

This memo has been cleared for submission to the Director by the Programme Manager F. Clinton
 Signed: M. Buckley Date: 31/8/12
 Máire Buckley

**OFFICE OF CLIMATE,
 LICENSING &
 RESOURCE USE**



INSPECTORS REPORT ON A LICENCE APPLICATION

To:	Director
From:	Patrick Byrne - LICENSING UNIT
Date:	3 ^{1ST} AUGUST 2012
RE:	Application for review of an IPPC Licence from United Fish Industries, Licence Register P0416-03

Application Details	
Class of activity:	Class 7.7.1 The disposal or recycling of animal carcasses and animal waste with a treatment capacity exceeding 10 tonnes per day ¹ .
Category of Activity under IPPC Directive (2008/1/EC):	Category 6.5: Installations for the disposal or recycling of animal carcasses and animal waste with a treatment capacity exceeding 10 tonnes per day.
Section 90(1)(b) notice sent:	8 th September 2010
Licence application received:	11 th July 2011
Notices under Article 90 issued:	25 th August 2011 & 3 rd April 2012
Information under Article 90 received:	8 th February 2012 & 24 th May 2012
Section 99(e) Response from Sanitary Authority:	12 th October 2011
Article 18(2) Extension request:	12 th July 2012
Article 18(2) consent received:	20 th July 2012
Submissions received:	HSE Public Health – 25 th July 2011
Site visits:	25 th August 2010

¹ The installation was licensed previously as Class 7.5 The manufacture of fish-meal and fish-oil, however Class 7.7.1 equates to Category 6.5 of the IPPC Directive and the Industrial Emissions Directive.

Company

United Fish Industries (UFI) Killybegs accepts fish trimmings and whole fish from the fish industry across Ireland and recovers fish-meal and fish-oil. The installation in Killybegs was established in 1957 and became part of the IAWS group in 1967. UFI is now a subsidiary of Welcon Invest A/S, Norway which is owned jointly (50% each) by Origin Enterprises and Austevoll Seafoods. Welcon Invest A/S owns Welcon AS, which has five fishmeal processing installations in Norway, and UFI, which has three fishmeal processing installations in Aberdeen, Grimsby and Killybegs. United Fish Industries re-registered under the Companies Acts as an unlimited company in January 2010, CRO number 8639.

Fishmeal and fish oil is manufactured by cooking, pressing, drying and grinding fish and fish trimmings to produce a stable end product. The fishmeal is produced mainly for use in aquaculture, with limited quantities going to the agriculture sector. UFI Killybegs has the capacity to process 800 tonnes of raw material per day which equates to between 50,000- 80,000 tonnes of raw material per annum, and recovers approximately 10,000 to 18,000 tonnes of fish meal and 3,000 to 5,000 tonnes of fish oil per annum.

The installation is located on the outskirts of Killybegs, approximately 1km from the town centre. The site is bounded to the west by the Donegal Road (R263) and to the east by Killybegs Harbour.

The installation employs approximately 28 staff. Operating hours vary during the year depending on supply of raw materials. Peak production occurs during January to April. It is anticipated that the plant may operate as a continuous 24 hour operation at peak times, currently some processes are operated up to 21 hours per day. Throughput at the installation has been less than capacity since 2010.

The installation has made a number of planning applications over the last 40 years, based on a planning search completed by Donegal County Council in 1999 for UFI, the earliest planning granted was in 1970 for 'extension to fishmeal factory'. The most recent planning permission granted, following appeal to An Bord Pleanála was on the 8th May 2006 for 'retention and completion of filling to an area of the foreshore up to a level of eight to ten metres incorporating a rockfill embankment to the sea and the retention of the existing outfall pipes on an area of existing foreshore in accordance with requirements of foreshore licence number MS51/15/573A at Corporation Townland, Killybegs, County Donegal.' The planning authority did not require the planning applications to be supported by an EIS.

The installation was granted an IPC licence on the 6th October 1999, Reg. No. P0416-01, for Class 7.5 - The manufacture of fish-meal and fish-oil. A licence review was commenced in June 2004, Reg. No. P0416-02, however the application was withdrawn by the licensee in September 2004, prior to the Agency issuing a reviewed licence.

The current licence was amended, Amendment A, issued on the 9th November 2005, under Section 82(11) of the EPA Acts to bring the licence into compliance with the IPPC Directive. The licence was further amended by a technical amendment, Amendment B, issued on the 9th November 2009, in accordance with Section 96(1)(c) of the EPA Acts. Amendment B related to emissions to water and emissions to sewer.

Reason for Licence Review

UFI Killybegs have applied for this licence review to accommodate proposed changes, referred to as stages 1, 2 and 3 by the licensee.

