Various Species of Finfish Section, 2023

2.6.3.2.1.1 Unloading and Receiving Area

2.6.3.2.1.1.1 Discharge of Fish from Trawlers and Refrigerated Trucks

Fresh Fish supplied to Pritipaul Singh Investments Incorporated, Seafood Processing Facilities by the company's dedicated trawling vessel fleet (**See Figure 64- 66**) and external suppliers (**See Figure 67-68**) is unloaded in designated areas, placed in stackable colour coded receptacles and transferred to the Receiving Area on the inside of the Fish Processing Plant. Within this area which measures 12.91 meters by 18.29 meters are sorting tables, trays, pallets and scales. Incoming raw material received is subjected to organoleptic evaluations to determine its quality. Once the incoming product is deemed conforming to the company's established food quality standard, the product is placed into colored trays, weighed, graded according to size by weight and physical characteristics, covered with layer of ice and the filled trays transported to the processing tables within the preparation area.

Figure 64: Unloading Product from Ice Cargo Hold of Trawler Vessels



Source: Environmental Solutions, 2023

Figure 65: Hoisting of Holding Cage to Fishing Trawler from Wharf



Source: Environmental Solutions, 2023

Figure 66: Process of Fish Transfer from Ice Cargo Hold to Trawling Vessels to Wharf



Source: Environmental Solutions, 2023

Figure 67: Product Supplied by External Refrigerated Truck being Discharged



Source: Environmental Solutions, 2023

Figure 68: Placement of Supplied Fish into Coloured Trays



Source: Environmental Solutions, 2023

2.6.3.2.1.2 Preparation Area

2.6.3.2.1.2.1 Fish Processing (Cleaning, Washing, Forming and Rinsing)

Within the fish preparation area which measures 20.42 meters by 28.65 meters there are currently nine (9) stainless steel working tables with eighty-two (82) working stations. This entire space is air conditioned.

Each working station is equipped with mechanisms for the supply of running treated water, cutting and cleaning implements, trays for the collection of formed products and trays for the collection of fish waste.

Incoming iced fish is deposited in trays close to the working tables. Workers in this area, depending on the fish species being handled and the customer product specifications, subject the fish to either manual or mechanical processing to produce the following product cut/ forms: whole gutted, fillets, pan ready, headless, butterfly, nuggets, whole round, chunks/ portions and steaks.

With manual processing, fish is hand processed by cleaning and preparation staff. Fish is degutted and washed with potable water to remove blood and viscera from the belly cavity, then cut/ formed according to the customer's specifications. With mechanical processing, on the other hand, installed fish processing equipment¹ is employed to descale, degut, behead and fillet fish as per customer specifications. The formed fish products are then subsequently accumulated in colour coded trays with ice. The accumulated formed product is then dipped in a bath of chilled keeper solution (a biocide) and readied for racking.

All generated fish waste material accumulated from the manual as well as mechanical processes including: scales, skins, bones, heads, guts and gills and other inedible parts are transferred in trays to high-capacity leak proof totes for holding (See Figure X). The contents of these tote tanks are collected at the end of each work day by a protein recovery plant and converted to animal feed. Effluent from the preparation area is discharged through pipes in the floor of the fish processing plant into the Demerara River to be subjected to dilution.

Figure 69: Work Stations within Preparation Area



Source: Environmental Solutions, 2023

¹ The installed machines include: three (3) degutting machines, four (4) descaling machines, three (3) beheading machines, three (3) small filleting machines, one (1) large filleting machine, one (1) butterfly machine, one (1) fin removal machine and one (1) skinning machine.

Figure 70: Descaling Machine



Source: Environmental Solutions, 2023

Figure 71: Degutting Machine



Source: Environmental Solutions, 2023

Figure 72: Beheading Machine



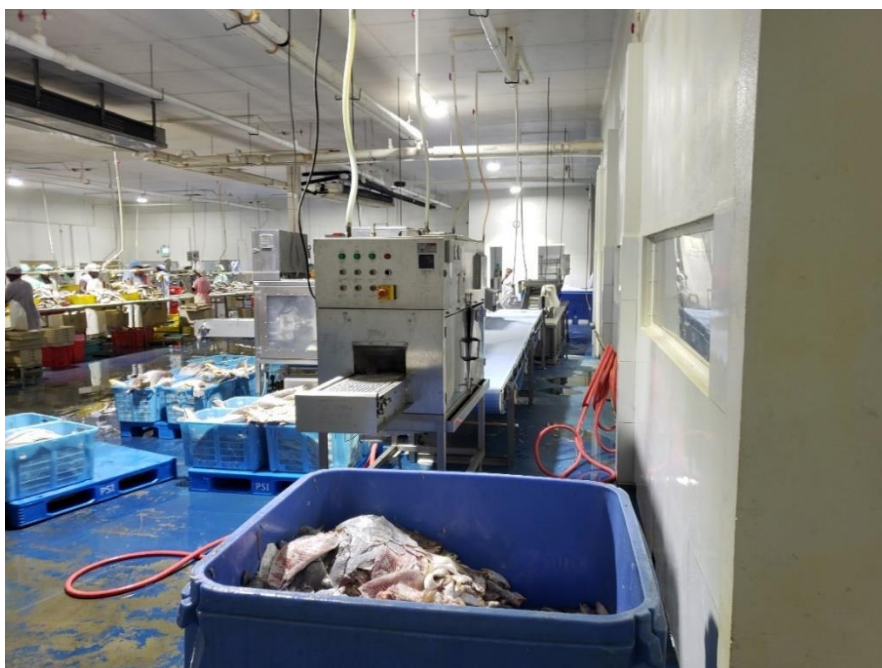
Source: PSI, 2023

Figure 73: Band Saw



Source: PSI, 2023

Figure 74: Accumulated Fish Waste



Source: Environmental Solutions, 2023

2.6.3.2.1.3 Racking and Freezing Area

2.6.3.2.1.3.1 Placement of Formed Fish on Plastic Lined Aluminum Trays

Formed products after being weighed and rinsed in Keeper Solution with a concentration of between 20-40 ppm, are collected from the processing area in colour coded trays and conveyed to the packaging area where they are individually wet packaged and are evenly distributed in stainless steel trays. The stainless-steel trays are thereafter placed within racks that are readied for placement into the Blast Freezer. **(See Figure 75 -77)**

Figure 75: Cleaned Fish/ Fish Cuts on Ice



Source: PSI, 2023

Figure 76: Placement of Formed Fish in Wet Packaging on Aluminum Trays



Source: Environmental Solutions, 2023

Figure 77: Metal Beds Placed in Blast freezer



Source: Environmental Solutions, 2023

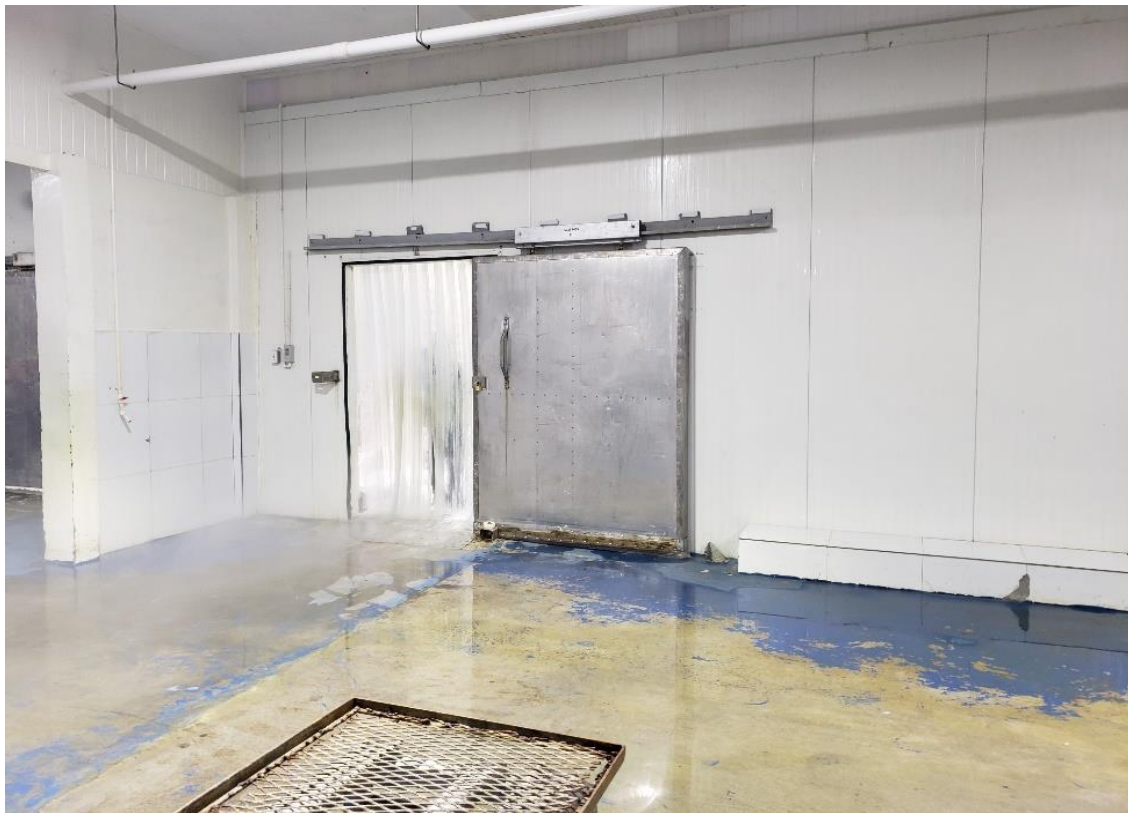
2.6.3.2.1.4 Freezing Area

Formed fish that leaves the racking area is subjected to freezing within the Freezing Area. Within this area there are two (2) principal means of freezing products: one, via a blast freezer (essentially a cold storage unit); and two, via an Instant Quick Freezer (IQF) system. The sub-sections which follow will elucidate on these systems.

2.6.3.2.1.4.1 Blast Freezing of Fish Product

Two (2) blast freezer units have been installed and are operational within the freezing area. Each freezer has the capacity to freeze approximately 18-tons (40,000 lbs.) of product in the plastic lined aluminum trays on racks on a trolley at a temperature range of -18°C to -32°C within 12 to 16 hours. After the holding time expires, the frozen product is removed, placed in receptacles and transferred to the Glazing Section. **(See Figure 78)**

Figure 78: Blast Freezer - Exterior



Source: Environmental Solutions, 2023

2.6.3.2.1.4.2 Instant Quick Freezing of Fish Product

Depending on customer specifications the product can also be frozen using the installed Instant Quick Freeze (IQF) Units. **(See Figure 79)**

Within the Freezing Section of the Fish Processing Plant there are a number of double linear freezing tunnel systems commonly referred to as Instant Quick Freeze Systems that are to be installed and commissioned. These freezing systems work on the principle of cold air circulation, which flows over the bed plate or transportation belt with the help of high-capacity fans. The cold airflow keeps passing through the pieces of product in circular motions while the product is also advancing through the freezing unit towards the exit. This results in a product that is flash frozen which retains the highest level of quality and taste. **(Source, xxxx)**

Fish that has been formed and placed on trays are first placed in a bulk tank with water. After this is done, the individual pieces of fish are taken out of the bulk tank and placed on a conveyor belt that passes through the freezing compartment of the IQF unit. Individual pieces of fish are passed through the system for 10 minutes at -29°C or below until flash frozen.² The frozen pieces that exit the unit and are then placed in receptacles and advanced to another section of the processing plant – the Glazing Section.

Figure 79: Illustration of Installed Instant Quick Freeze (IQF) Unit



2.6.3.2.1.5 Glazing Area

2.6.3.2.1.5.1 Mechanical Glazing of Frozen Fish

After removing the frozen fish products from the blast freezer and/ or the IQF unit, the frozen fish is either mechanically glazed within the glazing section. Glazing is a term used to describe the application of a protective ice coating to frozen seafood products by either dipping or spraying frozen seafood products with water.

PSI Inc. employs a mechanical glazing process, that requires the frozen fish to be passed through the ice bath of several installed glazing tanks at or below 0° C until an ice glaze is formed. The resulting glaze that is formed excludes air from the surface of the product, reducing its rate of oxidation, consequentially improving its quality and shelf life. Glazed fish exiting the glazing unit is conveyed through a dryer system which removes any remaining water, then to an area where the final product is weighed, packaged and sealed. **(See Figure 80- 83)**

² Each of these units has the capability to freeze 12,000 lbs. of product within 10 minutes.

Figure 80: Frozen Fish being Removed from Aluminum Trays with Plastic Linings



Source: Environmental Solutions, 2023

Figure 81: Frozen Fish Stacked



Source: Environmental Solutions, 2023

Figure 82: Glazing Machine



Source: Environmental Solutions, 2023

Figure 83: Mechanical Drying End of the Glazing Unit



Source: Environmental Solutions, 2023

2.6.3.2.1.5.2 Weighing, Packaging and Sealing of Frozen Fish

After the frozen fish is glazed, it is then weighed, packaged and sealed in plastic lined carton boxes for placement for transfer to either refrigerated containers for shipment to customers or placed in the onsite holding rooms for temporary storage for eventual packaging when orders for fish products are made by customers. **(See Figures 84 - 85)**

Figure 84: Placement of Packaged Fish into Lined Carton Boxes



Source: PSI, 2023

Figure 85: Sealed Cartoon Boxes on Pallets



Source: PSI, 2023

2.6.3.2.1.6 Cold Storage/ Shipping Area

2.6.3.2.1.6.1 Transfer of Filled Cartons to Holding Room/ Reefer Containers

Sealed Cartoon Boxes with finished product are transferred via forklift to high-capacity storage racks within the high capacity holding room. This holding room has the capacity to store conservatively store 4200 tonnes of finished product in storage racks contained therein at temperatures ranging from -18°C to -21°C (**See Figure 86-90 below**). Finished products are then held within this cold storage area until it is retrieved for international shipment or local wholesale and retail.

Figure 86: Interior of Holding Room for Finished Product



Source: Environmental Solutions, 2023

Figure 87: Pallets in High Capacity Holding Room



Source: PSI, 2023

Figure 88: Loading Bay



Source: Environmental Solutions, 2023

Figure 89: Loading Dock – Internal View



Source: Environmental Solutions, 2023

Figure 90: Loading Dock – External View



Source: Environmental Solutions, 2023

2.6.3.2.2 Hot Smoked Fish Production Area

Pritipaul Singh Investments Incorporated also produces hot smoked fish products within its smoked fish plant which has an area of 74 square meters (m²) (800 sq. ft). These products produced and sold under the Mid Atlantic Seafoods Trade Name are available in the following product cut/ forms: rings, whole gutted, chunks, headless and gutted fish.

In the process used by PSI Inc. to produce these products, raw fish is cleaned (gutted, gilled and scaled), filleted or split and placed in a brining tank. After the brining process is concluded, the fish is take-out of the brine solution, dried and then placed on racks that are then placed within the smoking chamber of the automatic smoking machine. After the designated machine run time expires, the smoked fish is allowed to cool for between ½ hr. to 1 hr. after which the product is weighed, packaged and sealed and placed in cartoon boxes that are subsequently transferred to the refrigeration containers for eventual shipment. **(See Figures 91)**

Figure 91: Smoking Chambers



Source: Environmental Solutions, 2023

2.6.4 Refrigeration and Cold Storage Facilities

The main objective of refrigeration is to eliminate the warm conditions under which destructive bacteria prosper and multiply; and to subject bacteria to conditions of cold to reduce their rate of activity and growth. The process of producing cold is the process of removing heat – which is refrigeration.³

In the typical refrigeration system, refrigerant gas is drawn from the suction line on the Low-Pressure Side into the compressor via the suction valve as the piston moves on its downward stroke. When the piston moves upwards the pressure and temperature of the refrigerant gas rises, the gas is firstly compressed and pushed through the discharge valve of the compressor into the condenser on the High-Pressure Side. The refrigerant that enters the condenser enters as a high-pressure gas with a temperature that is higher than that of the air/ water cooling the condenser. As heat flows from the gas to the cooling agent the gas condenses, changing to a high-pressure liquid and passes into the liquid receiver

³ U.S Office of Education, Division of Visual Arts and Federal Security Agency (2008, May 1). Principles of Refrigeration Explained. [Video File]. Retrieved from https://www.youtube.com/watch?v=b527al9D_rY

/storage tank. From the receiver, the high-pressure liquid refrigerant passes through the liquid line on its way to the cooling unit/ evaporator. The high-pressure refrigerant must now be reduced to a low-pressure liquid so that it can evaporate at a lower temperature. The refrigerant passes through an expansion valve which divides the high- and low-pressure sides and controls the flow of refrigerant into the cooling unit. The refrigerant enters the cooling unit under a reduced pressure caused by the suction stroke of the compressor. It is at this stage that the refrigerant evaporates absorbing heat from the storage space providing refrigeration. The refrigerant now a low-pressure gas is drawn through the suction line back to the compressor to restart the refrigeration cycle.

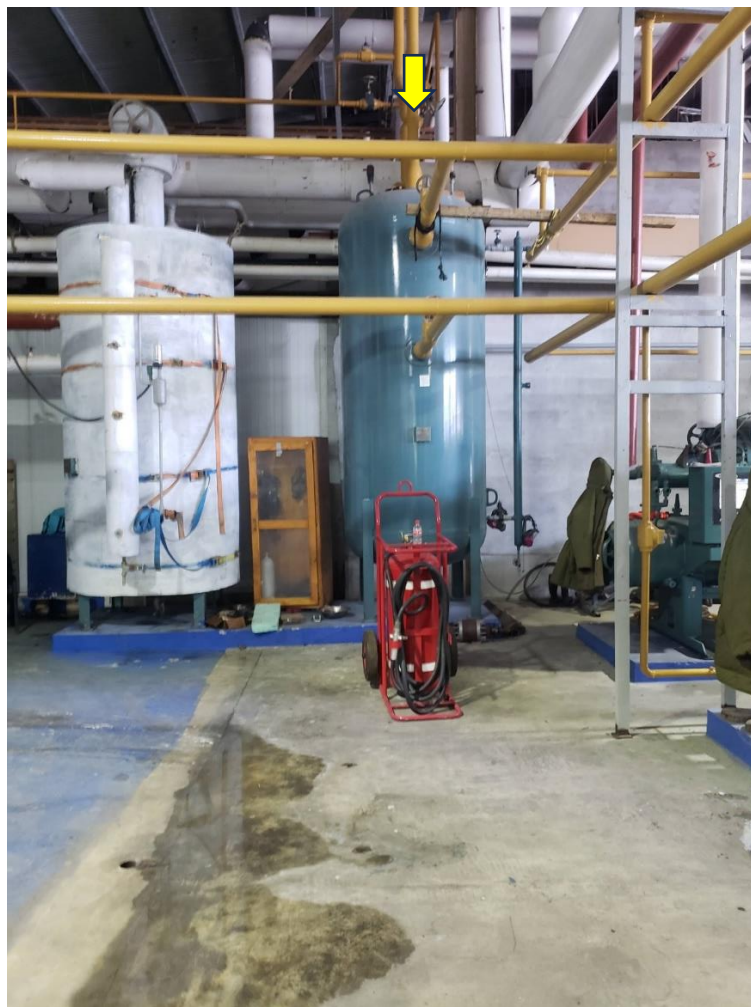
All unprocessed fish and processed seafood (fish and shrimp) storage areas inclusive of blast freezing rooms, plate freezing areas, high-capacity finished product holding rooms, ice production areas and process cooling systems within the fish and shrimp processing sections of the Mid Atlantic Seafoods processing plant are serviced by the company's industrial two-phase anhydrous ammonia-based refrigeration and cold storage systems.

2.6.4.1 Compressor Room

Critical to the operation of the installed two-phase anhydrous ammonia-based refrigeration system – whose principal objective is to extract heat from the above referenced evaporators – is a centralized compressor/ machine rooms that is on site.

Within each of the compressor rooms are the following main components: cooling devices for the high-pressure side; cooling devices for the low-pressure side, condensers and other accessories including: pump separators, an intermediate cooler, system cleaner, receiver tanks and air purge. (See Figure 92 -96)

Figure 92: High Pressure NH3 Thermosyphon Receiver Tank



Source: Environmental Solutions, 2023

Figure 93: Recirculation Tank



Source: Environmental Solutions, 2013

Figure 94: High Stage Rotary Screw Compressors



Source: Environmental Solutions, 2023

Figure 95: Low Stage Rotary Screw Compressors



Source: Environmental Solutions, 2023

Figure 96: Foul Air Purger



Source: Environmental Solutions, 2023

2.6.4.2 Ice Making Plants

All of the flake ice utilized to slow the deterioration of the raw and processed fish and Seabob shrimp products at the Pritipaul Singh Investments Incorporated – Seafood Processing Plant is produced within two (2) commercial ice making plants, strategically located around the complex.

Each of the Ice Plants at the Complex is equipped with a commercial ice making machine which continually and automatically produces large quantities of flake ice. The flake ice machines utilize a stationary cylindrical drum that has an outer surface exposed to a coolant or a refrigerant and an inner surface onto which water is introduced. The water is frozen on the inner surface onto which water is introduced. The water is frozen on the inner surface of the drum and removed by a rotating array of blades to form large flakes of ice. **(See Figure 97–98 below)**

The produced flake ice is utilized as a cooling medium to slow down the rate of deterioration of processed and unprocessed fish and shrimp in the following locations: (a) the ice cargo holds of the company's trawling vessels; (b) large blue bins used for the temporary holding of fish discharged from trawlers; (c) colour coded plastic holding trays for unprocessed fish held in the receiving area and distributed to the processing tables; (d) processed fish conveyed to packaging areas; (e) colour coded plastic holding trays for fish that has been gutted, cleaned, washed and formed; and (f) containments used for chilled water bath in the glazing area.

Figure 97: Ice Making Plant



Source: Environmental Solutions, 2023

Figure 98: Flaked Ice



Source: Environmental Solutions, 2023

2.6.4.3 Refrigerated (Reefer) Containers and Trucks

Pritipaul Singh Investments Incorporated owns a total of fourteen (14) forty-foot refrigerated containers and four (4) refrigerated trucks to store raw and processed fish products. The company also owns and utilizes a fleet of seventeen (17) hauler trailers equipped to transport refrigerated containers from PSI Inc's facilities in Plantation Providence to Georgetown based Ports for shipment to international destinations. Additional forty-foot refrigerated containers are made available to PSI Inc. upon request, by John Fernandes Limited for the shipment of processed seafood products to international destinations. The refrigerated containers and trucks utilize internal refrigeration units powered by vehicle engines and/ or A/C power connections, operating at preset temperatures of between -8 °C and -10 °C to preserve temperature sensitive cargo. **(See Figures 99 -101 below)**

Figure 99: Refrigerated Containers



Source: Environmental Solutions, 2023

Figure 100: Company Owned Reefer Container Hauler Trailers



Source: Environmental Solutions, 2023

Figure 101: Company Owned Refrigerated Truck



Source: Environmental Solutions, 2023

2.6.5 Multi-Purpose Storage Facilities

There are several secured multi-purpose storage facilities around the complex for the storage of food rations, cleaning agents, packaging materials (plastic and cartoon boxes) and cleaning chemicals.

2.6.5.1 Grocery Storage Area

Food rations used by crewmembers aboard trawling vessels out on fishing trips are procured from the Grocery Store Room within the Warehouse. All storage spaces used by Pritipaul Singh Investments Incorporated must be maintained in accordance with the requirements of the Food Safety Management System as articulated in the company's BRC Quality

Manual. Within this storage space, all food materials are stored under clean, lit, well-ventilated and dry conditions. All materials are also protected from pests, condensate, sewage, dust, dirt, chemicals and other contaminants. All materials are stored off the floor on pallets or in racking and are at least 45 cm away from walls and ceilings. Food materials are spaced to allow for easy cleaning and inspection. **(See Figures 102 - 103 below)**

Figure 102: Grocery Storage Area



Source: PSI Inc, 2023

Figure 103: Grocery Storage Area



Source: PSI Inc, 2023

2.6.5.2 Material Storage Areas

2.6.5.2.1 Industrial Cleaning Product Storage Areas

The Industrial grade Quat Sanitizer used for disinfecting and cleaning the seafood processing facilities, a refillable tank and foaming unit supplied by ChemStation are contained in a secure, isolated and well-ventilated chemical storage room that is on the ground floor within the warehouse and within the seafood processing plant. These areas are restricted and only accessible to authorized staff. **(See Figure 104 - 105)**

Figure 104: ChemStation Refillable Tank and Quat Sanitizer



Source: Environmental Solutions, 2023

Figure 105: Cleaning Chemicals Storage Area within Seafood Processing Plant



Source: Environmental Solutions, 2023

2.6.5.2.2 Plastic Packaging Storage Area

All plastic films used in the packaging of processed seafood products in the packaging area within the Seabob Shrimp and Fin Fish processing areas of the Complex are sourced from this storage area.

These storage spaces must be maintained in accordance with the requirements of the Food Safety Management System as articulated in the company's BRC Quality Manual. Within this storage space, all plastic materials are stored under clean, lit, well-ventilated and dry conditions. This storage area is clean, secured storage area to protect them from contamination sources. Each type of plastic is clearly labeled for easy identification and there is a room chart, which identifies the

locations within the room of specific packaging materials. All materials are also protected from pests, condensate, sewage, dust, dirt, chemicals and other contaminants. All materials are stored off the floor on pallets or in racking and are at least 45 cm away from walls and ceilings. Packaging materials are spaced to allow for easy cleaning and inspection. **(See Figures 106 - 107 below)**

Figure 106: Plastic Film Storage Area



Source: Environmental Solutions, 2023

Figure 107: Packaging Materials in Sealed Cartoon Boxes



Source: Environmental Solutions, 2023

2.6.5.2.3 Cartoon Storage Area

All carton boxes used in the packaging of processed seafood products in the packaging areas within the Seabob Shrimp and Fin Fish processing areas of the Complex are sourced from a secured contained storage area within the multi-purpose storage area. **(See Figures 108 -109 below)** Like the other storage areas, this area is maintained in accordance with the requirements of the Food Safety Management System as articulated in the company's *BRC Quality Manual*.

The cartons stored in this location are all used for exported smoked and non- smoked fish products destined for the Caribbean and the United States of America (USA) and Seabob Shrimp destined to the United States of America and the European Union (EU).

Figure 108: Unloaded Carton Boxes in Packaging Area of Fish Processing Plant



Source: Environmental Solutions, 2023

Figure 109: Cartoon Boxes in Section of Storage Area



Source: Environmental Solutions, 2023

2.6.5.2.4 Secured Chemical Storage Area

All of the chemicals used in the Providence Seafood Processing Plants are stored within this isolated, temperature controlled and well secured area on the ground floor of one of the multi-purpose storage areas. **(See Figures 110-111 below)** The chemicals stored in this area include cleaning and maintenance compounds and non-product materials. ⁴

Each chemical is clearly labelled and stored in separately locked areas within this section and handled in accordance with requirements specified within their respective Material Safety Data Sheets (MSDS)⁵. In cases of Emergency, a holding mechanism on the gate of each lockable compartment contains the Material Safety Data Sheets (MSDS) for the contained chemical for ease of reference by any person in need of information. Only duly authorized persons are permitted access to this restricted area. A chemical spill containment kit has been prepositioned in an accessible location within this space.

Figure 110: Secured Chemical Storage Area



Source: Environmental Solutions, 2023

Figure 111: Spill Kit within Chemical Storage Area



Source: Environmental Solutions, 2023

⁴ Refer to Annex X for a Complete Inventory Listing of chemical storage within the secured chemical storage area

⁵ Refer to Annex X for the Material Safety Data Sheet (MSDS) for each chemical stored within the secured chemical storage area.

2.6.5.2.5 Oil Bond

Lubricating oil is an essential substance used in the operation of a number of critical assets owned by PSI. Various brands and grades of this precious substance procured in steel 45/ 55-gallon oil drums are stored in a special area within one of the multi – purpose storages spaces onsite called the oil bond. **(See Figure 112)**

In order to ensure that the lifespan and performance of these stored lubricants are not adversely affected, adequate storage and handling conditions have been created and are maintained. Oil drums are stored in a sealed and controlled room away from constant personnel and equipment movement/ traffic. Further, the space is well ventilated and shielded from the direct rays of the sun. Also, the drums are stored on pallets to prevent drum contact with the floor which contains dust contaminants. The drums in this space are also subjected to regular cleaning to prevent the accumulation of contaminants and inspected for leaks, missing labels and other irregularities.

A detailed inventory of each class of lubricant stored within this space is maintained along with a compendium of corresponding Material Safety Data Sheets (MSDS) for use in the event of any emergency. Further, a spill containment kit is maintained within this space for spill response.

Figure 112: Oil Bond - Interior



Source: Environmental Solutions, 2023

2.6.5.2.6 Compressed Gas Cylinder Storage Area

Compressed gasses are used for a variety of applications at PSI. Compressed gases are stored within a section of one of the multi-purpose storage spaces. The stored compressed gases include: Acetylene, Ammonia, Propane, Nitrogen and Oxygen.

Each industrial gas cylinder stored in this space is stored in the upright position with a protective cap covering the cylinder valves. Different gases are stored separately in a dry, well-ventilated space that is not exposed to heat or the direct rays of sun and away from points of access. “No Smoking” signage is prominently displayed. Outside of the storage area there is access via a hydrant mechanism to water that is available for emergency utilization in the event of a fire. Only authorized personnel are permitted to access this area.

