BLUE CONTINENT PRODUCTS

AN OCEANA GROUP COMPANY


# BLUE CONTINENT PRODUCTS/ ERONGO MARINE ENTERPRISES

# ENVIRONMENTAL MANAGEMENT PLAN

# FEBRUARY 2024

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## 1. Introduction

Blue Continent Products (BCP) a subsidiary of Oceana Group Limited, which operate in the southern African fishing industry, and trades in several fish products sourced and sold around the globe.

Oceana's horse mackerel business is conducted through BCP in South Africa; **Erongo Marine Enterprises (EME) in Namibia** and Oceana International on the Isle of Man. Oceana operates two horse mackerel vessels in Namibia and one in South Africa, which fish all year round. Subsidiary Oceana International is a trading company sourcing fish, including horse mackerel, from a variety of sources. Horse mackerel is widely consumed in Southern, Central and West Africa from South Africa to Ghana and Nigeria. Oceana, through its subsidiaries, is active in all these markets.

In South Africa, BCP harvests, processes and distributes more than 80% of the total horse mackerel quota in partnership with various quota holders. BCP harvests the quotas with the use of its R280 million trawler MFV Desert Diamond. A large percentage of the horse mackerel is exported to Africa. The company is committed to the development of the local market.

Namibian operations

The Namibian operation, **Erongo Marine Enterprises (Pty) Ltd**, is centred in Walvis Bay, a hub of the Southern African fishing industry. Here, selected joint ventures with key empowerment partners afford us access to sustainable quotas plus a wealth of local expertise. It caught using deep-sea trawlers Desert Ruby and Desert Jewel.

Oceana's South African vessel, the Desert Diamond, has scientific observers on board for every trip. They collect data for research purposes, as well as carrying out compliance duties. In Namibia, the vessels carry two fisheries inspectors who act as compliance observers. Oceana's product quality controllers are on board every fishing trip in South Africa and Namibia. Training of local marine engineers and technical staff continues, supported by graduate recruitment programmes.

Hake

BCP operates five bottom trawlers which catch hake, monk, kingklip and other by-catch which are processed and frozen at sea and one wet fish trawler (Isabella Marine). The hake catch is made up of its own quota allocation, as well as that of its JV partners. It caught using deep-sea trawlers, Compass Challenger and Realeka as well as the two trawlers Sandile, Beatrice and Toralla, which some were acquired from the Lusitania group in September 2012. All trawl hake and by-catches are boxed and frozen at sea.

The hake products are sold locally and exported to markets in Spain, Portugal, Netherlands, Australia and Korea. BCP holds a Marine Stewardship Council (MSC) certificate for compliance with the MSC chain of custody requirements for its hake products. The South African hake fishery is MSC certified, which confirms compliance with the MSC's rigorous standards concerning responsible and sustainable fishing. The wet fish product is harvests from sea and processed at the Amawandle Factory within the Cape Town Harbour, for sale to shop outlets.

### 1.1. Purpose of the Environmental Management Plan (EMP)

The EMP has been compiled to provide recommendations and guidelines to achieve sustainable development. The EMP provides norms and standards to which management measures, compliance and monitoring should be done in all stages of the operations, with reference to the prevention and mitigation of anticipated potential environmental impacts.

The purpose of EMP is to ensure that the impacts of the operation on the environment are avoided or minimized.

The objectives of EMP are to:

- Identify the possible environmental impacts of associated with BCP's activities, specifically the vessels.
- Develop measures to minimise, mitigate and manage these impacts.
- Minimize negative environmental impacts associated with our activities.
- Outline best practicable environmental options.
- Optimize positive environmental impacts.
- Adopt Integrated Environmental Management in all project life cycle.
- Ensure compliance.
- Incorporate the views of interested and affected parties (IAPs) in decision making.
- Promote sustainable development.

### 1.2. Company's commitment

BCP is committed to the safe and environmentally conscious operation of its vessels through a proactive management system, both ashore and at sea. BCP has developed and implemented a management system (MS) which has the objectives of:

- promoting and ensuring safety at sea and prevention of human injury or loss of life.
- avoiding damage to the environment and property, in particular to the marine environment.

The objectives and targets are directed where possible, towards the reduction of identified environmental impacts on the atmosphere and marine environment. BCP recognizes the importance of incorporating environmental issues into everyday business decisions and activities and monitoring appropriate technology and management practices which when addressed, if reasonably practical, will enhance its environmental performance. In pursuit of the above objectives, BCP will:

- Operate, manage, and maintain the ships as per statutory, regulatory and customer requirements.
- Prevent pollution and protect the environment by reducing waste and minimising the consumption of resources.
- Use sound and internationally accepted business ethics and principles.
- Employ seafarers who are qualified with required certification for the trade of the vessel in accordance with Flag State and STCW requirements.

- Assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards, safe practices in ship operation and adequate contingency planning related to safety and environmental protection.
- Provide a safe and healthy work environment and ensure the welfare of the staff.
- Comply with the relevant national and international rules and regulations and take into account the applicable codes, guidelines and standards recommended by the relevant industry organizations. Comply with applicable legal requirements related to the Company's environmental aspects.
- Continuously improve safety, quality, occupational health and safety and environmental performance and management skills of personnel ashore and afloat, through a system of audits, analysis, and feedback.
- Keep personnel informed of matters that may affect themselves, the ship, or the environment by transmittal of pertinent information, which would improve quality and performance. Identify and provide adequate resources and training opportunities.
- Encourage all BCP personnel to conduct their work in an environmentally friendly manner, targeting continual improvement in the Company's environmental performance.
- Use, as far as practical, suppliers and contractors whose environmental standards conform to the Company's standards.
- Have on board a drug and alcohol policy. Ensure that all watch keeping personnel are made to undergo a drug and alcohol test before embarking on any of its managed vessels.
- Annually review the objectives and the policy for their continued suitability.
- Identify new environmental targets if relevant.

## 2. Legislative framework

The legal requirements that are applicable to BCP's environmental aspects are identified below in Table 2- 1 to ensure they are considered in all processes and activities and implemented.

The company shall establish, document, implement and maintain a procedure (s)-

- To identify and have access to the applicable legal requirements and other requirements to which the organization subscribes related to its environmental aspects, and
- To determine how these requirements apply to its environmental aspects.

The organization shall ensure that these applicable legal requirements and other requirements to which the organization subscribes are considered in establishing, implementing and maintaining its EMP.

Legislation will be available to all employees, whether in hard copy, or electronically (intranet or legal software).

### 2.1. Local By-Laws and Provincial legislation are often more stringent, relevant and onerous.

It will be noted that environmental legislation is contained in numerous Acts, as well as numerous regulations, ordinances, and by-laws. Only the main National Acts and regulations that could be applicable to Oceana have been outlined in this EMP.

## 2.2. Applicable legislation

The legal register below outlines environmental legislation that is applicable to the BCP fishing operations.