Stage 1, which sought to maintain the emission limit values specified in the existing licence, P0416-01, as amended by Technical Amendment B (mass emission limits), was proposed to be from date of grant of licence to 1st January 2012. However, as the application could not be progressed prior to receipt of further information from the licensee the time period applicable to stage 1 has elapsed and the review considers the two remaining stages.

The detail of the two remaining stages as outlined by the licensee are as follows:

Stage 2, proposed to apply from 1st January 2012:

Air: Emission limits to remain as per existing licence (including Technical Amendment B).

Surface water: Diversion of some process water streams from SW1 (surface water discharge) to SE1 (sewer), reduced emission to surface water.

Sewer: Discharge to SE1 to be diverted by Local Authority to long sea outfall rather than current discharge to inner harbour facilitating greater dispersion of emissions. Emission limits as agreed with Donegal County Council.

Noise: Implementation of a noise management plan to move and/or attenuate noise sources of a tonal or impulsive nature to meet BAT and night time noise limits.

Stage 3, proposed to apply from 1st January 2016:

Production building to be redesigned and restructured to meet requirements of BAT.

Air: Building re-designed to mitigate fugitive odours and headspace air to be treated through odour abatement plant.

Surface water: Removal of existing direct scrubbers and commissioning of indirect scrubbers whereby sea water and process streams do not make direct contact. Therefore eliminating pollutant loading to surface water discharge (SW1) resulting in only a thermal discharge to the inner harbour.

Sewer: Emissions to increase due to increased diversion of process streams and increased raw material intake capacity. Emission limits as agreed with Donegal County Council.

Noise: Building fabric or localised attenuation to be designed to facilitate acoustic screening from the driers and other units in the production building where possible.

The licensee has identified that the 'stage 3' proposals may also include a 50% increase in production capacity from 800 tonnes to 1,200 tonnes per day. Such an increase in production capacity is likely to require planning permission and may have an EIA requirement. The proposals outlined for stage 3, associated with an increase in production capacity and/or significant re-configuration of the site, are likely to require an EIA and therefore cannot be provided for in this licence review. The licensee has confirmed that based on consultation with Donegal County Council, it has been agreed that an EIS will be prepared for the planning application of the Stage 3 development of the installation.

This report and RD are based on the existing capacity of the installation (raw material processing of 800 tonnes per day). A further licence review will be necessary to consider an increase in production capacity and/or significant re-building of the installation as such developments are likely to require planning permission and be subject to an EIA. The RD however requires the licensee to

upgrade the integrity of the installation before the 1st January 2016 to provide for negative air pressure to be maintained in the process buildings, including raw material intake and final product storage. The RD also requires that indirect scrubbing must replace the current direct scrubbers on or before 1st January 2016.

Process Description

Raw materials (fish and fish trimmings) are delivered by road from the fish processing activities throughout Ireland, including Killybegs, and also from landings in Killybegs of fish specifically for fishmeal and fish oil production i.e. blue whiting. Raw material is accepted at the intake area and transferred to the raw material storage silos.

The raw material is conveyed to continuous indirect steam cookers where it is cooked for approximately 30 minutes. The cooked material is then strained and the material enters either the solid or liquid phases.

The solid, cooked material, is conveyed to twin-screw presses where excess liquid is removed under pressure to achieve a solid material with a moisture content of approximately 50%. The material then enters either the Steam Drying Plant (capacity of 15 tonnes per hour and uses indirect steam in the drying process) or the Low Temperature Plant (capacity of 20 tonnes per hour and uses hot air in the drying process) and dried to a moisture content of less than 10%. The material is cooled and ground and conveyed for storage.

Liquid from the strainer and screw presses enters centrifugal decanters where most of the solids (grax) are diverted to join the solid material prior to the driers. The decanted liquids enter a high speed centrifuge at which stage crude fish oil is separated and stored on site. The separated water enters an evaporation system. The water is evaporated until the solids concentration goes from approximately 9% to 35%. The concentrated material is transferred to join the solid material prior to the driers.

Emissions

The main emissions from the process include emissions to atmosphere (combustion and process emissions), surface water, sewer and noise.

Emissions to Atmosphere include combustion emissions (two boilers (A1-1 and A1-2) and burner (A1-3)) which also include the by-products of the combustion of odourous emissions from on-site processes, and emissions from an odour scrubber (A2-1). The licensee has identified that they will install a steam generator (A1-4) which will operate as a substitute for the boilers during the summer months when production is lower.

Emissions to surface water include four surface water discharges (SW-2, SW-3, SW-4 and SW-5) and one process effluent emission (SW-1). The process emission includes sea water used to condense process vapours in a direct scrubber, condensate from the evaporation process, drier vapours and water from vacuum pumps.