2.6.5.3 Main Stores

Within this secured main storage space which is well lit and adequately ventilated, a wide variety of essential materials, spare parts, lubricants, paints, nets, rope etc. are stored that are essential for operations on site. Materials in this space are stored at the ground, first floor and second floor levels within racking systems. Materials are hoisted to the first and second floor levels by means of an operational hydraulic hoisting systems that is utilized. Additionally, signage has been installed, a fire hydrant and a number of fire extinguishers prepositioned within this space for utilization. **(See Figures 113 - 117)**

Figure 113: Main Stores – Exterior



Source: Environmental Solutions, 2023

Figure 114: Main Stores – Ground Floor



Source: PSI, 2023

Figure 115: Main Stores (Ground Floor) – General Use Items



Source: PSI, 2023

Figure 116: Main Stores (First Floor) – Engine Spares



Source: PSI, 2023

Figure 117: Main Stores (Second Floor) – Baskets, Styrofoam and General Storage



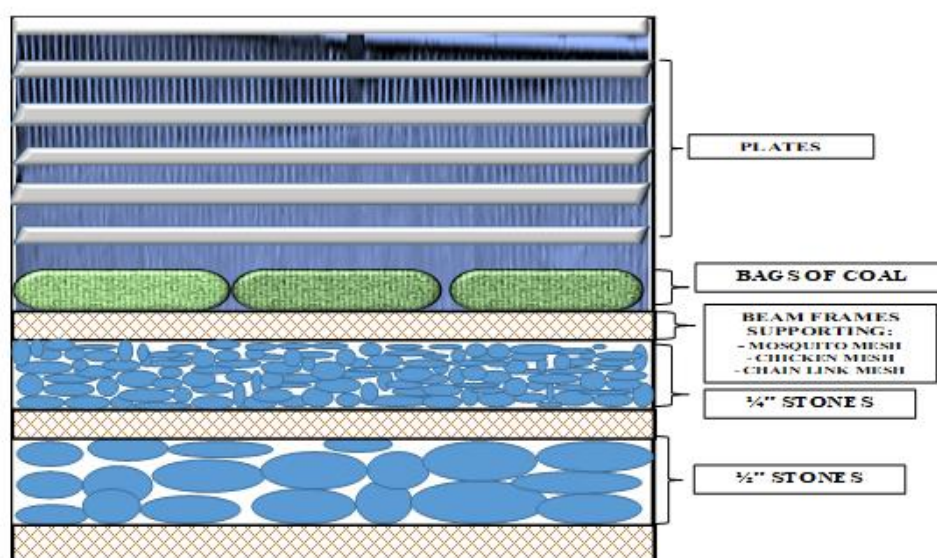
Source: PSI, 2023

2.6.6 Well Water Abstraction, Storage, Treatment and Supply System

All of the potable water supplied at the Seafood Processing Complex (Plantation Providence) to perform critical activities on site is sourced from two (2) onsite deep artesian wells. Water from these wells is pumped to a water treatment area and then pumped through an impermeable pipeline system to the seafood processing plants and all other areas. (See Figure 118 -119)

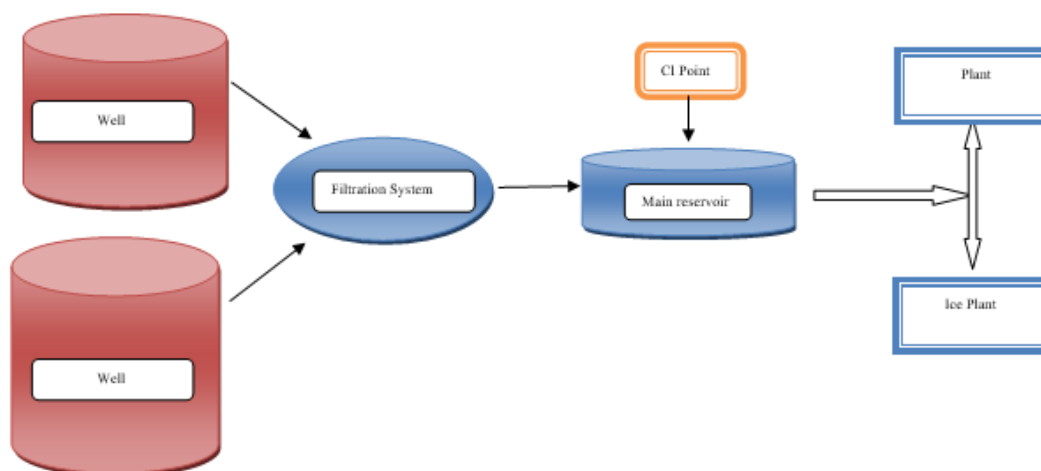
The water treatment process employed by PSI Inc., water from the two (2) artesian wells is pumped through an aeration tower with filter beds consisting of three (3) layers (Charcoal, $\frac{1}{4}$ stone and $\frac{1}{2}$ stones) before ending up in the main reservoir. The flow of water from the aeration tower tanks to the main reservoir is controlled by six (6) valves. The water in the main reservoir is chlorinated by four (4) injection systems.⁶ From the reservoir which has a capacity of 250,000 gallons, the treated filtered water is pumped to the Seafood processing plants, the ice plant and other locations on site for utilization. (See Figures 120- 125)

Figure 118: Water Treatment System: Action of Aerator/ Filtration System on the Water- Adds O₂, Removes Iron and Filters



Source: PSI, 2023

Figure 119: Movement of Water from Water Treatment Plant into the Seafood Processing Plants and Ice Plants



Source: PSI, 2023

⁶ At the points of chlorine injection both a tap control valve and an automatic injector release a fixed amount of the hyper-chlorinated solution into the water contained in the reservoir. This system does so at a rate of 2 pounds of chlorine to 35 gallons of water. (BMP Providence, 2023)

To ensure that the installed water treatment system functions optimally, routine cleaning of different components of the system is performed at different time periods in accordance with the identified cleaning procedures. **(See Table 3 below)**

Table 3: Cleaning Procedures Performed on Water Treatment System

Timeframe	Specific Cleaning Procedures
Daily	External surfaces are washed and cleaned
On Sunday	Aerator Tank is Flushed with 20 pounds of chlorine.
Non-Production Days	Aerator Tank is Flushed with 20 pounds of chlorine.
Every Six (6) Weeks	<ul style="list-style-type: none"> <u>Step 1:</u> Close the water valves and open man holes <u>Step 2:</u> Using a high-pressure water hose and concentrated chlorine solution, clean the inner walls of the reservoir and then flush with water. <u>Step 3:</u> Remove the bags of charcoal which forms the top layer of the filter bed. <u>Step 4:</u> Clean the next layer which comprises of ¼ inch stone, using a high-pressure water hose and wash out accumulated debris. When the water coming out becomes clear usually after one hundred and eighty (180) minutes, this activity is terminated. <u>Step 5:</u> Wash aerator tower with a high-pressure water hose. <u>Step 6:</u> Replace charcoal bags. <u>Step 7:</u> Sprinkle chlorine (sodium hypochlorite) over the filter bed and aerator. <u>Step 8:</u> Turn on the water in the aerator tower and let it run for twenty (20) minutes.
Every Three (3) Months	Empty and Clean Reservoir
Once per year	Clean the pipelines leading to the plant by flushing them with concentrated chlorine.

Source: PSI, 2023

Figure 120: Artesian Well Head with outgoing supply lines



Source: Environmental Solutions, 2023

Figure 121: Artesian Well Supply Lines leading to Water Treatment Area



Source: Environmental Solutions, 2023

Figure 122: Aeration Tower – Water Treatment System



Source: Environmental Solutions, 2023

Figure 123: High-Capacity Water Storage Reservoir



Source: Environmental Solutions, 2023

Figure 124: High-Capacity Storage Tanks



Source: Environmental Solutions, 2023

Figure 125: Treated Water Distribution Lines to Seafood Processing Complex



Source: Environmental Solutions, 2023

2.6.7 Power Generation Area

All of the electricity required by the main and supporting facilities of Pritipaul Singh Investments Incorporated (Seafood Processing Complex) is produced within its own power generation facilities. There is no connection to the national grid.

The main power generation facility is equipped with eight (8) commercial generator sets capable of producing a total of 3.86 megawatts (MW). Two (2) power generation sets are operated on a 24-hour rotation. While, six (6) power generation sets are reserved for standby usage. Each of the installed air-cooled power generation sets is equipped with a 10-foot exhaust stack that has two (2) muffler units each measuring 5 feet connected thereto making the length of the exhaust system a total of 15 feet. **(See Figure 126-127)**

Diesel utilized in the power generation units is supplied by the company's high-capacity double hulled marine fuel tanker which has a capacity of 500,000 US Gallons. Some of this fuel is transferred and stored within the tanks of a smaller fuel storage vessel called Captain Lloyd which has a capacity of 60,000 US Gallons. From this vessel, fuel is transferred via a fuel tanker truck to four (4) metal settling tanks with a combined capacity of 5000 US Gallons and allowed to sit for 24 hrs. before being transferred to each of eight (8) 3000-gallon day tanks for utilization in the generation of electrical power. **(See Figure 128)**

Within this area there are high-capacity wheeled fire extinguishers for use in the event of an emergency situation involving a fire. Additionally, just outside the area there is a fire-resistant line that can be utilized by emergency services to access high volumes of water from the reservoir within the water treatment area.

Figure 126: Power Generation Systems



Source: Environmental Solutions, 2023

Figure 127: Muffler Systems with Stacks on Power Generation Units



Source: Environmental Solutions, 2023

Figure 128: Settling Tanks for Fuel

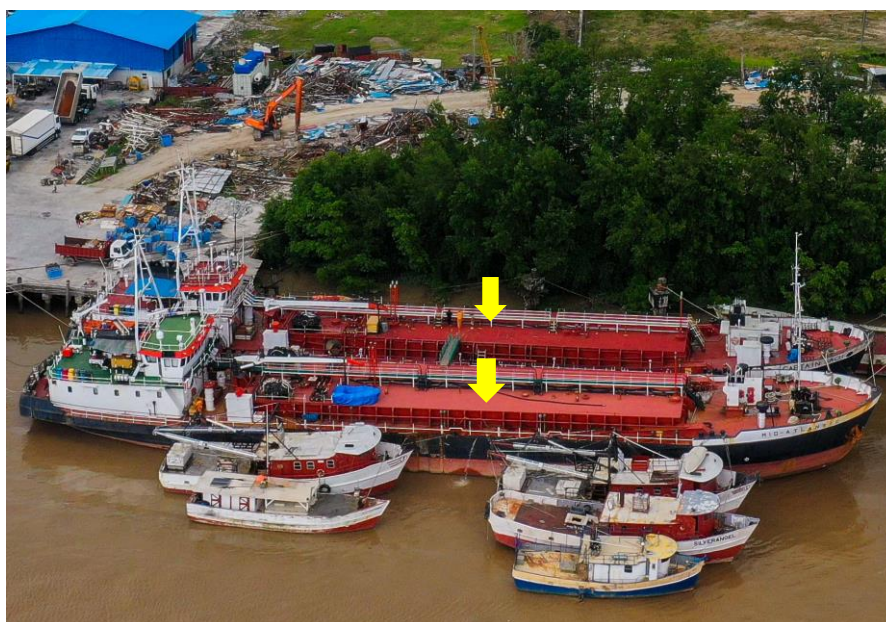


Source: Environmental Solutions, 2023

2.6.8 Marine Vessel Fuel Storage

Fuel is supplied to the facilities of PSI Providence for use via the company's own oil tanker vessels. PSI has two (2) oil operational tankers: the MT Captain Sach and the MT Mid Atlantic. (See Figure 129 -130). Each of these registered oil tankers are double hulled and has a holding capacity of 500,000 US Gallons. Fuel that is supplied to the Seafood Processing Complex is transferred to a smaller fuel storage vessel called the MT Captain Lloyd with a holding capacity of 60,000 gallons (See Figure X) for more longer term holding. It is from this vessel that fuel is dispensed to the tanks of the company's shrimping and fishing trawlers and a mobile fuel tanker truck for transfer to the settling tanks within the power generation area for utilization within the installed industrial/ commercial power generation units.

Figure 129: Fuel Tankers



Source: PSI, 2023

Figure 130: MT Captain Lloyd



Source: PSI, 2023

2.6.9 Dry Docking Facilities

All of the steel hull trawling vessels utilized by Pritipaul Singh Investments Incorporated to capture fish and shrimp, according to Company Policy, must undergo comprehensive preventative maintenance at least once per year during the off season.

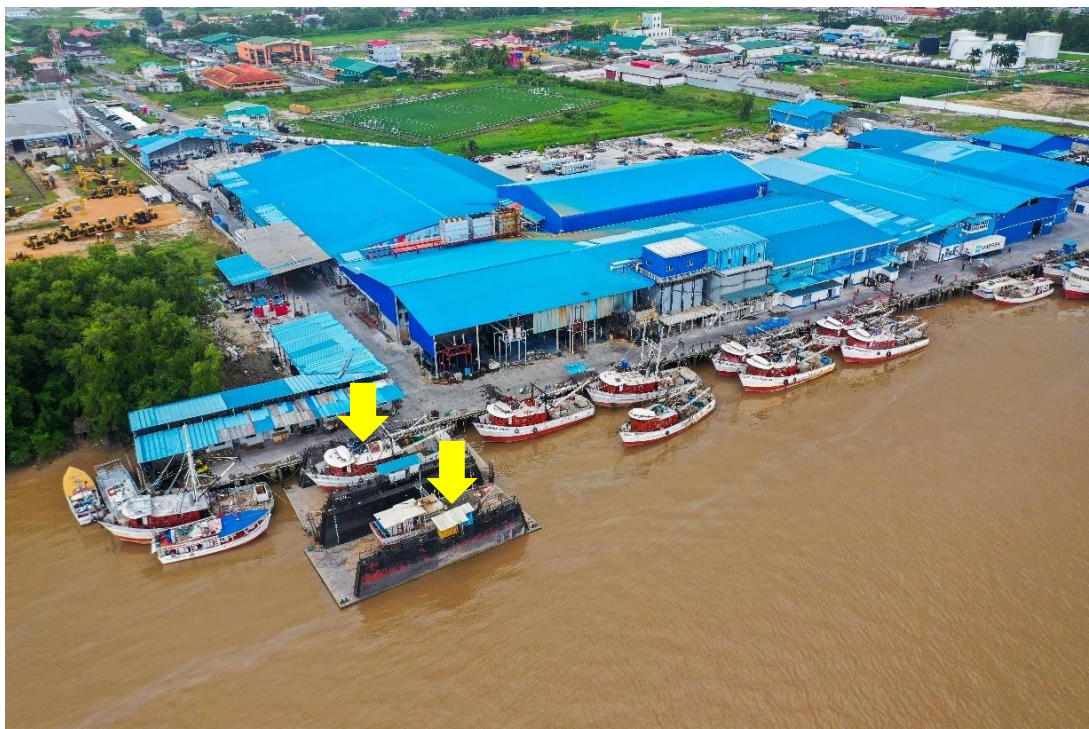
Vessel inspection, maintenance and repair procedures are performed on the submerged portions of the vessel hulls, at two of the Company's floating dry dock facilities. Both of the floating docks are situated in the Demerara River; one towards the northern end of the property and the other at the Northern end of the wharf structure. **(See Figure 131-133)**

Each of these floating platforms possess floodable buoyancy chambers and a "U" shaped cross section used for dry docking or surfacing vessels. When the valves in the walls of this U-shaped cross section of the structure are opened, the chambers fill with water, causing the platform to float lower in the water. Eventually, the deck of this structure becomes totally submerged and the vessel requiring attention piloted into position inside the submerged structure and secured. After the vessel has been safely positioned, the water that entered the floodable chamber is pumped out and the dry dock rises causing the vessel to be lifted out of the water; and the valves are once again closed.

While the raised trawling vessel is in dry dock, the following routine and preventative maintenance activities are performed based on the recommendation of vessel captains, mechanics or engineers:

- Routine Inspections are performed on winches, engine and marine transmission, electrical systems/ equipment, blocks and steering;
- Complete Engine Overhauls are usually undertaken to address loss of compression, excessive oil consumption, or heavy blow by;
- Hull maintenance consisting of washing, sand blasting and painting of the exterior of the vessel;
- Cleaning or Replacement of worn-out sacrificial anodes
- Opening, Cleaning, Inspecting and Painting of sea chests; and the inspection and changing of all vessel side sea valves
- Repairs to Rudder, Propeller or shaft defects

Figure 131: Floating Dry Dock Units



Source: PSI, 2023

Figure 132: Floating Dry Dock



Source: Environmental Solutions, 2023

Figure 133: Floating Dry Dock



Source: Environmental Solutions, 2023

2.6.10 Maintenance Workshop Areas

All preventative maintenance activities performed on all the classes of vehicles, marine vessels, heavy duty equipment owned and operated by the company; and facilities used in the performance of organizational activities on site are undertaken by a dedicated cadre of maintenance staff consisting of welders, carpenters, joiners, net menders, bridle mechanics, machinist and other artisans working in selected areas around the complex. **(See Figures 134 -144)**

Figure 134: Maintenance Area



Source: Environmental Solutions, 2023

Figure 135: Machining Workshop – Manual Lathe Machine



Source: PSI, 2023

Figure 136: Machining Workshop - Manual Lathe Machine



Source: PSI, 2023

Figure 137: Machining Workshop – Drill



Source: PSI, 2023

Figure 138: Drilling Equipment



Source: PSI, 2023

Figure 139: Milling Machine



Source: PSI, 2023

Figure 140: Hydraulic Press Machine



Source: PSI, 2023

Figure 141: Crimping Machine



Source: PSI, 2023

Figure 142: Arc Welding Set



Source: PSI, 2023

Figure 143: Mechanic Shop



Source: PSI, 2023

Figure 144: Net Repair Area



Source: PSI, 2023

2.6.11 Boat Building Area

Located toward the southern boundary of the property, is a section where new wooden fishing vessels are constructed by skilled boat builders in the employ of the company. Entirely constructed with three different kinds of wood: Tatabu (for the vessel frame), Silverballi (for the sides of the vessel) and Greenheart (for the bottom), each vessel takes about 8-10 weeks to be constructed. During the boat building process, the boats skeleton is first built: first the keel and then the bow. Then planking is applied over the skeleton, using nails, screws, or rivets to hold each plank in place. The planks are fastened wherever they touch the hulls framework – at the stem, along the keel, at the stern, and to each frame – but not to each other. When planking is complete, the hull is caulked, usually with oakum or cotton, which will act to seal the seams as the planks swell after the boat is launched – and a layer of. Caulking also helps make the boats structure more rigid. After this is done, the cabins and the other interior sections are added and paint work is done. After this stage, mechanics and electricians install the inboard engine and an electrical system to power the radio and other equipment at sea. (See Figure 145 – 146 below)

Figure 145: Covered Boat Building Area



Source: PSI, 2023

Figure 146: Boat Building Area



Source: PSI, 2023

2.6.12 Emergency Resources

There are a number of emergency resources available for utilization on site in the event of an emergency. These include the following: High-capacity fire pumps, Water supply lines and hydrants, fire tender and an ambulance, Fire extinguishers and Smoke Detection and Fire Alarm Systems. The following subsections will elucidate on these elements.

2.6.12.1. High-Capacity Fire Pump, Fire Resistant Water Supply Lines and Hydrants

In emergency situations access to high volumes of water at high pressure is integral to effective response in situations where there is fire. PSI Incorporated has installed a series of high-pressure fire pumps that extract water from a high-capacity reservoir to supply fire resistant lines that have been strategically run in the vicinity of the main buildings and structures on site. The hydrants connected to these lines can be easily accessed by response personnel on site or by the Guyana Fire Service. **(See Figure 147- 150 below)**

Figure 147: Fire Pumps



Source: Environmental Solutions, 2023

Figure 148: Fire Resistant Line from Reservoir Fire Pumps



Source: PSI, 2023

Figure 149: Installed Black Fire-Resistant Water Supply Lines



Source: PSII, 2023

Figure 150: Fire Resistant Line with Hydrant in Main Stores



Source: PSII, 2023

2.6.12.2 Fire Tender & Ambulance

PSI Incorporated owns and operates two (2) fire engines/ tenders and one (1) ambulance. These fire tenders and ambulance are parked under a dedicated shedded area and are manned by a dedicated team of trained response personnel in the employ of the company.

The fire extinguishers are equipped with firefighting apparatus (pumps, fire hoses, tools, ladders, onboard water supply, foam) for quick response to any emergency situation involving fire. When the onboard water supply is exhausted, the hoses of the engine can be connected to the quick connect couplings on the hydrants connected to fire resistant lines installed around all seafood processing plants, storage bonds and utility areas on the property. **(See Figure 151 -152)**

Figure 151: Fire Tenders



Source: Environmental Solutions, 2023

Figure 152: Portable Pump with Foam for Fire Tender



Source: Environmental Solutions, 2023

The ambulance on the other hand is a medically equipped vehicle that is used to transport staff injured in the commission of work functions to medical facilities for treatment.

Armed with flashing lights and sirens, the ambulance is equipped with the following: a patient monitor, defibrillator, ventilators, bag valve mask, cot, patent shifting rolls, ambulance chair, trauma/ spinal board and cervical collar; suction unit, medication bag, oxygen supply units, nebulizer; haemoglucometer and rescue splints and bandages;

2.6.12.3 Fire Extinguishers

Pritipaul Singh Investments Incorporated owns and maintains for use, approximately 36 fire extinguishers of four (4) types: Carbon Dioxide (CO₂), ABC Dry Powder, Dry Chemical and Foam of six (6) size classes: 5, 10, 20, 30, 100 and 150 pounds. (See Table 4 Below)

Table 4: Types, Sizes and Quantities of Fire Extinguishers Used

Location	Type of Extinguisher				Sizes (Lbs.)						Quantity
	CO ₂	ABC Dry Powder	Dry Chemical	Foam	5	10	20	30	100	150	
1. Depot	X					X					1
2. Security		X									1
3. Human Resources Department		X					X				1
4. Main Kitchen		X					X				3
5. Machine Shop	X						X				1
6. Mechanic Shop		X			X						1
7. Main Office (Fuse Box Room)		X					X				1
8. Main Office (Cashier)		X				X					1
9. Main Office (Electrical Panel Room)		X									1
10. Main Office (Kitchen)		X					X				1
11. Rebuild Workshop		X					X				1
12. Stores (First Floor)		X			X		X				2
13. Stores (Second Floor)		X			X						
14. Stores (Third Floor)	X	XX			X		XX				3
15. Oil Bond	X	X			X		X				2
16. Bond # 3		X					X				1
17. Boat Yard		X					X				1
18. Water Treatment Plant (Electrical Panel Room)		X					X				1
19. Fish Section (Panel Room)		X	X			X	X	X			3
20. Generator Room		XX				X	X		X	X	4
21. Compressor Room		X								X	5
22. Shrimp Emergency Exit (Outside)		X					X				1
TOTAL											36

Source: PSI, 2023

2.6.12.4 Smoke Detection and Fire Alarm Systems

A smoke detector is an electronic fire protection device that automatically senses the presence of smoke, as a key indication of fire, and issues a visual and/ or audible warning to building occupants. A number of these units have been installed in critical areas around the complex. (See Table 5)

Table 5: Installed Detectors

Location	Detector Type	Quantity
1. Main Office (Panel Room)	Smoke Detector	1
2. Boat Yard	Smoke Detector	1
3. Water Treatment Plan (Electrical Panel Room)	Smoke Detector	1

4. Fish Section (Panel Room)	Smoke Detector	1
5. Generator Room	Smoke Detector	1
6. Compressor Room	Smoke Detector	1
TOTAL		6

Source: PSI, 2023

2.6.11 Retail Outlet for Seafood Products

There is a retail outlet onsite for the local sale of retail quantities of seafood products. This space is air conditioned and equipped with supermarket freezers for the storage and display of saleable packaged frozen shrimp and fish products and a counter with a computer loaded with point-of-sale software attended to by a sales representative. **(See Figure 153)**

Figure 153: Retail Outlet



Source: Environmental Solutions, 2023

2.6.12 Staff Facilities

There are a number of staff facilities on site. These facilities range from male and female locker rooms, washroom and toilets, bathrooms, long booths and overcoat holding areas; laundry rooms, canteens, snackettes and lunch rooms; a food preparation area; car parking facilities and administrative office areas and the Security Office.

SECTION 3: ENVIRONMENTAL MANAGEMENT POLICY AND LEGISLATIVE FRAMEWORK

3.1 Overview

This Section of the Environmental Assessment and Management Plan (EAMP) articulates the Environmental Management Framework that will influence this project during its life cycle.

The operations of the Pritipaul Singh Investments Incorporated – Seafood Processing Plants and Complementary facilities will be influenced by several important external and internal instruments, which constitute elements of the Environmental Management Policy and Legislative Framework.

These instruments include: National Legislation and Regulations, International Conventions and Protocols, Applicable National and International Standards and Guidelines, and the conditions of Approvals, Permits and Licenses, and Internal Company Specific Environmental Management Policies, Procedures and Guidelines.

3.2 Internal Operating Policies, Plans and Procedures

The operations of Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods) Shrimp and Fish Processing Facilities in Providence, East Bank Demerara, Guyana are influenced by the following internal operating policy statements, plans and procedures: Health, Safety and Environmental Policy Statement, Food Safety and Quality Policy Statements, BRC Quality Manual and the Hazard Analysis Critical Control Point (HACCP) Plans for Fin Fish and Shrimp (Seabob) which are articulated in the following sub sections.

3.2.1 Health, Safety and Environmental (HSE) Policy Statement

The Board of Directors of Pritipaul Singh Investments Incorporated (PSII) recognizes that all aspects of its operations have the potential to cause significant impacts to the environment. We recognize, therefore, that our business has an important role to play in protecting and enhancing the environment for present and future generations. As such, PSI Incorporated is committing itself to producing the highest quality of seafood products, whilst also ensuring that ample consideration is given to conducting its operations in an environmentally astute and socially conscientious manner. To this end, PSI Incorporated is committed to taking action:

- To ensure that all aspects of our operations comply fully with all applicable legislation and other environmental management requirements;
- To achieve sound environmental management and health and safety practices across our entire operation
- To minimize our use of energy, water, and raw materials;
- To properly dispose of all waste materials generated;
- To reduce our pollution to a minimum and, where appropriate to treat our effluent;
- To clearly state our commitment to the safety, health and welfare of our employees and the surrounding community where we can, to work with others in the fisheries sector, in public agencies and the community to achieve wider environmental, socioeconomic and health and safety goals;
- To provide all employees with the training and resources required to meet our environmental objectives;
- To openly communicate our policies and practices to interested parties;
- To monitor and record our environmental and social impacts on a regular basis and compare our performance with our policies, objectives, and targets, with a view to continuous improvement over time.

In light of the above commitments, we the senior management of Pritipaul Singh Investments Incorporated endorse this policy.

Date:	Signature:
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3.2.2 Food Safety and Quality (FSQ) Policy

Pritipaul Singh Investments, Inc.	QM
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Pritipaul Singh Investments Inc.	QM 1.1.1
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Food Safety and Quality Policy

Pritipaul Singh Investments Inc., Food Safety and Quality Policy is to provide the highest quality and safest seafood. Embracing the highest standards of performance and reliability, consistently satisfying the mutually agreed needs and expectations of its customers. Ensuring such as its products are always safe to consume, authentic to the specified quality and always conforming to statutory and regulatory requirements. Resulting in the company's achievements in business success.

Essential to support this position was the development and introduction of a food safety quality management system containing food safety policies and procedures and incorporating legal requirements, and industry best practices.

The Company supports a successful food safety culture by instituting safe working practices and procedures developed through effective hazard analysis, training, and experience.

Senior Management ensures the success of this policy by being directly responsible for food safety and quality, providing adequate organisation, support, equipment, and facilities, training and education of all employees, facilitating review and auditing performance, and driving continuous improvement. Detailed organisational arrangements and food safety responsibilities for all levels of management are contained in the Food Safety and Quality Manual.

This policy is thoroughly communicated throughout the organisation and a copy is provided and explained to each employee by the Department's Managers or the Quality Control Manager. The policy is also communicated to all interested parties including customers and other stakeholders.

Pritipaul Singh Investments Inc., is committed the continuous improvement of the site's food safety and quality culture as such, the food safety policy will be subjected to continuous review and revision particularly when changes to legislation or technical knowledge occur or there is opportunity for improvements of the site's food safety and quality culture.

As Director, I have overall responsibility for ensuring that Pritipaul Singh Investments Inc. food safety objectives, standards, policies, and procedures are maintained and implemented, and that food safety performance is reviewed regularly.

Company's Secretary / Director

Date

Version 1	Date: 06/01/2023	Page: 1 of 1	Approved By: Quality Control Manager.	Authorised By: Director/ Company Secretary	Food Safety and Quality Policy
Revision: 1	Date: 15/02/2023				

3.2.3 British Retail Consortium (BRC) Quality Manual

In conformance with the Food Safety and Quality Management System requirements of the British Retail Consortium's (BRC's) Revised Global Standard for Food Safety (Issue 9) of 2022 - to which Pritipaul Singh Investments Incorporated subscribes holding Certification - the company has developed and implemented a Quality Management System that consistently guarantees (if conformed to) the safety of its manufactured seafood products. It is this Quality Management System that the referenced BRC Quality Manual describes in detail.

