Case Officer Report

Subject:	IP 00103/22 – A new application for the operation of an animal by-product (tuna offal) treatment facility.
Date:	19th September 2022
To:	ERA Board
From:	Environment and Resources Directorate

1. Background

This report has been prepared for the determination of IP 00103/22 which is a new application for an IPPC permit to treat animal by-product in the form of tuna offal generated by harvesting operation at the permitted offshore aquaculture farms submitted by Dr. Charlon Gouder obo Aquaculture Resources Ltd. In this regard, the application was received on 13th April 2022 and a consolidated application was submitted on 7th September 2022.

This animal by-product (tuna offal) will serve as the primary raw material in the process of fish meal and fish oil production for local use or export. The proposed activities fall within scope of the activity 6.5 stipulated under Schedule 1 of the Industrial Emissions (Integrated Pollution Prevention And Control) Regulations, S.L. 549.77:

> "*Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes/day*".

The plant is planned to operate during the tuna-culling season, estimated between October and February. No operations will occur beyond this period.

2. Case Officer Report

2.1. Proposal

The activities which are being proposed to be regulated through the proposed permit include the following:

Activity	Description of specified activity	Limits of specified activity
Section 6.5: Disposal or recycling of animal carcases or animal	Production of fish meal and fish oil	From receipt of tuna by-product in refrigerated containers to grinding, pre-

waste with a treatment capacity exceeding 10 tonnes per day		heating, separation, drying, cooling and handling for production of fish meal and fish oil for local use and export. Does not include the receipt of fish oil collected from outside the facilities or the thawing of any feed fish.
Associated activity of utilities	Reverse osmosis plant with associated abstraction of saline water from groundwater body.	From abstraction of groundwater from borehole AP1 located at 35° 48' 30.25976" N, 14° 31' 7.50511"E, use of product water within boiler, to discharge of brine effluent through the discharge borehole marked as ED2 on **IP 00103/22/DOC3.**
	One boiler using light fuel oil with a rated thermal input of 2.6 MW to produce steam and hot water.	From receipt of fuel to delivery of utility.
	One twin-set Generator using diesel with a rated thermal input of 2.05MW for provision of electricity in case of power failure.	From receipt of fuel to delivery of utility.
	Operation of chemical scrubber	From collection of air from process equipment to transfer to air treatment unit.
	Operation of two air treatment units	From filtering of ambient facility air and treated scrubber air to emission of clean treated air and transfer of condensate to waste water treatment plant
	Operation of wastewater treatment plant	From collection of process effluents, treatment and disposal into the sewer. Generation of organically enriched sludge for disposal or potential reuse.

	Operation of an oil/water interceptor	From collection of hydrocarbon contaminated effluent to treated water which overflows to land.
Associated activity of storage, treatment and disposal/recycling of waste materials	Handling, storage, treatment and disposal/recovery of wastes from installation	From generation of waste to temporary storage (under refrigerated conditions in the case of reject offal) to disposal, recycling onsite or offsite.
Associated activity of maintenance	Maintenance and repairs which may be carried out in the installation	From maintenance/repair activity to appropriate recovery/disposal of any wastes created.

Proposed Emissions and Mitigation

Emission point references	**Source**	**Mitigation**
PS1	Stand-by Generator	N/A
PS2	Stand-by-Generator	N/A
PS3	Boiler	N/A
PS4	Boiler steam blow-off	N/A
PS5	Oil-water interceptor vent	N/A
PS6	Liquid Fuel Oil (LFO) tank vent	N/A
PS7	Steamline safety valve	N/A
PS8	Air treatment plant vent	N/A
PS9	Air treatment plant vent	N/A
ED1	Process wastewater	Treated via a wastewater treatment plant prior to discharge to sewer
ED2	Brine reject and scale inhibitor from Reverse Osmosis	No treatment – discharge through borehole
ED3	Effluent from yard, boiler room and fuel loading area.	Oil-water interceptor discharging to land

Associated monitoring

Air and effluent Emission limits and monitoring requirements	

Emission point reference	Parameter	Limit	Frequency
PS1, PS2	Oxide of Nitrogen	200 mg/Nm^3	Within 4 months of granting of the permit and subsequently every 3 years.
	Carbon Monoxide	-	
PS3	Oxide of Nitrogen	300 mg/Nm^3	
	Carbon Monoxide	-	
	Dust	50 mg/Nm^3	
	Sulphur Dioxide	350 mg/Nm^3	
ED1, ED3	Total Petroleum Hydrocarbons (C12-C40)	5 mg/L	Every 6 months if the facility exceeds this duration of operations per annum. If the facility operates less than 6 months per annum, once during peak operations.
	Chemical Oxygen Demand	25mg/L	
	Biological Oxygen Demand	10mg/L	
	Suspended solids	5mg/L	
	Nitrogen Total	15mg/L	
	Phosphorus	2mg/L	
	Fats, Oils and Greases	2.6mg/L	
ED2	pH	6-10	
	Total Dissolved Solids (TDS)	N/A (mg/l)	
	Salinity	N/A (psu)	