There is one emission to sewer (SE1) which comprises process water, wash down water, process cleaning in place effluent, separator flushings, pump cooling water as well as domestic effluent.

Noise monitoring at a noise sensitive location (residential property opposite installation) indicates levels above the night-time limit at times and there is an identified tonal component. Noise monitoring at the boundary of the installation indicates exceedences of 55dB(A) daytime and 45dB(A) night time.

Air

There are two boiler emissions (A1-1, A1-2) and one burner (A1-3). There is a main emission point (A2-1) associated with the sea-water scrubber treating the foul air from the coolers/grinders. In addition there are 19 identified minor emissions to atmosphere and 3 sources of fugitive emissions.

The licensee has identified that the boiler and burner emissions will remain unchanged and the licensee proposes that the existing emission limit values will be maintained. The boilers each have a capacity of 11.2MW and the burner a capacity of 8.5MW. If there is an increase in production capacity on site it is likely that an additional boiler will be necessary, no details are currently available and such a proposal is likely to be subject to an EIA.

The proposed new steam generator (A1-4) which is due to be installed during 2012 as a substitute for the boilers during the summer months will be fired on LPG and has a thermal input of only 0.698MW. It is proposed that the new steam generator will meet emission limit values of 900Nm³/hr, 200mg/m³ for Nitrogen Oxides and 80mg/m³ for Carbon Monoxide.

The main emission point, A2-1 associated with the odour scrubber, is not identified as an emission point to be monitored under the existing licence. The RD includes emission limit values and monitoring requirements.

The boilers (A1-1 and A1-2) provide abatement for non-condensable gases from the scrubber serving the cookers, strainer, press, decanter and evaporator. Condensable gases from the processes are also discharged to receiving water via SW-1.

The burner (A1-3) provides abatement for non-condensable gases from steam drying plant and low temperature drying plant. Condensable gases are discharged to receiving water via SW-1.

Emissions from the scrubber serving the cooler and grinder are discharged to atmosphere via main emission point A2-1. Condensable emissions are discharged to the receiving water (SW-1).

The minor emission points include vents and steam exhausts from the production processes and fume cabinets in the laboratory. The licensee has identified fugitive emissions from the raw material intake, raw material silos (activated carbon filters have been fitted on the three raw material silos at the end of 2011) and meal storage area. The licensee acknowledges that BAT requires containment of odours for treatment prior to discharge, however the licensee claims that such development will require considerable capital expenditure and production downtime. The licensee proposes that delivery of BAT measures include: enclose all odour generating process activities and maintain negative pressure extraction units in such processing, handling and storage areas; contain potentially odourous materials in enclosed containers, maintain short storage times, use cold storage as deemed necessary; clean material storage areas frequently; and cover the WWTP. The RD requires that

fugitive emissions must be identified, minimised and the above measures implemented to the satisfaction of the Agency by 1st January 2016. These requirements must be achieved by the specified date regardless of any future proposal to increase raw material throughput.

Impact of Air Emissions on Receiving Environment

The applicant provided an air dispersion model of the combustion gases (Nitrogen Dioxide, Sulphur Dioxide, Particulates and Carbon Monoxide) from the two boilers and burner and also odourous emissions (Ammonia, Amines/Amides, H₂S, Mercaptans, Sulphides and Total Organic Carbon) from the boilers, burner and the odour scrubber. The applicant used AERMOD Prime dispersion model to calculate the predicted environmental concentration (PEC) and followed the procedures presented in the EPA Guidance Note *AG4 Air Dispersion Modelling for Industrial Installations*.

The model was based on continuous operation, however, this is considered to be conservative as the installation is not operated at such a frequency due to the variation (seasonality) in raw material delivery. The maximum predicted ground level concentrations, including background concentrations, for the combustion emissions are presented in Table 1 below. The maximum predicted ground level concentrations for the modelled odourous compounds are presented in Table 2 below.

Table 1: Predicted Maximum Ground Level Concentrations (Combustion)

Parameter	Modelled Impact	Predicted Environmental Concentrations ($\mu\text{g}/\text{m}^3$)	National Air Quality Standards ^{Note 1} ($\mu\text{g}/\text{m}^3$)
Nitrogen Dioxide (as NO ₂)	99.8%ile hourly	40.7	200
	Annual	5.23	40
Sulphur Dioxide	99.7%ile hourly	137	350
	99.1%ile One day	67	125
Particulates	90.4%ile One day	10.2	50
	Annual	9.37	40

Note 1: Air Quality Standard Regulations (SI No. 180 of 2011)

Table 2: Predicted Maximum Ground Level Concentrations (Odour Compounds)