As part of the Company's commitment, all products and processes used in the processing of Fish and Shrimp (Seabob) are subjected to hazard analysis based on the Codex Alimentarius HACCP Principles and the requirements of BRC Global Standard for Food Safety (Issue 9) of 2022. This Hazard Analysis and Critical Control Points (HACCP) system allows for the identification of specific hazards and implements measures for their control. Contained within the Quality Manual are the following HACCP Plans:

- **HACCP Plan for Pritipaul Singh Investments Inc., Providence Plant -Various Species Frozen Fish -Reviewed and amended in February, 2023**
- **HACCP Plan for Pritipaul Singh Investments Inc., Providence Plant -Shrimp (Seabob) - Reviewed and Amended in June, 2023**
- **HACCP Plan for Pritipaul Singh Investments Inc., Providence Plant – Hot Smoked Fish – Revised and Amended in August, 2023**

In an effort to ensure that a suitable environment is established and maintained, Pritipaul Singh Investments Incorporated established a number of pre-requisite programmes outlined in the following PSI Inc. **Reference Best Management Practices (BMP) Book:**

1. **Best Plant Practices**
2. **Best Maintenance Practices**
3. **Best Potable Water Practices**
4. **Best Raw Material Practices**
5. **Best Cleaning and Disinfection Practices**
6. **Best Hygiene Practices**
7. **Best Pest Control Practices**
8. **Best Manufacturing Practices**
9. **Best Storage Practices**
10. **Best Transport Practices**
11. **Best Waste Disposal Practices**
12. **Condition for Use of Food Additives**

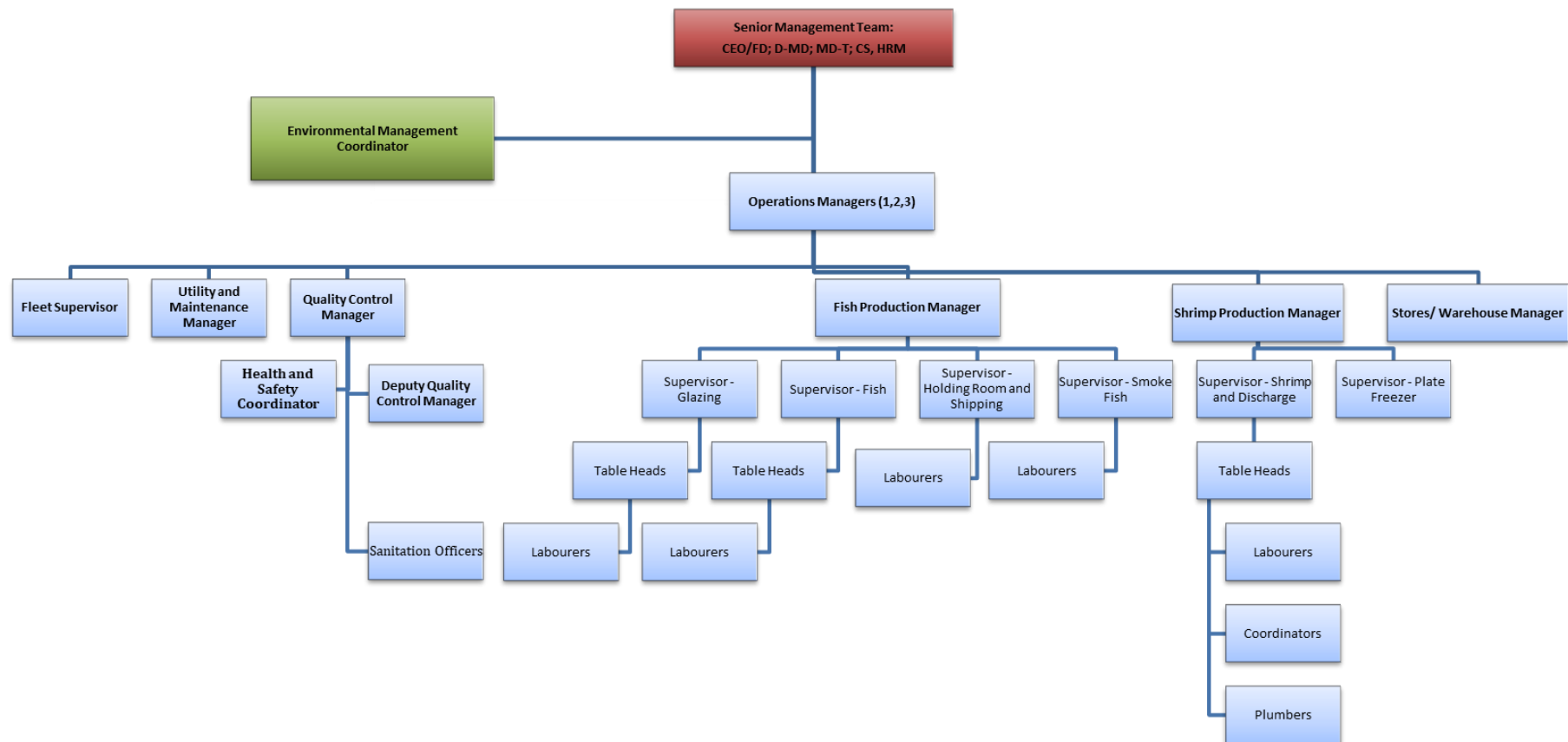
3.3 Institutional Arrangement and Responsibilities

Pritipaul Singh Investments Incorporated has clearly defined the roles and responsibilities for environmental management actions outlined in this Environmental Assessment and Management Plan (EAMP) and the Environmental Authorization (Permit) issued by the Environmental Protection Agency.

The following sub-sections detail the specific roles and responsibilities for all levels of staff in the employ of Pritipaul Singh Investments Incorporated, tasked with the implementation of the various elements in the Environmental Assessment and Management Plan (EAMP)

3.3.1 Organizational Structure

Figure 154: Organizational Chart for Pritipaul Singh Investments Incorporated



3.3.2 EAMP Implementation and Responsibilities

To ensure the effective establishment and implementation of the Environmental Management System by Pritipaul Singh Investments Incorporated, the following coordination/ reporting arrangements, roles and responsibilities have been assigned to staff within the company's organizational structure as depicted in **Table 6 below**.

Table 6: Roles and Responsibilities for EMP Implementation

#	Designation	Coordination / Reporting Arrangements	Role	Responsibilities
1	Environmental Management Coordinator Environmental Management Consultant ***	The Environmental Management Coordinator will report to the Chief Executive Officer, Company Secretary/ Accountant, Managing Director and the Deputy Managing Director Regulatory authorities as stipulated in the operating permits.	To implement the Environmental Assessment and Management Plan and the Environmental Authorization (Permit) to be issued in collaboration with the Operations Manager, Fleet Manager, Quality Control Manager, Fish and Shrimp Production Managers, Utility and Maintenance Manager, Stores/ Warehouse Manager, Designated Environmental Officers and the Health and Safety Coordinator.	<ul style="list-style-type: none"> Co-ordinate the implementation of the Environmental Assessment and Management Plan, the Environmental Authorization (Permit) to be Issued by the Environmental Protection Agency etc. Oversee the development of procedures and guidelines to facilitate the implementation of the EAMP; Monitor the implementation of the Environmental Assessment and Management Plan and the Environmental Authorization (Permit); Liaise closely with the Health and Safety Coordinator with respect to areas of overlapping concern in the EAMP; Contribute to training and capacity building efforts in the area of Environmental Management. Review, Analyze and Interpret data and records emanating from monitoring activities to assess the effectiveness of the monitoring process and that of the overall Environmental Assessment and Management Plan, for continuous improvement; Liaise closely with the Health and Safety Coordinator with respect to areas of overlapping concern in the EAMP; Contribute to training and capacity building efforts in the area of Environmental Management.
2	Senior Management Team: Chief Executive Officer (CEO) and Finance Director; Deputy Managing Director; Managing Director; Trainee Managing Director	The Senior Management Team will be reported to be all subordinate staff	To create the enabling environment for the company wide implementation of the ESMP by providing the requisite human, physical and financial resources	<ul style="list-style-type: none"> Establish overall direction of Pritipaul Singh Investments Incorporated Develop Health, Safety and Environmental Policy
3	Human Resource Manager	The Human Resource Manager will report to the Senior	To ensure that all staff in the employ of Pritipaul Singh Investments Inc. benefit from	<ul style="list-style-type: none"> Develop and implement a training schedule

#	Designation	Coordination / Reporting Arrangements	Role	Responsibilities
		Management Team: Chief Executive Officer (CEO) and Finance Director; Deputy Managing Director; Managing Director; Trainee Managing Director	regular training in Occupational Health, Safety and Environmental Management.	<ul style="list-style-type: none"> In collaboration with the Health and Safety Coordinator and the Environmental Management Coordinator
4	Company Secretary/ Accountant	The Company Secretary/ Accountant will report to the Chief Executive Officer and Financial Director, Managing Directors and the Deputy Managing Director	To ensure that all the required financial resources are mobilized to facilitate the company wide implementation of all elements of the Company's Environmental Management System.	<ul style="list-style-type: none"> Develop and Maintain Accounting Procedures Ensure that the requisite resources are mobilized for the implementation of mitigation measures
5a	Operations Manager #1	The Operations Managers will report to the Deputy Managing Director and the Trainee Managing Director	To oversee the adherence to the existing Environmental Management requirements within the Electrical, Machining, General Maintenance and Refrigeration Workshops	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
5b	Operations Manager #2	The Operations Managers will report to the Deputy Managing Director and the Trainee Managing Director	To oversee the adherence to the existing Environmental Management requirements within Building and Construction Workshops, Vessel Fleet, and Mechanic Sections	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
5c	Operations Manager #3	The Operations Managers will report to the Deputy Managing Director and the Trainee Managing Director	To oversee the adherence to the existing Environmental Management requirements within the fish and shrimp processing plants, and stores/ warehouse.	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
6	Fleet Supervisor	The Fleet Supervisor will report to the Operations Manager	To oversee the adherence to the existing Environmental Management requirements in the vicinity of the wharf and fishing vessel fleet.	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
7	Utility and Maintenance Manager	The Utility and Maintenance Manager will report	To oversee the adherence to the existing Environmental Management requirements within the power generation, water treatment and supply facilities, and refrigeration systems.	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes;
8	Quality Control Manager	The Quality Control Manager will report to the Senior Management Team: Chief Executive Officer (CEO) and Finance Director; Deputy Managing Director; Managing Director	To oversee the adherence to the existing Environmental Management requirements within the areas of operational responsibility	<ul style="list-style-type: none"> Assure compliance with applicable legal requirements and other requirements to which the organization subscribes

#	Designation	Coordination / Reporting Arrangements	Role	Responsibilities
9	Health and Safety Coordinator	The Health and Safety Coordinator will report directly to Quality Control Manager	To implement all aspects of the Environmental and Social Management Plan pertaining to Health and Safety, in collaboration with top, middle level and supervisory level management personnel.	<ul style="list-style-type: none"> • Maintain a repository of Material Safety Data Sheets for all chemicals stored and handled by the company; • Develop procedures and guidelines to facilitate the implementation of the Health and Safety aspects of the EAMP; • Monitor the Implementation of the Health and Safety Aspects of the EAMP; • Ensure adherence to the monitoring plan and programmes; • Assist in the Review, Analyze and Interpret data and records emanating from monitoring activities to assess the effectiveness of the monitoring process and that of the overall Environmental Assessment and Management Plan, for continuous improvement; • Assist in the implementation of the Emergency Preparedness and Response Plans; • Liaise closely with the Environmental Management Officers with respect to areas of overlapping concern in the EAMP; • Contribute to training and capacity building efforts in the area of Health and Safety.
10	Deputy Quality Control Manager	Sanitation Supervisor will report to the Deputy Quality Control Manager; and the Deputy Quality Control Manager will report to the Quality Control Officer	To oversee the adherence to the existing Environmental Management requirements within the areas of operational responsibility	<ul style="list-style-type: none"> • Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
11	Sanitation Supervisor	The Sanitation Supervisor will report to the Deputy Quality Control Manager	To oversee the adherence to the existing Waste Management requirements within all areas of the complex	<ul style="list-style-type: none"> • Monitor the Implementation of the waste management aspects of the EAMP; • Assure compliance with applicable legal requirements and other requirements to which the organization subscribes
12	Fish Production Manager	The Fish Production Manager will report to the Operations Manager.	To oversee the adherence to the existing Environmental Management requirements within the fish production plant.	<ul style="list-style-type: none"> • Assure compliance with applicable legal requirements and other requirements to which the organization subscribes;
13	Shrimp Production Manager	The Shrimp Production Manager will report to the Operations Manager.	To oversee the adherence to the existing Environmental Management requirements within the shrimp production plant.	<ul style="list-style-type: none"> • Assure compliance with applicable legal requirements and other requirements to which the organization subscribes

3.4 Legal Requirements for the Project

This section provides an overview of the applicable National Policy and Strategic Framework, National Laws and Regulations, International Conventions and Protocols, National and International Standards and Guidelines, and conditions of Environmental Permits and Licenses that constitute the Policy, Legal and Institutional Framework for Guyana which create an obligation on the part of Pritipaul Singh Investments Incorporated to manage Environmental Impacts and control Health and Safety Risks arising out of the operations of its Seafood Processing Plant and Associated Facilities.

3.4.1 National Laws and Regulations

This section identifies and presents a brief overview of the key legislation currently in force in Guyana that pertains to resources that could be affected by the Project. **Table 7** provides an overview on applicable national laws and regulations.

Table 7: Applicable National Laws and Regulations

NATIONAL LAWS	OVERVIEW
ENVIRONMENTAL PROTECTION	
The Constitution of the Cooperative Republic of Guyana, 1980 and 2003 Reforms	<p>The Constitution of Guyana is the highest governing legal document and supreme law for the country. Articles 25, and 36 of the 1980 Constitution and 149 (J) of the 2003 amendments, outlines Guyana's environment related principles. The importance of protection and management of the environment features prominently in this act. This is outlined as follows:</p> <ul style="list-style-type: none"> Article 25: "Every citizen has a duty to participate in activities to improve the environment and protect the health of the nation." Article 36: "The wellbeing for the nation depends upon preserving clean air, fertile soils, pure water and the rich diversity of plants, animals." Article 149J: (1) "Everyone has the right to an environment that is not harmful to his or her health or wellbeing." Article 149(J): (2) "The State shall protect the environment, for the benefit of present and future generations, through reasonable legislative and other measures designed to: <ul style="list-style-type: none"> Prevent pollution and ecological degradation; Promote conservation; Secure sustainable development and use of natural resources while promoting justifiable economic and social development"
The Environmental Protection Act, 1996 The Environmental Protection (Amendment) Act, 2005	<p>The Environmental Protection Act 1996 is the first comprehensive environmental legislation in Guyana. The Act, and the Environmental Protection Amendment Act 2005, establishes the basic institutional and regulatory framework within which all activities that may significantly impact on the natural, social, and cultural environments are assessed. The Act established the EPA and the goal of the Act is to "provide for the management, conservation, protection and improvement of the environment, the prevention and/or control of pollution, the assessment of the impact of economic development on the environment, the sustainable use of natural resources and for matters incidental thereto connected therewith". The EP Act gives the EPA the mandate for the coordination of environmental management and outlines the legal process for undertaking sustainable and effective management of the natural environment.</p> <p>The Act outlines the environmental authorization process for new or existing projects being modified. Part IV of the Act addresses Environmental Impact Assessments (EIAs) and outlines the steps in seeking environmental authorization, the determination of whether a project will require an EIA, and the steps to be followed and scope of the EIA. Part IV, section 11(1) of the Act set out that "A developer of any project listed in the Fourth Schedule²⁵, or any other projects which may significantly affect the environment, shall apply to the Agency for an environmental permit..."</p>
Regulation No. 10 of 2000 – The Environmental Protection (Authorization) Regulations, 2000	<p>These Regulations provide rules about the evaluation of an application for an environmental authorization to be made to the Environmental Protection Agency pursuant to sections 11, 19 or 21 of the Environmental Protection Act. They also concern the Register made pursuant to section 36 of the Act and require a holder of</p>

NATIONAL LAWS	OVERVIEW
	an environmental authorization to make all records required by regulation 5. Where an environmental authorization is in force it shall be the duty of the Agency to take the steps needed: (a) for the purpose of ensuring that the activities authorized by the environmental authorization do not cause pollution of the environment or harm to human health or become seriously detrimental to the amenities of the locality affected by the activities; and (b) for the purpose of ensuring that the conditions of the environmental authorization are complied with. In considering an application for the renewal of an environmental authorization, the Agency may: (a) carry out physical inspections of the facility; and (b) specify other standards or conditions with which such facility shall comply.
WATER QUALITY	
Regulation No. 6 of 2000 – The Environmental Protection (Water Quality) Regulations, 2000	Sets effluent standards, reporting requirements, penalties for violations of standards and permitting requirements for stationary and mobile sources. Regulates discharges of controlled substances, which could include substances used during the Project.
HAZARDOUS WASTE	
Regulation No. 7 of 2000 – The Environmental Protection (Hazardous Waste) Regulations, 2000	Establishes requirements for generating, handling, and disposing of hazardous waste as well as penalties for violations of these requirements. Identifies wastes subject to regulation, including several types of waste that could be produced by the Project.
NOISE MANAGEMENT	
Regulation No. 8 of 2000 – The Environmental Protection (Noise Management) Regulations, 2000	Sets noise emission thresholds, reporting requirements, penalties for violations or standards and permitting requirements for noise emission sources. Regulates discharges of noise into the environment from noise emitting devices installed on site.
AIR QUALITY	
Regulation No. 9 of 2000 – The Environmental Protection (Air Quality) Regulations, 2000	Sets air quality standards, reporting requirements, penalties for violations of standards and permitting requirements for discharges. Regulates discharges of several pollutants which could be emitted during the Project, including smoke, particulates, and carbon monoxide.
LITTER ENFORCEMENT	
Regulation No. 7 of 2013 – The Environmental Protection (Litter Enforcement) Regulations, 2013	These Regulations, made by the Minister of Natural Resources and the Environment under section 68 of the Environmental Protection Act 1996, define offences such as depositing litter in public places and littering of private premises, establish the post of litter prevention warden (either appointed by a public authority or the Minister of Natural Resources and the Environment and provide with respect to enforcement of the removal of litter. All Litter Prevention Wardens shall report to that body that the Minister designates by publication in the Gazette, as the body responsible for the general management of the Litter Prevention Wardens and that body shall be responsible for monitoring the enforcement of the duties of the Litter Prevention Wardens under these Regulations. "Premises" means land and includes natural water courses and drains.
TOXIC CHEMICALS	
Toxic Chemicals Control Act No.13 of 2000	Provides for the formation of a Pesticides and Toxic Chemicals Control Board. Establishes requirements for registration, licensure, and trade in pesticides and toxic chemicals. Amended in 2007 to provide rules for the exportation of pesticides and toxic chemicals. Establishes regulations pertaining to the use of toxic chemicals and pesticides. Pesticides will not be required for this Project, but small amounts of toxic chemicals may be used
LAND DEVELOPMENT	
Town and Country Planning Act, 1946 (Cap. 20:01, Act 25 of 1946 and Amendments	The Act provides for the (orderly and progressive) development of urban and rural lands and the preservation and improvement of amenities pertaining to such development. Development under the Act is restricted to buildings and road works incidental to buildings. The Act is concerned principally with town planning schemes and regional schemes (out of urban areas). Such schemes comprise of buildings, sanitation, coordination of roads, facilities and public services, provision of amenities and the conservation and development of resources. Implementation and enforcement are vested in the Central Housing Planning Authority (CHPA). The Authority, with the approval of the Minister, has the power to make regulations to implement the Act. CHPA, by resolution, may decide to prepare and adopt a

NATIONAL LAWS	OVERVIEW
	scheme. When a draft scheme is prepared, it is submitted to the Minister for approval. The Minister may approve, modify, or require a new scheme to be drafted. The scheme is formally in effect on the date of public notification of approval. The Act provides for cooperation with local authorities, establishment of a register, permit processing for building operations, land acquisition for schemes, compensation, and enforcement of the provisions of a scheme. There is also provision for zoning and the regulation of building and site design, roads, amenities, public services, transport, and communications.
MARITIME ZONES	
Maritime Zones Act of 2010 (Act No. 18 of 2010)	This Act defines the internal waters, territorial sea, contiguous zone, exclusive economic zone and continental shelf of Guyana, defines the boundaries of those maritime zones and defines jurisdiction and rights of Guyana in respect of those zones. This act also concerns, among other things, marine research, mariculture and the protection of the marine environment. ⁷
FISHING SECTOR	
The Fisheries Act of 2002	This Act regulates fishing within internal and marine waters (inclusive the EEZ) of Guyana by both domestic and foreign fishing vessels. The Act also concerns fishing on the high seas by Guyana vessels, marine reserves, processing of fish and international trade in fish products.
Regulations No. 7 of 2003. The Fisheries Products Regulations 2003 made under the Fisheries Act 2002 (Act 12 of 2002) of Guyana	<p>These Regulations provide for the approval of vessels and processing facilities, conditions to be met before fish can be placed on the local market, importation and exportation among other aspects.</p> <p>The Veterinary Public Health Unit is designated as the competent authority to enforce the Regulations. The Ministry of Health may appoint the suitable persons as health inspectors. As it relates to the importation of fish, the Regulations provides specifically for the conditions to be met by an importer, notifications, offshore inspections as well as foreign government inspections. Regarding to the exportation of Guyana's catch, the Regulations provide for the general conditions and criteria to be met. Additionally, the Regulations seeks to enforce the general and more specifically the hygienic conditions to be met by not only processing plants and facilities but the vessels. Moreover, the Regulations also provide a plethora of best plant practices to be met with regards quality assurance systems and production conditions.⁸</p>
Fisheries Regulations No. 3 of 2018	These Regulations lay down provisions on fisheries management and conservation, such as licensing of foreign and local fishing vessels, including artisanal and commercial fishing vessels; registration and marking of domestic fishing vessels; application for high seas fishing permit; permitted and prohibited fishing gear and methods; bycatch; designation, marking and disposal of fish aggregating device; requirements for the protection and release of sea turtles; establishment of Fisheries Monitoring Centre; installation of vessel monitoring system device; liability of a master of fishing vessel fishing in a prohibited area; prohibitions for fishing of particular species in certain areas and regulation of protected fishing areas; permit procedures for research; and permit obligation for harvesting protected species, moving and selling diseased or contaminated fish and aquatic animals, and selling any fish, fish products, fuel or fishing gear at sea. The Minister or Chief Fisheries Officer may appoint observers to accompany fishing vessels on fishing trips for the purpose of monitoring and inspection during the fishing trip. ⁹

3.4.2 Applicable National and International Standards and Guidelines

Several National and International Guidelines and Standards identified at **Table 8 below** are applicable to the operations of Pritipaul Singh Investments Incorporated – Seafood Processing Complex.

⁷ <https://www.ilo.org/dyn/natlex2/natlex2/files/download/99456/GUY99456.pdf>

⁸ <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC213484/>

⁹ <https://leap.unep.org/en/countries/gy/national-legislation/fisheries-regulations-no-3-2018>

Table 8: Applicable National and International Standards and Guidelines

STANDARDS AND GUIDELINES	RELEVANCE TO THE PROJECT
National Guidelines and Standards	
GYS 207:2002: Guyana National Bureau of Standards Interim Guidelines for Industrial Effluent discharge into the Environment	This standard sets out the allowable limits that should not be exceeded: <ul style="list-style-type: none"> pH 5.0-9.0. Temperature: <40°C; Chlorine <0.2 mg/l) Total Suspended Solids (TSS): <50 mg/l Oil and Grease: < 10 mg/l Biological Oxygen Demand (BOD) <50 mg/l
GYS 263:2010 (First Revision) – Guidelines for Noise Emission into the Environment.	This standard specifies permissible/allowable noise levels for commercial, industrial, residential, institutional, educational, construction, transportation, and recreational receptors in Guyana. It will operate under the Environmental Protection (Noise Management) Regulation 2000.
GCP 26:2007: Guyana National Bureau of Standards Code of Practice for the Design and Construction of Septic Tanks and Associated Secondary Treatment and Disposal Systems	This standard gives recommendations for the design, location, construction, and maintenance of septic tanks. It includes methods for treatment and disposal of septic tank effluent from domestic sewage.
GYS 527:2017 (First Revision) – Requirements for the design and construction of septic tanks and associated secondary treatment and disposal systems	This standard gives requirements for the design, location, construction, and maintenance of septic tanks. It includes methods of treatment and disposal of septic tank effluent from domestic sewage. It is also applicable to individual housing units and institutions where the number of users does not exceed twenty (20) persons. For buildings with more than twenty (20) users an alternative treatment method should be considered with the approval from the relevant authorities
Government Analyst Food and Drugs Department (GAF&DD) Guideline for Potable Water.	This standard establishes the limits within which water quality parameters are not expected to exceed for potable water. These parameters are as follows: E. Coli – 0 and Total Coliform: <3/100 ml
Dried Salted Fish Product Standards	GY 53:2016: Specification for Salted Fish and Dried Salted Fish. This standard applies to salted fish and dried salted fish which has been fully saturated with salt (heavy salt) or to salted fish which has been preserved by partial saturation to a salt content not less than 12% by weight of the salted fish which may be offered for consumption without further industrial processing. It stipulates requirements for salted fish and dried salted fish produced for retail and distribution for human consumption.
International Guidelines and Standards	
British Retail Consortium (BRC) Global Standard for Food Safety Issue 9 (August 2022)	<p>The British Retail Consortium (BRC) Global Standard for Food Safety is a certification standard that has been adopted by food retailers and food manufacturers all around the world. It is an international Food Safety Management Systems Standard and is one of the Global Food Safety Initiative (GFSI) recognized certification schemes. This Standard provides a framework for food manufacturers to assist them in the production of safe food and to manage product quality to meet customers' requirements. Certification against the Standard is recognized by many retailers, manufacturers and food service companies around the world when assessing the capabilities of their suppliers. The BRC Global Standard for Food Safety was created and has been developed to specify the food safety, quality and operational criteria required to be in place within a food manufacturing organization to fulfil obligations with regard to legal compliance and protection of the consumer.</p> <p>The format and content of the Standard is designed to allow an assessment of a company's premises, operational systems and procedures by a competent third party – the certification body – against the requirements of the Standard. The main requirements of the standard are the implementation of a Hazard Analysis and Critical Control Points (HACCP) system, a documented food safety quality management system and a control of personnel, standards, products and processes in place.</p>
United States Food and Drug Administration (FDA), Fish and Fisheries Product Hazard and Control Guide, June 2022 Edition	This guidance is intended to assist processors of fish and fishery products in the development of their Hazard Analysis Critical Control Point (HACCP) plans. Processors of fish and fishery products will find information in this guidance that will help them

STANDARDS AND GUIDELINES	RELEVANCE TO THE PROJECT
	identify hazards that are associated with their products and help them formulate control strategies. ¹⁰
World Health Organization (WHO) Water Quality Standards (1993) for Heavy Metals	<p>This standard establishes the limits within which potable water quality parameters are not expected to exceed. The parameter limits are as follows:</p> <ul style="list-style-type: none"> • Iron (Fe)- 1.0 mg/l; • Copper (Cu) – 2.0 mg/l; • Zinc (Zn) – 3.0 mg/l; • Lead (Pb) – 0.01 mg/l; • Manganese (Mn) – 0.5 mg/l; • Arsenic (As) – 0.01 mg/l
World Health Organization (WHO) 2006 Guidelines for Drinking Water Quality – First Addendum to Third Edition (Volume 1 Recommendations).	<p>This guideline establishes the limits within which drinking water quality parameters are not expected to exceed. The parameter limits are as follows:</p> <ul style="list-style-type: none"> • Aromatic Hydrocarbon (fuel) – 0.001 mg/l; • Arsenic – 0.01 mg/l; • Cadmium – 0.003 mg/l; • Chlorides – 250 mg/l; • Chromium – 0.05 mg/l; • Copper – 2 mg/l; • Cyanides – 0.07 mg/l; • Hardness (as CaCO₃) – 100-300 mg/l; • Iron – 0.3 mg/l; • Lead – 0.01 mg/l; • Manganese – 0.4 mg/l; • Mercury- 0.006 mg/l; • Nickel – 0.07 mg/l; • Nitrate – 50 mg/l; • Nitrite – 3 mg/l; • pH – 6.5-9.2; • Phenols – 0.001 mg/l; • Sodium – 250 mg/l; • Sulphate – 200 mg/l; • Temperature – 10-15 oC; • Total Dissolved Solids – 100 mg/l; • Zinc – 5.0 mg/l; • E. Coli - 0

3.4.3 Specific Authorizations, Permissions and License Conditions

The operations of all elements of the Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods) Fish and Shrimp Processing Facilities, Plantation Providence, East Bank Demerara are subject to the conditions in the following granted authorizations, licenses, no- objections, approvals permissions, permits and certificates. **(See Table 9 below and Documented approvals at Annex 1)**

Table 9: Documented Approvals/ Permissions/ Authorizations

Title	Details of the Documented Approval
Certificate of Incorporation	Certificate and Articles of Incorporation for Pritipaul Singh Investments Incorporated (Company Number: 4587) incorporated under the Companies Act of Guyana by the Registrar of Companies on March 21, 2000
Transport for Lands occupied by Seafood Processing Complex	<p>a) Transport No. 498 of 1961 for Area “S” portion of Plantation Providence, situated on the East Bank of the Demerara River, in the County of Demerara, Republic of Guyana</p> <p>b) Transport No. 324 of 1965 for Lots lettered (S1) and (S2) being portions of the South Half of the Frontlands of Plantation Providence, situate on the East Bank of the Demerara River in the county of Demerara, Republic of Guyana</p> <p>c) Transport No. 3375 of 2007 for Portions S3a and Portion S3b being portion of Plantation Providence within the Eccles/ Ramsburg Neighbourhood Democratic</p>

¹⁰ <https://www.fda.gov/media/80637/download>

Title	Details of the Documented Approval
	Council, situate on the East Bank of Demerara, in the County of Demerara in the Republic of Guyana.
No Objection	No Objection from the Eccles/ Ramsburg Neighborhood Democratic Council (NDC) issued on May 08, 2019, to Pritipaul Singh Investments Incorporated.
Full Planning Permission	Full Planning Permission issued by the Central Housing and Planning Authority (CHPA) for the construction of a Seafood Processing Plant and Associated Facilities
Petroleum License	Petroleum License (File No. 315/6/253) granted by the Guyana Fire Service to Pritipaul Singh Investments Incorporated at Providence, East Bank Demerara to store (20,250) liters of Dieseline (Only); (113) liters of Gasoline (Only); (653) litres of Kerosene (Only); (6,075) litres of Lubricating Oil (only); (653) litres of Paint Thinners and (77) kg of Grease (Only) and (10) Tex LPG Cylinders (Only)
License to Export Fish – Frozen Shrimp	License to Export Fish (No. 382) granted by Fisheries Division, Ministry of Agriculture, Georgetown issued on (Specify date) to Export Frozen Shrimp remaining in force until 31st December 2023
License to Export Fish – Frozen Fish	License to Export Fish (No. 383) granted by Fisheries Division, Ministry of Agriculture, Georgetown issued on (Specify date) to Export Frozen Fish remaining in force until 31st December 2023
Processing Plant License	Permission (No. 0000264) granted by Ministry of Agriculture, Fisheries Department, Georgetown to Pritipaul Singh Investments Incorporated of S1-S2 Plantation Providence, East Bank Demerara to operate a Fish Processing Plant for the purpose of producing Fresh, Frozen, Salted and Smoked Fish until 31st December 2023
Processing Plant License	Permission (No. 0000265) granted by Ministry of Agriculture, Fisheries Department, Georgetown to Pritipaul Singh Investments Incorporated of S1-S2 Plantation Providence, East Bank Demerara to operate a Fish Processing Plant for the purpose of producing Frozen Fish and Shrimp until 31st December 2023.
Certificate of Approval	Certificate of Approval (Reg. SP/004) for the Preparation and Processing of Crustacea and Fish: Drying and Smoking of Fish issued by the Ministry of Health Veterinary Public Health Unit (VPHU) certifies that Fish Processing Plant/ Factory has fully satisfied all Sanitary and Hygienic Requirements for Operation, as laid down in Part XI, XII, XIII of the Guyana Fishing Products Regulations, 2003

SECTION 4: ENVIRONMENTAL IMPACTS

4.1 Overview

This Section of the EAMP presents an assessment of the potential Environmental impacts (inclusive of Health and Safety Hazards) associated with the Operational (Including Maintenance) Phases of the Pritipaul Singh Investments Incorporated – Seafood Processing Complex.