**Table 2- 1: Environmental Legal Register**

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| The constitution of South Africa, 1996 (Chapter 2)<br><br>National Environmental Management Act, No 107 of 1998 (NEMA)<br><br>Namibian Constitution | Section 24<br><br>Section 95 | Everyone has the right:<br>1.to an environment that is not harmful to their health or well-being; and<br>2.to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:<br><br>a. prevents pollution and ecological degradation.<br><br>b. promote conservation; and<br><br>c. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. | The matters referred to presumably include waste management as the Constitution places the control of pollution under provincial or national authority. Once the waste has been transported outside of the port by a licensed waste contractor, it falls under municipal legislation. | The Constitution of the Republic of South Africa (1996) guarantees South Africans the right to an environment which is not harmful to their health or well-being and aims to protect the environment for the benefit of present and future generations through the prevention of pollution and degradation. Although harbours fall under local government jurisdiction, the Constitution excludes "the regulation of international and national shipping and matters related thereto". |
| The Hazardous Substances Act, 1973 (Act No. 15 of 1973) and associated amendment acts. | | This act aims to provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain | This legislation must be considered within the framework of people working with potentially hazardous waste. | Outlines means to regulate and control toxic or otherwise harmful Substances while the Marine pollution (Control and Civil Liability) Act (Act No. 6 of 1981) deals with the procedures required for the transfer of harmful substances from vessels. The |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| | | circumstances, and for the control of certain electronic products; to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith. | | Constitution deals with the rights of South African workers in an abstract sense and these rights are refined in the Occupational Health and Safety Act (Act No. 85 of 1993), and its regulations, the Health Act (Act No. 63 of 1977) and the National Health Act (Act No. 61 of 2003). This legislation must be considered within the framework of people working with potentially hazardous waste. |
| Marine pollution (Control and Civil Liability) Act (Act No. 6 of 1981) | Section 2 & 3 | General restrictions of oil to be discharged at sea and general requirements for reporting discharge and damage causing discharge or likelihood of discharge. | | |
| Marine Living Resources Act (Act No. 18 of 1998) | | The Marine Living Resources Act principles, amongst others, include the need for sustainable and equitable utilisation of marine resources, the need to promote sustainable development of the fisheries industry, the need to protect marine biodiversity and improved participation of all stakeholders in decision-making processes. | | Principally legislates the harvesting of marine resources. Nevertheless, it explicitly highlights, *inter alia*, the need for an ecosystem level approach to fisheries management. Oceana and its subsidiaries, including Blue Continent Products, as members of the Responsible Fishing Alliance (RFA) are committed to the implementation of the Ecosystems Approach to Fisheries (EAF) as laid out by the Food and Agriculture Organization of the United Nations (FAO). |
| Marine Pollution (Prevention of Pollution from Ships) (Act No. 2 | Annexure I & V | **Annexure I:** Regulations for the prevention of pollution by oil<br>**Annexure V:** Regulations for the control of | This act shall apply to all South African ships as contemplated in Section 64 of the Merchant | These annexes are legislated in the Marine Pollution (Prevention of Pollution from Ships) (Act No. 2 of 1986) and its regulations. The |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| of 1986)<br>Annex I: Regulations for the prevention of pollution by Oil<br>Annex V: Regulations for the prevention of pollution by Garbage from Ships<br><br>Marine Pollution (Intervention) (Act No. 64 of 1987 | | pollution by garbage from ships | shipping Act, 1951(Act No.57 of 1951). | sections relevant to this report are Annex I (Regulations for the prevention of pollution by Oil) and Annex V (Regulations for the prevention of pollution by Garbage from Ships). At the time of writing South Africa had not legislated Annexes IV and VI which deal with pollution by sewage and air pollution respectively, although these annexes are currently under discussion.<br>Although Annex I have a heavy focus on bulk tankers, Application 1 specifies applicability to 'all ships', and the definition of oil includes 'oil residue' and 'sludge'. Further, the annex states that vessels may be subject to port inspections should the port authority believe the officers or crew to be unfamiliar with procedures required for prevention of pollution by oil.<br>Annex V deals with management of garbage and is particularly applicable for this report. Along with the Reception Facilities for Garbage from Ships Regulations (1992), Annex V also outlines what a ship might expect from South African ports in terms of waste reception, and along with the National Ports Act provides a mechanism for reporting inadequacy in this regard. |
| Merchant Shipping Act | | This Act governs all the shipping activities, | All the vessels registered | The provision of this Act applies to vessels |

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| 1951 (Act No. 57 of 1951) | | and it manages the recording, registration and licencing of ships/vessels. The Act also administrates the requirements of qualifications and certificates required on board the vessel. It gives guidelines for engagement, discharge, repatriation, payments, discipline and general treatment of seamen, cadets, and apprentice-officers. It also gives provision of safety of the ship and life at sea. | under the Blue Continent Products and Amawandle will compile to the requirements of the Act. The officer appointed by the company should ensure compliance of each vessel and also ensure that the surveys are conducted by the relevant authority when required. | which are registered or licensed in the Republic or which in terms of this Act are required to be so licensed. |
| The Health Act, No. 63 of 1977<br>Occupational Health and Safety Act (Act No. 11 of 2007) | Section 35 | **35.** Regulations relating to any premises for purposes connected with the handling, processing, production, manufacturing and packing of food. | All products that are procedure for export and local must be quality and health approved. | The Health Act of 1977s Regulations Governing general hygiene requirements for food premises and the transport of food stipulate that waste water disposal from food premises must be approved by local authority |
| The National Health Act (Act No. 61 of 2003).<br><br>Namibian Labour Act 11 of 2007 | Chapter 4 | This Act aims to realise the rights set out in the Constitution by providing a framework for a structured and quality uniform health system in South Africa. It outlines the laws that govern national, provincial and local government with regard to health services. The Act clarifies the State's duty to do what it can to address the right to have access to health care services. It recognises that no person may be refused emergency medical treatment and that everyone has the right to an environment that is not harmful to their health. | All health establishments must comply with the standards prescribed by the Minister of Health. | Private and public health establishments may work together in the delivery of health services and can enter into agreements to achieve the aims of this Act. Private health establishments must be sufficiently insured to compensate patients for potential damages suffered because of a wrongful act by the establishment's employee. |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA)<br><br>Namibian Environmental Act of 2007 | **R983, 04 December 2014** | The *infilling or depositing of any material of more than 5 cubic meters into,* or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles, or *rock of more than 5 cubic meters from:*<br>(i)a watercourse<br>(ii)the sea.<br>(iii)the seashore.<br>(iv)the littoral active zone, an estuary or *100 meters inland of the high*-water mark of the sea or an estuary, whichever distance is greater -<br>But excluding where such infilling, depositing, dredging, excavation, removal or moving.<br>(a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or<br>(b) occurs behind the development setback line. | The company is currently not undertaking any activities that trigger this listed activity and other listed activities in terms of the EIA Regulations of 2014. | Any removal of 5 cubic metres or more of material from the sea will trigger a listed activity. South Africa's National Environmental Management Act (Act No. 107 of 1998) (NEMA) empowers South Africans' constitutional environmental rights by defining a framework of environmental management principals. |
| NEM: Integrated Coastal Management Act (24 of 2008)<br><br>Municipal Systems Act, No. 32 of 2000<br>Dumping Control Act | Section 69, 70, 71 & 72 | **69.** Discharge of effluent into the coastal waters<br>**70.** Prohibition of incineration of dumping at sea<br>**71.** Requirements for dumping permits<br>**72.** Emergency dumping at sea | No effluent that is produced on land will be discharged into the sea, except those that stipulated in terms of the general authorization contemplated in Sub-section 2 or authorized in terms of the | The NEM: ICM Act does not seek to introduce new environmental impact assessment procedures, but assessing the environmental impact of activities which may detrimentally affect the coastal zone will be done in terms of the general environmental impact assessment regulations which were |

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| No. 73 of 1980 | | | issued coastal water discharge permit. Waste incinerations will not be allowed at sea. Currently the activities undertaken do not require an application for dumping permit. | promulgated in terms of NEMA. Section 63 of NEM: ICM provides the factors and criteria which the competent authority must consider when issuing environmental authorisations for activities affecting the coastal zone. |
| National Environmental Management Waste Act, (Act 59 of 2008) | Section 21 | **21.** Waste disposal by landfill<br>Storage of waste on site | General requirements for storage of waste as listed under Category 14 of the Act. | Waste must be disposed of at a licenced waste disposal site. There must be waste containers on-site. Adequate measures to prevent accidental spillage or leakage have to be adopted either during storage and transportation waste. The overriding national legislation applicable to waste management is the National Environmental Management (NEM): Waste Act (Act No. 59 of 2008) (NEM: WA) along with its amendments and regulations. NEM: WA contains several important regulations and outlines the waste management plans required in South African ports and on-board vessels. |
| National Environmental Management: Waste Act 59 of 2008, Section 16<br><br>City of Cape Town<br>Walvis Bay | Section 16 | **16.** General duty in respect of waste management | The waste with the site must be managed in accordance of the waste management requirements. The organisation shall practice waste management and avoid generation of waste. Waste | Identify all waste streams generated in the course of activities undertaken on the premises (i.e. compile waste register). Where possible, adopt such measures and / or practices so as to reduce the generation of waste. Where the avoidance of waste is not feasible, recycle or reuse waste streams, |