Parameter	Modelled Impact	Predicted Environmental Concentration ($\mu\text{g}/\text{m}^3$)	Environmental Assessment Levels ^{Note 1} ($\mu\text{g}/\text{m}^3$)
Ammonia	1 hour	36	2500
	Annual	2.34	180
Amines/amides	1 hour	23	3900
	Annual	1.47	130
H ₂ S	1 hour	0.77	150
	Annual	0.04	140
Mercaptans	1 hour	0.77	300
	Annual	0.04	10
Sulphides	1 hour	0.77	100
	Annual	0.04	64
Total Organic Carbon	1 hour	25.73	3700
	Annual	1.34	250

Note 1: Environmental Assessment Levels (UK Environment Agency)

The modelling results indicate that the predicted worst case ground level concentrations are in compliance with the Air Quality Standard Regulations and Environmental Assessment Levels (EALs) sourced from the UK Environment Agency. Operation of the proposed steam generator (A1-4) was not modelled but the RD specifies it can only operate when the boilers (A1-1 and A1-2) are not operational and therefore the associated emissions will not cause exceedence of the relevant air quality standards.

The modelling of odourous compounds indicates concentrations that are significantly below the environment assessment levels (UK Environment Agency). However, the assessment of odourous compounds does not include fugitive emissions from the installation and emissions from minor emission points. In addition the model did not predict the odour concentration, i.e. odour units, at local receptors.

The Best Available Techniques Reference Document (BREF) for the Slaughterhouses and Animal By-Products Industries, May 2005, identifies in relation fish-meal and fish-oil manufacture that malodorous air is produced during offloading, drying and from production rooms. It is caused by ammonia and amines in the air and water. Fish can deteriorate under the anaerobic conditions present during storage on the fishing vessel and in the raw material silos in the factory. The deterioration causes the formation of a large number of strong-smelling compounds. Besides NH₃, trimethylamine (TMA) and other volatile basic compounds, various volatile sulphur compounds, such as mercaptans and the highly toxic and strong-smelling H₂S gas, are formed. A decrease in raw material quality (increase in Total Volatile Nitrogen (TVN)) results in a considerable increase in the levels of the nitrogen compounds evolved. Therefore the use of fresh raw material, leads to the production of a higher quality product, as well as a reduction in odour and waste water treatment problems. It is reported that it is not possible to totally avoid odours, even by using fresh materials, so the use of abatement techniques will always have to be considered.

The RD requires the licensee to record, and maintain a record on-site, the TVN of incoming raw material and to identify measures to reduce the TVN of incoming raw material. The RD requires the licensee to implement the BAT measures which the licensee identified in the licence review application, enclose all odour generating process activities using negative pressure extraction units in such processing, handling and storage areas; contain potentially odourous materials in enclosed containers, maintain short storage times, use cold storage as deemed necessary clean material storage areas frequently and cover the WWTP. In addition the RD requires the licensee to prepare and review annually an odour management programme, including odour audit. The RD also requires preparation of an odour model of emissions within 12 months of the date of grant of the licence and thereafter as required by the Agency. The RD requires that the licensee must, by the 1st January 2016, treat all odourous air emissions prior to discharge by means of thermal oxidiser, biofilter, bioscrubber, absorption system or activated carbon.

Emissions to Sewer

The process emission to sewer (SE1) comprises of washings, separator flushings, cleaning in place emissions and pump cooling water. The emissions to sewer are currently treated in a double dissolved air floatation unit prior to discharge to sewer.

A long sea outfall, to the Outer Harbour approximately 3.5km south west of Killybegs, has been constructed by Donegal County Council and became operational

at the end of 2011. UFI and Donegal County Council have established a new connection point to the industrial sewer network adjacent to the UFI site boundary. The long sea outfall installed by Donegal County Council has replaced a previous discharge to the Inner Harbour (designated nutrient sensitive waters). The industrial effluent from the fish processing industry in Killybegs and United Fish Industries represented over 98% of the Killybegs agglomeration population equivalent in 2001. The industry contribution has been significantly reduced since 2001, however it remains very significant. Waste Water Discharge Licence, D0011-01, was issued by the Agency on the 19th December 2008. A licence review application, D0011-02, was received by the Agency on 6th February 2012 and is currently under assessment.

The discharge to sewer from UFI will be increased as effluent is diverted from the existing surface water discharge point (SW1). It is proposed that the quantity of effluent diverted to sewer will increase from a current daily discharge of 1,200m³ to 1,500m³ in Stage 2 and 2,000m³ in Stage 3. The BOD load will increase from 1,200 to 3,500 to 5,750kg/day respectively.