This section will have three (3) sub-sections. The first sub-section will briefly describe the methodology used to: (a) determine the Environmental Aspects of Pritipaul Singh Investments Incorporated's products, services, and activities, considering current and planned activities, covering only the aspects that it can both control and influence; (b) determine the environmental impacts and Health and Safety Hazards of each aspect; and (c) assess the significance of these aspects and impacts. The second sub-section will present the resulting Impact Assessment Matrix which identifies the Significant Impacts. And, the last sub-section will briefly describe the significant Environmental Impacts and Health and Safety Hazards.

4.2 Methodology of Identifying and Rating Environmental Aspects

In order to identify and rate environmental and social aspects, it is important to understand first and foremost what **"aspects"** are with reference to an organization that is seeking to implement an Environmental Management System (EMS) to manage environmental impacts.

The ISO 14001:2015 Environmental Management Systems (EMS) Standard defines an aspect as an element of an organization's activities, products or services that interacts or can interact with the environment" and **an impact** as a "change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organization's environmental aspects. Simply put, an aspect is a cause or reason and an impact is an effect or the result on the environment.

Therefore, an organization's aspects originate from its activities, products, and services. Once these aspects are identified, the impacts can easily be identified also. The consultant utilized an appropriate Aspect and Impact Evaluation Framework to accomplish this.

4.2.1 Aspect and Impact Evaluation Framework

The Aspect and Impact Evaluation Matrix utilized by the Consultant adapted *from Hoagland -Grey, Anderson, and Ward (2011)* allowed for the evaluation to be performed following a five (5) steps process. The steps are as follows:

1. **Identification of activities, component processes and products;**
2. **Determine the Aspects of the Identified Activities;**
3. **Determine the Impacts of these Aspects;**
4. **Assess the significance of these impacts; and**
5. **Rank the Impacts according to their Significance.**

4.2.1.1 Step 1: Identification of Activities, Processes and Products

In order to identify activities¹¹, service¹² and product¹³, an analysis of what the organization does had to be undertaken. This was achieved by describing all of the organization's activities and component processes, whether performed by the organization's own employees or by engaged contractors and suppliers. **Column (A) of Table 11, identifies** the activities performed by staff of PSI or contractors and suppliers.

¹¹ An activity is a part of the core business (e.g., production process steps).

¹² Service means an auxiliary service that supports core activities (e.g., boilers, heating & cooling, maintenance)

¹³ A product is the goods you offer for market.

4.2.1.2 Step 2: Determination of Aspects

Each identified activity performed by the organization's own staff or contractors and suppliers can potentially interact with the environment in a variety of ways and present a variety of Health and Safety Hazards to site personnel, visitors, and the public. Each of these interactions is termed an aspect. For the purposes of this assessment, environmental aspects¹⁴, as well as health and safety aspects¹⁵ have been defined for all identified activities. **Column (B) of Table 11** captures the Environmental and Health and Safety Aspects.

4.2.1.3 Step 3: Determination of the Impacts of Identified Aspects

Each identified aspect will have a specific resulting interaction with the environment. For the purposes of this assessment, several Categories of Impacts have been defined at **Column (C) of Table 11**, namely: Air Pollution, Land Pollution, Water Pollution, Nuisance, Depletion of Natural Resources/ Materials, Global Warming and Ozone Depletion, Depletion of Groundwater Resources, Loss of Ecosystem/ Biodiversity Habitats, Loss of Amenity, Human Health, Indirect Impacts and other impacts. The appropriate sub columns were ticked in the intersecting row. Further, a brief summary was given of the identified impact at **Column (D) of Table 11**.

4.2.1.4 Step 4: Assess the Significance of Identified Aspects

For each aspect's impact, the significance of the impact was assessed and documented. In the framework utilized, significance was determined to be the product of severity of impact and probability of occurrence. With both aspects of the formula having specific criteria to select an appropriate rating based on specific criteria. **(See Table 9 below)** These aspects were considered under normal conditions. Once a score is rewarded based on the set criteria for severity of impact and probability of occurrence for the impact under normal, abnormal, and emergency conditions, the product of that score is recorded in the appropriate sub-column of **Column (C)**.

4.2.1.5 Step 5: Ranking of Impacts According to Significance

Lastly, once a score has been arrived at for probability of occurrence and Impact severity based on professional judgement, the **5 x 5 Scoring Matrix** is utilized to determine which aspects are of low, medium, or high significance. The use of the Scoring matrix allows for the award of a maximum score of 25, where impacts with a score of between 1 -4 are deemed of LOW SIGNIFICANCE; those with a score of between 5 -10 are deemed of MEDIUM SIGNIFICANCE; and those with a score between 12 to 25 are deemed of HIGH SIGNIFICANCE. The resulting scores were then captured at **Column (E) of Table 11**.

¹⁴ Environmental aspects include consideration of each activity's interaction with air (e.g., controlled and uncontrolled emissions), water (e.g. controlled and uncontrolled discharges), waste (e.g. solid and other types), soils (e.g. land use or contamination), vegetation and resource depletion, aesthetics (noise, dust, vibration, aesthetic and visual aspects), indirect aspects (use of land, water resources and energy), cumulative impact aspects, beneficial aspects associated with the activities, and consideration of present and future conditions, and normal and abnormal conditions (e.g. weather, emergencies, etc.)

¹⁵ Health and Safety aspects would include for each activity, all health and safety hazards and risks to site personnel, visitors and the public/ community associated with the performance of the activity. A hazard is defined as something or a situation with the potential to cause injury or illness to people, damage to property, or disruption of productivity. Hazard Identification is the process of recognizing that a hazard exists and defining its characteristics.

Table 10: Significance Framework

[SIGNIFICANCE = SEVERITY OF IMPACT X PROBABILITY OF OCCURRENCE]

I SIGNIFICANCE FRAMEWORK: ASSESSMENT OF IMPACT SEVERITY

SCALE	1. NEGLIGIBLE/ MINOR	2. MODERATE/ SERIOUS	3. SERIOUS	4. MAJOR	5. CATASTROPHIC
ENVIRONMENTAL	<ul style="list-style-type: none"> Impact of insignificant scale No consequences to the environment Immediate recovery after termination of aspect No stakeholder interest, Insignificant resources required to correct impact 	<ul style="list-style-type: none"> Impact limited to a small area within the organization Minor impact on the environment Short time period is needed for recovery Low potential for complaints, Moderate resources required to correct impact. 	<ul style="list-style-type: none"> Impact that spreads across the whole organization Noticeable impact on the environment Long time period is needed for recovery and sanitation, Issue of concern to stakeholders, Major resources required to correct impact. 	<ul style="list-style-type: none"> Impact outside of the organization Serious impact on the environment, Recovery is possible only by enforcing appropriate actions (recultivation, remediation, and other type of sanitation) and will require a significant amount of time Issue of concern to stakeholders Major resources required to correct impact. 	<ul style="list-style-type: none"> Impact that affects the regional area Critical consequences to the environment Recovery is not possible, issue of concern to stakeholders, Critical resources required to correct impact.
HEALTH AND SAFETY	<ul style="list-style-type: none"> Negligible potential to result in excursions from legal limits. First aid only required 	<ul style="list-style-type: none"> Temporary excursion outside of legislative limits. The injury will require treatment by a doctor 	<ul style="list-style-type: none"> Significant non-compliance with legislation. Injured person will result in loss of time off work 	<ul style="list-style-type: none"> Major non-compliance with legislation. May suffer a permanent disability. 	<ul style="list-style-type: none"> May be fatally injured

II. ASSESSMENT OF PROBABILITY OF OCCURRENCE

PROBABILITY	1. Improbable - Not happened before but theoretically possible	2. Low Probability Occurs rarely, once a year	3. Probable – Occurs more than once a year	4. Highly Probable - Occurs every month	5. Definite – Occurs every day or every time the activity is executed
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This method results in the following scoring matrix

Probability	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Impact				

Key
Low Significance
Medium Significance
High Significance

This methodology gives a maximum score of 25 points. Significant aspects are defined as those where the impact has a score of 12 points or more

4.3 Aspects and Impact Register for PSI-Seafood Processing Plants and Associated Facilities

Table 11: Inventory of Aspects and Impacts Associated with the Pritipaul Singh Investments Incorporated – Seafood Processing Complex

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
OPERATIONAL PHASE																										
Wharf Area																										
Activity: Preparation of Fish and Shrimp Capture Vessels for Trip to Fishing/ Shrimping Zones	Use of Fuel (Operation of Hoists)					X								Depletion of Non-Renewable Resources (Fossil Based Fuels)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Wash Vessel Deck)							X						Consumption of Freshwater Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Fumigate Cabin of Fishing Vessel, Degreasing of Engine)	X									X			Use of Chemical Agents (Pesticides and Degreasers)	1	4	4	1	4	4	1	4	4	1	4	4
	Emissions to the Air (Combustion Gases)	X					X							Changes to Local air quality; Contribution of Greenhouse Gases to Global Climate Change	1	4	4	1	4	4	1	4	4	1	4	4
	Emissions to Air (Chemical Agents)	X											X	Effects on Indoor air quality due to the emissions of residual chemical agents	1	4	4	1	4	4	1	4	4	1	4	4

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Generation of Liquid Waste (Wash water from Exterior and Deck of Vessel; Flushing and Sanitizing of Bilge and Ice Hold)			X										Potential to cause adverse changes to water quality	2	5	10	2	5	10	2	5	10	10	
	Generation of Solid Waste						X							Reduction of limited landfill space	1	5	5	1	5	5	1	5	5	5	
	Potential for the Leakage/ Spillage of Fuel (Filling of Fishing Vessel Fuel Tank)			X				X						Potential to cause changes to water quality in the river system and effects on local biodiversity	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injury									X				Potential for loss of life and serious injury	3	5	15	3	5	15	3	5	15	15	
	Fire and Explosion Hazard												X	Potential for loss of life and property damage	5	4	20	5	4	20	5	4	20	20	
Trawling Fleet Operations																									
Activity: Commercial capture of Seabob (Shrimp) and Fin Fish with Company’s dedicated Trawlers in Fishing and Shrimping Zones within the Economic Exclusive Zone of Guyana and other Territories	Use of Non-Renewable Natural Resources (Operation of Fishing Vessels, Operation of Winches and Pulleys for Fishing Gear etc.)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
	Use of Water						X							Depletion of Fresh Water reserves	1	1	1	1	1	1	1	1	1	1	1	
	Capture of Target and Non-Target Fish Species							X						Depletion of Fish and Shrimp Stocks	2	5	10	2	5	10	2	5	10	2	5	10
	Emissions to the Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide etc.)	2	5	10	2	5	10	2	5	10	2	5	10
	Emissions to the Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Use of Chemicals (Sodium Metabisulphite)												X	Emissions to the Air	1	5	5	1	5	5	1	5	5	1	5	5
	Discharges to Water (Sewage, Grey Water etc.)			X					X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the coastal waters	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste													Reduction of limited landfill space	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Potential for Accidental Loss or Discharge of Fishing Gear							X						Potential to result in the entanglement of marine mammals and turtles	3	3	9	3	3	9	3	3	9	9
	Staff Exposure to Direct Sunlight and Cold Conditions on the Open Ocean									X				Heat and Cold Stress, Fatigue	2	5	10	2	5	10	2	5	10	10
	Staff Exposure to Chemical Agents (Sodium Metabisulphite)									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10
	Staff Exposure to Noise (Engine Room)									X				Potential for the development of permanent hearing loss	2	5	10	2	5	10	2	5	10	10
	Potential for Accidental Injury (being crushed between moving objects, strikes, cuts from handling catch or fishing tackle, entanglement in nets)									X				Potential for Serious Accidents and Loss of Life	4	5	20	5	5	25	5	5	25	20
	Potential for Falls Overboard									X				Potential for death by drowning; hypothermia etc.	5	5	25	5	5	25	5	5	25	25

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Cleaning of Work Areas Before Fish Discharge	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Chlorine Solution, Detergents)											X		Emissions to the Air	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface Water (Rinse Water)			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	1	5	5
	Potential for Accidental Injury										X			Potential for accidental falls and slip injuries	1	5	5	1	5	5	1	5	5	1	5	5
Activity: Discharge of Fish from Trawlers at Wharf and Transfer to Fish Processing Area	Use of Energy (Operation of Pulley System)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Washing of Vessel Deck)						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Ice (Icing of Fish)					X								Depletion of Water reserves (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Use of Chemical agents (Disinfecting of Vessel Deck)			X										Potential to cause changes to water quality	1	5	5	1	5	5	1	5	5	5	
	Discharges to Surface Water (Vessel Deck, Ice Hold, Wharf Area)			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10	
	Nuisance (Emission of Odours)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injury										X			Potential for accidental falls and slip injuries	1	5	5	1	5	5	1	5	5	5	
Activity: Transportation and Discharge of Fish from External Supplier Refrigeration Trucks to PSI Inc. Seafood Processing Facilities	Use of Non-Renewable Natural Resources (Operation of Refrigerated Trucks)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	
	Nuisance (Emissions of Noise from Refrigeration Units)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Nuisance (Emissions of Odours)				X									Disturbance to surroundings	1	5	5	2	5	10	1	5	5	10
	Use of Water (Washing of Truck Interior and Exterior)						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Use of Disinfectant)	X										X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Emissions to the Air (Chemical compounds)	X												Changes to local air quality	1	5	5	1	5	5	1	5	5	5
	Discharges to Surface Water (Rinse Water; Ice Melt Water from Thawing Process etc.)			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system.	1	5	5	1	5	5	1	5	5	5
	Potential for Vehicular accidents (Potential)										X		X	Potential for Accidental Injury, Loss of Life and Property Damage.	1	5	5	1	5	5	1	5	5	5
Temporary Cold Storage of Excess Raw/ Unprocessed Fish																								
Activity: Storage of Unprocessed Fish in Refrigerated Containers	Use of Fuel (Operation of Forklifts)				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
	Use of Energy (Operation of Refrigeration Containers)					X	X							Depletion of Non-Renewable Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to the Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5
	Nuisance (Emissions of Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Nuisance (Emissions of Noxious Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Staff Exposure to Cold Conditions										X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Core Activity: Operations of Seafood Processing Plants																										
Shrimp Processing Plant – Fresh Shrimp Products																										
Activity: Discharge of Shrimp from Shrimping Trawlers	Use of Energy					X	X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X										Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Rejected Shrimp)			X											Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities	1	5	5	1	5	5	1	5	5	5	5
	Exposure to Noise														Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5	5
Activity: Receipt/Intake of Raw Unprocessed Shrimp from Vessel	Use of Energy					X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Generation of Solid Waste (Foreign Materials)			X										Discharge to river system	1	5	5	1	5	5	1	5	5	5	
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities	2	5	10	2	5	10	2	5	10	10	
	Exposure to Noise													Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5	
Activity: Mechanical Peeling and Cleaning of Shrimp	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Generation of Solid Waste (Waste Materials: Extra Shells, Swimmerets)			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Exposure to Noise									X				Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Mechanical Grading of Shrimp	Use of Energy (Operation of Mechanical Graders)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Emissions to Air (Odour)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Exposure to Noise									X			Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5	
Activity: Mechanical Sorting of Shrimp	Use of Energy (Operation of Vision Machines)				X								Depletion of Non-Renewable Fossil Fuel Resources (indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Noise)												Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Exposure to Noise									X			Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5	
Activity: Manual Picking on Inspection belts	Use of Energy (Operation of Conveyor Belts)				X								Depletion of Non-Renewable Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Noise)			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Generation of Solid Waste (Foreign Materials)			X				X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Exposure to Noise									X			Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Mechanical Shrimp Weighing, Packaging, Glazing and Sealing	Use of Energy					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Use of Chemicals (20 -40 ppm concentrate of Keeper Solution)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Use of Packaging Materials (Plastic)											X	Use of Raw Materials	2	5	10	2	5	10	2	5	10	10
	Generation of Solid Waste		X									X	Utilization of Limited Space in Landfill	2	5	10	2	5	10	2	5	10	10

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Exposure to Noise									X				Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Manual Weighing, Conveyance to Freezing Area and Freezing of Processed Seabob Shrimp	Use of Energy (Operation of Plate Freezer and Conveyance System)													Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Potential for Release of Refrigerant (Ammonia)					X								Potential for Causing Ozone Depletion	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Odour)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Exposure to Noise										X			Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	5
	Exposure to Cold Conditions										X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5
Activity: Unloading of Frozen Shrimp from Freezer and Thawing and Separating Packets	Use of Energy				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Cold Conditions									X				Potential to develop cold stress illnesses, injuries and symptoms	1	5	5	1	5	5	1	5	5	5
	Activity: Final Packaging and Metal Inspection of Boxes	Use of Energy (Operation of Packaging and Foreign Metal Detection Equipment)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Packaging Materials (Plastic and Cardboard)											X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5	
	Generation of Solid Waste (Packaging Wates)		X										Depletion of limited space in landfill	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
Activity: Conveyance/Transfer of Packaged Shrimp Product to Holding Room (Cold Storage Area) and/ or Refrigerated Containers	Use of Energy (Operation of Conveyance System, Forklifts)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X											Changes to Local Air Quality	1	5	5	1	5	5	1	5	5	5	5
	Nuisance (Noise and Vibration Emissions)				X								Disturbance to sensitive receptors in close proximity	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Cold Conditions									X			Personal injury	1	5	5	1	5	5	1	5	5	5	5
	Potential for Lifting Injuries									X			Personal injury	1	5	5	1	5	5	1	5	5	5	5
	Potential for Accidental Collisions									X			Potential for serious injury or even death, property damage	3	5	15	3	5	15	3	5	15	15	15
Activity: Temporary Storage of Shrimp Products in High Capacity Holding Room	Use of Energy (Operation of Extractor Fans)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Potential for the Failure of Racking Systems in the High Capacity Holding Room									X			Potential for serious injury or even death, property damage	3	5	15	3	5	15	3	5	15	15	15

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenities	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Exposure to Cold Conditions									X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5	
	Potential for Collisions									X			Potential for serious accidental injury											
Activity: Temporary Storage of Processed Shrimp Products in Refrigerated Containers	Use of Energy (Operation of Refrigeration Units)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Noise)			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Nuisance (Noise and Vibrations)			X									Visual Impact	1	5	5	1	5	5	1	5	5	5	
	Exposure to cold Conditions												Potential to develop cold stress illnesses, Injuries and symptoms											
Service: Transport of Refrigerated Containers to Port Facilities for Export	Use of Fuel				X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Combustion Gases)	X				X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	

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	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Potential for Vehicular accidents										X		X	Potential for serious injury or even death, property damage	3	5	15	3	5	15	3	5	15	15
Fish Processing Plant – Fresh Fish Products																								
Activity: Preliminary Preparation of Unprocessed Fish: Grading, Weighing and Icing of Fish	Nuisance (Emissions of Odours)				X									Disturbance to Surroundings	1	5	5	2	5	10	3	5	15	15
	Use of Ice (Icing of Fish)							X						Depletion of Water Resource	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water (Thaw Water)			X					X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Exposure to cold conditions											X		Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5
Activity: Fish Processing (Cleaning, Washing, Forming and Rinsing)	Use of Energy (Lighting, Air Conditioning Systems, Ammonia Based Refrigeration Systems etc.)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1

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(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Use of Water (Chlorinated Water)						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water (Effluent from Processing Area)			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Emissions to Air (Odours)				X									Disturbance to Surroundings	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Fish Heads, Scales, Bones, Guts and Gills and other Inedible parts)											X		Challenges with the safe disposal of fish waste materials	1	5	5	1	5	5	1	5	5	5
	Exposure to excessive noise and vibration										X			Temporary or Permanent hearing damage	1	5	5	1	5	5	1	5	5	5
	Exposure to Heat and Cold										X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Potential for Accidental Injury (Cutting Injuries)										X			Minor Cuts and Scrapes as a result of the use of knives and other sharp tools, sharp edges on process equipment such as stainless-steel basins.	3	5	15	3	5	15	3	5	15	15	
	Potential for Accidental Injury (Fall Injuries)										X			Fall Injuries: Sprains and Fractures due to slippery floor; bruising	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injury (Sting Injuries)										X			Stings from Fish Spines	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injury										X			Back Strain and Sprains as a result of the performance of repetitive tasks	2	5	10	2	5	10	2	5	10	10	
	Development of Infections and Allergic Reactions										X			Risk of Fungal and other pathogenic infections	1	5	5	1	5	5	1	5	5	5	
Activity: Placement of Formed Fish on Plastic Film Lined Aluminum Trays	Use of Energy (Lighting, Air Conditioning Systems, Ammonia Based Refrigeration Systems, Electronic Scales etc.)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Treated Water)							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Use of Raw Materials (e.g., Packaging Materials)											X	Use of Raw Materials	2	5	10-	2	5	10	2	5	10	10
	Use of Chemicals (Sodium Chlorite Solution – Keeper Solution)	X										X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Exposure to Chemicals									X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Blast Freezing / Instant Quick Freezing of Formed Fish Products	Use of Energy (Operation of Blast Freezer and/ or IQF Unit)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Cooling Agents (Ammonia Based Refrigeration System)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Potential for Leakages of Refrigerant Gases (Ammonia)	X								X			Air Pollution and Potential Health Effects	1	5	5	1	5	5	1	5	5	5
	Exposure to Cold Conditions									X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Mechanical Glazing of Frozen Fish Products	Use of Energy (Operation of Glazing Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Energy (Operation of Air Conditioning Systems)					X								Depletion of Non-Renewable Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Treated Water and Ice)							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Keeper Solution – Sodium Chlorite)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5	5
	Discharge to Surface Water (Extremely Cold Water used in the Bath of the Glazing Unit)			X					X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5	5	5
	Nuisance (Noise and Vibration Emissions)													Injury to the ear	1	5	5	1	5	5	1	5	5	5	5	5
	Exposure to Cold Conditions										X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5	5	5

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(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Weighing, Packaging and Sealing of Processed Fish Products	Use of Energy (Operation of Air Conditioning systems, Electronic Scales, Packaging and Sealing Machines)				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Packaging Materials – Plastics, Cartoon Boxes)											X		Use of Raw Materials	2	5	10-	2	5	10	2	5	10			10
	Generation of Solid Waste (e.g. Waste Packaging Materials)		X										X	Depletion of space in landfill sites	1	5	5	1	5	5	1	5	5			5
	Potential for Lifting Injuries													Injury												
	Exposure to Cold Conditions													Potential to develop cold stress illnesses, Injuries and symptoms												
Activity: Transfer of Packaged Product and Storage in High Capacity Holding Room or direct transfer to Reefer Container	Use of Energy (Operation of Cold Storage Facility – Holding Room)				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Cooling Agents (Ammonia Based Refrigeration System)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5			5
	Potential for the Leakage of Cooling Agent (Ammonia) from Failed Components of System				X					X				Release of odiferous compound to Air	1	5	5	1	5	5	1	5	5			5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Exposure to Cold Conditions									X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5	
Activity: Transfer of Packaged Product from High Capacity Holding Room to Refrigeration Containers	Use of Energy (Operation of Refrigeration Container, Extractor Fans in Holding Room)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Fuel (Operation of Hoisting Equipment)				X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Combustion Gases)	X				X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	
	Nuisance (Noise and Vibration Emissions)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Exposure to Cold Conditions									X			Potential to develop cold stress illnesses, Injuries and symptoms	1	5	5	1	5	5	1	5	5	5	
	Exposure to Noise												Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Fish Processing Plant – Dried Salted Fish Production Area																										
Activity: Preparation of Raw Fish for Salting	Use of Energy (Lighting, Air Conditioning Systems, Refrigeration Systems etc.)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Chlorinated Water)							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water (Effluent from Processing Area)			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5	5	
	Emissions to Air (Noxious Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Solid Waste (Fish Heads, Fins, Bones, Scales, Guts and Gills and other Inedible parts)												X	All Fish Waste is purchased for the production of fish meal by local protein recovery companies												-

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Staff Exposure to Noxious Odours									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Salting and Packing of Fish into Bins	Use of Energy (Lighting, Air Conditioning Systems, Refrigeration Systems etc.)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Sodium Chloride)											X		Use of Raw Materials	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noxious Odours)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Activity: Preparation of Salted Fish and Placement on Racks in Sunlight	Emissions to Air (Noxious Odours)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Discharge To Surface Water			X				X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5	5
Activity: Storage of Salted Fish in Refrigerated Container in Bins	Use of Energy (Operation of Refrigerated Container)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Noise and Vibration Emissions)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Exposure to Cold Conditions										X			Potential to develop cold stress illnesses, injuries and symptoms	1	5	5	1	5	5	1	5	5	5	5
Activity: Packaging of Dried Salted Fish	Use of Raw Materials (Packaging Materials)											X		Use of Raw materials (Packaging)	1	5	5	1	5	5	1	5	5	5	5
	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Generation of Solid Waste (Packaging Waste)		X									X	Depletion of landfill space	1	5	5	1	5	5	1	5	5	5	5
Activity: Cleaning and Sanitizing of Bins	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Disinfection and Sanitizing Agents)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Noxious Odours)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X				X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5	5
<#4 - Fish Processing Plant – Smoked Fish Production Area>																								
Activity: Preparation of Raw Fish for Brining	Use of Energy (Lighting, Air Conditioning Systems, Refrigeration Systems etc.)				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Chlorinated Water)						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Discharge to Surface Water (Effluent from Processing Area)			X					X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10
	Emissions to Air (Noxious Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Fish Heads, Fins, Bones, Scales, Guts and Gills and other Inedible parts)												X	All Fish Waste is purchased for the production of fish meal by local protein recovery companies										-
	Potential for Accidental Injury (Cutting Injuries)										X			Minor Cuts and Scrapes as a result of the use of knives and other sharp tools, sharp edges on process equipment such as stainless-steel basins.	2	5	10	2	5	10	2	5	10	10
	Potential for Accidental Injury (Fall Injuries)										X			Fall Injuries: Sprains and Fractures due to slippery floor; bruising	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Potential for Accidental Injury (Sting Injuries)									X			Stings from Fish Spines	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Injury									X			Back Strain and Sprains as a result of the performance of repetitive tasks	1	5	5	1	5	5	1	5	5	5
	Development of Infections and Allergic Reactions									X			Risk of Fungal and other pathogenic infections	1	5	5	1	5	5	1	5	5	5
Activity: Packing of Fish into Brining Tanks and Brining of Fish	Use of Energy				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Chemical (Sodium Chloride)											X	Use of Chemical Agents	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noxious Odours)				X								Nuisance	1	5	5	1	5	5	1	5	5	5
	Exposure to Noxious Odours										X		Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Activity: Extraction of Fish from Brining Tank and Transfer to Racks	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	2	5	10	2	5	10	2	5	10	10	
	Emissions to Air (Noxious Odours)					X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Generation of Solid Waste											X	X	Challenges with waste disposal	1	5	5	1	5	5	1	5	5	5	
	Exposure to Noxious Odours										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Activity: Smoking of Fish in Smoking Chamber	Use of Energy (Lighting, Operation of Smoking Chambers and associated equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Wood Chips)												X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	1	5	5
	Nuisance				X									Emissions of Heat	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to the Air (Exhaust Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface water (Effluent)			X					X					Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	1	5	5
Activity: Weighing, Packaging and Sealing Product in Cartoon Boxes	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Use of Raw Materials (Packaging Materials – Plastic, Cartoon Boxes)											X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste											X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5
	Health and Safety Risks												Injury through mishandling of equipment	1	5	5	1	5	5	1	5	5	5
Activity: Cleaning of Smoking Chambers	Use of Energy (Operation of Smoking Chambers)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Cleaning Agents)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Discharge to Water						X						Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)							
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)					
	Staff Exposure to Chemical Agents									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	1	5	5	5
Services: Collection of Fish Waste as a Raw Material by Protein Recovery Companies	Use of Fuel				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X				X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5	5
Activity: Cleaning of Containment Vessels	Emissions to the Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Emissions to the Air (Noxious Odour)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Use of Chemicals (Cleaning, Sanitizing and Disinfecting Agents)	X										X		Use of Chemical Agents	1	5	5	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X										Potential to cause changes to water quality	1	5	5	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)		
	Staff Exposure to Noxious Odours and Cleaning and Sanitizing Agents										X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	5
Activity: Operation of Power Generation Sets	Use of Non-Renewable Resources (Fossil Fuels)					X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X					X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Nuisance (Noise and Vibrations) -Sources: Engine Noise, Cooling Fan Noise, Alternator Noise, Induction Noise, Engine Exhaust, Structural/ Mechanical Noise				X										Disturbance to surroundings	2	5	10	2	5	10	2	5	10	10	10
	Nuisance (Discharge of Thermal Energy)				X										Disturbance to Surroundings	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Staff Exposure to Excessive Noise and Vibrations									X				Potential to cause temporary changes in hearing or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Storage of Fuel for Power Generation Systems in Aboveground Storage Tanks	Use of Fuel (Diesel)				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Potential for Accidental Discharge of Fuel from Storage Vessels onto land and into water		X	X										Potential to cause adverse changes to water quality in the river system	1	5	5	1	5	5	1	5	5	5
	Waste Water Discharge from Secondary Containment			X										Potential to cause adverse changes to water quality in the river system	1	5	5	1	5	5	1	5	5	5
	Nuisance (Emission of Fuel Vapours)				X									Changes to Local Air Quality	1	5	5	1	5	5	1	5	5	5
	Fire and Explosion Hazards										X		X	Potential for serious injury and property damage	3	5	15	3	5	15	3	5	15	15
Activity: Delivery and Transfer of Fuel to Aboveground Storage Tanks	Uncontrolled Release of Fuel to Surface Water Drain				X									Potential to cause adverse changes to water quality in the river system	1	5	5	1	5	5	1	5	5	5
	Fire and Explosion Hazards									X		X	Potential for serious injury and property damage	3	5	15	3	5	15	3	5	15	15	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect				
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)							
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)					
Industrial Refrigeration and Cold Storage Facilities																												
Compressor Room																												
Activity: Operation of Machinery in Compressor Rooms	Use of Energy (Operation of Circulating Pumps, Reciprocating and Screw Compressors, Lighting etc.)					X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1	
	Nuisance (Noise and Vibrations)			X											Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Use of Refrigerants (Ammonia)												X		Use of Industrial Gas	1	5	5	1	5	5	1	5	5	1	5	5	5
	Potential for Releases/ Leakage of Lubricating Oil		X	X											Contamination of soil and water	1	4	4	1	4	4	1	4	4	1	4	4	4
	Staff Exposure to Noise and Vibrations											X			Potential to cause temporary changes in hearing or permanent hearing loss	1	5	5	1	5	5	1	5	5	1	5	5	5
	Potential for Exposure to Ammonia Gas Releases											X			Health Effects: Burning of the Nose, Throat and Respiratory Tract; Respiratory Distress or Failure	3	5	15	3	5	15	3	5	15	3	5	15	15
Ice Plants																												