2.2. Supporting documents recommended for approval

2.2.1. Drawing Numbers: IP00103/22/DOC1 – Site layout plan
: IP00103/22/DOC2 – Storage areas plan
: IP00103/22/DOC3 – Effluent and emissions plan
: IP00103/22/DOC4 – Drainage layout plan
: IP00103/22/DOC5 – Fuel storage and fill-point layout plan
: IP00103/22/DOC6 – Waste storage layout plan

2.2.2. Documents: IP00103/22
: IP00103/22/DOC7 – Approved Noise monitoring plan
: IP00103/22/DOC8 – Material Acceptance Procedure
: IP00103/22/DOC9 -Approved Outline Decommissioning Plan

2.3. Applicable law/ policy

The proposal is to comply with:

- Environment Protection Act (CAP. 549);

- Industrial Emissions(Framework) Regulations (S.L.549.76)

- Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (S.L.549.77) requires that installations carrying out activities as listed under activity 6.5 of Schedule 1 are to apply and obtain an IPPC permit prior to operations. In the case of this facility, operations consist of the disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes/day

- Limitations of Emissions of Certain Pollutants into the Air from Medium Combustion Plants Regulations (S.L.549.122) require the registration and monitoring of pollutants to air for medium combustion plants

- Best available techniques (BAT) specified in the BREF for Slaughterhouses and Animal by-products (adopted May 2005).

- Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register requires activities listed under Annex I to provide data on releases of specific pollutants to air, water, land depending on the applicable threshold and details of waste transfers. The proposal falls within scope of Activity 5(a) of these Regulations.

- Trading licenses, CITES clearances and any permits required under the Trade In Species Of Fauna And Flora Regulations (S.L. 549.38) in accordance with Flora, Fauna And Natural Habitats Protection Regulations (S.L. 549.44) and the EU Wildlife Trade Regulations EC 865/06 and EC 338/97.

2.4. Site Description and Constraints

The site is located within the Hal Far Industrial Estate, l/o Birzebbuga at a location which has never been as yet developed although satellite imagery shows that the area could have been unofficially used for storage by the adjacent concrete and tarmac plant. The site lies next to two Natura 2000 sites. Under the Birds Directive 2009/147/EC, both areas are designated as a Special Protection Area (SPA). These sites are Rdumijiet ta' Malta:Wied Moqbol sal Ponta ta' Bengħisa MT0000033 and Żona fil Baħar fil Lbiċ (MT0000111). In terms of other land uses, the area is predominantly surrounded by other industrial uses.

2.5. Site History

The following permitting history is noted on site:

Number	Title	Status
DN 01359/20	Construction of a Tuna Rending Facility	Granted on 16th March 2021

2.6. Consultations

2.6.1. Intra-ERA Feedback

There were no issues on the proposed activities from an environment assessment perspective. Nonetheless, the applicant was required to ensure that no external lighting and/or lighting of ancillary access roads, tracks and paths or other lighting is present beyond the site boundary. Such requirements are being recommended for inclusions as permit conditions.

With respect to ambient air quality there were no issues raised. In terms of noise assessment, the noise monitoring plan submitted as part of the application was reviewed and is in line with the required Terms of Reference. In this regard, noise monitoring requirements are being proposed as part of the permit.

On waste issues, it was noted that animal by-products are excluded from the Waste Regulations (S.L. 549.63) but fall within the scope of Animal by-Product Regulation (EC) 1069 of 2009 and its implementing Regulation (EC) 142 of 2011. Updates were requested in relation to list of raw materials identified in the outline decommissioning plan. Updates to the waste management were also required in relation to:

i. specific terminology used to refer to reuse of waste;
ii. reference to the correct waste legislation;
iii. exclusion of certain waste streams from waste regulations e.g. wastewater and sludge (if used for production of animal feed);
iv. reference to treatment rather than disposal when identifying permitted waste management facilities;
v. Use of abbreviations;
vi. Amendment of waste management facilities for treatment of specific wastes streams in view that some of the facilities identified are not permitted for the waste codes indicated;

Relevant documents were updated as part of the application process.