The Water Services Authority (Donegal County Council) has provided a Section 99E consent in relation to the existing and proposed discharge to sewer. Donegal County Council has identified two general conditions which they request the Agency include in the reviewed licence. These relate to: inspection, examination and testing of any works and apparatus in connection with the process effluent; and the nature of the liquid discharged. Donegal County Council has provided limit values for stage 1, 2 and 3. Donegal County Council notes that they have applied for a review of the Waste Water Discharge Licence issued by the Agency for Killybegs agglomeration (D0011-01, existing licence) within which they are including updated modelling of the emission plume based on the actual design and location of the long sea outfall discharge point in the Outer Harbour. Donegal County Council state that the model of the emission plume shows that the total load of Dissolved Inorganic Nitrogen (DIN), including ammonia, applied for by United Fish Industries (Stage 3), is less than 25% of the projected capacity of the mixing zone at the long sea outfall discharge point.

The RD includes the limit values and monitoring requirements as specified by the Water Services Authority. However Stage 1 is not included as it was only proposed to be applicable until 1st January 2012. Stage 3 limits are included as these are the limits as agreed by the Water Services Authority in consultation with the licensee and the discharge from the Killybegs agglomeration is subject to a Waste Water Discharge Licence, D0011-01, issued by the Agency and currently subject to a licence review application.

Emissions to Waters

There is one process emission to surface water, SW-1. The receiving water is Killybegs Inner Harbour and the discharge point is approximately 80 meters east of the site boundary, i.e. 80 meters from the foreshore. The discharge is comprised mainly of sea water which is used on site to condense process vapours, by direct scrubbing, but it also includes condensate from the evaporation process, drier vapours and water from vacuum pumps.

Historically there were compliance issues with emissions of BOD and ammonia from this discharge. Technical Amendment B provided for a change from concentration limits to mass loading limits. Technical Amendment B, in relation to mass loading

limits, was only applicable until 31st December 2011 at which stage the licence reverted to emission concentration limit values. Compliance with the mass loading limit was significantly better than when concentration limits were applicable however, the licensee notes that raw material intake was reduced in 2010, as a result of reduced national fish stocks, and therefore associated emissions were reduced.

The licensee requested that Stage 1 would provide for the emission limit values as specified in the existing licence (as technically amended). However as identified above the timeframe for Stage 1 is no longer applicable. Stage 2, as outlined by the licensee, will provide for the diversion of some process flows to the Water Services Authority sewer via emission point SE1, and therefore the requested mass loading value for ammonia at SW-1 is reduced slightly. Otherwise the emission limits requested are as per the existing licence (as technically amended).

The licensee identifies that Stage 3 would involve diversion of more process effluents to sewer and also the installation of an indirect scrubber which would reduce the contamination of the sea water used on site. However, indirect scrubbing would result in an increased volume of seawater being used and subsequently discharged. The following table summarises the SW-1 emissions during Stage 2 and 3 based on maintaining a maximum throughput of 800 tonnes per day.

Table 3: SW-1 Emission Limits (Stage 2 and Stage 3)

Parameter	Stage 2 ^{Note 1}	Stage 3
Commencement date	Grant of licence	1 st January 2016
Volume (m ³ /day)	10,000	27,000
Temperature (°C)	40	40
pH	6-9	6-9
BOD (kg/day)	500	-
BOD (mg/l)	-	40
Oils, Fats and Greases (mg/l)	15	15
Suspended Solids	100	50
Ammonia (as N) (kg/day)	200	-
Ammonia (as N) (mg/l)	-	10
Phosphate (as P) (mg/l)	2	2
Detergents (mg/l)	100	100

Note 1: With the exception of ammonia, the Stage 2 emission limits are the same as the existing licence (as technically amended).

The main abatement system for the discharge to SW-1 is a particle washer installed in 2010 downstream of the steam dryer. The particle washer has reduced the amount of organic particulate matter in the sea water discharge, thereby reducing BOD emissions.

Sea water is currently used in a direct scrubber, where the sea water is used to quench process vapours, the direct scrubbing process results in the sea water and process vapours becoming mixed and pollutants being discharged with sea water via SW-1. Installation of indirect scrubbing, as proposed by 1st January 2016, represents the most significant means of reduction of pollutant load to the harbour via SW1, indirect scrubbing will remove the direct contact between the sea water and the process vapours. The licensee has argued that due to the significant

financial resources and time necessary to implement the change to indirect scrubbing it is not possible to complete the project until 1st January 2016. It is likely that installation of indirect scrubbing infrastructure would not require planning permission or an EIS. Therefore the RD specifies the installation of indirect scrubbing by 1st January 2016. The licensee has identified that an increase in production by 50% (1,200 tonnes of raw material per day) would increase the volume of discharge to 36,000m³/day this is not provided for in the RD.