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of impact)	Probability	Significance (Severity X Probability)	Severity (of impact)	Probability	Significance (Severity X Probability)	Severity (of impact)	Probability	Significance (Severity X Probability)			
Activity: Operation of Ice Plants	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Treated Water supplied by Water Treatment Plant)							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Noise and Vibrations)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
Cold Storage Areas: High-Capacity Finished Product Holding Rooms, Blast Freezer Rooms, Plate Freezers and Process Cooling																										
Operation of Extractor Fan in Cold Storage Areas	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Noise and Vibrations)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Potential for Leakage of Ammonia/ Refrigerant	X												Release of odiferous compound to Air	1	3	3	1	3	3	1	3	3	1	3	3
	Staff Exposure to Noise and Vibrations										X			Potential to cause temporary changes in hearing or permanent hearing loss	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Refrigerated Containers																											
Operation of Refrigerated Containers	Use of Energy					X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Refrigerants												X		Use of Industrial Gas	1	5	5	1	5	5	1	5	5	1	5	5
	Potential for Leakage of Refrigerant						X								Release of odiferous compound to Air	1	3	3	1	3	3	1	3	3	1	3	3
	Nuisance (Noise and Vibrations)				X										Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Exposure to Cold Conditions											X			Health Effects: Frequent respiratory irritation, blanching of the hand	1	5	5	1	5	5	1	5	5	1	5	5
Refrigerated Trucks																											
Operation of Refrigeration Trucks	Use or Energy					X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Fuel (Operation of Vehicle driven system)					X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X										Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Exposure to Cold Conditions									X				Health Effects: Frequent respiratory irritation, blanching of the hand	1	5	5	1	5	5	1	5	5	5
Defrosting and Cleaning of Refrigeration Truck	Emissions to Air (Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Use of Cleaning Agents											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Discharges to Surface Water (Defrosting Process)			X										Potential to cause adverse changes to water quality if the quantum of organic matter discharged exceeds the carrying capacity of the ecosystem and/ or the dispersion capabilities of the river system	1	5	5	1	5	5	1	5	5	5
	Exposure to Cold Conditions									X				Health Effects: Frequent respiratory irritation, blanching of the hand	1	5	5	1	5	5	1	5	5	5
Water Abstraction, Treatment, Storage and Supply Section>																								
Well Water Treatment Process																								

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Extraction of Water from Artesian Wells and Transfer to Aeration Tower	Use of Energy (Operation of Water Pumps) *					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials/ Natural Resources (Water)						X					X	Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Emissions of Noxious Odors)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Nuisance (Emissions of Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise										X		Potential for the development of permanent hearing loss	1	5	5	1	5	5	1	5	5	1	5	5	5
Activity: Aeration and Filtration of Well Water and Transfer to Main Reservoir	Use of Energy (Operation of Water Pumps)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials/ Natural Resources (Charcoal, Stones and Boulders)											X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	1	5	5	5
	Use of Raw Materials/ Natural Resources (Well Water)						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Odours)				X								Emissions to Air (Chlorine Agents)	1	5	5	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Nuisance (Emissions of Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise													Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Transfer of Aerated and Filtered Water from Aeration Tower Tank to Reservoir and Chlorination	Use of Energy (Operation of Water Pumps)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water (Well Water)						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Nuisance (Emissions of Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Use of Chemicals (Chlorine)											X		Use of Raw materials	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Spillage/ Leakage of Chlorine	X	X											Health effects: Inhalation risks; corrosive to the eyes, skin and respiratory tract	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise													Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
	Potential for Serious Injury													Potential for Staff Fall from Height										
Activity: Transfer of Filtered and Chlorinated Water to High-Capacity Tanks for Storage	Use of Energy (Operation of Pumps)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
	Emission of Noise				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5	
	Use of Water Resources						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	
	Potential for Accidental Spillage/ Leakage of Water						X							Potential for the wastage of treated water resources	1	5	5	1	5	5	1	5	5	5	5	
	Staff Exposure to Noise													Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	5	
Activity: Transfer of Filtered Water from Storage Tanks to Ice Machines, Condensers and the Processing Plant via water supply lines	Use of Energy (Operation of Pumps)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Well Water)						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Nuisance (Emissions of Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5	5
	Potential for Accidental Spillage/ Leakage of Water						X							Potential for the wastage of treated water resources	1	5	5	1	5	5	1	5	5	5	5	5
Pump Room - Water Treatment Section																										
Activity: Operation of Water Pump Room	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Nuisance (Emissions of Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Power Generation System- Water Treatment Section																								
Activity: Operation of Backup Power Generation System	Use of Non-Renewable Resources (Fossil Fuels)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Nuisance (Noise and Vibrations)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Nuisance (Discharge of Thermal Energy)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise														Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Aboveground Fuel Storage - Water Treatment Section																										
Activity: Storage of Limited Quantity of Fuel (Aboveground)	Use of Fuel (Diesel)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Potential for Accidental Discharge of Fuel from Storage Vessels onto land and into water		X	X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	1	5	5
	Nuisance: Emissions to Air (Fuel Vapours)				X									Changes to local air quality	1	5	5	1	5	5	1	5	5	1	5	5
	Staff Exposure to Chemical Agents in Fuel Vapours											X		Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	1	5	5
Storage Areas																										
Gas Cylinder Storage Area																										
Activity: Handling, Storage and Use of Compressed	Use of Fuel					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Industrial Gas Cylinders: Oxygen, Propane, Ammonia, Carbon Monoxide	Potential for Emissions to the Air (Cylinder Constituents – Oxygen, Propane, Ammonia and Carbon Monoxide)	X												Changes to local air quality	1	1	1	1	1	1	1	1	1	1	1	1
	Fire and Explosion Hazard											X		Potential for serious injury, death and / or property damage	5	5	25	5	5	25	5	5	25	5	5	25
	Injuries associated with improper handling of gas cylinders										X	X		Health Impacts: potential for accidental injury	4	5	20	4	5	20	4	5	20	4	5	20
Activity: Storage of Fuel in Fuel Storage Vessels	Use of Fuel (Operation of Fuel Tanker)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)													Changes to Air Quality – Local												
	Emissions to Air (Fuel Vapours)	X			X									Nuisance	1	5	5	1	5	5	1	5	5	1	5	5
	Nuisance (Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Potential for the Accidental Leakage/ Spillage of Fuel to Water												X	Potential to cause adverse changes to water quality of the river system	3	2	6	3	2	6	3	2	6	3	2	6

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Discharges to Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
	Generation of Hazardous Waste													Challenges with the disposal of hazardous waste	1	5	5	1	5	5	1	5	5	5	5
	Fire and Explosion Hazard											X	Potential for serious injury, death and / or property damage	5	5	25	5	5	25	5	5	25	25	25	
Activity: Transfer of Fuel from Fuel Tanker to Small Fuel Storage Vessel	Use of Energy (Operation of Transfer Pump)			X										Potential to cause adverse changes to water quality of the river system	3	2	6	3	2	6	3	2	6	6	
	Emissions to Air (Fuel Vapours)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)											
	Potential for Uncontrolled Release of Fuel to Surface water			X					X					Potential for the contamination/ pollution of surface water											
	Fire and Explosion Hazard											X	Potential for serious injury, death and / or property damage	5	5	25	5	5	25	5	5	25	25	25	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)							
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)					
Activity: Transfer of Fuel from Small Fuel Storage Vessel to Fuel Tanker Wagon	Use of Fuel				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Fuel Vapours)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5	5
	Potential for Uncontrolled Release of Fuel to Surface Water		X											Potential to cause contamination of soil/ land	5	1	5	5	1	5	5	5	1	5	5	5	5
	Fire and Explosion Hazard												X	Potential for serious injury, death and / or property damage	5	5	25	5	5	25	5	5	25	5	5	25	25
Lumberyard																											
Activity: Storage and Handling of Lumber	Use of Energy (Operation of Circular Saws, Perimeter Lighting etc.)				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1	1
	Generation of Solid Waste												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	1	5	5	5
	Emissions to the Air (Dust)	X												Changes to local air quality	1	5	5	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Use of Chemicals (Pesticides)											X	Use of Materials (Chemicals)	1	5	5	1	5	5	1	5	5	5	
	Nuisance (Emission of Odours – Chemical Agents and Wood)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Generation of Hazardous Waste (Containers for Pesticides etc.)											X	Challenges with the safe disposal of hazardous wastes	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injuries (Lifting Injuries)									X			Potential for serious injury	1	5	5	1	5	5	1	5	5	5	
Main Storage Bond																								
Activity: Storage and Handling of Materials from Hardware Storage Bond	Use of Energy (Lighting etc.)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Fuel (Operation of Fork Lifts etc.)					X							Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	
	Emissions to Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Emissions to Air (Combustion Gases)	X											Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
															1	5	5	1	5	5	1	5	5	
	Potential for Accidental Injuries (Lifting Injuries)										X			Potential for serious injury	1	5	5	1	5	5	1	5	5	5
Storage Yard																								
Activity: Storage and Handling of Articles in Open Area	Nuisance (Visual Impact)				X									General Aesthetics of Area	1	5	5	1	5	5	1	5	5	5
	Use of Energy (Lighting)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
Boat Building Section																								
Activity: Transport of Purchased Wood to Storage Area	Use of Fuel (Operation of Hoisting Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)		X											Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Collision with Boat Building Staff										X		X	Health and Safety: Accidental Injury and possibly death	2	4	8	2	4	8	2	4	8	8
	Potential for Accidental Injuries (Lifting Injuries)										X			Potential for serious injury	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Activity: Storage of Timber in Outdoor Storage Area	Use of Insecticides												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Emissions to the Air (Pesticide Residues)	X												Emissions to the Air (insecticide fumes)	1	5	5	1	5	5	1	5	5	5	5
	Pollution of Soil (Pesticide Residues)		X											Potential for contaminating soil	1	3	3	1	3	3	1	3	3	3	3
	Generation of Hazardous Waste (Pesticide Containers)													Challenges with the safe disposal of pesticide containers	1	5	5	1	5	5	1	5	5	5	5
Activity: Construction of Wooden Fishing Vessels	Use of Raw Materials (Timber)												X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5	5
	Use of Fuel (Operation of Chainsaws)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Use of Energy (Lighting, Operation of Electrical Saw and Planers)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Potential for Accidental release of fuel from containment vessels		X	X										Potential to cause contamination of soil/ land	1	3	3	1	3	3	1	3	3	3	3
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to Air (Dust/ Particulates)	X												Changes to local air quality	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Nuisance (Visual Impacts)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Wood Shavings)											X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	
	Fire and Explosion Hazard									X		X	Potential for serious injury, death and / or property damage	3	5	15	3	5	15	3	5	15	15	15	
	Potential for Accidental Injury (Slips and Falls)									X			Health Effects: Serious injury or death	3	2	6	3	2	6	3	2	6	6	6	
	Staff Exposure to Particulates									X			Health effects: Potential for the development/ aggravation of respiratory ailments	2	2	4	2	2	4	2	2	4	4	4	
	Staff Exposure to Excessive Sunlight (Heat Stress)									X			Health Effects: Heat Stress	1	3	3	1	3	3	1	3	3	3	3	
Staff Facilities																									
Male and Female Locker Rooms; Washroom and Toilets, Bathroom Areas, Long Booths and Overcoat Holding Areas																									

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Provision of Sanitation and other Changing Facilities	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Disinfectants, Soaps, Detergents, Bleach)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	5	5	5	5	5	5	5	5	5
Laundry Room: Industrial Washing Machines and Dryers																										
Activity: Provision of Cleaning Services	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Detergents, Bleach, Fabric Softeners etc.)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	1	5	5

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(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
Canteens Snackettes, Lunch Rooms																								
Services: Provision of Catering Services	Use of Energy (Use of Lighting and Food Warning Appliances)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Gas (Propane)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Disinfectants, Rodenticides)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5
	Discharges to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Generation of Hazardous Waste (Used Cooking Oil)											X	Challenges with the disposal of hazardous waste	1	4	4	1	4	4	1	4	4	4	
Main Food Preparation Area																								

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Operation of Kitchen / Food Preparation Area	Use of Energy (Use of Lighting and Food Warming Appliances)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Gas (Propane)					X								Use of Fuel	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Disinfectants, Cleaners)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Solid Waste												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Hazardous Waste (Used Cooking Oil)													Disposal of hazardous waste	1	4	4	1	4	4	1	4	4	4	4	4
Services: Provision of Rodent Control Services	Use of Bait Stations for Insect and Rodent Control (Pesticides)												X	Use of Chemicals (Poisonous substances)	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Solid Waste (Rodents and Pest Carcasses)												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Hazardous Waste (Pesticide Bait Stations)												X	Re-use of bait stations												
Administrative Offices																										

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(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Provision of Administrative and other Services	Use of Energy (Operation of Lighting and Office Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Paper etc.)											X		Use of Raw Materials	1	5	5	1	5	5	1	5	5	1	5	5
	Use of Pesticides (Rodenticides and Insecticides)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste (Office Wastes etc.)											X		Depletion of space in landfill	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	1	5	5
Other Offices: Nurses Office																										
Activity: Provision of Medical Services to Staff	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Generation of Solid Waste											X		Depletion of space in landfill	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharges to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Generation of Hazardous Medical Waste													Disposal of hazardous waste materials	2	5	10	2	5	10	2	5	10	10
Car Parking Area																								
Provision of Car Parking Facilities on Site	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Emissions to the Air (Dust)	X												Upwelling of particulates/ dust	1	5	5	1	5	5	1	5	5	5
	Leakage of Oil (Parked Vehicles)													Generation of hazardous materials	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water (Runoff)			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
Onsite Drainage System																								
Activity: Operation of Submersible Pumps	Use of Energy				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1

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	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Odour)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
Fire Prevention and Control System																								
Activity: Operation of High-Pressure Water System	Use of Energy (Operation of High-Capacity Pumps)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	1	1	1	1	1	1	1	1	1
Services: Transportation and Distribution of Goods and Products																								
Vehicle Fleet Operations	Use of Fuel					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5

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	Generation of Noise				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
<MAINTENANCE PHASE>																									
Trawling Vessel Fleet Maintenance in Dry Dock>																									
Dry Dock Maintenance of Vessels: Hull Cleaning: Washing, Sand Blasting and Painting																									
Activity: Operations of Floating Dry Dock Facilities (Dry Dock #1, 2)	Use of Fuel (Operation of Portable Sound Attenuated Power Generation Set)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Use of Energy (Operation of Winches, Air Compressors, Dewatering Pumps)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Intake of Water from Demerara River into floodable chambers of dry dock												X	Use of water from river system	1	1	1	1	1	1	1	1	1	1	1
	Discharge of Water from floodable chambers			X									X	Discharge to water to river system	1	5	5	1	5	5	1	5	5	5	5

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	Potential for release of fuel/ oil residue to water			X										Potential for changes to water quality	2	5	10	2	5	10	2	5	10	10	
	Staff Exposure to Noise Emissions													Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	
Activity: Piloting of Boat into Position in Lowered Dry-dock Facility	Use of Fuel (Operation of Trawling Vessel)						X							Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	
	Emissions to the Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
Activity: Hull Cleaning (Washing)	Use of Fuel (Operation of Pressure Washer, Industrial Engine Powered Mobile Compressor, Water Pump)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Cleaning Agents)												X	Use of Materials (Cleaning Agents)	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Barnacle)											X		Disposal in river system	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	2	4	8	2	4	8	2	4	8	8	8
	Staff Exposure to Noise Emissions									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Chemical Emissions									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10	10

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
Activity: Hull Cleaning (Abrasive Blasting)	Use of Fuel (Operation of Industrial Engine Powered Mobile Compressor, Water Pump)				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Sand)											X	Use of Raw Materials (Sand)	1	5	5	1	5	5	1	5	5	1	5	5
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Cleaning Agents)											X	Use of Materials (Chemicals)	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X				X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to Air (Dust/ Particulates)	X								X			Changes to local air quality and health effects due to exposure	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to Air (Noise)				X					X			Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste (Barnacle and Grit)											X	Disposal into river system	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface Water			X					X				Potential to cause adverse changes to water quality of the river system	2	5	10	2	5	10	2	5	10	2	5	10

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)
	Staff Exposure to Noise Emissions										X			Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness ; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10
Activity: Hull Cleaning (Hull Painting)	Use of Fuel (Operation of Industrial Engine Powered Mobile Compressor, Paint Spraying Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Paints)												X	Use of Materials (Chemicals)	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide) Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Anti-Fouling Paint Residues)	X								X				Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Generation of Hazardous Waste (Empty Paint cans etc.)													Challenges with the disposal of hazardous waste materials	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste											X		Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water (Paint Residues – Water)			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise Emissions									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Chemical Agents									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
Activity: Opening and Closing of Sea Chest of Vessel	Use of Fuel (Acetylene and Oxygen Gas)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste (Metal Fragments)												X	Recycling/ Reuse of Materials												
	Potential for Fire (Hot works)													Property Damage, Serious Injury and Loss of Life	4	4	16	4	4	16	4	4	16	4	4	16
	Potential for Accidental Injury (Due to Falling of Load													Property Damage, Serious Injury and Loss of Life	4	4	16	4	4	16	4	4	16	4	4	16
Activity: Cleaning of Sea Chest	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Fuel (Operation of Pressure Washer)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Cleaning Agents)												X	Use of Materials (Chemicals)	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Combustion Gases)	X				X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste											X	Depletion of landfill space	1	5	5	1	5	5	1	5	5	5	
	Discharge to Surface Water			X									Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	
	Staff Exposure to Chemical Agents									X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10	
Activity: Painting of Sea Chests	Use of Fuel (Operation of Industrial Compressor and Spraying Equipment)				X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	
	Use of Chemicals (Paint)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	
	Emissions to Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)		
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5	
	Emissions to Air (Paint Residues)	X			X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Solid Waste												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Hazardous Waste													Challenges with the disposal of hazardous waste materials	1	5	5	1	5	5	1	5	5	5	5	
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	5	10	2	5	10	2	5	10	10	10	
Activity: Replacement of Sacrificial Anodes on Vessel Hull	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Generation of Solid Waste (Corroded Anodes, Packaging Wastes)											X	Recycling/ Reuse of Materials												
Activity: Vessel Engine Overhaul	Use of Energy				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	
	Use of Chemicals (Degreasers)											X	Use of Materials (Chemicals)	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to Air (Chemical Agents in Degreasers)	X				X							Changes to local air quality	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid waste (Obsolete parts, Packaging wastes)											X	Depletion of landfill space	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Hazardous Waste (Spent Lubricating Oil)												Challenges with the disposal of hazardous waste	1	4	4	1	4	4	1	4	4	1	4	4
	Discharge to Surface Water			X									Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	1	5	5
	Potential for Accidental Injury (Due to Falling of Load)										X	X	Property Damage, Serious Injury and Loss of Life	4	5	20	4	5	20	4	5	20	4	5	20
Activity: Operations within vicinity of Welding Workshop	Use of Energy				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect				
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)			
	Use of Fuel (Welding Gases)					X									Use of Industrial Gases	1	1	1	1	1	1	1	1	1	1	1	1
	Use of Water (Cooling of Metal Objects)							X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X													Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions to Air (Noise)				X										Disturbance to surroundings	1	5	5	1	5	5	1	5	5	1	5	5
	Emissions of Heat				X										Changes to local air temperature	1	5	5	1	5	5	1	5	5	1	5	5
	Generation of Solid Waste (Metal fragments)												X		Challenges with disposal of waste material	1	5	5	1	5	5	1	5	5	1	5	5
	Discharge to Surface Water			X											Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	1	5	5
	Staff Exposure to Heat Emissions during Welding										X				Potential for the development of heat stress	1	5	5	1	5	5	1	5	5	1	5	5
Activity: Operation of Carpenter Workshop	Use of Energy					X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Dust)	X			X										Air pollution: dust	1	5	5	1	5	5	1	5	5	1	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Use of Chemicals (Paints etc.)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Hazardous Waste (Paint Cans)												Challenges with the safe disposal of hazardous waste	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Solid Waste (Wood Shavings etc.)											X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	
	Potential for Accidental Injury												Property Damage, Serious Injury and Loss of Life	1	5	5	1	5	5	1	5	5	5	5	
	Exposure to Particulates									X			Potential for the development of respiratory ailments	1	5	5	1	5	5	1	5	5	5	5	
Activity: Operation of Net Repair Workshop	Use of Energy (Lighting)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	
	Use of Raw Materials (Twine)											X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Solid Waste (Residues from Net, Twine)											X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5	
Activity: Transport of Bridles (Wire Rope) to Bridle Repair Workshop	Use of Fuel (Hoisting Equipment)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	

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(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)											X	Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Potential for Vehicular Accidents on site									X		X	Health and Safety Impacts – Serious Injury and/ or loss of life	2	3	6	2	3	6	2	3	6	6	
Activity: Operation of Bridle Repair Workshop	Use of Energy					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Materials (Wire Rope)											X	Use of Materials	1	5	5	1	5	5	1	5	5	5	
	Open Storage of Tar											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	
	Emissions to the Air (Tar Fumes)	X								X		Changes to local air quality and health effects due to exposure	1	5	5	1	5	5	1	5	5	5		
	Spillage of Hazardous Chemical		X	X									Potential for Contamination of land and water	1	5	5	1	5	5	1	5	5	5	
	Potential for Discharge of Residue to Surface Water			X									Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Generation of Solid Waste (Wire, Cardboard Boxes with Tar Residue)		X									X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	
Activity: Operation of Vehicle Maintenance Workshop	Use of Energy				X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	
	Emissions to the Air (Noise)				X								Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Emissions to the Air (Combustion Gases)	X				X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	
	Use of Chemicals (Degreaser, Fuel)											X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	
	Emissions to Air (Fuel Fumes)	X			X								Changes to local air Quality	1	5	5	1	5	5	1	5	5	5	
	Generation of Solid Waste (Packaging Wastes, Obsolete Mechanical Parts; Damaged Oil Filters)											X	Challenges with the safe disposal of waste materials	1	5	5	1	5	5	1	5	5	5	
	Generation of Hazardous Waste (Fuel Residue, Oil Residues)												Challenges with the disposal of hazardous materials	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Nuisance (Odours, Oil Residues)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	
	Potential for Accidental Injury due to equipment failures or improper use									X		X		Property Damage, Serious Injury and Loss of Life	2	5	10	2	5	10	2	5	10	10	
	Staff Exposure to Chemical Agents (Degreasers, Diesel etc.)									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	
Activity: Transfer of Caterpillar Engines to and From Workshop	Use of Fuel					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect		
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)						
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)				
	Emissions to the Air (Noise and Vibrations)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5		
	Potential for Accidental Injury									X		X		Property Damage, Serious Injury and Loss of Life	1	5	5	1	5	5	1	5	5	5		
Activity: Operation of Caterpillar Engine Repair Workshop	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1	
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1	
	Use of Chemicals (Degreasing Agents, Diesel)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5	
	Storage of Lubricating Oil	X		X										Potential for spillage of Lubricating oil	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Solid Waste (Packaging (Plastic, Cardboard) Obsolete Parts, Oil Filters etc.)											X		Challenges with safe disposal of waste materials	1	5	5	1	5	5	1	5	5	5	5	
	Generation of Hazardous Waste (Oil)													Generation of Hazardous Waste	1	5	5	1	5	5	1	5	5	5	5	
	Discharge to Surface Water (Rinse water)			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5	
	Potential for Accidental Injury due to equipment failures or improper use										X		X		Property Damage, Serious Injury and Loss of Life	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Staff Exposure to Chemical Agents (Degreasers, Diesel etc.)									X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	5
	Fuel and Explosion Hazards									X		X	Property Damage, Serious Injury and Loss of Life	3	5	15	3	5	15	3	5	15	15	
Activity: Maintenance/ Repair of Fuel Pumps in Repair Workshop	Use of Energy				X	X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Fuel				X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Fuel Fumes)	X		X									Changes to local air quality	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Packaging Wastes (Cardboard, Plastics, obsolete Parts)											X	Challenges with the disposal of waste materials	1	5	5	1	5	5	1	5	5	5	5
	Generation of Hazardous Wastes												Challenges with the safe disposal of hazardous materials	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Chemical Agents (Degreasers, Diesel etc.)									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
	Fuel and Explosion Hazards									X		X		Property Damage, Serious Injury and Loss of Life	3	5	15	3	5	15	3	5	15	15
Activity: Fabrication and Machining of Heavy Duty Parts in Machining Workshop	Use of Energy (Operation of Machining Equipment, Lighting etc.)				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Odours)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Metal fragments, Iron Filings etc.)												X	Challenges with the disposal of waste materials	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Storage of Petroleum Products (Small Quantities)	X		X										Potential for spillage and contamination of soil and receiving water body	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Injury due to equipment failures or improper use									X		X	Property Damage, Serious Injury and Loss of Life	2	5	10	2	5	10	2	5	10	10	
	Staff Exposure to Chemical Agents (Degreasers, Diesel etc.)									X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	
	Staff Exposure to Noise and Vibrations									X			Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	
Activity: Periodic/ Non-Production Day Cleaning of Fish Processing Plant and Associated Facilities (Holding Rooms/	Use of Energy Operation of Compressor and Foaming System)					X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
Freezers, Sanitary Block (Locker Room, Bathroom, Toilet, Sinks) and Canteen	Use of Cleaning and Disinfecting Agents (200 ppm - Chlorine Solution, Extreme II- Heavy Duty Alkaline Cleaner; Caustic Soda; Detergent etc.)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Chemical Agents)	X												Emissions to Air	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Debris)												X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	5
Activity: Closed Season Cleaning of Shrimp Processing Plant and Associated Facilities	Use of Energy (Equipment, Lighting, Compressors)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
(Holding Room and Blast Freezers; Sanitary Block (Locker Room, Bathroom, Toilet, Sinks) and Canteen	Use of Fuel (Pressure Washers)				X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to the Air (Combustion Gases)	X											Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Use of Water						X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals	X			X					X			Use of Resources	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Chemical Agents) Use of Cleaning and Disinfecting Agents (Chlorine Solution – 200 ppm; Breeze Soap Powder; Kon Kleen; ChemStation Chlorinated Foam Cleanser; Neutra Alk; ChemSan Sanitizer; Formula 88 Multipurpose Degreaser, Caustic Soda	X			X								Changes to local air quality	2	5	10	2	5	10	2	5	10	10	10
	Generation of Solid Waste											X	Depletion of space in landfill	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Chemical Agents									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Maintenance of Equipment in Compressor Room: Compressors	Use of Energy (Operation of Equipment)					X	X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Degreasers etc.)											X		Use of Materials (Chemicals)	1	5	5	1	5	5	1	5	5	5
	Use of Lubricating Oil					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Generation of Solid Waste (Air Filter Cartridge; Obsolete Oil Filters, Oil Separator Filter; Flexible Hoses; Worn Belts, Copper Pipes)												X	Challenges with disposal of waste materials	1	5	5	1	5	5	1	5	5	5	5
	Generation of Hazardous Waste (Spent Lubricating Oil)													Challenges with disposal of waste materials	1	5	5	1	5	5	1	5	5	5	5
	Generation of Liquid Waste (Condensate from Compressor etc.)			X										Potential to cause adverse changes to water quality of the river system	1	3	3	1	3	3	1	3	3	3	3
	Accidental Release of Lubricating Oil		X	X									X	Contamination of land and surface water	1	4	4	1	4	4	1	4	4	4	4
	Release of Refrigerant (Anhydrous Ammonia) – Potential	X									X		X	Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	2	4	8	2	4	8	2	4	8	8	8
Activity: Maintenance of Ice Making Machines in Plants	Use of Energy (Operation of Water Pump)				X									Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Use of Chemical (Food Grade Ice Machine Cleaner, Household Bleach, ,)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Use of Oil (Food Based Edible Grease, Standard Bearing Oil)				X									Use of Materials	1	5	5	1	5	5	1	5	5	5	5
	Generation of Hazardous Waste (Spent Lubricating Oil)													Challenges with the disposal of lubricating oil	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Obsolete Parts etc.)												X	Recycling/ Reuse of Materials	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	5
Activity: Maintenance of Cold Storage Facilities	Use of Industrial Gases (Acetylene)				X									Use of Industrial Gases	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect			
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)		
	Emissions to Air (Carbon Dioxide)	X					X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Use of Raw Materials (Insulation, Copper tubing, Pro Silver Filler Material)														Use of Raw Materials	1	5	5	1	5	5	1	5	5	5	5
	Use of Water							X							Depletion of Water Reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Cleaning Agents	X		X									X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5	5
	Potential for Accidental Release of Refrigerant	X					X							Contribution to ozone depletion	1	5	5	1	5	5	1	5	5	5	5	5
	Generation of Solid Waste (Obsolete Parts)												X	Challenges with disposal of waste materials	1	5	5	1	5	5	1	5	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Maintenance of Company Owned Refrigerated Containers and Trucks	Use of Industrial Gases (Acetylene and Oxygen)					X								Use of Industrial Gases	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Carbon Dioxide)	X												Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Use of Raw materials (Pro Silver Filler Material)												X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5
	Use of Cleaning Agents	X		X									X	Potential to cause changes to air quality	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Release of Refrigerant	X												Pollution of air quality	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Obsolete Parts)												X	Challenges with disposal of waste materials	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
Activity: Maintenance of Air Conditioning Systems	Use of Energy (Operation of Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Fuel (Welding Gases)					X								Use of Industrial Gases	1	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Copper Tubing)												X	Use of Raw Materials	1	5	5	1	5	5	1	5	5	5	5
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Refrigerants (R-410 A Gas, R-22 Gas)												X	Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Emissions to the Air	X												Air Pollution	1	5	5	1	5	5	1	5	5	5	5
	Potential for Accidental Release of Refrigerant	X					X							Potential for Pollution of Air	1	5	5	1	5	5	1	5	5	5	5
	Use of Pesticides												X	Use of Chemicals, Emissions to the Air	1	5	5	1	5	5	1	5	5	5	5
	Use Chemicals (Soap, Coil Cleaning Agents)												X	Use of Chemicals, Emissions to the Air	1	5	5	1	5	5	1	5	5	5	5
	Generation of Solid Waste (Obsolete Parts etc.)												X	Challenges with disposal	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Injury (Falls from Height)									X				Serious Injury and Loss of Life	3	5	15	3	5	15	3	5	15	15
Activity: Discharge of Raw Water, Settling and Aerator Tanks	Discharge of Water from Raw Water Tank, Settling Tank and Aerator Tank			X					X					Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
Activity: Cleaning of Inner Walls of the Raw Water, Settling and Aerator Tanks	Use of Fuel (Operation of Heavy-Duty Equipment)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X								X				Changes to Local Air Quality – Short Term	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)				X					X				Nuisance	1	5	5	1	5	5	1	5	5	5
	Use of Chemicals (Chlorine Solution)	X										X		Emissions to the Air	1	5	5	1	5	5	1	5	5	5
	Discharge of Effluent			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Injury (Slips/ Falls)										X			Serious Injury and Loss of Life	2	5	10	2	5	10	2	5	10	10