There were no comments on the application from a biodiversity and water perspective. Notwithstanding, consultation with respect to proposed emissions to groundwater for the brine reject and discharge to land from the oil-water interceptor was carried out and included in the permit.

In terms of extended producer responsibility, registration as a producer as per requirements stipulated in S.L. 549.43 would be required should the company place 100kgs or more annually of packaging on the Maltese market. The applicant indicated that it is not foreseen that such quantities shall be produced especially considering the site will be operational for only 4 months of the year. Notwithstanding, the proposed permit includes provisions for registration should such amounts be placed on the market.

In terms of compliance and enforcement there is no compliance history in view that this is a new site. On the application, clarifications were requested on the following issues:

i. Whether fish oil collected by the fish farm operators at sea, vessels and landbases will also be treated at the facility to which the applicant indicated that such fish oil will not be collected;
ii. Clarification as to whether any bait fish will be thawed on site;
iii. Indication of the offal landing site.

In response, the applicant confirmed that fish oil will not be collected and that no thawing of fish bait will take place. Furthermore, the offal landing site will be at the Malta Freeport at the Border Inspection Post.

2.6.2. Feedback from External consultees

The **Malta Resources Authority (MRA)** had no comments on the application.

The **Regulator for Energy and Water Services (REWS)** indicated that an application for secondary storage facility has been submitted for the 20,000 litre light fuel oil and 2,000 litre diesel tanks used to operate the boiler and the generator. The REWS requested clarifications as to whether any fuel will be utilised for re-fuelling of own motor vehicles, in which case a specific authorisation would be required. In response, the applicant indicated that no re-fuelling of motor vehicles will take place and provided updated documentation, following which REWS indicated that there were no further comments.

The **Environmental Health Directorate (EHD)** provided a number of requirements related to a number of issues, which are being proposed to be included as permit conditions:

i. Management of water runoff or during operations;
ii. Mitigation measures in relation to air, noise and vibration to avoid nuisance to sensitive receptors in the Area of Influence and to the general public;
iii. Site impermeability;
iv. Mitigation measures in relation to fuel storage;
v. Treatment of process water to prevent Legionella;
vi. Pest Control;
vii. Conditions related to use of second-class water;
viii. Registration of cesspits;
ix. Conditions related to use of RO for production of potable water;
x. Implementation of mitigation measures and monitoring in relation to odour. In this regard, the scheme should also be well maintained and regularly cleaned. No tuna offal, waste or feed is to be left outside. Doors of the scheme are to be kept closed at all time. The applicant is to establish cleaning producers and cleaning records for the operation phase. It is imperative that staff is aware of the importance to maintain the scheme clean and to adopt the “Clean As You Go” method;
xi. Maintenance and cleaning of air filters and related equipment in line with manufacturers specifications to prevent nuisance;
xii. Implementation of waste management procedures;

xiii. Use of adequate potable water intended for human and personal consumption;
xiv. All wastewater pipes, gullies and drainage system are to be according to local legislation;
xv. Immediate action by the applicant should unpredicted impacts and nuisances arise which may have an adverse effect on public health including the adoption of necessary mitigation measures;
xvi. Records of complaints made by the public which are to be made available to the Competent Authorities when requested.

The applicant has taken note of the conditions requested and these have been reflected as applicable in the proposed permit.

The **Civil Protection Department (CPD)** noted the fire report which was submitted as part of the application and had no issues with regards to its contents provided that fire safety is implemented and maintained.

The **Water Services Corporation (WSC)** provided a no objection to the application subject to the following conditions:

i. Obtaining a sewer discharge permit;
ii. Installation of treatment to meet the discharge limits stipulated in the Sewer Discharge Control Regulations;
iii. Prohibition of discharge of any sludges in the sewer and disposal through authorised waste carriers. WSC to be notified of disposal route for such sludge;
iv. No discharge of brine from the Reverse Osmosis (RO) to the sewer;
v. Installation of an antiscalant dosing system as part of the RO system;
vi. Adequate storage of chemicals and prohibition of their discharge into the sewer;
vii. Adequate disposal of wastewater containing animal by-product products in line with health regulations and prohibition of its disposal into the sewer.