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| Metropolitan Municipality Integrated Waste Management Bylaws, PG6732 of 07 August 2009 (as amended)), Section 4 & 13<br><br>Solid Waste Regulations Municipality of Walvis Bay | | | shall be reduced, re-used, recycled and recovered. Safe disposal certificates for all waste disposed by waster contractors will be obtained by the company. Only waste facilities approved by the Department of Environmental Affairs (DEA) will be used for waste disposal. | where possible. Develop an awareness programme such that all employees and contractors are aware of correct waste management procedures and practices. Where waste must be disposed of, ensure that this is only disposed of at permitted landfills or other waste management facilities. |
| Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, 2nd Edition (DWAF, 1998) | | The minimum requirements for the disposal of hazardous waste are determined from the relevant SABS Code 0228 class. The minimum requirements for Class 6 wastes (poisonous and toxic substances) will be determined from the hazard rating. Careful handling, collection, packaging, temporary storage and transportation of hazardous Waste are essential for the maintenance of public health and for environmental protection. | Hazardous waste will be handled with duty of care. Safe disposal certificates will be obtained from the service provider used to dispose the waste. | Identify constituents of the hazardous waste streams according to SANS 10228 (SIN no., Class and Danger Group). Determine Hazard Rating in accordance with the Minimum Requirements. Note that Appendix 9.2 in the Minimum Requirements contains chemicals elements/compounds found in common industrial wastes that have already been rated. Develop Waste Register to record required information such as the SANS UN No., Class and Danger Group; Hazard Rating, Duration of Storage; Manner of Storage (e.g. skip), storage provider and destination of final disposal. Ensure storage is below the specified limits (10kg of hazard rating 1, 100kg of hazard rating 2, 1000kg of hazard rating 3, 10 000kg of hazard rating 4). Consider the delisting of hazardous waste streams, where |

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| | | | | appropriate. Refer to the Water and Wastewater Management Procedure in the EMS. |
| National Environmental Management: Waste Act 59 of 2008, Sections 22 & 24 Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, 2nd Edition (DWAF, 1998) City of Cape Town Metropolitan Municipality Integrated Waste Management Bylaws, PG6732 of 07 August 2009 (as amended), Section 4, 12 | Section 22 & 24 | **22.** Storage of waste on site<br>**24.** Requirements of waste collection on site | Waste bins on site are provided by the organisation and demarcated storage areas will be marked with the site and all employees will be made aware of the areas. Waste bins will be marked according to the waste categories on site. A copy of the waste carrier's valid registration certificate must be obtained by the company. Safe disposal certificates of waste disposal by waste carrier must be obtained and kept for records on shore and on board the vessel. | Ensure that all bins used for the storage of waste are approved by the Municipality. Maintain all bins and receptacles in which waste is stored prior to removal and disposal in an acceptable condition (i.e. intact, free of leaks, labelled, etc.). Place all waste receptacles in which waste is stored at a location on site where it will not cause nuisance or be harmful to the environment (i.e. on concrete or other hard standing, with appropriate bunding in place where required and away from stormwater or other drains). Label all waste receptacles to indicate the type of waste to be disposed of therein (e.g. general waste, hazardous waste, etc.). |
| National Environmental Management: Waste Act 59 of 2008, Sections 19 & 20 Minimum Requirements for the | Sections 19 & 20 | **19.** (1) The Minister may by notice in the *Gazette* publish a list of waste management activities that have, or are likely to have, a detrimental effect on the environment.<br>**20.** No person may commence, undertake or conduct a waste management activity, | Currently the organisation does not undertake any activities that are listed in terms of NEMWA. Waste produced within the site is collected by a certified waste | Determine whether the organisation undertakes any of the listed waste management activities, and where appropriate, obtain a waste management license for such. Determine destination of all waste streams. Obtain copy of the waste |

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| Handling, Classification and Disposal of Hazardous Waste, 2nd Edition (DWAF, 1998)<br><br>City of Cape Town Walvis Bay Metropolitan Municipality Integrated Waste Management Bylaws, PG6732 of 07 August 2009 (as amended), Section 14 | | except in accordance with-<br>*(a)* the requirements or standards determined in terms of section 19(3) for that activity; or<br>*(b)* a waste management licence issued in respect of that activity if a licence is required. | carrier and safe disposal certificates are obtained for all waste disposed on the company's behalf. | facility's permit and conditions of operations. Review these permits to establish whether wastes may be received by the facility. Waste Manifest Documents (or Certificates of Safe Disposal) must be obtained from the waste contractors each time waste is disposed in order to confirm that the waste has in fact reach the stipulated destination. These documents must be checked that the correct information has been included and that it is signed where required (e.g. by personnel and the waste collector when waste is removed off site, and by the disposal facility). Develop waste records and reconcile quantities of waste leaving the site with quantities of waste arriving at the appropriate waste disposal facility. Develop a schedule to conduct periodic audits of the off-site (including recyclers) facilities against their relevant permit conditions or review the external audit reports of the facilities if they have been conducted. |
| Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, 2nd Edition (DWAF, 1998) | | The minimum requirements for the disposal of hazardous waste are determined from the relevant SABS Code 0228 class. The minimum requirements for Class 6 wastes (poisonous and toxic substances) will be determined from the hazard rating. Careful handling, collection, packaging, temporary | A waste management system will be developed to access waste production and sources of waste production within the site. The process of waste management though applying the approach for waste | Assess the generation processes and disposal practices of each waste stream and apply a systematic approach in identifying opportunities and options of waste prevention, minimisation, re-use, recycling, treatment and disposal. Consider alternatives to landfilling. Identify constituents of the |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| | | storage, and transportation of hazardous Waste are essential for the maintenance of public health and for environmental protection. | hierarchy system will be implemented with the site. New waste recycling initiatives will be introduced within the site to promote waste management and waste separation within the site. | hazardous waste streams according to SANS 10228 (SIN no., Class, and Danger Group). Determine Hazard Rating in accordance with the Minimum Requirements. Note that Appendix 9.2 in the Minimum Requirements contains chemicals elements/compounds found in common industrial wastes that have already been rated. Develop Waste Register to record required information such as the SANS UN No., Class and Danger Group; Hazard Rating, Duration of Storage; Manner of Storage (e.g. skip), storage provider and destination of final disposal. Ensure storage is below the specified limits (10kg of hazard rating 1, 100kg of hazard rating 2, 1000kg of hazard rating 3, 10 000kg of hazard rating 4). Consider the delisting of hazardous waste streams, where appropriate. Refer to the Water and Wastewater Management Procedure in the ECS. |
| The National Ports Act, 2005 (Act No. 12 of 2005)<br><br>Namibian Ports Authority | Section 57<br><br>Section 2 Of 1994 | **57.** (1) Unless an agreement contemplated in Section 56 has been concluded, no person other than the Authority may provide a port service or operate a port facility otherwise than in terms of a licence issued under this section.<br><br>The Act aims to provide for the | Transnet National Ports Authority is currently the authority that grants licenses, registrations and permits required for Ports. Guidelines for agreements, licenses and permits have be developed to ensure fair, equitable, | The National Ports Act is about the modernization and efficient operations of our ports. The National Ports Act is the primary piece of legislation regulating the port sector in South Africa and came into effect on 26 November 2006.<br><br>The National Ports Act (Act No. 12 of 2005), |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| | | establishment of the National Ports Authority and the Ports Regulator and to provide for the administration of certain ports by the National Ports Authority. | transparent procedures for the awarding of the agreements, licenses and permit. | the Ports Rules, and the National Port Authority Waste Management Strategy (2014) (NPAWMS) provide numerous waste management regulations and responsibilities within South African ports. The general principals outlined in these documents include the minimisation waste production and prevention of damage to health or the environment. |
| National Water Act (Act No. 36 of 1998)<br><br>National Water Act of Namibia (2013) | Section 20 | **20. (1)** In this section "incident" includes any incident or accident in which a substance-<br>(a) pollutes or has the potential to pollute a water resource: or<br>(b) has or is likely to have a detrimental effect on a water resource.<br>**(2)** In this section "responsible person" includes any person who-<br>(a) is responsible for the incident:<br>(b) owns the substance involved in the incident: or<br>(c) was in control of' the substance involved in the incident at the time of the Incident<br>**(3)** The responsible person. any other person involved in the incident or any other. person with knowledge of the incident must, as soon as reasonably practicable alter | A procedure for oil spillage clean-up during operations is procedure as part of the environmental control system. The procedure will be used to contain and report all spillages on site and at sea. | Draw up an incident reporting procedure for oil spills and ensure that the procedure takes into account reporting requirements for incidents, as outlined in the National Water Act 36 of 1998. Provide all information required by the authorities and ensure that this information forms part of the training programme to empower staff and contractors on actions during an incident affecting a water resource. Allocate responsibilities for various incidents affecting a water resource. Ensure all records relating to the incidents, and the reporting thereof, are retained for at least 5 years. |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| | | obtaining knowledge of the incident, report to-<br>(a) the Department:<br>(b) the South African Police Service or the relevant fire department: or<br>(c) the relevant catchment management agency<br>**(4)** A responsible person must-<br>(a) take all reasonable measures to contain and minimise the effect of the incident:<br>(b) undertake clean-up procedures:<br>(c) remedy the effect of the incident: and<br>(d) take such measures as the catchment management agency may either verbally or in writing direct within the time specified time by such institution.<br><br>**(5)** A verbal directive must be confirmed in writing within 14 days, failing which it will be deemed to have been withdrawn.<br>**(6)** Should-<br>(a) the responsible person fails to comply. or inadequately comply with a directive:<br>or<br>(b) it is not possible to give the directive to [he responsible person timeously, the catchment management agency may take the measures it considers necessary to-<br>(i) contain and minimise the effects of the | | |