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Staff Exposure to Noise									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Chemical Agents									X				Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Removal and Cleaning of Charcoal Bags	Use of Fuel (Operation of Heavy-Duty Equipment)				X									Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Carbon Dioxide)	X				X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)			X						X				Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Rust Ladened Charcoal)											X		Depletion of Landfill space	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Pollution of Land (Ferrous Material)		X											Contamination of soil	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X				X						Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Noise									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5	5
Activity: Cleaning of Gravel Layers of Settling tank	Use of Fuel (Operation of Pressure Washer)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Use of Water							X						Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Discharge to Surface Water (Rust Ladened Runoff)			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Generation of Solid Waste (Debris)												X	Depletion of landfill space	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise									X				Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5
Activity: Pressure Washing of Aerator Tower	Use of Fuel (Operation of Pressure Washer)					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Combustion Gases)	X					X							Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X				X						Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
Activity: Replacing of Charcoal Bags	Use of Fuel					X								Depletion of Non-Renewable Fossil Fuel Resources	1	1	1	1	1	1	1	1	1	1
	Use of Raw Materials (Charcoal)											X		Use of Raw Materials	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to the Air (Combustion Gases)	X				X								Air Pollution: Exhaust Gas Emissions (Carbon Dioxide, Nitrogen Oxides and Carbon Monoxide)	1	5	5	1	5	5	1	5	5	5	5
	Potential for Accidental Injury									X				Serious Injury and Loss of Life and Property Damage	1	5	5	1	5	5	1	5	5	5	5
	Emissions to Air (Noise)				X						X			Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
Activity: Application of Chlorine over Filter Bed and Aerator	Use of Chemicals (Sodium Hypochlorite)	X												Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Emissions to the Air	X									X			Emissions to the Air and Health Effects	1	5	5	1	5	5	1	5	5	5	5
	Staff Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5	5
Activity: Turn on Water in the Aerator Tower	Use of Energy (Operation of Water Pump)					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)					
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)			
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5	5
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
Activity: Emptying and Cleaning of the Old Reservoir	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Chlorine)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
Activity: Emptying and Cleaning of the Filtrated Tanks (No.1 and 2)	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemicals (Chlorine)											X		Use of Chemicals	1	5	5	1	5	5	1	5	5	5	5
	Discharge to Surface Water			X										Potential to cause changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5	5
Activity: Maintenance of Power Generation Systems	Use of Energy					X								Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1	1
	Use of Chemical Agents (Diesel, Degreasers)					X								Use of Resource	1	5	5	1	5	5	1	5	5	5	5
	Use of Lubricating Oil					X								Depletion of Non-Renewable Resources (Fossil Fuel)	1	1	1	1	1	1	1	1	1	1	1

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Generation of Hazardous Waste (Spent Lubricating Oil)													Challenges with the safe disposal of hazardous waste materials	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental leakage of oil during Oil and Fuel during change procedure		X	X										Contamination of Soil (Land) and water (Potential)	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X										Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste			X								X		Recycling/ Reuse of Materials	1	5	5	1	5	5	1	5	5	5
	Exposure to Chemical Agents										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
Activity: Maintenance of Building and other onsite structures	Use of Energy					X	X							Depletion of Non-Renewable Fossil Fuel Resources (Indirect)	1	1	1	1	1	1	1	1	1	1
	Emissions to Air (Noise)				X									Disturbance to surroundings	1	5	5	1	5	5	1	5	5	5

(A) Activity, Products or Services	(B) Aspects													(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect
(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)				
														Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)		
	Emissions to Air (Compression Gases)		X											Air Pollution	1	5	5	1	5	5	1	5	5	5
	Use of Water						X							Depletion of water reserves	1	1	1	1	1	1	1	1	1	1
	Use of Materials (Cement, Sand and Stone, Wood, Metal, Cement etc.)											X		Use of Resources	1	5	5	1	5	5	1	5	5	5
	Use of Chemicals (Paints, Thinners)					X								Use of Resources	1	5	5	1	5	5	1	5	5	5
	Emissions to Air (Dust)	X												Air Pollution	1	5	5	1	5	5	1	5	5	5
	Generation of Solid Waste (Wood Shavings, Metal fragments etc.)		X										X	Depletion of space in landfill sites	1	5	5	1	5	5	1	5	5	5
	Generation of Hazardous Waste (Empty Paint and Thinners Containers)													Challenges with the safe disposal of hazardous waste materials	1	5	5	1	5	5	1	5	5	5
	Discharge to Surface Water			X					X					Potential to cause adverse changes to water quality of the river system	1	5	5	1	5	5	1	5	5	5
	Potential for Accidental Injury (Falls from Height)										X			Serious Injury and Loss of Life	3	5	15	3	5	15	3	5	15	15

(A) Activity, Products or Services	(B) Aspects												(D) Summary of Predicted Impacts	(E) Severity of Impact									Significant Aspect	
	(C) Categories of Impacts	Air Pollution	Land Pollution	Water Pollution	Nuisance	Depletion of Natural Resources/ Materials	Global Warming and Ozone Depletion	Depletion of Ground Water Reserves	Loss of Ecosystems/ Biodiversity Habitat	Loss of Amenity	Human Health	Indirect Impacts	Other Impacts		Normal			Abnormal (e.g., holidays, shift changeover, maintenance, bad weather)			Emergency (Fire, Flood, Power Failure)			
															Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability	Significance (Severity X Probability)	Severity (of Impact)	Probability		Significance (Severity X Probability)
	Exposure to Chemical Agents (Paints, Thinners etc.)										X			Health Effects: Potential to cause eye, nose, throat and lung irritation; nauseousness; burning sensations that lead to coughing, wheezing and other breathing problems	1	5	5	1	5	5	1	5	5	5
	Staff Exposure to Noise										X			Potential for the development of temporary or permanent hearing loss	1	5	5	1	5	5	1	5	5	5

4.4 Potential Significant Environmental Impacts

This section of the EAMP identifies as well as provides a brief analysis of the potential significant environmental impacts as identified in the above matrix as originating from activities carried out by PSI – Seafood Processing Complex during the operational and maintenance phases.

4.4.1 Environmental Aspects and Impacts

Given the nature of the range of activities that are to be performed at Pritipaul Singh Investments Incorporated – Seafood Processing Complex in the production of Seafood Products, the following significant environmental impacts are likely to arise during the lifecycle (i.e., Operation and Maintenance phases) of the Project: (a) Emissions to the Air; (b) Noise and Vibration Impacts; (c) Thermal/ Energy Emissions, (d) Releases/ Discharges to Land/ Soi, (e) Discharges to Surface Water; (f) Waste Management Impacts arising from the generation and disposal of Solid, Liquid and Hazardous Wastes; (g) Impacts to Biodiversity; (h) Energy Consumption ; (i) Water Resource Consumption. and (j) other environmental conditions or system impacts such as Occupational health and safety hazards.

The sub-sections which follow will provide additional detail on each of the categories of identified significant environmental impacts.

4.4.1.1 Air Emission Impacts

Air pollution is defined by Canter (1996) as the presence in the external atmosphere of one or more contaminants, or combinations thereof, in such quantities and of such duration as may be, or may tend to be injurious to human health, plant or animal life, or property (materials), or which unreasonably interferes with the comfortable enjoyment of life, or property, or the conduct of business.

Given the nature of the project location and the activities that will be performed on site in the execution (performance) of critical and non-critical functions, it has been envisaged that there will be emissions to the air in the form of dust/ particulate matter and gaseous pollutants.

These emissions (if unabated/ unmitigated) have the potential to negatively affect the quality of air in the operational areas of the facility as well as areas proximal to the facility. The sub-sections which follow will provide additional information.

4.4.1.1.1 Dust/ Particulate Matter

Emissions to the Air in the form of Dust and Particulate matter are likely to originate from a number of identified point and non-point (diffuse sources) in and around the facility during the operational and maintenance phases. **(See Table 12 below)**. During the operational and maintenance phases, dust and particulate emissions are likely to come from the following identified sources.

Table 12: Emissions to the Air: Dust and Particulate Matter

Sources	Pollutants	Phases	
		Operational	Maintenance
1. All classes of vehicles entering and/or leaving the compound with mud on wheels, and tracking dust onto or off the site (Mobile Sources)	PM	X	X
2. Particulate emissions from the Exhaust of Marine Vessel Fleet (Mobile Source)	PM	X	
3. Debris falling off of trailers which arrive onsite (Mobile Source)	PM	X	
4. Vehicles and Equipment moving around the site kicking up dust (Fugitive Source)	PM	X	X
5. Particulate Emissions from the exhaust of Forklifts (Mobile Source)	PM	X	X

Sources	Pollutants	Phases	
		Operational	Maintenance
6. Particulate Emissions from the Exhaust of Power Generation System (Point Source)	PM		
7. Particulate Emissions from Lathe Machines (Point Source)	Indoor PM	X	X
8. Particulate Emissions from Band Saw (Point Source)	Indoor PM	X	X
9. Paved/ Unpaved Surfaces onsite (Area Sources)	PM	X	X
10. Construction material stockpiles around the complex	PM	X	X
11. Dust Emissions from the Preventative Maintenance Activities performed of All Heavy-Duty Equipment, Systems and Structures utilized onsite (Point Source)	PM		X
12. Internal/ External Cleaning /Maintenance activities performed on All Building Structures (Fugitive Emissions)	PM		X

ANALYSIS

- Particulate emissions to the air from the facility are likely to originate from a number of anthropogenic point and non-point sources identified at **Table 12 above**.

Point Sources

- Exhaust gases of the Power Generation System that is continuously operated onsite results in the emissions of particulate matter to the air. Each of the identified pieces of equipment are equipment with emission control systems
- Exhaust gases originating from the marine vessel fleet may result in emissions of particulate matter to the air.
- Metalworking lathe machine operations result in the emission of metal particulates. However, each of the operated units utilizes metalworking fluids to cool and lubricate metal components. This fluid also functions as an active dust suppressant.
- The Horizontal Band Saw that is used in the performance of cutting operations, can result in the emissions of metal particulates to the air. The unit that is however, operated onsite utilizes a cooling oil which cools and lubricates the cutting blade. This fluid also functions as an active dust suppressant.
- Abrasive blasting operations can result in the emissions of particulates to the atmosphere. However, this dustless blasting system prevents any significant particulate emissions into the atmosphere.

Non-Point Sources

- Vehicles supplying seafood and other essential materials and those used for transporting staff, vendors and other third-party contractors to the project location inadvertently bring dust to the location from the public thoroughfare.
- Paved and Unpaved traversable surfaces can oftentimes be a source of particulates that are suspended in the air due to the influence of wind.
- Staff, Raw material and raw seafood product Suppliers and other third-party contractor vehicles and the company owned vehicle movements on site over paved and unpaved surfaces within the compound during extremely dry periods result in the upwelling and suspension of dust particles in the air.
- Dust generating cleaning and preventative maintenance activities conducted during the maintenance phase can also result in dust/particulate emissions to the air.

Owing to the fact that a number of measures have been adopted by Pritipaul Singh Investments Incorporated for (i) controlling and minimizing emissions at the source, (ii) for control of pathway transmission, and (iii) receptor control measures for particulate matter impacts are likely to be of **Medium Significance**.

4.4.1.1.2 Gaseous Pollutants

Emissions to the Air in the form of Gaseous Pollutants are likely to originate from a number of identified point and non-point (diffuse sources) in and around the facility during the operational and maintenance phases. **(See Table 13 below)**

Table 13: Emissions to the Air: Gaseous Pollutant Emissions

Type of Emission	Sources	Pollutants	Phase	
			Operational	Maintenance
Combustion Gas Emissions during normal operations	Several Classes of Light and Heavy-Duty Motor Vehicles: Minibus, Pickup Vans; Trucks (Canter); Heavy Duty Trucks; Forklifts; Mini Front-End Loaders; Excavators; Dragline; Trailers; Container Haulers; Cement Mixer Trucks, and Refrigeration Trucks, and Motor Cycles	NOx, SOx, CO2, PM, VOCs, PM10, PM2.5	X	X
Combustion Gas Emissions during normal operations	Several Classes of Marine Vessels: Commercial Trawling Vessels in the Company's Fishing and Shrimping Fleet; Small Marine Craft with Outboard Engines	NOx, SOx, CO2, PM, VOCs, PM10, PM2.5	X	
	Power Generation Systems: Commercial and Modular Power Generation Systems	NOx, SOx, CO2, PM, VOCs, PM10, PM2.5	X	
	Outdoor Heavy-Duty Equipment: Air Compressors, Lawn Mowers, Fuel Powered Pumps; Welding Equipment; Fuel Powered Pressure Washers etc.	NOx, SOx, CO2, PM, VOCs, PM10, PM2.5	X	X
Refrigerant Gas Emissions – released during equipment failures and maintenance procedures	Industrial Ammonia Based Refrigeration System – Compressor Room and Evaporators (High Capacity Holding Room, Cold Rooms, Blast Freezers, Plate Freezers and Ice Making Plants)	Ammonia gas	X	X
	Externally Mounted Air Conditioning Units	R 410A		X
	Company Owned Refrigeration Containers	R 410A		X
	Supplier Owned Refrigeration Containers	R 410A		X
	Company Owned Refrigeration Trucks	R 410A		X
Fuel Vapour Emissions during normal venting	All Fuel Storage Areas –Aboveground and Underground Fuel Storage Tanks	VOCs	X	
	Industrial Compressed Gas Cylinder Storage Areas	VOCs	X	

ANALYSIS

- In the course of normal operations of all classes of light and heavy-duty motor vehicles, marine vessels, power generation and other classes of heavy-duty equipment, combustion gases are released. Except for power generation systems that are operated continuously in an effort to supply electricity, all other systems are operated sporadically. Each of the vehicles, marine vessels and heavy-duty equipment have exhaust systems that are designed with emissions control technology. Further, all vehicles, vessels and heavy-duty equipment are subjected to routine preventative maintenance.
- Fuel storage vessels/ containments by their design have venting pipes that release and safely disperse fuel vapours into the atmosphere to prevent any unsafe build up within the vessel/ containment.
- Refrigerant gas emissions are likely during industrial refrigeration system equipment and/or supply line malfunctions and maintenance procedures. PSI Incorporated uses an ammonia based industrial refrigeration system; therefore, ammonia gas would be released during emergency events. Given the design of the facility presently, all refrigerant supply lines are above the ceiling of the Seafood Processing Plants and there are strategically placed control valves on these supply lines which make it easy for HVAC Technicians in the employ of the company fitted with appropriate PPE (acting in accordance with an Ammonia Release Emergency Response Plan) to identify, isolate, and address the source of a potential leak in the shortest possible/ practicable time;
- Owed to the nature of the identified impacts and the fact that a number of mitigation measures have been instituted by PSI in order to address the above gaseous emissions releases, impacts are likely to be of **Medium Significance**.

4.4.1.1.3 Noxious Odour

Emissions to the Air in the form of Noxious odours are likely to originate from a number of sources in and around the facility during the operational and maintenance phases. (See Table 14 below)

Table 14: Emissions to the Air: Noxious Odours

Location	Source of Odour Emissions	Phases	
		Operational	Maintenance
Fishing and Shrimping Vessels (Wharf)	Ice Hold of Fishing and Shrimping Trawlers	X	
Receiving Area (Fish Processing Plant)	Holding Trays for Raw Material (Rejected/ Sub-standard)	X	
Company Owned Refrigeration Containers	Raw Product Storage Refrigeration Containers	X	
All Seafood Processing Areas (Fish and Shrimp Plants)	Fish Processing Plant	X	
	Shrimp Processing Plant	X	
	Dried Salted Fish and Smoked Fish Plant (Processing Area)	X	
General Solid Waste Holding Area	Waste Material Holding Bins	X	

ANALYSIS

- Noxious odours are likely to be emitted from areas where raw and processed fish and shrimp products as well as their waste products are handled, processed and stored/ temporarily held. PSI has instituted a number of measures as part of its quality management system, to reduce the likelihood of the emission of unpleasant odours associated with the deterioration of seafood products and waste materials which include but is not limited to the following: use of ice on raw seafood products to reduce the rate of decomposition; use of cold storage facilities on site for the storage of all unprocessed and processed seafood products; use of best hygiene, cleaning and disinfection and waste disposal practices within all areas where seafood products and their waste products are handled, processed and stored; same day disposal of all seafood product waste materials generated.
- Owed to the nature of the identified impact and the nature of the measures instituted by PSI Inc, impacts are likely to be of **Low Significance** if they are consistently applied.

4.4.1.4 Noise and Vibration Impacts

Noise is defined “as any sound that is undesirable because it interferes with speech and hearing, and is intense enough to damage hearing or is otherwise annoying.” (US EPA, 1972)

Noise and Vibration Emissions are likely to originate from a number of sources in and around the facility during normal operations. During the operational and maintenance phases, Noise and Vibration emissions are likely to come from the following identified sources. (See Table 15 below)

Table 15: Noise and Vibration Emissions

Sources	Phases	
	Operational	Maintenance
Several Classes of Light and Heavy-Duty Motor Vehicles: Minibus, Pickup Vans; Trucks (Canter); Heavy Duty Trucks; Forklifts; Mini Front-End Loaders; Excavators; Dragline; Container Haulers; Cement Mixers etc.	X	X
Several Classes of Marine Vessels: Commercial Trawling Vessels in the Company's Fishing and Shrimping Fleet; Small Marine Craft with Outboard Engines	X	
Outdoor Power Equipment: Air Compressors, Lawn Mowers, Fuel Powered Pumps; Welding Equipment Fuel Powered Pressure Washers etc.	X	
Activities performed in the Maintenance and Machining Workshops		X
All Processing Equipment in Seafood Processing Facilities (Fish and Shrimp Plants)	X	X
Equipment in Well Water Abstraction, Treatment and Supply Facility	X	
Industrial Ammonia Based Refrigeration System Compressor Rooms and Evaporators (Holding Rooms, Blast Freezers, Plate Freezers)	X	
Air Conditioning Systems	X	

Sources	Phases	
	Operational	Maintenance
Ice Making Plants	X	
Power Generation Systems: Cummins Commercial Generator Sets and Modular Power Generation Systems	X	
Refrigeration Containers: Company and Supplier Owned Refrigeration Containers	X	

ANALYSIS

- Noise and Vibration emissions based on a review of our operations are likely to originate from a number of continuous, intermittent and periodic noise sources identified at **Table 15 above**.
- Continuous noise emissions are likely to come in a significant way from diesel power generation systems and high and low stage screw compressor systems associated with the ammonia based industrial refrigeration system. These systems are typically operated 24 hours per day.
- Intermittent and periodic noise emissions are likely to come from motor vehicles, marine vessels, heavy duty equipment, in plant process equipment in shrimp and fish processing plants. Typically, noise is only generated from these pieces of equipment when work activities are being performed. Otherwise, there are no emissions.
- Given the importance of these systems, PSI has procured equipment rated to generate less noise emissions, located units away from sensitive receptors, placed equipment on level floor with foundations, placement of noise source in an enclosed structure that controls transmission or the propagation path or noise and vibrations, operate and perform preventative maintenance on equipment in accordance with manufacturer's specifications.
- In light of the fact that embedded controls are actively utilized on the above systems, impacts are likely to be of **Medium Significance**.

4.4.1.5 Energy Emission Impacts

Thermal pollution is a process that changes the temperature of the environment in a detrimental way. This change in temperature can negatively affect the quality of air, water and living beings. ³² It is important to note that this introduction of heat into the environment occurs in an uncontrolled manner.

Energy/Thermal Emissions are likely to originate from a limited number of sources in and around the facility during the course of normal operations. During the operational and maintenance phases, Energy emissions to principally the air are likely to come from the following identified sources. **(See Table 16 below)**

Table 16: Energy/Thermal Emissions

Sources	Phases	
	Operational	Maintenance
1. Power Generation System	X	
2. High Stage and Low Stage Compression Systems associated with the Ammonia Based Industrial Refrigeration System	X	
3. Welding Equipment used by Contracted Service Provider in the performance of Routine Preventative Maintenance on Equipment and Structures onsite		X

ANALYSIS

- Power generation and compressor rooms associated with the industrial refrigeration systems all result in waste heat / energy / thermal emissions to the atmosphere that have the potential to cause changes to air temperature in the immediate vicinity.
- Short term changes to ambient outdoor air temperature are anticipated from the power generation and Compressor systems. Both pieces of equipment are air cooled systems that take in cooler air from the atmosphere, blowing this air internally across the engine, to facilitate the extraction of heat thereby preventing the systems from overheating. Given that these pieces of equipment are sited in an open area with good air flow, anticipated impact is likely to be at best short-term during normal operation and during the cool down period when the equipment is non-operational.
- Short term changes to ambient indoor air quality are anticipated from identified equipment within the special processes and machining workshop areas during normal operations and during the cool down period when equipment is turned off or is non-operational. The Lathe machines, automatic coating systems, grain refiner system

and the stress reliever are all located within a shedded area that has been engineered to allow for good air flow and ventilation.

- In light of the existing mitigation measures that have been applied, energy/ thermal emissions to the air are unlikely to cause significant/ detrimental changes to ambient outdoor and indoor air temperatures, respectively; and as such impacts in this instance will be of **Low Significance**.

4.4.1.6 Potential Releases to Land/ Soil

Potential releases to Land/ Soil are likely to originate from a number of sources in and around the facility during the course of normal operations. During the operational and maintenance phases, potential unintended/ accidental releases are likely to come from the following identified sources. **(See Table 17 below)**

Table 17 : Potential Releases of Substances to Soll/ Land

Potential Sources	Substance	Phases	
		Operational	Maintenance
1. Aboveground Fuel Settling Tanks within the Power Generation Area	Diesel	X	X
2. Fuel Storage Day Tank at Base of Power Generation Systems	Diesel	X	X
3. Refueling Operations: Dispensing of Fuel from Marine Vessels to Fuel Tanker; and from Fuel Tanker to Settling Tanks and from Settling Tanks to Day Tank of Power Generation System.	Diesel	X	
4. Manual Metalworking Lathe Machines (Machining Workshop)	Metal Working Fluids, Lubricating Oils, etc.	X	X
5. Band Saw Cutting Machine	Cutting Fluids (Cooling Oils)	X	X
6. Multipurpose Storage Area (Cleaning Agents, Detergents, Disinfectants, Sanitizing Agents)	Hydraulic Fluid	X	X
7. Drummed Lubricant Storage Area	Different Grades of Lubricating Oil	X	X
8. Telehandler Forklift	Diesel, Lubricating Oil, Hydraulic Fluids	X	X

ANALYSIS

- Given the Environmental and Health and Safety implications of possible spills/ leaks occurring as a result of unintended equipment failures and/ or accidental releases, a number of mitigation measures have been instituted. These include: a) the placement of Material Safety Data Sheet (MSDS) for each chemical in storage and use; b) placement of spill trays under equipment undergoing servicing or refueling; and c) prepositioning of spill containment kits in areas where leaks/ spills are likely.
- In light of the above mitigation measures, it has been determined that impacts are likely to be of **Medium Significance**.

4.4.1.7 Discharges to Surface Water

Discharges to Surface Water are likely to originate from a number of sources in and around the facility during the course of normal operations. During the operational and maintenance phases, discharges are likely to come from the following identified sources. **(See Table 18 below)**

Table 18: Discharges to Surface Water

Emission Source	Nature of Emission	Phase	
		Operational	Maintenance
1. Fish Processing Plant (Fresh Smoked Fish and Dried Fish)	Effluent from Main Fish Plant (Inclusive of Smoked Fish Production Area)	X	
2. Shrimp Processing Plant	Effluent from Shrimp Processing Plant	X	

Emission Source	Nature of Emission	Phase	
		Operational	Maintenance
3. Maintenance and Machining Workshops	Rinse water with chemical residues	X	
4. Discharge from Well Water Treatment Area (Maintenance)	Rust Ladened Runoff		X
5. Ablution Facilities (Sinks, Wash Areas, Bathrooms)	Grey Water (Rinse Water)	X	
6. Septic Tanks	Sewage (Blackwater) – Faecal matter and Urine	X	
7. Fish and Shrimp Trawlers	Bilge and Ballast Water	X	
8. Roof of Structures Onsite	Run Off	X	
9. Dry Dock Facility	Paint Remnants, blasting materials etc.	X	

ANALYSIS

- Greywater from handwash sinks, stormwater from roof structures onsite and general surface runoff are discharges that are released untreated to surface drains. Given the low pollutant/ contaminant loads, this discharge is likely to have little impact to receiving water bodies;
- Effluent from ablution facilities is pre-treated in septic tanks and associated treatment structures that have been installed onsite and subsequently discharged into the Demerara River;
- Process effluent discharged from the seafood processing plant has a high volume with low contaminant loading/ strength given that water is constantly flowing over the product whether it is being handled by plant workers on processing tables or the product is being processed by machine. Effluent discharged from the processing tables and equipment are discharged to the floor of the processing plant where solids are collected and effluent is passed through drainage pipes in the floor of the plant to the Demerara River that is below the plant;
- Rust ladened backwash is usually released from the well water treatment system during the performance of maintenance activities.
- Drydocking vessels is an important activity that is performed onsite. Discharges are likely when this activity is performed. Precautionary measures need to be applied to prevent/ minimize the entry of hazardous substances into the Demerara River.
- Discharges to surface water coming from the above identified sources can cause physical and chemical changes to the properties of receiving water bodies if mitigation measures are not implemented. Given this reality, it has been determined that impacts are likely to be of **Medium Significance**.

4.4.1.8 Generation of Waste Materials

With specific reference to the operations of the Pritipaul Singh Investments Incorporated - Seafood Processing Plant and Associated Facilities, three (3) categories of waste will be generated as a result of the facility' activities during the operational and maintenance phases. **Table 19 below** identifies the specific categories and types of wastes that are likely to be generated.

Table 19: Waste Materials Generated

Location	Specific Areas	Type of Waste Generated	Category of Waste		
			Solid	Liquid	Hazardous
Seafood Processing Areas (Inclusive of Shrimp and Fin Fish Processing Facilities)	Fish Processing Plants (Fresh, Salted and Smoked Fish Production Areas)	Fish Processing Wastes – Scales, Bones, Heads, Shells, Rejected Fish	X		
		Packaging Wastes: Boxes, Plastics etc.	X		
		Obsolete spare parts from equipment	X		
		Obsolete Mechanical Equipment	X		
		Effluent from Main Fish Plant		X	
	Shrimp Processing Areas	Shrimp Processing Wastes: Heads, Tails and Exoskeletons, Rejected Shrimp	X		
		Effluent from Shrimp Plant		X	

Location	Specific Areas	Type of Waste Generated	Category of Waste		
			Solid	Liquid	Hazardous
		Packaging Wastes: Boxes, Plastics etc.	X		
		Obsolete spare parts from equipment	X		
Trawling Vessel Fleet	Fishing and Shrimping Vessels	Obsolete spare parts and equipment	X		
		Debris accumulated during cleaning	X		
		Packaging Wastes	X		
		Spent Lubricating Oil			X
		Bilge Waste Water		X	
Well Water Abstraction, Storage, Treatment and Supply Facility	Water Supply	Packaging Materials	X		
		Rust Ladened Discharge		X	
		Electrical Motors etc.	X		
Multipurpose Storage Area	Chemical Storage Area Main Storage Bond	Contaminated/ Used Adsorbent materials			
Power Generation Areas	Main Power Generation Area	Obsolete Spare Parts: Oil Filter and Air Filters	X		
		Spent Lubricating Oil			X
Refrigeration Systems	Compressor Rooms Refrigeration Containers Air Conditioning Units Ice Making Plants	Obsolete Spare parts	X		
		Used Oil Filters	X		
		Used Air Filters	X		
		Machinery Wastes – Old Compressors and Electrical Motors	X		
		Spent Lubricating Oil			X
All Maintenance and Machining Workshop Facilities		Obsolete Spare parts	X		
		Old Oil Filters	X		
		Old Air Filters	X		
		Metal Fragments	X		
		Machinery Wastes	X		
		Wood Fragments and Shavings	X		
		Spent Lubricating Oil			X
Boat Building Section	Boat Building Area	Wood Fragments and Shavings	X		
		Packaging Wastes	X		
Dry Dock Facilities	Dry Dock Facilities #1 and 2	Effluent from maintenance activities performed on dry dock		X	
		Rinseate from Bilge and Ballast Tanks			X
Staff Facilities	Administrative Offices	Office Wastes: Paper, Packaging Wastes, Food Wastes	X		
	Food Preparation Areas	Organic Wastes (Fruit and Vegetable Peelings, Food scraps) and Packaging	X		
		Waste Oil			X
	All Ablution Facilities (Sewage Treatment Structures)	Human Excreta and Urine		X	

ANALYSIS

- All of the above identified Solid, Liquid and Hazardous Waste streams generated onsite are all carefully managed in accordance with the company's own standard operating procedures.
- Solid waste streams are divided into process and non-process streams. Most of the non-process streams are disposed of by a private waste disposal service. Others are disposed of through sale to metal recyclers or simply repurposed for other applications on site. Process waste, which includes organic waste materials from the seafood

processing plants are accumulated and collected for utilization by a protein recovery contractor for the production of animal feed; and disposal by the contractor at the Haag's Bosch Sanitary Landfill Site.

- Liquid waste streams coming from the seafood processing plants are subjected to solids separation within the processing plants (except for the shrimp plant) and discharged into the Demerara River. For wastes coming from ablution facilities, they are pre-treated and discharged directly into the demerara river where concentration decreases significantly due to dilution within significant volumes of water;
- Hazardous Waste streams are stored under special conditions, collected and safely disposed of through sale or simply reused in the performance of maintenance activities on and offsite.
- Each of the above categories of waste have to be carefully managed; and as such the impact is deemed to be of **Medium Significance.**

4.4.1.9 Impacts to Biodiversity

The principal impact of concern in relation to impacts to Biodiversity arises from the potential for the overexploitation of fishing and shrimping zones within the Economic Exclusive Zone of Guyana.