In response to the feedback provided, the applicant submitted an application for a sewer discharge permit with the WSC and is in correspondence with the WSC for the necessary sampling to be carried out once the treatment system is in place. To this end the WSC has requested that the requirement to obtain a sewer discharge permit is included as an Improvement Programme item. Moreover, conditions are being proposed to be included in the permit to ensure that until such time that the sewer discharge permit is granted by WSC all resultant effluents are to collected and disposed of in line with the Waste Regulations.

The **Energy and Water Agency** initially indicated that in view that the applicant indicated that the RO will extract seawater from a borehole and discharge brine back to the sea through a second borehole, there were no issues related to groundwater. However, this issue was further clarified in view that the water to be extracted although comparable to seawater in terms of composition, is still considered as groundwater. In this regard, the EWA requested that the 50metre casing below the sea level, as indicated in the application, should allow for sufficient vertical distance from the limit of the freshwater groundwater body. Good construction practice of the casing of both the intake and discharge boreholes ensuring that the casing is well sealed throughout the entire length with cement grouting of the casing to ensure sealing of all the casing to 50m below sea-level is required.

In this regard, the applicant was required to update all documents in which reference to abstraction of seawater and discharge to the marine environment was being made. The necessary updates were provided.

In relation to any monitoring requirements associated with the discharge of the brine into the groundwater, the EWA indicated that such monitoring is to be indicated by the ERA.

The Veterinary Regulation Directorate did not provide direct feedback on the application, but the ERA was in continuous discussion with the Directorate throughout the process.

The **Malta Competition and Consumer Affairs Authority,** the **Planning Authority, Transport Malta,** and the **Occupational Health and Safety Authority** did not provide any feedback with respect to the application.

2.7. Representations from public

2.7.1. Public consultation dates: 4th June to 3rd July 2022

2.7.2. Responses received:

Feedback was received from Dr. Michael Brigulio obo of the Malta Sociological Association requesting that a Social Impact Assessment (SIA) to be carried out for the application in question and providing various methodologies and standards in which such a study could be carried out.

Taking into consideration the application in question, the Directorate deems such a request to be out of scope of the IPPC permitting requirements and is not identified as one of the required submissions/assessment tools under the Industrial Pollution Prevention Control regulations (IPPC) which transpose the Industrial Emissions Directive (IED).

The applicant was informed of this feedback and was in agreement with the Directorate's position on the matter.

2.8. Feedback from the Applicant

A draft of the permit was communicated to the Applicant, following which a number of comments were received.

An extension of the deadline for a number of improvement programme items was requested from 1 month to 2 months to allow for sufficient completion. The Directorate agreed to this except for improvement programme items 1 and 8 related to contingency measures (item 1) and the installation of infrastructure to temporarily divert waste water prior to discharge to sewer (item 8) which were considered important elements to be in place for site mitigation measures.
The applicant requested the omission of improvement programme items 8 and 16 relating to the temporary diversion of waste water prior to discharge to sewer and requirements to obtain said sewer discharge permit. The Directorate is maintaining these items as it is a BAT

requirement to prevent unintended discharges to sewer which may exceed limit values (item 8) and a direct requirement by the WSC (item 16).

The applicant requested the removal of conditions relating to spill mitigation measures during transfers of offal from the supply vessels to refrigerated containers at the quay and reduced feeding prior to harvesting. The Directorate did not concede to these requests noting that transfers shall be made from the quay to the Applicant's property and measures to ensure that spills from such transfers are to be in place. Furthermore, the Applicant already agreed to liaise with their suppliers to reduce feeding prior to harvesting.

The Applicant requested the omission of specification of acceptable Total Volatile Nitrogen levels which had been provided by the Applicant's own acceptance procedure to determine reject criteria for incoming offal in view that this value might change. The Directorate is proposing the retention of the condition and the inclusion that the Applicant may seek the Authority's approval for any changes to such a limit.

As part of the statutory consultation process, the Environmental Health Directorate had requested the installation of a geotextile membrane throughout the site. The Applicant indicated that such a membrane was only installed beneath the underground light fuel oil tank, however that the rest of the site was covered by an impermeable concrete layer. Following the Directorate's consultation with Environmental Health Directorate, it was deemed acceptable that the site be maintained impermeable using only the concrete layer, noting that other permit conditions require bunds and catchment pits to be recertified for impermeability every 5 years.

The Applicant requested the increase of monitoring emission limit values to the effluent being discharged to sewer. Noting that the proposed limits are derived from BAT, the Directorate is not proposing any changes to the monitoring levels.

As part of BAT requirements, all tanks housing waste water effluent are to have underlying drains to direct to a catchment system. The applicant indicated that underground concrete pit do not have underlying drains. In-line with the application, the only underground tank is the fuel tank for the boiler which has other means of containment (double skinned).