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| | | incident:<br>(ii) undertake clean-up procedures; and<br>(iii) remedy the effects of the incident.<br>**(7)** The catchment management agency may recover' all reasonable costs incurred by it from every responsible person jointly and severally.<br>**(8)** The costs claimed under subsection (7) may include, without being limited to Labour administration and overhead costs.<br>**(9)** If more than one person is liable in terms of subsection (7), the catchment management agency must at the request of any of those persons and after giving the others an opportunity to be heard apportion the liability, but such apportionment does not relieve any of them of their joint and several liability for the full amount of the costs. | | |
| National Building Regulations and Building Standards Act 103 of 1977, GN R 2378 Part P3: Control of Objectionable Discharge<br><br>City of Cape Town<br>Walvis Bay | | This standard aims to provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards. | This standard requires that new infrastructure and buildings be designed and constructed in accordance with the National standards and requirements. | Check for leakage or ingress of sewage, effluent or other matter to stormwater systems and implement mitigatory measures, where required, to prevent such leaks or ingress. Assess activities to determine whether any other substances, other than stormwater, are being discharged to the stormwater system. Implement mitigation measures to ensure no substances, other than stormwater, are being discharged into the |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
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| Bylaw Relating to Stormwater Management (LA31420, PG6300 of 23 September 2005), Section 3, 4 and 7 | | | | stormwater systems. Conduct regular inspections of stormwater drains to ensure they remain free of litter and other pollutants. Undertake monitoring of stormwater, where required (e.g. if spillage into stormwater occurs, etc.). |
| Occupational Health and Safety Act 85 of 1993, Section 10(3)(b) Hazardous Chemical Substances Regulations promulgated in terms of the Occupational Health and Safety Act 85 of 1993 (GNR1179 of 25 September 1995, as amended), Regulation 9A, 14 | Section 10(3)(b) | **10.** (3) Any person who manufacturers, imports, sells or supplies any substance for use at work shall-<br>(a) ensure as far as is reasonably practicable, that the substance is safe and without risk to health when properly used; and<br>(b) take such steps as may be necessary to ensure that information is available with regard to the use of the substance at work, the risks to health and safety associated with such substance, the conditions necessary to ensure that the substance will be safe and without risks to health when properly used and the procedure to be followed in the case of an accident involving such substance. | General duties of manufacturers and others regarding articles and substances for use at work. MSDSs is provided and kept safe for all chemicals used on site and on the vessels. Training for use of MSDSs should be provided to all employees working on stores and factory. | Develop a register of Hazardous Chemical Substances in use or storage on site and obtain material safety data sheets (MSDSs) or other relevant information for each of the respective substances from the relevant suppliers. Maintain copies of MSDSs in the place of use/storage or at a central accessible place for everyone. Ensure that MSDSs form part of the induction and training programme to empower employees and contractors on actions required where hazardous substances are handled, stored, or transported. Ensure that hazardous chemical substances in storage or in use on site are identified, classified, and handled in accordance with SANS 10228. |
| Occupational Health And Safety Act 85 of 1993, Section 43<br><br>Hazardous Chemical Substance Regulations promulgated in terms | Section 43 | **43.** Occupational Health and Safety Regulations | All storage areas for chemicals and hazardous waste are marked. Chemicals are all stored in the stores on site or in the vessel factory. During the familiarisation process crew and all employees are | Review all hazardous chemical waste streams and recycling options. Ensure employees and contractors are trained and protected accordingly with all adequate PPE. Ensure containers, covers and vehicles are decontaminated where applicable. Review contract with waste contract. |

| Act/legislation, number and date of relevant notice | Section or activity no. | Description of the legislation or regulation | Description of the activities which fits this legislation or regulation | Comments |
|---|---|---|---|---|
| of the Occupational Health and Safety Act 85 of 1993 (GNR1179 of 25 September 1995, as amended), Regulation 15 | | | made aware of the hazards around them. All employees working in the stores, or the factory are provided with adequate training and PPE. Waste oil is collected the service provider for recycling and safe disposal. | |

### 2.3. Legal updates

Legal updates and changes to legislation are to be available and a procedure is to be in place to ensure ongoing assessments of legal compliance.

Links to all legislation are to be made available on the Oceana Intranet for further reading and study by all staff.

Other sources of legislation are:

- www.acts.co.za
- Government Gazette of the Republic of Namibia
- Websites of the relevant government departments:
  - www.deat.gov.za
  - www.mawf.na
  - www.mfmr.na
  - www.dwaf.gov.za

## 3. Overview of the fishing activities at a local content and export market

From ancient times, fishing has been a major source of food for humanity and a provider of employment and economic benefits to those engaged in this activity. However, with increased knowledge and the dynamic development of fisheries, it has been realized that living aquatic resources, although renewable, are not infinite and need to be properly managed if their contribution to the nutritional, economic and social wellbeing of the growing world's population is to be sustained.

The operations are affected by and have an impact upon the natural environment in many ways. Fishing and processing have a general impact on specie biomass, the physical and chemical condition of the ocean, the atmosphere, use of renewable and non-renewable resources and land. Trading in fish and its products exposes one to risks arising from the conduct of third parties. Cold storage operations require use of ammonia and other agents in the cooling systems, and systems to manage solid waste. The Cape horse mackerel. trachurus capensis off the West Coast of southern Africa have broad spawning areas. Off the Western Cape, juveniles also occur inshore and the adults farther offshore. The movements of the fish with increasing age and particularly the interchange between the West and South Coast populations, are particularly complex. The life history in the first year of life is similar to that of sardine and anchovy, with spawning on the South Coast leading to recruitment on the West Coast in the following year, probably driven by the same transport mechanisms.