Impact of Discharges to Surface water

Killybegs Harbour is a small sheltered inlet approximately 4km in length with an area of 10 km², located at the head of McSwyne's Bay. The harbour is known to have poor flushing characteristics. The Stragar River is the main freshwater influence in the bay. However the flow is small and consequently salinity rarely falls below 25 practical salinity units (psu) throughout most of the harbour. The tidal range varies between 1.5 and 3.5m over the spring/neap cycle. Salinity and dissolved oxygen measurements indicate that the harbour may become stratified both vertically and laterally in the summer (Marine Institute, 1999). This stratification is a consequence of poor mixing, which may be attributed to slack currents in the bay.

The Donegal Bay Water Quality Management Plan (final draft April 2002) states "*As the harbour has been found to have poor flushing characteristics, it can be concluded that although organic input to the bay may have been reduced, some deterioration in water quality around the discharge points (municipal and industrial) may still occur during periods of slack water. The bay is also likely to be nitrogen limited due to lack of a local riverine source. Consequently, strongly elevated chlorophyll a levels are unlikely to be a persistent problem. Nevertheless, given the poor flushing characteristics of the bay, some phytoplankton accumulation may occur during productive periods*".

The trophic status of Killybegs Harbour improved to an intermediate condition in the 2002-2006 period, compared to eutrophic conditions in 1995-1999. According to EPA water quality data provided by the Office of Environmental Assessment (OEA), depressed levels of dissolved oxygen (50-60% of what is considered normal) have been persistently observed in the harbour since monitoring began in 1995. The main identified causes are discharges from Killybegs sewerage scheme, the release into the harbour of organically rich material associated with the landing and cleaning of fish, and the absence of any significant flushing or strong tidal currents within the harbour. However, BOD levels in the harbour are reasonably low (90% of samples were less than 2.0 mg/l). In 2011 Donegal County Council moved the primary discharge, associated with the Killybegs agglomeration, from the Inner Harbour to the Outer Harbour by means of a long sea outfall.

Raw sea water is abstracted by UFI from Killybegs harbour, approximately 600 meters south of the installation, see Figure 1. The sea water is currently used in direct scrubbers and the associated discharge is to the Inner Harbour approximately 80m east of the installation. The licensee proposes to install indirect scrubbing (whereby sea water and process streams do not come into direct contact) by 1st January 2016, indirect scrubbing however, requires a greater volume of sea water but the discharge quality will improved. The licensee proposes that the increased sea water discharge, after indirect scrubbing, would be discharged into the harbour by means of a new discharge on the eastern or western side of the landing pier in Killybegs, approximately 1,000 meters south of the installation where there is greater dispersion and dilution.

The Licensee has provided an assessment (thermal impact) of the proposed discharge from indirect scrubbing on the receiving waters, including an increase in emissions associated with a proposed 50% increase in raw material processing. The assessment does not consider pollutant emissions as the emission of pollutant parameters, BOD suspended solids, etc. would be similar to the raw sea water extracted by UFI. The assessment models the maximum predicted discharge at different times of the year based on the maximum production likely at those times, i.e. full production over 24 hours from last week in January to first week in April (1,500m³/h discharge), 12 hours/day over 5 days and 24 hours/day over 2 days per week during October to January (600m³/h discharge) and 12 hours/day over 7 days per week through August and September. The assessment establishes that the proposed new discharge points (east or west of the landing pier) have limited thermal impact on the receiving water even under maximum production scenarios (increase of approximately 0.5°C at the boundary of the mixing zone).

Condition 3.15 of the RD requires that prior to 1st January 2016 the licensee shall provide indirect scrubbing as the means of condensing process vapours. Schedule B.2 of the RD provides for the emission limit values (and mass loading limits) as requested for installation of indirect scrubbing, but at the existing maximum raw material intake (800 tonnes per day). This results in a maximum discharge increase to 27,000m³/day. The licensee must provide a new discharge point at the landing pier prior to a volumetric increase in the discharge associated with indirect scrubbing.

Surface Water

Uncontaminated surface water run-off from buildings and hard standing areas discharges along the southern site boundary to Killybegs Harbour. Existing monitoring requirements are maintained in Schedule C.2.3 of the RD. The RD requires that the licensee shall, within six months of date of grant of this licence, install and maintain silt traps and oil separators at the installation unless otherwise agreed with the Agency.

The existing licence required the licensee to undertake a firewater retention risk assessment. Condition 3.9 of the RD requires the licensee to review the risk assessment.

Emissions to ground

There are no identified emissions to ground from the activity. The site has been operated as a fish and fish oil processing activity since it was established on site in 1957. The existing groundwater monitoring requirements are maintained in Schedule C.6 of the RD. The RD requires that the licensee must, within eighteen months of the date of this licence, carry out a risk screening and where necessary a technical assessment in accordance with the *Guidance on the Authorisation of Discharges to Groundwater*, published by the Environmental Protection Agency.