Additionally, the Applicant requested the possibility of reject waste material being disposed of at sea. Alternative disposal options will be assessed by the Directorate upon request by the Applicant. No changes to the current conditions are being proposed.

Minor amendments to cross referencing and clarification of details were also made.

2.9. Discussion

The application being considered has been submitted by Dr. Charlon Gouder on behalf of the Aquaculture Resources Ltd on 13th April 2022 and validated on 19th May 2022. A consolidated application including submission of all updates requested by ERA and other statutory consultees was submitted on 07th September 2022.

This proposed activities include the treatment of tuna offal generated by harvesting operations at the permitted offshore aquaculture farms. Following treatment of such offal, fishmeal and fish-oil will be produced for local use or export.

The proposed activities fall within scope of the activity 6.5 stipulated under Schedule 1 of the Industrial Emissions (Integrated Pollution Prevention And Control) Regulations, S.L. 549.77:

> "Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes/day".

In terms of processing capacity the plant will process a total of 6,000 tonnes of tuna offal per year (about 100 tonnes per day) during the five months per year during which it will be operational (i.e. October to February). The plant will have a maximum storage capacity of 100 tonnes. Following the treatment process, the plant will be able to store about 25 tonnes of fish meal (equivalent to about 1 day of operations) and 90m^3 of fish oil (equivalent to about 3 days of operation).

Directly associated activities which will be carried out within the plant include steam and condensate distribution and a RO plant for production of freshwater to be used in the required equipment. The feedwater for the RO plant will be obtained through extraction of saline groundwater from a borehole and reject will be disposed back to the groundwater through another borehole. The submission of a monitoring plan for the parameters specified in the '*Associated Monitoring'* section is being proposed for inclusion as part of the Improvement Programme.

Other ancillary activities and equipment which will be present on site include:

- The collection and treatment of wastewater effluents generated from the process (e.g.on-site drains, effluent from the air treatment system);
- The use of a boiler with a rated thermal input of 2.6MW to produce steam which is distributed to various equipment;
- One twin-set emergency generators with a rated thermal input of 2.05MW.

In terms of the actual process which will be carried out, the offal will be landed in reefer containers at the Freeport Border Inspection Post (BIP) in Marsaxlokk in line with the requirements of the Veterinary and Phytosanitary Regulation Division. Following the required clearances, the tuna offal will be brought to the facility in bins within the reefer containers which will be sealed with inflatable dock shelters to prevent odours during their unloading. Until the time of processing, which is estimated at 24 hours from arrival on the site, the tuna offal will be kept refrigerated. The retention time can be extended to 60 hours.

Following inspection of the tuna offal for any signs of decomposition, the processing of the offal will be initiated in the plant as follows:

i) Mechanical treatment of offal and removal of metal contaminants;
ii) Pre-heating using steam;
iii) Separation of material between the fat and the fish oil;
iv) Drying and removal of water;
v) Meal handling including cooling and shaping of the dried fish meal product.

In terms of abatement for odour abatement, the plant will be equipped with an air treatment system whereby odorous air generated from the process area will be condensed. The air stream from the process equipment will be passed through a chemical scrubber (sulphuric acid and sodium hydroxide) to further reduce odour emissions which will in turn be passed through an air condenser equipped with activated charcoal filters. The ambient air stream from facility will also be directed to the separate air condenser with activated charcoal filters.

The resultant condensates together with other effluents generated as part of the process will be treated in a dedicated wastewater treatment plant which will utilise ozone technology to remove micro-organisms and organic compounds. The resultant effluent will then be discharged to the sewer following clearance from the WSC. The applicant is proposing that any sludge generated in the treatment plant will be either exported for reuse as animal fodder or collected and transported off-site for disposal.

As part of the application process, a Best Available Techniques (BAT) assessment against the BAT conclusions specified in the BREF for Slaughterhouses and animal by-products industries was undertaken. The BAT conclusions will, in the most, part be implemented as part of the proposed operations and specific permit conditions are being proposed in the permit to ensure adherence to BAT requirements. In cases where deviations from BAT have been indicated by the applicant, justifications for such deviations have been provided and other techniques which achieve the same level of treatment required by BAT are being proposed.