Given the level of extraction from the fishing and shrimping zones during the project lifecycle this impact has been determined to be of **Medium Significance.**

4.4.1.10 Energy Consumption

All of the electricity required by the main and supporting facilities of Pritipaul Singh Investments Incorporated (Seafood Processing Complex) is produced within its own power generation facilities. There is no connection to the national grid.

The main power generation facility is equipped with eight (8) commercial generator sets capable of producing a total of 3.86 megawatts (MW). Two (2) power generation sets are operated on a 24-hour rotation. While, six (6) power generation sets are reserved for standby usage. Each of the installed air-cooled power generation sets is equipped with a 10-foot exhaust stack that has two (2) muffler units each measuring 5 feet connected thereto making the length of the exhaust system a total of 15 feet. Each power generation unit has a 3000-gallon day tank in which is stored enough fuel to power the set for a day.

Given the level of energy consumption during the project lifecycle this impact has been determined to be of **Medium Significance.**

4.4.1.11 Water Resource Consumption

All of the potable water supplied at the Seafood Processing Complex (Plantation Providence) to perform critical activities on site is sourced from two (2) onsite deep artesian wells. Water from these wells is pumped to a water treatment area and then pumped through an impermeable pipeline system to the seafood processing plants and all other areas. From the reservoir which has a capacity of 250,000 gallons, the treated filtered water is pumped to the Seafood processing plants, the ice plant and all other locations on site for utilization.

Given the level of water consumption during the project lifecycle this impact has been determined to be of **Medium Significance.**

4.4.1.12 Other Environmental Condition(s) or System(s) Impacts

4.4.1.12.1 Occupational Health and Safety Hazards

From an assessment of the likely occupational health and safety risks associated with the implementation of activities associated with all phases of the operations and maintenance of the Seafood Processing Complex by Pritipaul Singh Investments Incorporated, the following potential causes of injury have been identified at **Table 20** below:

Table 20: Potential Causes of Injury

Potential Cause of Injury	Detail
1. Slips/ Trips/ Falls	Falls on one level caused by dangerous conditions of the surface on which movement is taking place. May be caused by spillages of substances from working processes, from water and other liquids, broken or poorly laid materials as well as obstacles on a surface.
	Falls on stairs and means of changing levels
	Falls between levels (i.e., from various heights)
2. Contact with Allergens in Seafood	Infections or allergic reactions caused by exposure to bacteria present in fish and aerosols formed during spraying process)
3. Falls from Height	Falling from buildings, scaffolds, ladders, machines, and vehicles;
	Falling from an object,
	Falls through fragile materials such as roofs
4. Falling Objects	Collapse of Buildings, Walls, Scaffolds, Ladders or Racked Goods
5. Collision with Objects	Collisions may be the result of: Striking against motionless objects; striking against moving objects; and being struck by moving objects (including flying fragments and particles
6. Trapping/ Crushing under or between objects	This type of injury may be the result of being: caught in an object; caught between a motionless object and a moving object; and caught between moving objects
7. Manual Handling	These accidents occur due to: lifting objects, pushing, or pulling objects, handling, or throwing objects. These injuries are mostly to the back, but hands and feet are also targets.
8. Contact with Machinery/ Hand Tools	Accidents have the potential to happen when equipment is at rest, in use, when it is being cleaned, maintained, repaired, and serviced.
9. Electricity	Electrical shock or burns
10. Transport	Accidents where vehicle is moving under power or not under power, or where the vehicle is stationary. Includes vehicle striking a pedestrian, loading/unloading operations, and vehicle overturning
11. Contact with Chemicals	Accidents resulting from exposure to hazardous substances/ chemicals
12. Fire and Explosion	Accidents caused by misuse of equipment or appliances or other means
13. Exposure to Extreme Cold and Heat	Injuries cause by working in extremely cold and extremely hot environments
14. Drowning	Accidents caused by falling into water from mobile marine vessels or stationary structures near or in oceanic/ riverain areas
15. Animals	Fauna attacks (Aggressive wildlife, bees, wasps etc.)
16. Violence	Violence in the workplace among staff or external actor with nefarious intent

Given the character of the identified health and safety risks during the lifecycle these have been determined to be of **High Significance.**

SECTION 5: IMPACTS AND RISK CONTROL MEASURES

5.1 Overview

This section of the Environmental Assessment and Management Plan (EAMP) will identify and detail the mitigation measures that will be implemented by Pritipaul Singh Investments Incorporated to address the identified negative potential significant environmental impacts and health and safety risks associated with all activities to be performed during the Operational and Maintenance phases at the Seafood Processing Plant and Associated Facilities.

5.2 Description of Environmental Impact Mitigation Measures

This subsection provides a description of the mitigation measures that will be implemented by Pritipaul Singh Investments Incorporated to address the significant environmental aspects identified in Section 3 above in regard to the operations of all elements of the Seafood Processing Complex and Associated Supporting Facilities. The mitigation measures identified are based on the best available management practices and technologies that will eliminate or minimize impacts to the environment.

The mitigation measures that will be proposed for implementation in the following sub-sections will address impacts resulting from: (a) Emissions to the Air; (b) Noise and Vibration Impacts; (c) Thermal/ Energy Emissions, (d) Releases/ Discharges to Land/ Soi, (e) Discharges to Surface Water; (f) Waste Management Impacts arising from the generation and disposal of Solid, Liquid and Hazardous Wastes; (g) Impacts to Biodiversity; (h) Energy Consumption; (i) Water Resource Consumption. and (j) other environmental conditions or system impacts such as Occupational health and safety hazards.

The sub-sections which follow will provide additional detail on each of the categories of identified significant environmental impacts.

5.2.1 Air Quality Control

Pritipaul Singh Investments Incorporated will implement the following mitigation measures articulated in the following sub-sections to address the impacts associated with emissions to the air. The mitigation measures identified for implementation will apply to entire life cycle of the project.

5.2.1.1 Dust/ Particulate Matter Management

Pritipaul Singh Investments Incorporated will implement the following measures to manage potential impacts on air quality caused by dust/ particulate emissions as listed in **Box 1 below**.

Box 1: Management Measures for Dust/Particulate Emissions

- All mobile and stationary equipment must be operated and maintained in accordance with their respective manufacturers' specifications;
- All classes of vehicles entering the project location must be sufficiently cleaned to prevent the emission of dust/ particulates during transport.
- All dust generating equipment must be located and operated away from sensitive receptors
- All vehicles and equipment owned and operated by the company must be regularly inspected and maintained in accordance with standardized procedures and in accordance with the company's own preventative maintenance schedules.
- Excessive idling of vehicles/ equipment will be limited whether onsite or offsite to minimize exhaust emissions.
- Low Sulphur fuel will be procured, if available, and utilized in all equipment operated on site.
- All staff engaged in the performance of dust generating activities in the identified area will be required: (a) to ensure that such activities are performed in areas that are sufficiently shielded from high winds; (b) to ensure that available dust capture mechanisms and suppression techniques are utilized to prevent unnecessary emissions to dust/ particulates to the air; (c) to ensure that the working area is immediately cleaned upon completion of task(s) or cleaned at the end of the work day and the collected material deposited into a covered bin for ultimate disposal. All areas where dust generating material loading activities are performed must be: (a) sufficiently shielded from high winds; (b) fitted with the best available dust

capture /collection or suppression technologies to prevent emissions of dust/ particulates to the air; and (c) immediately cleaned upon completion of the task (s) or cleaned at the end of the workday depositing the removed material into a covered bin for ultimate safe disposal.

- All dust/particulate accumulations on paved/ concreted areas must be regularly cleaned.
- All classes of vehicle/ equipment movements must be limited and speed limits enforced onsite to minimize the generation of kick up dust.
- Water or other dust suppressants should be considered for application on traversable unpaved areas at the project location

5.2.1.2 Gaseous Pollutant Management

Pritipaul Singh Investments Incorporated will implement the following measures to manage potential impacts on air quality caused by gaseous pollutants as listed in **Box 2 below**.

Box 2: Management Measures for Gaseous Pollutant Emissions

Combustion Gas Emissions

- All mobile and stationary vehicles/equipment must be operated and maintained in accordance with their respective manufacturers' specifications, including regular servicing;
- All vehicles, storage vessels, and heavy-duty equipment must have emission control devices installed to limit gaseous pollutant emissions, where necessary.
- All vehicles and equipment must be regularly inspected and maintained in accordance with standardized procedures and in accordance with the company's own preventative maintenance schedules.
- Excessive idling of vehicles/equipment must be limited whether operated onsite or offsite
- Low Sulphur fuels must be procured, if available, and utilized in all diesel-powered equipment.
- Predictive maintenance of venting systems on aboveground fuel storage tanks

Venting Emissions

- Performance of Routine inspection and maintenance of venting mechanisms on aboveground fuel storage tank, metalworking fluid storage vessel and portable tote tank(s).

Ammonia Emissions

- Installation of Leak Detection Systems for identifying areas where detected faults can be dealt with by emergency responders.
- Implementation of an Ammonia Release Emergency Response Plan

Hydrocarbon Oil Mist and Fumes

- Use of Environmentally friendly metalworking fluids in the performance of industrial turning and cutting operations on the metalworking lathe machines and band saw, respectively.

5.2.1.3 Noxious Odour Management

Pritipaul Singh Investments Incorporated will implement the following measures to manage potential impacts on air quality caused by noxious odours as listed in **Table 21 below**.

Table 21: Management Measures for Noxious Odours

Specific Location	Source of Odour Emission	Mitigation Measures
Fishing and Shrimp Vessels (Wharf)	Ice Hold of Fishing and Shrimping Trawlers	<ul style="list-style-type: none"> • Fishing and Shrimping crews will be expected to ensure that freshly caught fish is properly preserved using flake ice, sodium bisulphate and sodium chloride (in accordance with requirements of PSI Inc's HACCP Plan – Fish) within the Ice holds of the vessels;
Receiving Area (Fish Processing Plant)	Holding Trays for Raw Material (Rejected/ Substandard)	<ul style="list-style-type: none"> • Rejected batches of fish will be temporarily held in marked, color coded, covered, leak-proof containers; • Batches of raw material (unprocessed fish) determined to be of lower quality than that required for products to be exported to international markets will be alternatively utilized for the production of dried-salted fish products for local consumption;

		<ul style="list-style-type: none"> Alternatively, rejected fish that is below the quality required for conversion into salted fish products will be appropriately stored in covered leak proof containers and made available, at a cost, to local protein recovery companies for the production of fish meal. All working and storage areas will be cleaned and sanitized before, during and after processing activities in accordance with the procedures outlined in the Best Cleaning and Disinfecting Practices Reference Book. All waste materials generated within the fish processing areas will be treated and disposed of in accordance with the procedural requirements outlined in the Best Waste Disposal Practices Reference Book.
Company Owned Refrigeration Containers	Raw Product Storage Refrigeration Containers	<ul style="list-style-type: none"> All unprocessed raw material placed within company owned refrigerated containers will be stored at preset temperatures in covered, leak proof containers; All unprocessed fish held in sealed leak proof containers will be stored in refrigerated containers for short periods of time; All unprocessed fish will be retrieved using the First in First Out (FIFO) Principle. Reference will be made to (Specify the name of the records); Cleaning and sanitizing agents will be utilized to neutralize any offensive odours evolved.
All Seafood Processing Areas (Fish and Shrimp Plants)	Fish Processing Plant Shrimp Processing Plant	<ul style="list-style-type: none"> The temperature within all of the seafood processing plants will be controlled to decrease the level of metabolic activity of fish being handled; All working and storage areas will be cleaned and sanitized before, during and after processing activities in accordance with the procedures outlined in the Best Cleaning and Disinfecting Practices Reference Book All waste materials generated within the fish processing areas will be treated and disposed of in accordance with the procedural requirements outlined in the Best Waste Disposal Practices Reference Book.
	Dried Salted Fish and Smoked Fish Products (Processing Area)	<ul style="list-style-type: none"> Fish deemed unfit for human consumption, after sensory evaluation, will not be salted and dried, instead it will be stored in covered leak proof containers and collected by contracted protein recovery companies for conversion to fish meal. The designated open air sun drying area will be located in close proximity to temporary storage area but away from the centres of activity; All working and storage areas will be cleaned and sanitized before, during and after processing activities in accordance with the procedures outlined in the Best Cleaning and Disinfecting Practices Reference Book. All waste materials generated within this fish processing area will be treated and disposed of in accordance with the procedural requirements outlined in the Best Waste Disposal Practices Reference Book.
General Solid Waste Holding Area	Waste Material Holding Bins	<ul style="list-style-type: none"> All working and storage areas will be cleaned and sanitized before, during and after processing activities in accordance with the procedures outlined in the Best Cleaning and Disinfecting Practices Reference Book. All waste materials generated within this fish processing area will be treated and disposed of in accordance with the procedural requirements outlined in the Best Waste Disposal Practices Reference Book.

5.2.2 Noise and Vibration Management

Noise and Vibration Emission impacts identified will be managed using the following mitigation measures identified in **Box 3** below.

Box 3: Management Measures for Noise and Vibration Emissions

- All mobile and stationary noise emitting equipment must be operated and maintained in accordance with their respective manufacturers' specifications;
- All noise emitting equipment must be located away from sensitive receptors,
- All vehicles and equipment must be regularly inspected and maintained in accordance with standardized procedures and in accordance with the company's own preventative maintenance schedules;
- Restricting the operations of equipment with noise and vibration impacts to between certain hours,
- Limiting excessive idling of vehicles/ equipment whether operated onsite or offsite
- All new machinery or equipment must be assigned a Source Rating in cases where equipment is suspected to generate noise levels at or above 85dBA. Quieter equipment will be prioritized (for procurement) over louder equipment;
- The following hierarchy of controls inclusive of engineering, administrative controls and Hearing Protection Devices must be applied to the extent that they are deemed feasible for noise management.
 - **Engineering Controls:** The following engineering controls may be applied:
 1. Use of Sound Adsorbing Material;
 2. Use of Barriers (Sound Walls and Curtain),
 3. Enclosure or Isolation of the Noise Source;
 4. Enclosure or Isolation of the Employee in a Room or Booth,
 5. Use of Mufflers or Silencers,
 6. Maintenance and Lubrication of all Machinery and Equipment.
 - **Administrative Controls:** These will be applied when the engineering controls do not reduce noise levels below 85 dBA, or less. Administrative controls include, but are not limited to:
 1. Operation of noisy machines during shifts when fewer employees are exposed
 2. Limitation of the amount of time employees spend at a noise source
 3. Increasing the distance between the employee and the noise source. Doubling of distance between the noise source and the worker decreases the worker by 6 dBA
 - **Hearing Protection Devices (HPDs):** These will be made available and worn by all affected employees who are exposed at or above 8-hour Time Weighted Average (TWA) of 85 dBA. HPDs include, but are not limited to: Earplugs, Earmuffs and Radio Communication Headsets with an assigned Noise Reduction Rating (NRR).

5.2.3 Energy/ Thermal Emission Management

Thermal Emission impacts identified will be managed using the following mitigation measures identified in **Box 4** below.

Box 4: Management Measures for Energy/ Thermal Emissions

- Good ventilation/ air flow must always be maintained around all fixed sources of heat emission
- All equipment with the potential to release energy must be located away from sensitive receptors.

5.2.4 Land/ Soil Management

Emissions to Land impacts identified will be managed using the following mitigation measures identified in **Box 5** below.

Box 5: Management Measures for Emissions to Land/ Soil

- All fixed aboveground bulk chemical storage vessels must be provided with some means of secondary containment. This system must typically consist of a reinforced impervious concrete/ metal floor and wall. The flooring of this and all chemical storage areas should be constructed of reinforced impervious concrete of sufficient strength and structural integrity to prevent the leaching or penetration of the active agents in any stored chemical. The bund wall forming the perimeter and floor of the area containing the high-capacity above ground storage tanks should be designed and constructed of reinforced impervious concrete of sufficient strength and structural integrity to prevent the leaching or penetration of the active agents into the soil and ground water, contain spills and leaks and facilitate cleanup operations. The containment wall should be from 0.5 m to 1.5metres high and this containment area should be able to hold 110 percent of the volume of the largest tank. Accumulated liquids resulting from spills or vessel ruptures may be collected and reused onsite. However, where this is not possible or appropriate, the liquid should be collected and disposed of by an authorized waste management service provider. Accumulated rainwater, on the other hand, since it may be contaminated, should not be disposed of to the drainage system without prior treatment. During this structure's useful life, the structural integrity of all its elements must be routinely inspected (at least quarterly) by a certified structural engineer with the view of identifying defects for corrective actions to be promptly taken;

- The installed high-capacity aboveground storage tanks must be impervious and compatible with the fluid stored and the conditions of storage. These tanks cannot exhibit any visible signs of active leaks. Leaking tanks must be identified, documented, and repaired as quickly as possible. Therefore, these tanks must be thoroughly inspected and maintained on a regular schedule.
- All portable chemical storage vessels such as 55- drums and IBC Tote Tanks should be placed on a spill containment pallet;
- All tanks and tank supports must be periodically inspected and tested for integrity. The integrity testing performed should include visual inspection combined with a non-destructive test method and comparison records retained.
- The Material Safety Data Sheets (MSDS) for all chemicals stored and utilized onsite must be maintained in an area that it can be easily accessed.
- Appropriate spill response equipment to contain or neutralize a spill shall be identified, documented, or located in or adjacent to chemical storage and transfer areas. Each spill kit should have the following: (a) protective clothing (gloves, overalls, overshoes, safety goggles); (b) absorbent materials (paper towels, spill pads, spill socks); (c) disposable bags with tape or twist ties; (d) dustbin and polypropylene boom and (e) a container for the soiled material that is to be disposed.
- All spills are to be reported both internally and externally. Spills below a certain reporting threshold must be reported as an environmental incident and reported internally. Spills that exceed local jurisdiction reporting thresholds must be reported to the local regulatory authorities in accordance with their requirements and timeframes.
- All spill response must be addressed appropriately for the type and quantity of material spilled. Spill cleanup and response must be conducted by the Spill Response Team (SRT) in accordance with a documented Emergency Response Plan. At a minimum, the following procedures should be followed:
 1. Immediately stop work in the area of the spill.
 2. Assess the risk, alert the employees working in the surrounding area.
 3. If safe to do so, stop the spill by controlling the source (e.g., turn off the valve or righting the container)
 4. Using appropriate spill response equipment, attempt to contain or neutralize the spill safely.
 5. Notify the Third-Party Response Team, if necessary
 6. Collect the spilled material and impacted media and response material, and dispose of it
- Regular Testing of Emergency Preparedness and Response Plans
- All environmental incidents involving chemical spills must be investigated
- All Spill Response equipment will be inspected monthly by an authorized person to ensure sufficient materials are available for response.
- All employees must be trained in Spill Response activities

5.2.5 Surface Water Management

Discharges to Surface Water impacts identified will be managed using the following mitigation measures identified in **Table 22** below.

Table 22: Management Measures for Discharges to Surface Water

Emission Source	Nature of Emission	Mitigation Measures
Fish Processing Plant (Fresh Smoked Fish and Dried Fish)	Effluent from Main Fish Plant	<ul style="list-style-type: none"> • Currently, all effluent generated within the processing areas of the seafood processing plants, on site are discharged via pipes in the concreted floor of the plant into the Demerara River (which is directly under the Seafood Processing Plants) to be subjected to dilution within this dynamic river system that discharges into the Atlantic Ocean. This practice is one which we have recognized to have little impact to the river system. However, the management of PSI Inc. (Mid Atlantic Seafoods) is currently assessing several waste water treatment options to determine which solutions are best for the shrimp processing and the fish processing plants, respectively.
Shrimp Processing Plant	Effluent from Shrimp Processing Plant	
Maintenance and Machining Workshops	Rinse water with chemical residues	<ul style="list-style-type: none"> • All maintenance staff will be required to ensure that drip trays are used to collect all waste oils generated during maintenance. In cases where small spills occur, adsorbent

		materials will be utilized to clean the location thoroughly. Rinse water is also discharged into the Demerara River to be subjected to dilution within this river system that discharges into the Atlantic Ocean
Discharge from Underground Reservoir of drainage system	Water from Underground Drainage network	<ul style="list-style-type: none"> Effluent discharged into the Demerara River and subjected to dilution within this river system that discharges into the Atlantic Ocean
Discharge from Well Water Treatment Area (Maintenance)	Rust Ladened Runoff	
Ablution Facilities (Sinks, Wash Areas, Bathrooms)	Grey Water (Rinse Water)	
Septic Tanks	Sewage (Blackwater) – Faecal matter and Urine	<ul style="list-style-type: none"> Septic tanks will be used to pretreat all sewage wastes generated. These structures will be desludged on a quarterly basis by contracted Waste Management Service to ensure optimal function
Fish and Shrimp Trawlers	Contaminated Bilge and Ballast Water	<ul style="list-style-type: none"> The bilge of the vessel is flushed with water and chlorine and the effluent discharged into the demerara river to be subjected to dilution within this river system that discharges into the Atlantic Ocean Bilge water treatment solutions to be investigated for future application
Dry Dock Facility	Paint Remnants, blasting materials etc.	<ul style="list-style-type: none"> All residues that accumulate on the surface of the dry dock after vessel hull cleaning will be swept up, removed and disposed of. Meanwhile, the effluent is discharged into the Demerara River and subjected to dilution within this river system.

5.2.6 Waste Materials Management

In an effort to properly manage all categories of wastes generated by Pritipaul Singh Investments Incorporated (PSI Inc.), the following treatment and disposal approaches are to be employed, as identified in the following subsections. (See **Table 23 below**)

Table 23: Waste Management Mitigation Measures

Location	Specific Areas	Type of Waste Generated	Mitigation Measures
Seafood Processing Areas (Inclusive of Shrimp and Fin Fish Processing Facilities)	Fish Processing Plants (Fresh, Salted and Smoked Fish Production Areas)	Fish Processing Wastes – Scales, Bones, Heads, Shells, Rejected Fish	<ul style="list-style-type: none"> All fish wastes generated within the confines of the processing area will be handled in accordance with the Best Waste Disposal (Transport) Practices Reference Book; Fish wastes are to be stored in sealed, colour coded containments and collected by contracted protein recovery companies for conversion to fish meal at the end of each work day.
		Packaging Wastes: Boxes, Plastics etc.	<ul style="list-style-type: none"> All packaging waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider (i.e., Cevon's Waste Management) for disposal at the Haag's Bosch Landfill Site.
		Obsolete spare parts from equipment	<ul style="list-style-type: none"> Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; Obsolete spare parts and mechanical equipment will either be sold or made available to registered
		Obsolete Mechanical Equipment	

Location	Specific Areas	Type of Waste Generated	Mitigation Measures
			scrap metal dealers for export to internationally based recycling companies.
		Effluent from Main Fish Plant	<ul style="list-style-type: none"> All effluent leaving the fish processing plant must be pre-treated before discharge into the Demerara River using an adequate waste water treatment system
	Shrimp Processing Areas	Shrimp Processing Wastes: Heads, Tails and Exoskeletons, Rejected Shrimp	<ul style="list-style-type: none"> All effluent leaving the shrimp processing plant must be pre-treated before discharge into the Demerara River using an adequate waste water treatment system.
		Effluent from Shrimp Plant	
		Packaging Wastes: Boxes, Plastics etc.	<ul style="list-style-type: none"> All generated non-hazardous solid waste is placed by sanitation staff into plastic drums painted yellow located in strategic locations to be collected once per week by a contracted waste collection service provider
Trawling Vessel Fleet	Fishing and Shrimping Vessels	Obsolete spare parts from equipment	<ul style="list-style-type: none"> Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; Obsolete spare parts and mechanical equipment will either be sold or made available to registered scrap metal dealers for export to recyclers.
		Debris accumulated during cleaning	<ul style="list-style-type: none"> All non-hazardous solid waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
		Packaging Wastes	
		Spent Lubricating Oil	<ul style="list-style-type: none"> Spent lubricating oil collected in drip trays during maintenance procedures will be subsequently emptied into a storage drum, from which it is sold to loggers and/or collected by contracted waste management service provider
		Bilge Waste Water	<ul style="list-style-type: none"> Bilge wastes are passed through an oil water separator removing oil residues, before it is ultimately discharged into the Demerara River Where there is an accumulation of oil and other residues a contracted waste management service provider collects, treats and disposes of the waste material.
Well Water Abstraction, Storage, Treatment and Supply Facility		Packaging Materials	<ul style="list-style-type: none"> All packaging waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
		Rust Ladened Discharge	<ul style="list-style-type: none"> Rust coated charcoal is accumulated and subsequently pressure washed, allowed to dry and reused in filtration tank. Rust ladened rinsate is discharged into the demerara river to be subjected to dilution.

Location	Specific Areas	Type of Waste Generated	Mitigation Measures
		Electrical Motors etc.	<ul style="list-style-type: none"> • Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; • Obsolete spare parts and mechanical equipment will either be sold or made available to registered scrap metal dealers for export to recyclers.
Power Generation Areas	Main Power Generation Area	Obsolete Spare Parts: Oil Filter and Air Filters	<ul style="list-style-type: none"> • Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; • Obsolete spare parts and mechanical equipment will either be sold or made available to registered scrap metal dealers for export to recyclers.
		Spent Lubricating Oil	<ul style="list-style-type: none"> • Spent lubricating oil collected in drip trays during maintenance procedures will be subsequently emptied into a storage drum, from which it is sold to loggers and/or collected by contracted waste management service provider
Refrigeration Systems	Compressor Rooms Refrigeration Containers Air Conditioning Units Ice Making Plants	Obsolete Spare parts Old Oil Filters Old Air Filters Machinery Wastes – Old Compressors and Electrical Motors	<ul style="list-style-type: none"> • Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; • Obsolete spare parts and mechanical equipment will either be sold or made available to registered scrap metal dealers for export to recyclers.
		Spent Lubricating Oil	<ul style="list-style-type: none"> • Spent lubricating oil collected in drip trays during maintenance procedures will be subsequently emptied into a storage drum, from which it is sold to loggers and/or collected by contracted waste management service provider
All Maintenance and Machining Workshop Facilities		Obsolete Spare parts	<ul style="list-style-type: none"> • Obsolete spare parts and equipment will be accumulated at the southern end of property until usable components are reduced; • Obsolete spare parts and mechanical equipment will either be sold or made available to registered scrap metal dealers for export to recyclers.
		Old Oil Filters	
		Old Air Filters	
		Metal Fragments	
		Machinery Wastes	<ul style="list-style-type: none"> • All waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
		Wood Fragments and Shavings	
		Spent Lubricating Oil	<ul style="list-style-type: none"> • Spent lubricating oil collected in drip trays during maintenance procedures will be subsequently emptied into a storage drum, from which it is sold to loggers and/or collected by contracted waste management service provider
Storage Areas	Lumberyard	Wood Fragments and Shavings	<ul style="list-style-type: none"> • All packaging waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
		Packaging Wastes (Glass, Metal and Plastic)	
		Packaging Wastes	
Boat Building Section	Boat Building Area	Wood Fragments and Shavings	<ul style="list-style-type: none"> • All waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
		Packaging Wastes	
Dry Dock Facilities	Dry Dock Facilities #1 and 2	Effluent from maintenance activities	<ul style="list-style-type: none"> • Prior to pressure washing the surface of the dry dock, all residues that accumulate after vessel hull cleaning will be removed and disposed of.

Location	Specific Areas	Type of Waste Generated	Mitigation Measures
		performed on dry dock	<ul style="list-style-type: none"> Waste water treatment solutions will be explored for commissioning
		Rinsate from Bilge and Ballast Tanks	<ul style="list-style-type: none"> All waste water generated as a result of the flushing of the bilge and ballast water containments aboard fishing vessels in dry dock will be collected, treated and appropriately disposed of by contracted waste disposal services; Waste water treatment solutions will be explored for commissioning.
Staff Facilities	Administrative Offices	Office Wastes: Paper, Packaging Wastes, Food Wastes	<ul style="list-style-type: none"> All packaging waste material will be placed into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service provider for disposal at the Haag's Bosch Landfill Site.
	Food Preparation Areas	Organic Wastes (Fruit and Vegetable Peelings, Food scraps) and Packaging	<ul style="list-style-type: none"> All solid waste material will be placed by sanitation staff into plastic drums painted yellow located in strategic locations around the complex to be collected once per week by a contracted waste collection service for disposal at the Haag's Bosch Landfill Site.
		Waste Oil	<ul style="list-style-type: none"> All used cooking oil will be accumulated in bottles and collected for disposal by a locally contracted waste management service provider.
	All Ablution Facilities (Sewage Treatment Structures)	Human Excreta and Urine	<ul style="list-style-type: none"> All sewage generated is pretreated and effluent discharged into the Demerara River system All septic tanks are to be desludged by locally contracted Waste Management Service providers on a quarterly basis.

5.2.7 Biodiversity Management

In order to certify that fish and shrimp stocks are not unsustainably extracted from designated fishing and shrimping zones by trawling vessels owned and operated by Pritipaul Singh Investments, Mid Atlantic Seafoods, we will ensure that:

- All Fishing and Shrimping Trawlers owned and operated by the company must fulfill the stipulated requirements to be issued with Annual Fishing Licenses;
- Continual Monitoring of the Geographic position of Fishing and Shrimp Trawling Vessels is done by the Fleet Supervisor at PSI (Mc Doom) using Global Positioning and VHF/SSP Radio Systems;
- All fishing and shrimping vessels fully adhere to the stipulated catch time/ year requirement of the Ministry of Agriculture, Fisheries Department
- All licensed vessels owned and operated by PSI Incorporated returning to Port after fishing and shrimping trips are boarded for inspection by fisheries officers;
- Closed fishing and shrimping season requirements imposed by the Ministry of Agriculture; Fisheries Department are adhered to;
- Vessel Monitoring System (VMS) are installed, functioning and not tampered with.
- All fishing and shrimping gear are equipped with bycatch reduction devices (BRD's) and turtle exclusion devices (TEDs).

5.2.8 Energy Conservation

Energy Consumption Impacts identified will be managed using the following mitigation measures identified in **Box 6** below.

Box 6: Energy Conservation Measures

- An energy conservation programme must be implemented to minimize wastage of energy resources.

5.2.9 Water Conservation

Water Consumption Impacts identified will be managed using the following mitigation measures identified in **Box 7** below.

Box 7: Water Conservation Measures

- A water conservation programme must be implemented to minimize wastage of water resources.