Recruitment occurs about three months earlier than that of sardine and anchovy, but overlaps with it to some extent, resulting in a by-catch of juvenile horse mackerel in the pelagic fishery. Thereafter the species diverge, with the horse mackerel becoming more demersal and moving offshore, probably ultimately leading to spawning over the shelf-break on the West Coast.

Some of these fish however move onshore again in winter in their second year of life, and move onto the Western Agulhas Bank, assisted by the pole ward counter-current on the inner shelf. These

fish reach maturity at two years of age and move eastwards and offshore with increasing age, leading to spawning across the entire Agulhas Bank, which peaks at different times on the Western and Eastern Banks and which, on the Western Bank at least, appears to be closer inshore in winter than in summer.

Adult Cape horse mackerel is targeted by the midwater trawl fishery on the South Coast (offshore east of Agulhas Bank) at the extreme eastern range of the species. Horse mackerel is also caught as bycatch in the small pelagic purse seine fishery (targeting anchovy and sardine) which operate inshore on the West Coast where a high abundance of juvenile horse mackerel (>10cm) is incidentally caught. Similarly, the distribution of demurral trawl activity occurs in areas where adult horse mackerel (>30cm) are incidentally caught.

Horse Mackerel is well known as a "by-catch" of the deep-sea trawl fishery and is mostly exported in frozen form to rural South Africa and other African countries. A large percentage of the horse mackerel is exported to Africa.

Hake is defined as a slow growing fish with a lifespan of about 14 years. It is known to grow to about 115 cm and males and females are not very easily differentiated. The larger *Merluccius capensis* is known to prey on young *Merluccius paradoxus*, and cannibalism is also seen in both species.

The hake products that are procedure are sold locally and exported to markets in Spain, Portugal, Netherlands, Australia and Korea. According to studies made Hake is by far the most valuable fish resource in South Africa.

## 4. Description of the activities covered by this EMP

### 4.1. Operational activities

- **Factory operations**
  - Movement in and around the factory
  - Using and disposing of chemicals
  - Stacking the boxed catch
  - Working in the freezers in sub-zero temperatures
  - Electricity consumption
  - Discharge of effluent
- **Deck operations**
  - General painting operations
  - Waste handling and management
- **Engine room operations**
  - Fuel transfers
  - Operating hand power tools
  - Welding, cutting and grinding operations.
  - Working in confined spaces
  - Lockout tag out electrical
  - Lockout tag out mechanical
  - De isolating lockout tag out electrical energy

- De isolating lockout tag out mechanical energy

- **Gangway**
  - Rigging the gangway
  - Safe use of a step ladder
  - Using a stairway at sea

- **Anchoring**
  - Anchoring the vessel
  - Hauling the anchor
  - Retrieving a fouled anchor

- **Trawl deck**
  - Shooting and hauling the trawl
  - Handling the catch

- **Mooring operations**
  - Casting a heavy line
  - Passing mooring lines through fairlead
  - Securing the vessel alongside
  - Operating captains and winches

## 4.2. Fishing vessels and fishing method

BCP operates factory freezing stern trawlers and wet fishing vessels. The vessel ranges from 40.5 m to 73.16 m, which are constructed with wood and steel. The MFV Desert Diamond trawler is used by BCP to catch Horse Mackerel. The other trawlers such as the Realeka, Compass Challenger, Sandile and Toralla practices deep-sea fishing, whereby they catch Hake, Monk, Kingklip and other by-catch.

The freezer trawlers have facilities for preserving fish by freezing, allowing them to remain at sea for extended periods of time. The trawlers are medium to large size trawlers, with the same general arrangement as stern or side trawlers. A freezer stern trawler stores the fish in frozen boxes or blocks, and a factory stern trawler processes the catch.

Wet fish trawlers are trawlers where the fish is kept in the hold in a fresh/wet condition, in boxes covered with ice or with ice in the fish hold. They operate in areas close to their landing place, and the time such a vessel can spend fishing is limited.

The trawl Hake and other by-catch are boxed and frozen at sea. The vessels use the trawling fishing method, which involves pulling fishing net through the water behind one or more boats. The net that is used for this process is called a trawl. Trawling can be divided into bottom trawling or mid-water trawling, depending on how high the net is in the water column. The BCP trawlers use both the bottom trawling and mid-water trawling. The other trawlers use bottom water trawling.

Trawling is the most energy intensive fishing activity. It consumes nearly 5 times more fuel compared to passive fishing methods such as long lining and over 11 times more fuel compared to purse seining for every kilogram of fish produced.

Deep-water hake is predominantly trawled, and shallow-water hake is largely caught by inshore trawl, longline and handline. Trawls are tunnel shaped nets with a wide-open mouth and a closed off tail where the fish are collected. These are dragged along the bottom or through the water column to catch fish.

The deep-sea trawl sector for South African operates primarily on the shelf edge in waters deeper than 300 meters from the Namibian border southwards to the south coast.

Stern trawlers have trawls which are deployed and retrieved from the stern. Larger stern trawlers often have a ramp, though pelagic and small stern trawlers are often designed without a ramp. Stern trawlers are designed to operate in most weather conditions. They can work alone when mid-water or bottom trawling, or two can work together as pair trawlers. The superstructure is forward with an aft working deck. At the stern are gallows or a gantry for operating trawl doors.

Any fish processing usually occurs in deck houses or below the deck.

**4.3. Operations at sea and offloading process:**

Shore management and skippers agree when fishing operations can commence. Information regarding fish availability is widely shared within the fishing community with weather and sea surface temperature charts assisting calculated areas to be searched.

Skippers prepare their vessels which include pre sea safety, compliance and HACCP checks and preparation or cleaning as well as taking on the required provisions for the fishing period ahead. As part of the permit conditions all skippers need to confirm that their VMS (vessel monitoring systems) is activated and functioning before departing.

The number of vessels deployed will be determined as noted within the exact catch limit or tally for each vessel and intended production facility to accept their catch confirmed via sms.

Fishing activities of all vessels are recorded by completing the compulsory catch reports as prescribed by the permit conditions of the specific target specie. Permit conditions require that the estimations of the specie spread are to be within the 10% accuracy range and proper sampling of the catch is therefore strongly recommended.

As soon as the vessel reached his catch limit or tally for the fishing effort the shore personal is informed with an estimated time of arrival (eta) at the processing facility as well as the condition, size, quality or any other reportable conditions of the fish or the vessel and crew. Shore personal informs the offloading monitors of the eta of the vessel as well as the production personal if not already informed.

Skippers are required to maintain the best possible fish quality during the transport and delivery stage of their fishing efforts. This is an extremely important part of the fishing process as it could eliminate unnecessary production related complications down the production line. Maintaining good quality includes drying out the catch as good as possible to prevent any transfer of free water to the production process or to maintain the cooling chain within the ability of refrigeration capacity when the catch is preserved by means of RSW.

As soon as the vessel docks at the processing facility the catch is offloaded with the offloading monitors witnessing and sampling the catch is done in accordance with the procedures.

During the offloading process the "landing sheet" is populated in accordance with the procedures as included with the attached operational manual. The slip as well as a copy of the catch report is accepted by the designated person within the Fleet Department that is responsible for capturing the landings on the database and filing thereof for further reference.

Once the catch is handed over to the designated person, the off-loading process will then start within the Port. Within the wet fish vessels 6 casuals and Stevedoring 's assistance will be required for the offloading process. 8 people will be working within the fish hole and 10 people will be working on the outside. The gangway guys and sorting are normally outsourced from Stevedoring. The catch will be counted once offloaded and the final average count will be conducted at CCS. The same process is applied on the freezer trawlers with the only difference being the number people used for the offloading process.