In terms of land and ground water risk assessment, the IPPC Regulations require operators to carry out a baseline report in line with the European Commission Guidance to determine the state of the land and groundwater prior to start of operations. The applicant has submitted a baseline report which identifies the historical uses of the site where the installation will be located and possible changes in state in response to contamination by the relevant hazardous substances to be used, produced or released depending on the pollution pathway identified for the respective hazardous substances. The applicant concludes that an assessment of soil and groundwater should be carried out. In this regard, the Directorate is proposing that within one month from granting of the permit the applicant submits a method statement for carrying out the baseline study which shall be implemented following its approval by the Authority. In order to ensure that adequate containment is in place, the Directorate is proposing that as part of the improvement programme, chemical bunds, underground tanks and all tanks/sumps handling industrial effluent are certified within four (4) months of granted of the permit and subsequently every five (5) years and before any renewal of the permit.

The Statutory consultation was carried out between 6th June and 6th July 2022 during which no objections were received from (as detailed above). A public consultation was held in the same period and besides the recommendations for carrying out a Social Impact Assessment, there were no objections raised.

A site visit was conducted on 12th May 2022 during which the plant was at an advanced stage of construction and with some of the machinery already installed but not operational. An explanation of the process was provided. The applicant was requested to provide clarifications and updated documents where certain discrepancies between the application

and the on-site visit arose. Such updated were provided as part of the processing of the application.

2.10. Financial Matters

Application Fee	€15,000 - Paid
Medium Combustion Plant Registration Fee	€500 covering the registration of the boiler – Paid €500 covering the registration of the one twin-set generator – Not paid
Financial guarantee	€90,875
Annual Fee	€1,500 and any fees associated with inspections at a rate of €200 per inspection

3. Environment Officer Recommendation:

The Environment and Resources Directorate recommends the GRANTING of the Permit for a period of ten (10) years subject to the following conditions as post decision requirements:

a) Submission of bank guarantee of € 90,875

b) Annual fee of € 1,500 covering the period 2022-2023

c) Settlement of the Medium Combustion Plant Registration Fee of €500

The proposed permit conditions include :

a) General conditions applicable to all IPPC installations; installations operating Medium Combustion Plants; monitoring requirements as per section above;

b) Sector/Site-specific conditions:

- Animal by-products being transported to the facility and waste generated from the treatment processes shall be transported as dry as possible. The Permit holder shall ensure that no effluents or waste escape to the environment especially when transporting such materials offsite or onsite.

- Animal by-products and processed products must be collected and transported in sealed new packaging or covered leak-proof containers or vehicles. ∞

- Vehicles and re-usable containers, and all re-usable items of equipment or appliances that come into contact with animal by-products or processed products, must be: ∞
  a. cleaned, washed and disinfected after each use;

b. maintained in a clean condition; and
c. kept clean and dry before use.
d. Re-usable containers must be dedicated to the carriage of a particular product to the extent necessary to avoid cross-contamination.

- During transfers of offal from the supply vessel to the refrigerated vehicles, the Permit Holder shall ensure that no materials are spilled on to the quay or the sea. Any accidental spillages shall be collected immediately.

- The Permit Holder shall endeavour to coordinate with the tuna penning operators to reduce feeding of fish prior to harvesting.

- Offal shall be stored under refrigerated conditions at all times when not being processed and shall not exceed 100 tonnes. No offal shall be kept outdoors.

- Further to Condition 2.1.1, offal cannot be stored for more than 60 hours without treatment or disposal.

- The raw material acceptance procedure laid out in Approved Document IP 00103/22/DOC8 shall be followed for the receipt of each consignment of material. Any offal which exceeds a Total Volatile Nitrogen concentration of 120mgN/100g shall be classified as reject material and handled as waste. Should the 120mgN/100g need to be revised, the permit holder shall seek the Authority`s approval of any change. Nonetheless, offal not deemed acceptable to be processed shall still be handled as waste.

- During inactive periods which do not fall under the circumstances of Improvement Programme Item 1 and as notified through condition 5.1, prior to annual scheduled closure of facility, all animal by-products and wastes are to be removed from the facility. Chemicals shall be adequately stored in-line with condition 2.14.2.

- Due to the proximity of the site to designated areas of protection, there shall be no external lighting and/or lighting of ancillary access roads, tracks and paths or other lighting beyond the site boundary.

- The water generated from the reverse osmosis plant shall be strictly used as part of the processing of animal by-products. No reverse osmosis generated water can be used for human consumption. ∞

- Until such time that a Public Sewer Discharge Permit is obtained from the Water Services Corporation, any effluent generated from the wastewater treatment plant shall be collected and disposed of as per the requirements of the Waste Management Regulations (SL 549.63).