Waste

The licence review will not result in any additional wastes for disposal or recovery. If the raw material input to the activity were increased there would be an associated increase in wastes arising, however this review does not provide for an increase in throughput. Wastes generated on site are not recovered or disposed of on site. Wastes must be sent off site for appropriate recovery and/or disposal.

Noise

The activity, including plant and processes on site, generates noise emissions which have caused nuisance within the surrounding area. The installation is located adjacent to the public road on the outskirts of Killybegs, there are dwellings within 100-150 metres of the installation and a service station within 100 metres. The licensee acknowledges that there is a tonal component to the noise from the plant. The licensee proposes to continue to address noise emissions and have developed a noise management and mitigation report.

Condition 6.16 of the RD maintains a requirement to undertake an annual noise survey. The RD requires the licensee, based on each noise survey, to prepare a programme to reduce noise emissions including tonal emissions. The programme must highlight specific goals and a time scale, together with options for modification, upgrading or replacement of equipment. Schedule B.4 of the RD includes updated noise emission limits which include an evening limit value of 50dB, in accordance with recently issued Agency guidance entitled *Guidance Note for Noise: Licence Applicants, Surveys and Assessments in Relation to Scheduled Activities (NG4)*. Compliance with the evening noise limit value is applicable 6 months from the date of grant of this licence.

Use of Resources

The two boilers and burner on site are primarily fuelled on heavy fuel oil, with tallow oil being used as the alternative.

Significant quantities of water, extracted from Killybegs harbour, are currently used for direct scrubbing. The licensee proposes to convert to indirect scrubbing by 1st January 2016, this will not reduce the quantity of water used, however, the discharged water after indirect scrubbing will have a significantly reduced pollutant load (primarily will only be of an elevated temperature).

Greenhouse gas emissions and Climate Change impact

With regard to reducing the climate impact of the installation under IPPC, the RD maintains the requirement for the licensee to complete an energy efficiency audit as required by the Agency. The RD requires the licensee to assess the efficiency of use of resources. The EMP objectives and targets include use of cleaner production (including production related carbon footprint).

United Fish Industries hold a Greenhouse Gas (GHG) Permit (Register Number: IE-GHG048-03) in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004, (S.I. 437 of 2004 and amendments). Regulation 23 requires that the Agency shall not have regard to emission limit values (ELVs), BAT, or require a licence review, with respect to greenhouse gases unless it is necessary to ensure no significant local pollution. The RD sets an ELV for nitrogen oxides, which is a specified greenhouse gas, to ensure that air quality standards are observed.

Compliance with EU Directives

IPPC Directive (2008/1/EC)

This installation falls within the scope of category 6.5: *Installations for the disposal or recycling of animal carcasses and animal waste with a treatment capacity exceeding 10 tonnes per day* of Annex I of Council Directive 2008/1/EC concerning integrated pollution prevention and control.

The installation falls within the scope of category 6.5: *Disposal or recycling of animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day*, of Annex I of the Industrial Emissions Directive (Directive 2010/75/EU).

The Proposed Determination (PD) as drafted takes account of the requirements of the Directive. BAT is taken to be represented by the guidance given in the IPPC BAT reference document (BREF) for the Slaughterhouses and Animal By-Products Industries, May 2005. The BREF document identifies that Annex IV of the IPPC Directive requires *the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate* to be considered when determining BAT. Article 3(1)(c) of the IPPC Directive supports sustainable development, by promoting preventive measures for minimising the waste generated and for diminishing the harmful properties of waste and it requires the recovery of waste, if this is technically and economically feasible.

Seveso Directive (96/82/EC)

The activity is classified as not requiring compliance with Articles 6, 7 and 9 of Seveso II. The National Authority for Occupational Safety and Health (NAOSH) is the competent authority responsible for administration and enforcement of these regulations.

Ambient Air Quality and Clean Air for Europe (CAFE) Directive 2008/50/EC

The licensee has assessed the impact of air emissions by means of an air dispersion model, described above. It is predicted that the emissions will not result in exceedence of an air quality standard.

Environmental Liability Directive (2004/35/CE)

The existing licence required preparation of a Residuals Management Plan for the decommissioning or closure of the site or part thereof. Condition 10.2 of the RD requires this plan to be maintained. Condition 12.3 of the RD requires the licensee to prepare an Environmental Liabilities Risk Assessment (ELRA) which must be submitted as part of the AER and propose financial provisions to cover the liabilities to the agreement of the Agency.