### 4.4. Raw material caught.

The following factors affect the quality of the raw material and must be considered when planning all fishing operations.

#### 4.4.1. Age of fish

The age of the fish is determined by the location where the fish is caught and the steaming time back to the factory and until offloading commences. Poor weather conditions also play an important role not only in steaming time but also in fish condition. Typically, as soon as a fish dies it is subject to autolysis, lipolysis and microbial degradation. These processes are all time/temperature driven.

#### 4.4.2. Size of fish

The fish size is an uncontrolled-able. The size of fish has a significant impact on the rate at which the fish decomposes. The size of the fish also impacts on the percentage of water that it retains. The smaller the fish the higher the rate that it decomposes and the higher the water retention. It is difficult to separate excess water from small fish on the vessel. It is an unfortunate fact that the anchovy directed fishery is a recruit fishery and this means that small juvenile fish comprise the bulk of the catch.

#### 4.4.3. Composition of fish

The fish composition is uncontrollable. Simplistically the fish composition can be described as solids, oil/fat and water. The composition varies considerably throughout the year and this impact on the quality of the fish and rate of decomposition on the vessel.

An Operational Management Procedure based on Fishery Dependent and Fishery Independent information is used to determine the TAC (Total allowable catch) and the amount of by-catch that may be landed by the industry annually. The catching of pelagic fish is tightly managed according to strict permit conditions and all catches are weighed on discharge. No fish may be dumped.

#### 4.4.4. Weather

The weather and sea conditions have an impact on the steaming time back to the factories and an impact on the condition of the fish. Bad weather will have a negative impact on the fish quality in the storage holds. Daily weather updates and long-term weather forecasts from a multiple of different sources.

#### 4.4.5. Area Caught

The area that the fish has been caught could have an impact of the fish quality.

#### 4.4.6. Water Temperature

The water temperature in the area where the fish is caught could also have an impact on the fish quality.

### 4.5. Employment opportunities

BCP and EME create 588 employment opportunities for crew for all vessels operated. The number of crew men per vessels is outlined below:

- Beatrice Marine (46)
- Isabella Marine (30)
- Realeka (30)
- Toralla (42)
- Compass (50)
- Sandile (60)
- Desert Diamond (110)
- Desert Jewel (110)
- Desert Ruby (110)

## 5. Roles and responsibilities

To ensure that the objectives and mitigation measures committed to in the EMP are complied with, it is required that roles and responsibilities be assigned to different people.

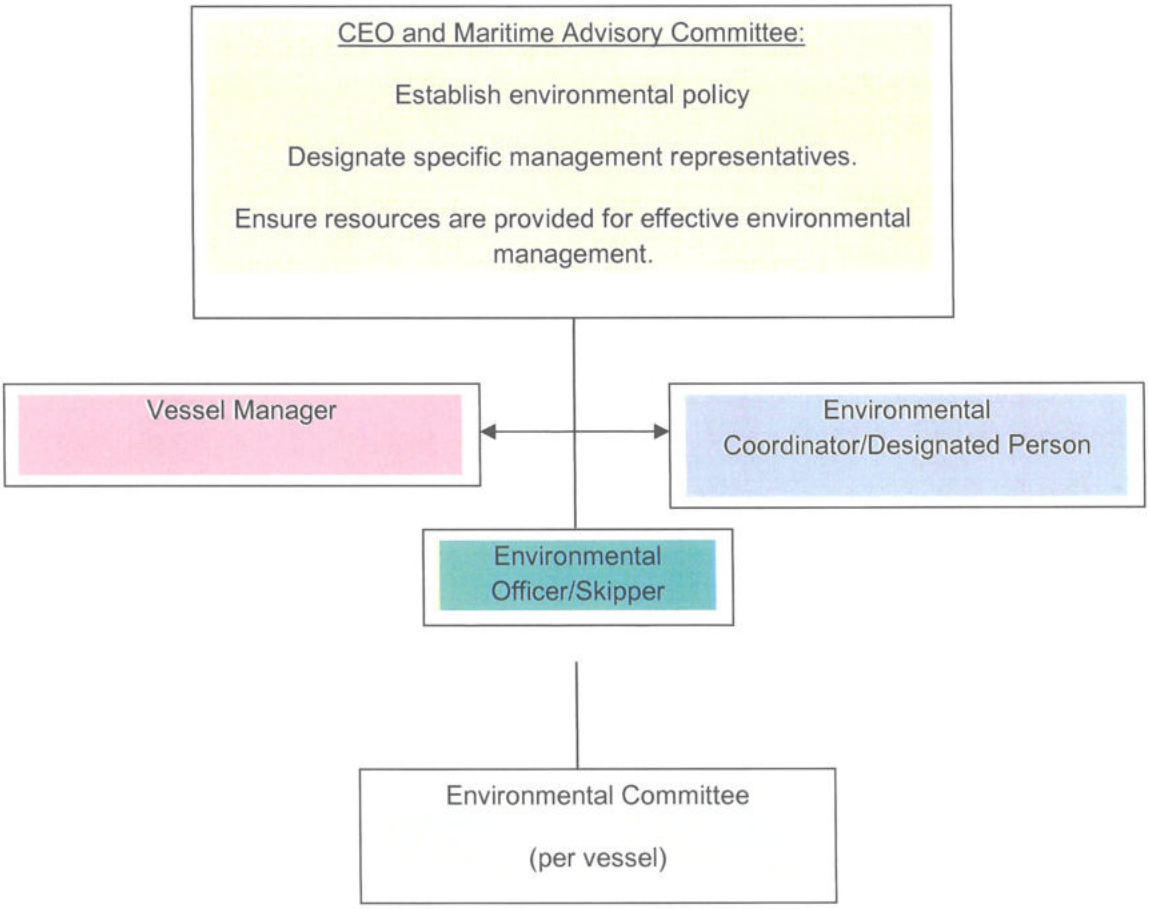
Roles and responsibilities, including rules of authority or delegation of authority are to be defined, documented and communicated to facilitate environmental management. This may be facilitated by the organogram below within the organization and the vessels.

Environmental roles are not to be confined to the environmental function or health and safety department but may reside in all areas of the organization and vessels. Various roles and responsibilities are to be allocated according to available levels of skills required to fulfill the responsibility and any legal requirements.

An environmental coordinator is to be appointed for each vessel. This may be in addition to other vessel responsibilities. The roles and responsibilities of the environmental manager may be defined as follows:

- Ensuring that the EMP is implemented and maintained.
- Reporting to Safety Health and Environment Department on the performance of the EMP for review and improvement.
- Coordination and leadership of other roles for effective implementation of the EMP at all levels.

### 5.1. Responsibility organogram




### 5.2. Roles and Responsibilities

#### 5.2.1. Environmental Coordinator /Vessels Unit Manager

The responsibility for compliance to the Oceana Environmental System will be with the Environmental Coordinator if a designated role is available, otherwise with the Vessel Manager and will include but not be restricted to the following activities:

- Implementation of the Oceana Environmental management system. Where required coordination, monitoring, and consultation with various identified stakeholders,

including the promotion of environmental management competence and providing aspect assessment expertise.

- Determining of aspects and impacts (environmental aspect assessment) related to environmental issues to the vessel operation.
- Setting environmental objectives and targets for the vessel.
- Continuous monitoring of systems to ensure compliance to legislation and Oceana standards.
- To facilitate the continual update of the environmental management process and ascertaining the state of environmental aspect and performance.
- Reporting on environmental issues as required by the BCP environmental standards.
- Ensuring that all employees undergo BCP environmental awareness induction Training as per Oceana Environmental standards.
- Improving Oceana environmental management readiness by providing environmental awareness training and monitoring awareness throughout staff as well as establishing a common environmental management language and measures.
- Ensure that all requirements contained in the ECS and EMP are adhered to where and when applicable to the vessel.
- Chair environmental committee meetings and ensure that minutes are kept and distributed to all employees.
- To administer the ECS and EMP system and be a focal point for all environmental management information flowing in and out of BCP.