- Odours shall be audited on a daily basis. Should any odour be detected, the reception, handling, storage and preparation and the processing of raw material is to be examined and revised.

- Inflatable dock shelters are to be used at all times when containers, reefers or vehicles are present at the loading and unloading bays.

- Further to Conditions 2.1.4 and 2.8.4, during inactive periods which do not fall under the circumstances of Improvement Programme Item 1 or when containers, reefers or vehicles are not present at unloading bays, rolling shutters are to be kept closed.

- The reception, off-loading and storage of animal by-products shall be undertaken within enclosed areas, operated under negative pressure, with extractive ventilation connected to a suitable odour abatement plant.

- The transfer of materials throughout the entire processing line, including the conveyance of process gases and liquid effluents, shall be undertaken within totally enclosed and sealed handling systems designed, constructed and maintained to prevent leakages from occurring.

- Prior to rendering, size reduction of animal carcases and parts of animal carcases is to be carried out as per Animal By-Product Regulations and as directed by the Veterinary and Phytosanitary Regulation Division. ∞

- To minimize odours, good hygiene, quick removal of reject materials, short term storage of tuna materials & waste, frequently scheduled cleaning and its record-keeping shall be applied.

- All spillages of process effluent are to implement dry cleaning prior to wet cleaning in order to minimize the entrainment of organic matter into the waste water treatment system.

- Cleaning is to be done using pressurized water using hoses fitted with hand-operated triggers and where necessary hot water supplied from thermostatically controlled stream and water valves.

- Any supply of water is to be made through nozzles designated and positioned for each individual unit operation and cleaning operation.

- Areas where by-products, raw materials and waste are stored shall be cleaned frequently. The cleaning programme shall cover all structures, equipment and internal surfaces, material storage containers, drainage, yards and roadways.

- Minimal quantities of water and detergents, which have been identified to have minimal impact on the environment, are to be consumed. Furthermore where possible, detergents having active chlorine are to be avoided.

- Process effluent shall be collected in the sump as identified in Approved Document IP 00103/22/DOC4 prior to treatment. Waste water shall be treated once the minimal threshold has been reached.

- Drains collecting process effluent are to be fitted with screens and/or taps to prevent solid material from entering the waste water catchment system. Furthermore, effluent lines and gutters are to be designed in such a way to prevent water stagnation prior to collection in the designated sump.
- Packaging material which may have been in contact with animal by products shall be disposed of as directed by the Veterinary and Phytosanitary Regulation Division and the Authority and should it be temporarily stored on site pending removal it shall be stored in a way so as not to give rise to odours or pose a risk to the environment. ∞

- Further to Condition 2.1.3, upon identification of any incoming material not meeting acceptance criteria, this is to be immediately labelled, separated from viable raw material and kept segregated until such time of its removal from site.

- Reject offal, which has come into contact with such waste or by-product, is to be maintained in closed, leak-proof bins under refrigerated conditions within the facility at all times and is to be removed from the site for disposal within 24hrs by carriers as approved by the Veterinary and Phytosanitary Regulation Division. ∞

- Animal by product or material which is rejected from the production process shall not be disposed of at sea but disposed of in permitted facilities as agreed upon with the Veterinary and Phytosanitary Regulation Division and the Authority. ∞

- Further to IP item 1 (a-c), in instances where dead fish (whole or in part), offal or any tissues or any other by-products, cannot be processed onsite, disposal of such material shall be carried out as directed by the Veterinary and Phytosanitary Regulation Division.∞

- Waste sludge generated from the waste water treatment plant is to be handled and disposed of as directed by the Veterinary and Phytosanitary Regulation Division.∞

- Further to condition 2.11.25, should the Permit Holder which to repurpose the waste sludge generated by the waste water treatment plant, the End-of-Waste procedure is to be followed as per Condition 2.11.8.

- Untreated process effluent shall first pass through a drum filter to remove large particles from the effluent prior to treatment in the waste water treatment plant. Any organic material removed from the drum filter shall be considered as part of waste sludge W2 as identified in Approved Document IP 00103/22/DOC6.

- As part of the abatement measures, the waste water treatment plant shall remove fats and solids from the effluent water.

- Any and all waste water treatment tanks are to have sealed sides and bases and are to be aerated or agitated in order to prevent anaerobic conditions.

- Any tanks which house industrial effluent are to have underlying drains to collect any seepage of effluent that may occur. The collected seepage is to be collected and redirected for treatment through the waste water treatment plant.

- Until such time that the facility processes less than 50,000 tonnes of animal by-product annually, single effect evaporators are to be used to remove water from liquid effluent mixtures.