5.3 Description of Health and Safety Risk Control Measures

This subsection provides a description of the mitigation measures that will be implemented by Pritipaul Singh Investments Incorporated to address the significant health and safety risks identified in **Section 4.4.1.12.1** above in regard to the operations of all elements of the Seafood Processing Plants and Associated Supporting Facilities. The mitigation measures identified are based on the best available management practices and technologies that will eliminate or minimize health and safety risks.

The mitigation measures that will be proposed for implementation in the following sub-sections will address health and safety risks.

5.3.1 Occupational Health and Safety Risk Control Measures

In an effort to continually address the range of hazards to which workers of Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods) are exposed, the following measures are to be implemented as per **Table 24 below**.

Table 24: Occupational Health and Safety Control Measures

Hazards	Locations	Health and Safety Measures
Physical Hazards (Falls caused by slippery floors, equipment safety issues associated with knives and other sharp tools; cuts from sharp edges of processing equipment)	Fish and Shrimp Processing Areas	<ul style="list-style-type: none"> • Floors in the processing areas have been designed to be non-skid. However, if the floor become slippery efforts are immediately made through the application of an absorbent material and/or chlorine to the floor and it is pressure washed; • In accordance with the existing Standard Operating Procedure, If there is a minor injury to a worker, the staff nurse will take the necessary steps to treat the injury, and if the staff nurse is unable to successfully treat the injured staff, he/she will be referred to the nearest public or private health care facility. • Staff members are to be routinely offered Health and Safety Training
Biological Hazards (Infections or allergic reactions caused by exposure to bacteria present in fish and aerosols formed during spraying process)	Fish and Shrimp Processing Areas	<ul style="list-style-type: none"> • Employees processing fish will be required to utilize protective gloves while performing duties. • In accordance with the existing Standard Operating Procedure, if an infection or an allergic reaction occurs, as a result of direct exposure to fish of bacterial in the fish or to the aerosols formed during the spraying process, the affected person(s) will be examined first by the staff nurse who will assess the case before referring the affected person(s) to the hospital or pharmacy; • Staff members are to be routinely offered Health and Safety Training
Lifting, Carrying and Repetitive Work Injuries	Fish and Shrimp Processing Areas	<ul style="list-style-type: none"> • For jobs involving bad working posture, staff will be required to take Intermittent breaks. • Employees processing fish will be required to utilize protective gloves while performing duties.

Hazards	Locations	Health and Safety Measures
		<ul style="list-style-type: none"> In accordance with the Standard Operating Procedure, If a staff suffers from repetitive strain injuries, he/she is seen by the Nurse who advises on what should be done. Persons suffering from these injuries may also be reassigned so as not to have a reoccurrence. Staff members are routinely offered Safety Training
Fire and Explosion Hazards	Entire Complex	<ul style="list-style-type: none"> An Emergency Response Plan exists to articulate a framework of response to be adhered to in cases of emergencies involving fires and the release of ammonia; A team of fire wardens is responsible for surveillance of the property during periods of low occupancy; In cases of emergency, there are a number of key pieces of safety equipment strategically located around the complex. These include: fire alarms, fire extinguishers, fire hoses with pressurized water supply and sand buckets
Exposure to Chemicals	Warehouse (Cleaning and Sanitizer Storage Areas)	<ul style="list-style-type: none"> Employees handling chemicals will be required to utilize personal protective equipment (protective clothing and eye wear).
	Fish and Shrimp Processing Plants (Clean up)	
Exposure to Heat and Cold	Cold Storage Areas (Blast Freezers, Plate Freezers, Ice Making Plants, Refrigeration Containers Compressor Rooms	<ul style="list-style-type: none"> Employees frequenting cold and hot environments will be required to utilize the following provided personal protective equipment: freezer coats, long boots, safety boots, hard hats, gloves, totes, rain gears and umbrellas Employees working in cold areas and those working in hot are required not to expose themselves to temperatures, the opposite of which they are working.
Exposure to Noise and Vibrations	Maintenance and Machining Workshops	<ul style="list-style-type: none"> Employees frequenting noisy working environments will be required to utilize provided personal protective equipment such as Ear plugs, ear muffs and gloves. Staff working in noisy environments will be required to take intermittent breaks to minimize the duration of exposure.
	Compressor Rooms	
	Water Abstraction, Treatment, Storage and Supply Area	
	Power Generation Area	
Drowning Hazards	Fishing and Shrimping Vessels	<ul style="list-style-type: none"> Employees working aboard Fishing and Shrimping Vessels will be required to utilize life jackets
	Dry Dock Facilities	<ul style="list-style-type: none"> In cases of emergencies, the man overboard safety equipment pre-positioned along the wharf will be utilized.
	Wharf	

SECTION 6: MONITORING AND AUDITING

6.1 Overview

This section of the document describes the health, safety and environmental performance monitoring and auditing programme that will be operationalized by Pritipaul Singh Investments Incorporated during the operational life of the Seafood Processing Plant and Associated Supporting Facilities in order to ensure that all activities with the potential to cause significant adverse environmental and health and safety impacts, are conducted in a manner that protects and maintains environmental quality and controls health and safety risks.

6.2 Monitoring and Auditing

6.2.1 Environmental Performance Monitoring

In an effort to ensure that the Environmental Management system established by Pritipaul Singh Investments, Mid Atlantic Seafoods based at Providence on the East Bank of the Demerara River, functions optimally, the **Environmental Management Coordinator** (or a suitable designee appointed) will be responsible for the coordination of the Environmental performance monitoring functions of this Seafood Processing Complex in collaboration with a **retained Environmental Consultant**. Designated personnel - as defined in Table X below will render support for these vital functions that must be performed.

Special attention will be placed on the following elements in the organizations' environmental performance monitoring system in an effort to determine the effectiveness of mitigation options proposed for implementation.

- 1) **Air Quality Management (Gaseous Pollutants, Noxious Odours and Dust)**
- 2) **Noise and Vibration Management**
- 3) **Energy / Thermal Emission Management**
- 4) **Land/ Soil Management**
- 5) **Surface Water Management**
- 6) **Waste Materials Management**
- 7) **Biodiversity Management – Resource Usage (Fish and Shrimp Stocks)**
- 8) **Use of Energy**
- 9) **Use of Water**
- 10) **Occupational Health and Safety Risk Control Measures**

This system will not only allow for the generation of useful information to adjudge Mid Atlantic Seafood's Shrimp and Fish Processing Complex's, environmental performance, but this information will also be used to determine when corrective actions are required. **Table 25 below** identifies the Environmental Performance Monitoring Plan that will be used.

Table 25: Environmental Performance Monitoring Plan

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
Area 1: Air Quality Management								
Gaseous Pollutants – Combustion Gases								
Emissions from Power Generation Area	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000	Monitor gaseous emissions into the air	PM 2.5 PM 10 Carbon Monoxide (CO); Nitrogen Dioxide (NO2); Sulphur Dioxide (SO2) Volatile Organic Compounds (VOCs)	Refer to Permit Stipulated Limits	End of Stack	Utility/ Maintenance Manager Contractor: IMEX Environmental Services Guyana	Bi Annually	Main Power Generation Area
Emissions from Light and Heavy-Duty Motor Vehicles, Marine Vessels and Outdoor Power Equipment	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000	Monitor gaseous emissions into the air	PM 2.5 PM 10 Carbon Monoxide (CO); Nitrogen Dioxide (NO2); Sulphur Dioxide (SO2) Volatile Organic Compounds (VOCs)	Refer to Permit Stipulated Limits	End of Stack	Utility/ Maintenance Manager Contractor: IMEX Environmental Services Guyana	Biannually	<ul style="list-style-type: none"> Light and Heavy-Duty Motor Vehicles Marine Vessels Outdoor Power Equipment
Gaseous Pollutants – Noxious Odours								
Emissions from Processing and Non-Processing Areas	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000	Monitor odour emissions to the air	Odour observation	Intensity >2 Extent >2	<p>During site walkovers a daily olfactory assessment of odours must be undertaken at the identified locations. The odour score will be gauged against a scale of 1 to 5 for intensity and extent of odours.</p> <p>Intensity</p> <p>1 – No detectable odour 2- Faint 3 – Moderate 4 - Strong 5 - Very Strong</p>	Fish Production Manager Shrimp Production Manager Quality Control Officers Utility and Maintenance Manger Contractor: IMEX Environmental Services Guyana	Daily	<ul style="list-style-type: none"> Entire Wharf All Raw Product Discharge and Receiving Areas Compressor Rooms Well Water Abstraction, Treatment and Supply Area Raw and Finished Product Storage Areas All Fish Processing Plants (Fresh, Dried Salted and Smoked Fish Products) Entire Fish and Shrimp Processing Plant All Waste Material Holding Area

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
					<u>Extent</u> 1 – Local and Persistent 2 – Impersistent 3 – Persistent 4 – Persistent and Pervasive			<ul style="list-style-type: none"> • Ablution Facilities (Toilets, Bathrooms) • Septic Tank Structures • Food Preparation and Consumption Areas • Lumberyard • Underground Reservoir • All Staff Facilities (Dead Rodents and other vermin)
Gaseous Pollutants – Chemical Agents								
Emissions from Chemical Storage and Handling Areas	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000	Monitor gaseous emissions into the air	PM 2.5 PM 10 Carbon Monoxide (CO); Nitrogen Dioxide (NO2); Sulphur Dioxide (SO2) Volatile Organic Compounds (VOCs)	Refer to Permit Stipulated Limits	Property Boundary	Utility/ Maintenance Manager Contractor: IMEX Environmental Services Guyana	Biannually	<ul style="list-style-type: none"> • All Fuel Storage and Dispensing Locations on site • All Compressed Gas Cylinder Storage Areas • Secured Chemical Storage Area • Industrial Cleaning Product (Quat Sanitizer) Storage Area • Well Water Abstraction, Storage, Treatment and Supply Area • Dry Dock Facilities • All Maintenance and Machining Workshop Facilities (Welding, Carpentry, Net and bridle, Machine, Caterpillar engine repair, Fuel pump repair and Vehicle maintenance) • All Industrial Refrigeration System Components (Compressor Rooms)
Gaseous Pollutants – Dust/ Particulates								
Emissions from Dust Generating Activates and Locations	Environmental Permit to be Issued under the Environmental Protection	Monitor dust emissions into the air	Dust observation	Less than 3 on the scale	During walkovers use observations of dust at key receptor locations	Utility/ Maintenance Manager	Daily	<ul style="list-style-type: none"> • All Maintenance and Machining Workshop

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Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
	Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000				will be gauged against a scale of 1 to 4 as identified: 1 – Not Noticeable 2 – Slight dust 3 – Moderate dust 4 – Unacceptable dust (remedial action required)			<div>Facilities (Welding, Carpentry, Net and bridle, Machine, Caterpillar engine repair, Fuel pump repair and Vehicle maintenance)</div> <ul style="list-style-type: none">Boat building SectionDry Dock FacilitiesPaved Areas
		Monitor gaseous emissions into the air	PM 2.5 PM 10	Refer to Permit Stipulated Limits	Property Boundary	Utility/ Maintenance Manager Contractor: IMEX Environmental Services Guyana	Biannually	
Area 2: Noise and Vibration Management								
Emissions from Significant Noise Generating Equipment	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor noise emissions into the environment from noise making devices	Noise Levels in decibels (dB) during the day and night respectively	Day - 100 dB Night - 80 dB	Use of decimeter to take noise level readings at a distance of 50 feet from the source of emission.	Utility/ Maintenance Manager Contractor: IMEX Environmental Services Guyana	Daily	<ul style="list-style-type: none">All Equipment in Fish and Shrimp Processing PlantsAll Power Generation AreasAll Industrial Refrigeration System Components (Compressor Rooms)Water Treatment PlantAll Maintenance and Machining Workshop Facilities (Welding, Carpentry, Net and bridle, Machine, Caterpillar engine repair, Fuel pump repair and Vehicle maintenance)Dry Dock FacilitiesIce Making PlantsSubmersible Pump in Underground Reservoir

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
								<ul style="list-style-type: none"> Outdoor Power Equipment Externally Mounted Air Conditioning Units All Refrigeration Containers/ Truck Areas
Area 3: Energy and Thermal Emissions								
	Internal Requirements	Monitor Air Temperature	Temperature (degrees Celsius)		Monitoring Air Temperature	Utility/ Maintenance Manager	Weekly	<ul style="list-style-type: none"> In the vicinity of the Power Generation Area and Compressor Room for the Industrial Refrigeration System
Area 4: Land/ Soil Management								
	Internal Requirements	Provisions for the containment of accidental chemical releases into the environment	<ul style="list-style-type: none"> Presence of spill kits Condition of storage area Presence of secondary containment Presence of Danger Signage and other Notifications Availability of Safety Apparel Availability of an updated compendium of MSDS for each Chemical in Storage to provide guidance in response to emergency situations Documented Procedures for Emergency Situations (Fires etc.) 	Full Adherence to requirements	Visual Appraisal	Health and Safety Manager	Weekly	<ul style="list-style-type: none"> All Fuel Storage Area Compressed Gas Storage Areas Warehouse – Chemical Storage Areas (Lockable Cages and Quat Sanitizer Storage Area) Maintenance Workshops
Area 5: Surface Water Quality Management								
Emissions to Surface Water	Environmental Permit to be Issued under the Environmental Protection	Monitor all discharges into the environment	Temperature pH TSS	< 40°C 5.0-9.0 < 50 mg/l	Collection of Effluent samples from identified sampling points and	Contractor:	Quarterly	<ul style="list-style-type: none"> Seafood Processing Area: Fish and Shrimp Plants

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
	Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)		BOD COD Oil and Grease Ammonia (NH3) Chloroform	< 50 mg/l < 250 mg/l <10 mg/l < 5 mg/l < 0.002 mg/l	chemical analysis of the same at the analytical laboratory of Kaizen Environmental Services (Guyana) Limited	IMEX Environmental Services Guyana		<ul style="list-style-type: none"> All Maintenance and Machining Workshop Facilities (Welding, Carpentry, Net and bridle, Machine, Caterpillar engine repair, Fuel pump repair and Vehicle maintenance) Well Water Treatment Plant Fishing and Shrimping Vessel (Ballast/ Bilge Water) Septic Tanks Aboveground Fuel Storage Areas (Proximal Drains) Underground Reservoir for Onsite drainage system Dry-Dock Facilities (during Maintenance Activities)
River Water Quality	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor water quality of river system, during the dry and rainy seasons	Temperature pH TSS BOD COD Oil and Grease Ammonia (NH3) Chloroform	< 40°C 5.0-9.0 < 50 mg/l < 50 mg/l < 250 mg/l <10 mg/l < 5 mg/l < 0.002 mg/l	Collection of Effluent samples from identified sampling points and chemical analysis of the same at the analytical laboratory of Kaizen Environmental Services (Guyana) Limited	Contractor: IMEX Environmental Services Guyana	Semi Annually	<ul style="list-style-type: none"> Upstream and Downstream of PSI Inc. (Demerara River)
Raw Well water quality (Heavy Metals)	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor quality of raw well water samples, during the dry and rainy seasons	Iron Copper Zinc Lead Manganese Arsenic E. Coli Total Coliform	2.0 mg/l 2.0 mg/l 3.0 mg/l 0.01 mg/l 0.4 mg/l 0.01 mg/l 0/100 ml 0/100 ml	Collection of Effluent samples from identified sampling points and chemical analysis of the same at the analytical laboratory of Kaizen Environmental Services (Guyana) Limited	Contractor: IMEX Environmental Services Guyana	Annually	<ul style="list-style-type: none"> Artesian Well #1 Artesian Well # 2

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
Raw water quality (Micro biologicals)	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor quality of raw well water samples, during the dry and rainy seasons	E. Coli Total Coliform	0/100 ml 0/100 ml	Collection of Effluent samples from identified sampling points and chemical analysis of the same at the analytical laboratory of Kaizen Environmental Services (Guyana) Limited	Contractor: IMEX Environmental Services Guyana	Semi Annually	<ul style="list-style-type: none"> Artesian Well #1 Artesian Well # 2
Area 6: Waste Management								
Waste Management – Solid, Liquid and Hazardous Waste								
Monitor waste storage, handling, transportation and disposal practices	BRC Quality Manual and Best Management Practices Reference Book –PSI Inc. HACCP Plans-Fish and Shrimp Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor waste storage, handling, transportation and disposal practices	<ul style="list-style-type: none"> Use of waste collection and storage receptacles Use of transport equipment List of contracted waste collection Service Providers, Recyclers and Protein Recovery Companies Updated records for the quantum of each category of waste generated and disposed of by the above service providers, 	Full Adherence to Documented Waste Handling Procedures	Routine Monitoring of Working Areas	Quality Control Manager Sanitation Supervisor	Daily	<ul style="list-style-type: none"> Entire Complex:
Area 7: Biodiversity Management – Sustainable Extraction of Fish and Shrimp Stocks								
Sustainable Extraction of Fish and Shrimp Stocks in accordance with the codes of practice of the Fisheries Department and Veterinary Public Health	Ministry of Agriculture, Fisheries Department Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)		<ul style="list-style-type: none"> Presence of operational Vessel Monitoring Systems Fishing gear with Turtle Exclusion Devices and Bycatch Reduction Devices Adherence to Compulsory Closed Fishing and Shrimping Season requirements 	Full Adherence to requirements	Review of actual documentation	Fleet Supervisor	Daily	<ul style="list-style-type: none"> Fishing and Shrimping Vessels

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
			<ul style="list-style-type: none"> Adherence to Fisheries Department Catch time per year requirements 					
Area 8: Use of Energy								
Use of Energy	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor Energy Consumption	<ul style="list-style-type: none"> Electricity consumption in Kw/h 	To be determined (TBD)	Review of energy consumption levels	Utility/ Maintenance Manager	Monthly	<ul style="list-style-type: none"> All aspects of the operations of Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods)
Area 9: Use of Water								
Use of Water	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor Water Consumption	<ul style="list-style-type: none"> Water consumption in cubic meters 	To be determined (TBD)	Review of energy consumption levels	Utility/ Maintenance Manager	Monthly	<ul style="list-style-type: none"> All aspects of the operations of Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods)
Area 10: Occupational Health and Safety								
Health and Safety Requirements	Environmental Permit to be Issued under the Environmental Protection Act, No. 11 of 1996, The Environmental Protection (Amendment) Act, 2005, and Environmental Protection Regulations 2000)	Monitor Occupational Safety and Health (OSH) conditions in the workplace.	<ul style="list-style-type: none"> Use of Occupational Safety and Health (OSH) Procedures Use of Personal Protective Equipment/ Safety apparel by staff Provision of training to all staff Danger Signage and Security Measures Condition of fire suppression equipment and structures; 	Full adherence to OH&S Requirements	Routine audit of OH&S System Performance	Health and Safety Coordinator	Quarterly	<ul style="list-style-type: none"> All aspects of the operations of Pritipaul Singh Investments Incorporated (Mid Atlantic Seafoods)

Operational Area	Source of Monitoring Requirement	Monitoring Requirement	Parameter(s)	Threshold Levels	Measurement Methods	Responsibility	Frequency	Location(s)
			<ul style="list-style-type: none">• Condition of fuel and chemical storage containers and secondary containments• Availability of First Aid Kits for use in cases of emergency• Inspections of all work areas to ensure conformance with safety requirements.• Reports from emergency planning, accident reports and emergency incidents					

6.2.2 Reporting Requirements

Pritipaul Singh Investments Incorporated will be required to generate the following reports as part of its own organizational efforts to track Health, Safety, and Environmental performance and as part of the Environmental Protection Agency's compliance requirements given its status as a permit holder.

For internal and external purposes, the following reports would be required: incident reports, annual environmental reports, and Internal audit reports.

The following sub-sections will elaborate on the types of reports that will be generated by for its Machining Workshop operations.

6.2.2.1 Incident Reports

In the event of the occurrence of an emergency incident with actual and potential significance for impacts on the environment, the General Manager or a duly authorized designate of the Machining Workshop Facility will notify the Environmental Protection Agency and other relevant authorities immediately and provide an Incident report outlining the details of the incident within twenty-four (24) hours of the incident.

Incident Reports will be filed with the Environmental Protection Agency for the following: incidents: Fuel or Chemical Spills, Accidents and Injuries sustained

6.2.2.2 Periodic or Annual Performance Reporting

Pritipaul Singh Investments Incorporated will prepare and submit to the Environmental Protection Agency on an annual basis, an Annual Environmental Report (AER) on the previous year's activities.

The above referenced report will be prepared in accordance with the guidance furnished in the Environmental Protection Agency's "Guidelines for the preparation of an Annual Environmental Report," and it will contain information on: (a) initiatives taken by the management of the IAL Engineering Services Guyana Incorporated to adhere to the terms and conditions specified therein by thematic areas of the permit.

6.2.2.3 Internal Audit Reports

In an effort to ensure that the Health, Safety and Environmental performance of the Pritipaul Singh Investments Incorporated – Seafood Processing Plant and Associated Facilities is maintained to a high standard, a number of internal reviews will be periodically undertaken during the course of the operating year and made part of the institution's mandatory quality improvement efforts. PSI Incorporated will facilitate these internal reviews on a yearly basis.

The findings and results documented during this internal review process will be presented to the Board of Directors in the form of an Internal Audit Report for comprehensive review and eventual consideration for corrective action.

SECTION 7: ANNEX

Annex 1: Approvals/ Permissions

Annex 2: Environmental Testing Reports

2.1 Surface Water Samples

Certificate of Analysis COA230516-01



Client	Pritipaul Singh Investments Inc.
Contact	Dianna Johnnie
Physical Address	Providence East Bank Demerara Demerara-Mahaica Guyana
Email Address	QC-Manager@psiguyana.com
Date Published	2023-05-16
Published by	Thelesha Gray (thg6077@imexlogic.com)

IMEX Incorporated
Supervisor : Thelesha Gray
151 Karabiru Street Section C
Enterprise
East Coast Demerara
Guyana
www.imexlogic.com

Results

Lab Analyses

Sample ID			WTR23-0579	WTR23-0578	WTR23-0577
Client Sample ID			Downstream	Upstream	Effluent Discharge Point
Sample Type			Water	Water	Water
Sample Point			Downstream	Upstream	Effluent Discharge Point
Date Sampled			2023-05-06	2023-05-06	2023-05-06
Date Received			2023-05-06	2023-05-06	2023-05-06
Date Verified			2023-05-16	2023-05-16	2023-05-16
Water - Physical Properties		Method	Unit	Result	Result
Suspended Solids, Total		APHA 2540-D	mg/L	364.7	556.7
Temperature		APHA 2550B	°C	30.7	30.4
Water - Organic		Method	Unit	Result	Result
Oil & Grease		ASTMD 7066	mg/L	< 0.1	< 0.1
Water - Inorganic		Method	Unit	Result	Result
Ammoniacal Nitrogen (TAN)		Nessler	mg/L	4.64	4.41
Biochemical Oxygen Demand		APHA 5210 USEPA 405.1	mg/L	5.40	4.40
Chemical Oxygen Demand		USEPA 410.4	mg/L	1364	328
Hydrogen (pH)		APHA 4500-H	S.U.	6.1	6.8

2.2 Water Testing Report for High Capacity Water Storage Reservoir



STICHTING VISKEURINGSINSTITUUT
(COMPETENT AUTHORITY OF INDUSTRIAL QUALITY IN FISHERY AND AQUACULTURE)
Vangbalstraat 29, Bethesda, Paramaribo - Suriname
Telephone: +597- 480380 / 480042 / +597- 8737821 E-mail: viskeuringsinstituut@gmail.com Website: www.vki.sr



Signatory to the IAAC MLA and
ILAC MRA for the accreditation
of testing laboratories to
ISO/IEC 17025

VKI_LAB/FOR/30T_P24

Versie: 11_16 juni 2023

Monstercode: 1323/2023

TESTRAPPORT MICROBIOLOGISCHE PARAMETERS van WATER

INFORMATIE VERSCHAFT DOOR DE KLANT *:

KLANTGEGEVENS

Aanvrager: Bedrijf t.b.v. Autocontrole (AC)
Naam van het bedrijf: Pritipaul Sing Investments Inc.
Adres: 51-52 Providence, East Bank Demerara Guyana
Erkenningsnummer: -----
Datum monstername: 05 juli 2023
Tijd monstername: 05:32 uur
Monsternamen uitgevoerd door: Pritipaul Sing Investments Inc.
Bemonsteringsschema: AC conform bemonsteringsplan van de inrichting

GEGEVENS VAN HET MONSTER

Lokatie: Water Reservoir

**Het VKI laboratorium is niet verantwoordelijk voor enige informatie verschaft door de klant en de mogelijke invloeden op de geldigheid van de testresultaten.*

RAPPORTAGE GEGEVENS VKI LAB

Datum monsterontvangst VKI lab: 05 juli 2023
Tijd monsterontvangst VKI lab: 12:45 uur
Test datum: 05 juli 2023
Labcode: 1323/2023/MW



VKI_LAB/FOR/30T_P24

Versie: 11_16 juni 2023

Monstercode: 1323/2023

Tabel 1: Resultaten *Escherichia coli* & Totale Coliformen

Parameter	<i>Escherichia coli</i> Q*	Totale Coliformen Q*	Criteria
Test methode:	VKI_LAB/SOPM10 Meetonzekerheid= 0,002 kve/ 100 ml, k=2		Microbiologische criteria waar van toepassing: Proceswaterbeschikking SB 2016 No. 108
	0 kve/ 100 ml	0 kve/ 100 ml	- <i>Escherichia coli</i> : 0 kve/100 ml
Resultaat	Pass	Bij conformiteitsverklaringen in dit rapport is de volgende beslissingregel (decision rule) van toepassing: PASS: Resultaat ± meetonzekerheid valt binnen criteria FAIL: Resultaat ± meetonzekerheid overschrijdt criteria UNDETERMINATE: Resultaat ± meetonzekerheid overlapt criteria	

Het Hoofd van het Laboratorium,

07/07/23

 Mevr. S. Kariem- Janki



Pagina 2 / 2

VKI Laboratory is accredited by the Jamaica National Agency for Accreditation (JANAAC) in accordance with ISO/IEC 17025 criteria for test laboratories. Opinions and interpretations are not covered by accreditation. Only "Q"-marked results relate to activities included in the accredited scope.

2.3 Well Water Testing Report



STICHTING VISKEURINGSINSTITUUT (COMPETENT AUTHORITY OF INDUSTRIAL QUALITY IN FISHERY AND AQUACULTURE)

Vangbalstraat 29, Bethesda, Paramaribo - Suriname
Telephone: +597- 480380 / 480042 / +597- 8737821 E-mail: viskeuringsinstituut@gmail.com Website: www.vki.sr

VKI_LAB/FOR/30A_P24

Versie: 05_01 augustus 2022

Monstercode: 1339/2023

CHEMISCHE PARAMETERS van WATER

INFORMATIE VERSCHAFT DOOR DE KLANT *:

KLANTGEGEVENS

Aanvrager: Bedrijf t.b.v. Autocontrole (AC)
Naam van het bedrijf: Pritipaul Sing Investments Inc.
Adres: 51-52 Providence, East Bank Demerara Guyana
Erkenningsnummer: -----
Datum monsternamen: 05 juli 2023
Tijd monsternamen: -----
Monsternamen uitgevoerd door: Pritipaul Sing Investments Inc.
Bemonsteringsschema: AC conform bemonsteringsplan van de inrichting

GEGEVENS VAN HET MONSTER

Lokatie: Water from well

**Het VKI laboratorium is niet verantwoordelijk voor enige informatie verschaft door de klant en de mogelijke invloeden op de geldigheid van de testresultaten.*

RAPPORTAGE GEGEVENS VKI LAB

Datum monsterontvangst VKI lab: 05 juli 2023
Tijd monsterontvangst VKI lab: 13:00 uur
Test uitgevoerd door : Bureau voor Openbare Gezondheidszorg (BOG) Centraal laboratorium
Test datum: 07 – 26 juli 2023

Resultaat

Zie bijlage RAPPORT CHEMISCHE ANALYSE Centraal Laboratorium

Het Hoofd van het Laboratorium,


Mevr. S. Kariem- Janki





BUREAU VOOR OPENBARE GEZONDHEIDSZORG
DEPARTEMENT VAN VOLKSGEZONDHEID

Rodekruislaan nr.22 – P.O.Box 767 – Republiek Suriname - Paramaribo
Tel. no. 499494 – Fax 491452

Rapport Chemische analyse v1, CLCHEM-F076, d.d. 26-06-19

Opdrachtgever: Viskeuringsinstituut
Contactpersoon: Mw. Colli
Adres: Vangbaistraat #29
Telefoon no.: 480380

Chemisch Onderzoek:

Datum ontvangst: 07-07-2023
Datum analyse: 07-07-2023 t/m 26-07-2023
Datum afgifte: 26-07-2023

Labcode	Naam/ Omschrijving	Prod. datum	Verval datum	Lot. no.
CW23-110	Water/ Water from well Monstercode: 1339/2023 Datum monstername: 05-07-2023			

Pritipaul Singh Investments Inc.

Resultaten

Parameter	Labcode	Concentratie	Eenheid	SOP
	CW23-110			
Cadmium		< 0.05	mg/l	SMEWW-3111-B
Koper		< 0.05	mg/l	SMEWW-3111-B
Lood		< 0.05	mg/l	SMEWW-3111-B
Mangaan		< 0.05	mg/l	SMEWW-3111-B
Ijzer		1.1	mg/l	SMEWW-3111-B
Zink		< 0.05	mg/l	SMEWW-3111-B

Stichting UKI
Viskeuringsinstituut
CS. Kariem - Janki
08/08/23

Opmerking(en): Kwik is tijdelijk niet uitvoerbaar.

Resultaten goedgekeurd door: Q. Joemai B. Tech

Rapport opgesteld door: Orië. S.

Functie: Hoofdanalist

Functie: Analist

Centraal Laboratorium

Rode Kruislaan BR11AC, Republiek Suriname - Paramaribo
Tel. no. 498598/ 499061/ 497511
CLCHEM-F076 version 1, 26-06-2019
Document control approved by: M. Mangre

De resultaten zijn gerelateerd aan de monsters zoals aangeleverd.
Dit rapport mag alleen in zijn geheel vermenigvuldigd worden.

Annex 3: Architectural and Engineering Drawings

3.1 Site Plan and Layout of Seafood Processing Plant and Associated Facilities

Annex 4: Listing of Chemicals Used

Annex 5: Material Safety Data Sheets (MSDS) – Chemicals

Annex 6: Emergency Response Plans/ Safety Plans

SECTION 8: BIBLIOGRAPHY

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