### 5.2.2. Environmental Committee

The purpose of the Environmental Committee is to monitor the ECS, EMP and environmental performance from an overview perspective and to ensure implementation and effectiveness.

Responsibilities include:

- Monitoring and reviewing the implementation of the ECS and EMP.
- Monitoring performance against the policy, objectives, and targets.
- Evaluating all environmental aspect assessments.
- Setting up and discussing action plans.
- Discussing and evaluating progress.
- Determining environmental training needs.

The environmental committee must meet once every two months. The environmental coordinator will chair the meeting. As a time saving measure, the environmental committee may be incorporated into the Health and Safety committee meetings. It is of utmost importance that minutes are taken of

all discussions and decisions made on the environmental field. The environmental committee must develop the terms of reference to clearly outline scope of responsibility.

### 5.2.3. Designated Environmental Roles/Environmental Officers

To ensure that the provisions of the Oceana Environmental System are complied with, the Environmental Coordinator or Vessel Manager may designate personnel in various functions to perform these duties. The extent and the number of roles allocated are at the discretion of the Vessel Manager according to the size and complexity of the manufacturing unit. This role is not necessarily a stand-alone job as it may be incorporated into Health and Safety or other roles.

The functions of the designated persons will be:

- Perform duties as stipulated by the Environmental Coordinator.
- Do inspections/evaluations as need be.
- Report all problems/progress etc. to the Environmental coordinator.
- Attend environmental committee meetings.

### 5.2.4. KPI's

Key Performance Indicators (KPI's) are to be set to measure environmental performance by personnel in a manner that is appropriate to the nature of their duties.

Examples of KPI's may include, amongst others:

- At Environmental Officer/Supervisory Level:
  - Number of aspect assessments conducted.
  - Number of emergency mock accidents conducted.
  - Number of environmental incidents
  - Training completed.
  - Level of staff awareness
  - Evidence of good environmental performance
- At crew Level:
  - Number of aspect assessments and emergency mock accidents participated in
  - Training completed and level of awareness.
  - Evidence of good environmental performance

## 6. Summary of the impacts associated with operational activities.

The impacts, objectives and mitigation measures identified for the operational phase are outlined in Table 6- 1 below. The impacts identified are site-specific and vessel-specific to ensure that the measures identified are implemented on the vessels and site to ensure protection of the environment.

**Table 6- 1: Impacts identified for operational phase**

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| 1. Waste Management | • Incorrect disposal and management of waste | • Land degradation<br>• Marine pollution | • To effectively manage garbage and plastics from the vessels<br>• To avoid poor waste management practices at land-based facilities and vessels | • Ensuring consistent monitoring of recycling practices across all vessels.<br>• Install garbage waste compactors on each vessel.<br>• Separation bins will be provided for vessels.<br>• A waste management plan for vessels and land base will be developed.<br>• Training for waste management and handling will be provided to crew.<br>• The Municipal Waste Management By-laws will be complied with, and the following principles will be adopted on site and vessels:<br>➢ Avoidance, waste minimization and reduction.<br>➢ Re-use, recycling, reprocessing and treatment and disposal.<br>• All hazardous procurement/ materials purchases will come with materials safety data sheets.<br>• All employees working with any hazardous substances will be trained on proper handling.<br>• A storage area for hazardous substances will be demarcated and properly labelled.<br>• All packaging material will be placed separately in a skip bin with lids to ensure that all waste in this bin does not get blown-away by wind.<br>• Hazardous waste such as oily filters will be stored separately.<br>• Should any of the waste materials be returned to the supplier, safe disposal certificates will be |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| | | | | sourced.<br>• Waste will be collected and stored on a temporary storage area on site. This waste will be collected when required and transported to the waste disposal site.<br>• Safe disposal certificates for waste will be kept on site.<br>• Waste produced will be classified as follows:<br>➢ Domestic/general<br>➢ Hazardous, including used fluorescent or mercury vapour lamps and used oils.<br>• Ensure that waste is suitably disposed of and obtain safe disposal certificates. |
| 2. Environmental Pollution<br>• Pollution of atmosphere, sea and land by vessels. | • Uncontrolled discharge of substances into the environment.<br>• Discharge include effluent, fish waste, gasses, contaminated water, fuel oil, oily water, etc | • Marine water quality<br>• Land degradation | • To avoid contamination of water resources.<br>• To avoid change in land capability due to pollution. | • Implement the requirements environmental policy.<br>• Monitoring compliance with this EMP and action all non-compliance.<br>• Implement the environmental procedures for all vessels.<br>• Implement the standard operating and emergency procedures.<br>• Implement the Environmental Control System (ECS) in place for vessels.<br>• Conduct internal and external environmental audits on vessels to check environmental performance and compliance.<br>• Ensure that storage of hazardous substances and chemicals is in accordance with legal requirements.<br>• All equipment will be maintained to minimise |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| | | | | emissions.<br>• Provide training, including awareness training to crew regarding environmental aspects.<br>• Implement the oil spillage clean-up procedure.<br>• Ensure routine inspection and maintenance of storage tanks is in line with maintenance plan.<br>• Chemical /oil spillage kits will be made available at all land-based facilities and vessels at an accessible area by all.<br>• Use biodegradable chemicals on vessels (where possible).<br>• Install Ammonia leak detectors within the vessels.<br>• Monitor the efficiency of any installed sewage system.<br>• Provide MARPOL conventions training for all officers to prevent pollution from ships at sea and compliance with IMO requirements.<br>• Conduct internal IOPP (International Oil pollution Prevention) audits.<br>• Frequently inspect the ORB (Oil Record Book) onboard. |
| 3. Unsustainable Supplier Practices<br>• Unsafe environmental practices by suppliers of raw material, product and services, e.g. chemical | | • Irresponsible suppliers/service providers<br>• Lack of capacity in local government<br>• Lack of regulatory framework and enforcement in international waters | | • Roll out of supplier code of conduct.<br>• Researching applicable global procurement/supply chain criteria.<br>• Valid LoGS (Letter of Good standing) for all contractors.<br>• Comprehensive insurance programme in place.<br>• Communications manager manages reputational issues. |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| contamination, reckless as to sea birds, animals, dolphins<br>• Inadequate or failing sewage and waste disposal systems | | | | • Independent media communication specialist.<br>• Product recall programme in place.<br>• Approved supplier code of conduct with relevant environmental clauses included in place. |
| 4. Climate Change | • Climate Change | • Natural environmental disasters<br>• Variation in availability of primary resources due to environmental change | | • Integration of climate change into existing group risk registers.<br>• Implement energy reduction plan.<br>• Ensure that the technology is in place to detect species locations.<br>• Influence and participation in resource management along with industry and government (Namibia and South Africa).<br>• Participate in scientific working groups.<br>• Obtaining independent research reports of the resources in order to monitor the status of the resources.<br>• Compliance with the regulatory framework.<br>• Complying with responsible fishing practices.<br>• Implemented BMPs on hake vessels.<br>• Ensure that there are observers on vessels.<br>• Implement BMPs on new acquired vessels.<br>• Report monthly and annual carbon footprint. |
| 5. Water Use<br>• Mechanical failure of the sea water | • Disruption in operations due to none or inappropriate quality fresh water | • Marine water quality<br>• Disruption in operations due to none or inappropriate | • To avoid contamination of surface water resources (Sea Water).<br>• To improve water quality | • Monitor water usage consistently across all businesses.<br>• Develop a water management plan for land-based facilities including vessels. |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| pumps. | • Inappropriate siting of the sea water pump to accommodate unusual tide levels.<br>• Spillage/non-environmental act by Oceana at the sea water inlet point. | quality fresh water | system on the vessels. | • Implement the water management plan<br>• Testing and treating of sea water onboard.<br>• Daily inspection will be done to determine leaking pipes on the vessels.<br>• All leaking pipes/taps will be fixed immediately.<br>• An incident register will be kept on site and on the vessel to attend to incident reports associated to leaking pipes as well.<br>• General awareness will be raised amongst employees during vessels activities on general good housekeeping principles and measures on water management.<br>• A record of monthly water use will be kept through use of flow meters.<br>• The environmental committee will be responsible for conducting audits (including water) and ensuring that environmental awareness is raised. |
| 6. Energy Use | • Consumption volumes and patterns.<br>• Potential energy wastage by contractors and vessels operation.<br>• Over use of energy due to long operational hours. | • Increased energy consumption<br>• Increased energy costs | • To save energy.<br>• To implement energy reduction system within the vessels. | • Monitor the monthly energy usages and act accordingly should there be any irregularities.<br>• When changing bulbs, use energy saving bulbs.<br>• Electrical equipment must be placed on power save or switched off when not in use.<br>• Ensure on-going communication with suppliers to monitor possible electricity disruptions.<br>• The fluorescent tubes bulbs on the vessels will be replaced with energy saving bulbs.<br>• Implement the BCP energy reduction plan. |
| 7. Air Quality Management | • Carbon emissions<br>• Odour levels | • Increased carbon tax imposed on | • To control and mitigate the odour | • Report monthly on the aspects which contribute to the divisions carbon emissions. |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| • Exposure to carbon tax legislation | | direct emissions from Oceana.<br>• Indirect liability of carbon tax in supply chain<br>• Air quality | causing non-condensable compounds in final emission and to prevent it from being discharged into the ambient air.<br>• To reduce the business contribution on GHG emission | • Document the divisions' potential exposure should carbon tax be applicable to the fishing sector.<br>• Implement the energy reduction plan.<br>• Implement the Climate Change Policy |
| 8. Noise Management Increase in ambient noise levels during:<br>• Loading and off-loading of products.<br>• Operations of the ice plant.<br>• Maintenance operations on the vessels.<br>• Noise from quay or plant. | • Ambient noise levels | • Increase in noise levels and noise nuisance. | • To minimise the increase in ambient noise level during operations. | • Noise complaints will be recorded and followed with formal response.<br>• A complaints register will be kept on site.<br>• All equipment and vehicles will be maintained in good operating condition.<br>• Noise surveys will be conducted on the vessels when required. |
| 9. Resource availability | • Variation in availability of marine resources due to human action. (poaching/illegal | • Over exploitation of resource<br>• Change in eco-system<br>• By catch contraventions | • Promote sustainable approach to fishing | • Influence and participation in resource management along with industry and government (Namibia and South Africa).<br>• Participate in scientific working groups.<br>• Obtaining independent research reports of |