- The waste heat from the drying of press cakes and evaporated process water shall be used in a falling film evaporator, for the concentration of process water, to form evaporated process water.

- The Permit Holder shall submit to the Authority an Annual Environmental Report (AER) of the previous operating period to the Competent Authority by the end of March of each year. The AER shall contain all the information listed in Schedule 2 of this Permit and in the format specified therein. The AER shall be forwarded to the Authority in electronic format.

- Thirty days prior to the commencement of the harvesting season, the Permit Holder shall provide the following information:

    a. Initiation of processing of tuna by-product
    b. Date of planned cessation of receipt and processing of tuna by-product (offal) following the completion of the harvesting operations at sea

c) Improvement programme items:

Reference	Requirement	Deadline
1	Submission of a Contingency plan for temporary in-operation due to: 1. Routine maintenance 2. Non-routine maintenance 3. Operational malfunction of the plant exceeding 60 hours.	Within one (1) month form the granting of the permit.
2	(a) Submission of a monitoring statement for ERA's approval for carrying out the baseline study in conformity with Articles 16(2) and 22 of the Industrial Emissions	(a) Within two (2) months from the granting of the permit.

	Directive, 2010/75/EU, including timeframes for implementation. (b) Commencement of monitoring in accordance with the approved monitoring statement. (c) Submission of monitoring report	(b) Within a timeframe as agreed upon with the Authority (c) Within a timeframe as agreed upon with the Authority.
3	(a) Submission of a method statement for approval by the Authority showing how the air monitoring for the medium combustion plants specified in table 2.2.3. (b) First measurement for the emissions to air monitoring as per approved method statement in (a)	(a) Within two (2) months from the granting of the permit. (b) Within four (4) months of the granting of the permit.
4	(a) Submission of a method statement (including timeframes for implementation) for approval by the Authority for monitoring of effluent emissions arising from ED2 as specified in table 2.6.4 prior to discharge to the groundwater borehole. (b) Submission of monitoring results in line with approved Method Statement.	(a) Within two (2) months from the granting of the permit. (b) Within a timeframe as agreed upon with the Authority.
5	(a) Submission of a method statement (including timeframes for implementation) for approval by the Authority for monitoring of effluent emissions arising from ED3 as specified in table 2.4.2 prior to discharge to land at the specified frequency. (b) Submission of monitoring results in line with approved Method Statement.	(a) Within two (2) months from the granting of the permit. (b) Within a timeframe as agreed upon with the Authority.
6	(a) Submission of a method statement (including timeframes for implementation) for approval by the Authority for monitoring of effluent emissions arising from ED1 as specified in table 2.5.3 prior to discharge to sewer.	(a) Within two (2) months from the granting of the permit.

	(b) Submission of monitoring results in line with approved Method Statement.	(b) Within a timeframe as agreed upon with the Authority.
7	Notification of implementation of a cleaning in-place system for equipment to minimise use of water and detergents.	Within two (2) months from the granting of the permit.
8	For any direct connection to the sewer system, which does not include domestic sewage, a shut-off valve to allow for diversion of the effluent into a holding tank shall be fitted to address exceedances of discharge limits for sample collection and analysis. Permit holder shall inform the Authority of the installation of the shut-off valve.	Within one (1) month from the granting of the permit.
9	Submission of certification for weighbridge calibration	Within two (2) months from the granting of the permit.
10	Submission of certification by an independent warranted engineer showing that the chemical bund is impermeable and has a capacity in accordance with condition 2.14.1.	Within four (4) months from the granting of the permit.
11	Submission of impermeability certification by an independent warranted engineer for the underground tank utilised for storage of light fuel oil.	Within four (4) months from the granting of the permit.
12	Submission of impermeability by an independent warranted engineer for the buffer tank utilised for storage of filtered industrial effluent.	Within four (4) months from the granting of the permit.
13	Submission of impermeability by an independent warranted engineer for the sump utilised for storage of unfiltered industrial effluent.	Within four (4) months from the granting of the permit.
14	Submission of noise monitoring results in line with the approved method statement in **IP 00103/22/DOC7**	Within four (4) months from the granting of the permit.
15	Submission of a revised bund certificate for the fuel tanks by an independent warranted engineer to	Within four (4) months from the granting of the permit.

	confirm that the bund capacity is in line the requirements stipulated in condition 2.14.1.	
16	To obtain a sewer discharge permit in line with the requirements of the Water Services Corporation∞	Prior to discharge of effluent into the sewer.