Water Framework Directive [2000/60/EC]

There is one process emission to water, SW-1, this emission discharges to the Killybegs Harbour. The mass emission of the discharge has been reduced since United Fish Industries connected to the new Donegal County Council industrial sewer line and associated long sea outfall at the end of 2011. The RD requires direct scrubbing to be replaced with indirect scrubbing on or before 1st January 2016 which will reduce the pollutant load in the process emission (SW-1). The licensee also proposes to re-locate the process discharge point to an area of the harbour where there is greater dispersion and dilution, however, the re-location is subject to planning permission and may also require a foreshore licence. The RD requires monitoring of the process discharge and surface water discharges from the installation.

In preparing the RD, regard has been had to the European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009, and the European Communities Environmental Objectives (Ground Water) Regulations, S.I. No. 9 of 2010. Emission limit values and monitoring requirements have been included in the RD.

EU Animal By-Products Regulations (EC No. 1069/2009)

United Fish Industries holds an approval from the Department of Agriculture Food and the Marine to operate as a category 3 Processing Plant (Approval No. R923). The latest approval was granted on the 7th February 2011 and is valid until 6th February 2016. The approval is granted in accordance with Regulation (EC) No. 1774/2002. Since grant of the approval Regulation (EC) No. 1774/2002 has been repealed by Regulation (EC) 1069/2009.

Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)

The licensee has prepared a screening for an appropriate assessment in line with the requirements of Article 6(3) of the EU Habitats Directive and the European Communities (Birds and Natural Habitats) Regulations.

The following Special Areas of Conservation (SACs) are present within 15km of the installation: St. John's Point, Donegal Bay (Murvagh), Lough Nillan Bog (Carrickatlieve), West of Ardara/Maas Road, Slieve Tooley/Tormore Island/Loughros Beg Bay and Slieve League. In addition there are four Special Protection Areas (SPAs) within 15km of the installation: Donegal Bay, Lough Nillan Bog, West Donegal Coast, and Inishduff.

None of the Natura 2000 sites lie within the installation boundary and therefore there are no direct impacts from the activity. The closest SPA is Inishduff, which is 8.6km from the installation. The closest SAC is St John's Point, which is approximately 6km from the installation. The screening for appropriate assessment concludes that the plant's operations will not have a significant effect on the Natura 2000 network and a stage 2 appropriate assessment is not required.

Cross Office Liaison

United Fish Industries have been licensed by the Agency since October 1999. I have consulted with the current enforcement inspectors (Castlebar Office of Environmental Enforcement) in preparing this report and RD.

Best Available Techniques (BAT)

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Determination comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the installation is located, designed, built, managed, maintained, operated and decommissioned.

Environmental Impact Statement

An EIS was not submitted in support of the licence review application. As identified above the RD does not provide for an increase in raw material intake or significant reconstruction of the installation as such developments are likely to require planning permission and may also require the preparation of an EIS. A further licence review, supported by an EIS, would be necessary to accommodate increased production, etc.

Compliance Record

Enforcement of the existing licence has identified exceedences of the emission limit values associated with emissions to water (SW-1) and emissions to sewer (SE1).

These have been partly addressed by means of Technical Amendment B and also as a result of reduced annual intake and connection to the new Donegal County Council industrial sewer and associated long sea outfall.

Noise and odour emissions have been the main cause of complaints from the public. The Agency has received regular complaints from the public, particularly in relation to odour from the activity, however no complaints have been received in the last number of years. The OEE has requested the licensee to take additional measures to reduce these emissions. Odour and noise must also be addressed under the site environmental management system. Other issues identified included drain integrity testing and bund integrity testing.

Fit & Proper Person Assessment

The Fit & Proper Person test requires three elements of examination: technical ability, legal standing, and financial standing. It is my view, having regard to the Conditions of the RD, that the applicant can be deemed a Fit & Proper Person for the purpose of this Review.

Submissions

The Agency has received one submission in relation to the licence review. The submission from the Health Service Executive, received on 25th July 2011, states that 'having reviewed the relevant documents I have no public health issues in relation to the application'.

Recommended Determination (RD)

In preparing this report and the Recommended Determination I have consulted with the Office of Environmental Enforcement inspector Ms Ryan and Mr Reynolds. The RD authorises the licensees proposed amendment of emissions, however the RD does not provide for any increase in raw material intake or significant reconstruction of the installation as such a development is likely to require a planning application supported by an EIS. The RD gives effect to the requirements of the POE Act 2003 and takes account of the European Communities Environmental Objectives (Surface) and (Groundwater) Regulations.

Charges

The annual charge, €13,662.36, included in the RD is the same as the charge invoiced in 2012.

Recommendation

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed


Patrick Byrne

Procedural Note

In the event that no objections are received to the Proposed Determination of the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 and 2011 as soon as may be after the expiration of the appropriate period.

Figure 1: United Fish Industries Site Location