| Environmental Element Affected | Aspect/ risk | Impacts | Objectives | Proposed Mitigation Measure |
|---|---|---|---|---|
| | fishing)<br>• Incorrect marine research and poor scientific data analysis by government | • Loss of profitability<br>• Overcapacity in assets (factory/boats)<br>• Loss of jobs (social economic impact in coastal towns)<br>• Negative impact on ecosystem | | the resources in order to monitor the status of the resources.<br>• Ensure compliance with the regulatory framework.<br>• Ensure compliance with responsible fishing practices.<br>• Train crew on responsible fishing practices (WWF).<br>• Determine the level of bycatch by monitoring and recording all bycatch caught by Oceana vessels.<br>• Proactive involvement in research and in industry bodies.<br>• Lobby DAFF and DEA to conduct more focused scientific research into the Horse Mackerel species.<br>• Seek alternate species to catch e.g., Red-eye species and conduct experimental fishing exercises to establish strength and viability of the resource.<br>• Proactively seek approval to fish for Horse mackerel in new South African fishing grounds (i.e. West of the 20 degree East Longitudinal line) and in international waters (i.e. Angola). |

## 7. Time Frames

The management measures that will be implemented during the operation of the vessels are outlined under Section 6. Responsible personnel with respect to the roles highlighted under the management commitments in Section 6, are outlined in Table 7- 1.

**Table 7- 1: Responsibility and timeframes for implementing each of the mitigation measures**

| Environmental Element Affected | Responsibility | Time Frames |
|---|---|---|
| 1. Waste Management | Environmental Officer | Operations |
| 2. Environmental pollution | Environmental Officer and SHE Manager | Ongoing |
| 3. Environmental Unsafe Supplier Practices | Site Manager, Production Manager, Wet fish Factory Manager and QC/HACCP Officer | Operation |
| 4. Water Use | Site Manager and Engineering Services Manager | Operation |
| 5. Energy use | Site Manager, Engineering Services Manager, Chief Officer, Marine Superintendent and Environmental Officer | Ongoing |
| 6. Air quality management | Site Manager, Engineering services, Chief Officer and Marine Superintendent | Ongoing |
| 7. Health and safety management | SHE Manager, Environmental Officer, Environmental Committee and Safety Officer | Ongoing |
| 8. Noise management | Site Manager, Engineering services, Chief Officer and Marine Superintendent | Ongoing |
| 9. Resource management | Site Manager, Procurement Manager, Operations Director and HR | Operation |

## 8. Performance monitoring and reporting

To ensure that the procedures and management plans outlined throughout the EMP are implemented effectively it will be necessary to monitor the implementation of the EMP and evaluate

the success of achieving the objectives listed in the EMP. To ensure that all representatives are aware of their obligation to protect the environment, induction training will be conducted, and it will include environmental awareness.

Regular monitoring of all the environmental management procedures and mitigation measures shall be carried out by the Company and vessel crew to ensure that the provisions of this EMP are adhered to. Monitoring and performance assessment of the EMP will be undertaken annually as part of the environmental audits. The environmental manager within the vessel will ensure compliance of the EMP.

Environmental managers shall be responsible for compliance by all vessels with the policy, EMP and implementation of environmental management and monitoring procedures. Environmental managers shall report monthly at divisional Safety and Health meetings on the vessel's environmental performance, including:

- Identification of environmental risks and management of them and their impacts, including emergency response plans.
- Compliance with environmental laws and best practices.
- Resource usage against targets and benchmarks.
- Environmental incidents caused by or affecting that vessel.
- Monitoring of customers and business associates for their commitment to environmental integrity in business.

Monitoring Plan is presented in Table 8- 1. This plan will come to effect during operations.

**Table 8- 1: Monitoring Plan**

| Action | Frequency | Method | Period |
|---|---|---|---|
| Monitoring and implementation of waste management system on the vessels. | On-going | Implementing waste management systems.<br>Creating waste management awareness within the vessels. | Operations |
| Monitoring compliance and actions taken for non-compliance. | Every six (6) months | Measuring pollution levels and implementing environmental procedures. | Life of operations |
| Monitoring climate change issues. | On-going | Measuring level of emissions into the greenhouse gases. | Operations |
| Monitoring of water quality and | Monthly | Developing a water | Operations |

| Action | Frequency | Method | Period |
|---|---|---|---|
| consumption | | management plan and reporting water consumptions monthly.<br>Record total water use and water use at the l by recording flow meters. | |
| Monitoring energy reduction system. | Monthly and on-going | Record total energy used every month and implement energy saving systems and process. | Operations |
| Monitoring carbon footprint. | Quarterly and On-going | Reporting on carbon footprint. | Operations |
| Monitoring and maintenance of general waste disposal | All loads of waste to be recorded and quantity also recorded | Running total of loads of waste taken. | Operations and voyage |
| Monitoring the requirements of operational and vessels conditions. | Monthly and every shore leave | Conduct surveys on the vessels and constant maintenance. | Operations |
| Monitoring noise levels | On-going | Record all noise related complaints. | Operations |
| Monitoring resources management plan. | Monthly and on-going | Developing a resources allocation plan. | Operations and planning |