Permit with introductory note

**Pollution Prevention and Control (England and Wales)
Regulations 2000 (as amended)**

Installation address

United Fish Industries (UK) LTD
Gilbey Road
Grimsby
North East Lincolnshire
DN31 2SL

Permit Reference: EP/200400001

Contact Details:

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Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended) (S.I.2000 No. 1973) ("the PPC Regulations") to operate an installation carrying out one or more of the activities listed in Part A2 to Schedule 1 of those Regulations, to the extent authorised by the Permit.

The permit includes conditions that have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the PPC Regulations, that the Operator shall use the best available techniques for preventing or, where that is not practical, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Brief description and installation regulated by this permit

Process Fish Meal as prescribed by Section 6.8 Part (A1) (c) of Schedule I of the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended).

United Fish Industries (UK) Ltd process fish and fish offal by the application of heat and drying to produce fish meal and fish oil for use in the animal feed industry, the hardened oil trade and other specialist outlets.

Raw material is heated in a cooker to enable oil extraction during pressing and pressed to remove as much body liquor as possible before drying. Solid material is removed from the liquor and directed to the dryer. Liquor is further treated to remove oil which is sent to storage.

Process emissions are directed through the foul air system which incorporates a waste heat evaporator, vapour condenser and boiler combustion plant.

Superseded Licences/Consents/Authorisations relating to this installation		
Holder	**Reference Number**	**Date of Issue**
United fish Industries (UK)	**PF/GYFMM/EPA**	**23/12/1999**

Confidentiality

The Permit requires the Operator to provide information to North East Lincolnshire Council. The Council will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the operator considers that any information provided is commercially confidential, it may apply to North East Lincolnshire Council to have such information withheld from the register as provided in the PPC Regulations. To enable North East Lincolnshire Council to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

Variations to the permit

This Permit may be varied in the future. If at any time the activity or any aspect of the activity regulated by the following conditions changes such that the conditions no longer reflect the activity and require alteration, the Regulator should be contacted.

Surrender of the permit

Where an Operator intends to cease the operation of an installation (in whole or in part) the regulator should be informed in writing, such notification must include the information specified in regulation 20(3) of the PPC regulations.

Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. A transfer will be allowed unless the Authority considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

Responsibility under workplace health and safety legislation

This Permit is given in relation to the requirements of the PPC regulations. It must not be taken to replace any responsibilities you may have under Workplace Health and Safety legislation.

Appeal against permit conditions

Anyone who is aggrieved by the conditions attached to a Permit can appeal to the Secretary of State for the Environment, Food and Rural Affairs. Appeals must be made in accordance with the requirements of Regulation 27 and Schedule 8 of the PPC regulations.

Appeals should be received by the Secretary of State for Environment, Food and Rural Affairs. The address is as follows:

The Planning Inspectorate
Environmental Pollution Appeals
Room 4/19 Temple Quay House
2 The Square, Temple Quay
BRISTOL
BS1 6PN

Please Note

An appeal bought under paragraph (1) (c) or (d) in relation to the conditions in a permit will not be suspend the effect of the conditions appealed against; the conditions must still be complied with.
In determining an appeal against one or more conditions, the Act allows the Secretary of State in addition to quash any of the conditions not subject to the appeal and to direct the local authority either to vary any of these other conditions.

End of introductory note

Permit issued under the Pollution Prevention and Control Regulations 2000

Permit Number **EP/200400001**

North East Lincolnshire Council (the Regulator) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control Regulations 2000 (S.I. 2000 No. 1973) hereby permits.

United Fish Industries (UK) LTD. ("the operator"),

Whose registered office is

Gilbey Road
Grimsby
North East Lincolnshire
DN31 2SL
To operate an installation at

Gilbey Road
Grimsby
North East Lincolnshire
DN31 2SL

To the extent authorised by and subject to the conditions of this Permit and within the boundary identified in condition A

Signed

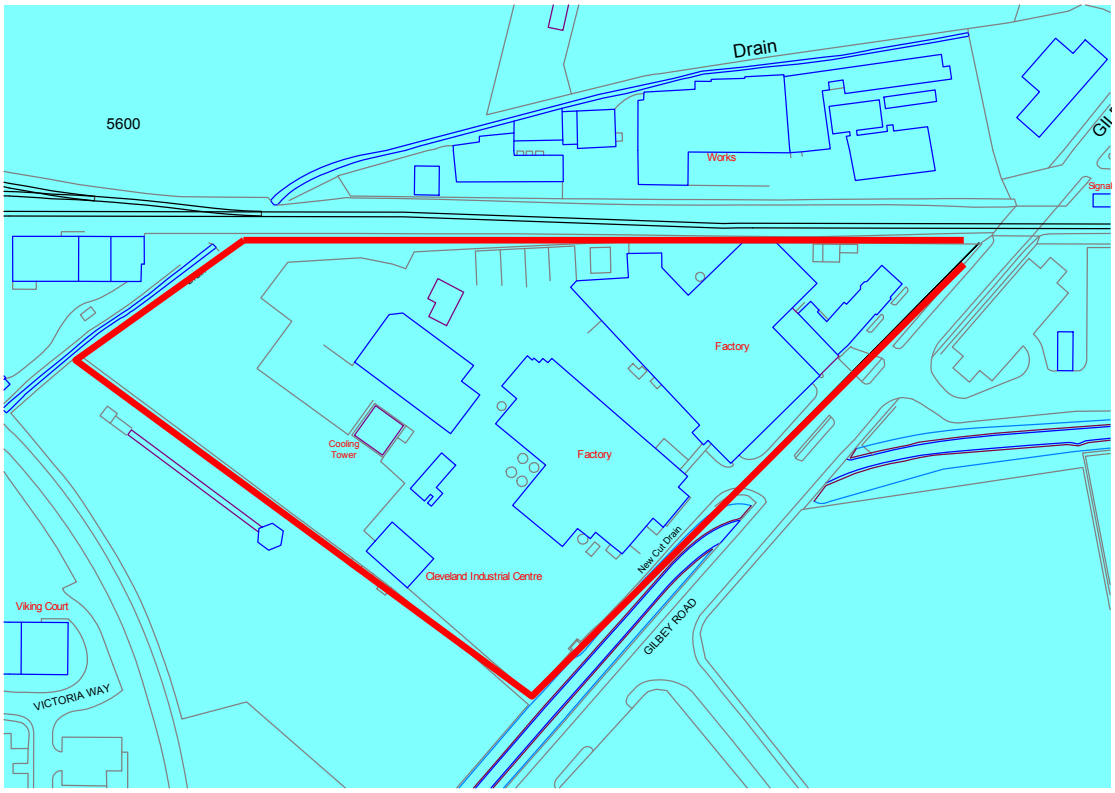
Tony Neul
Authorised to sign on behalf of
North East Lincolnshire Council

Dated

CONDITIONS

Extent and limit of the installation

A The operator is authorised to carry out the activities and/or associated as specified and within the boundary shown on the plan below:-



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Process emissions are directed through the foul air system which incorporates a waste heat evaporator, vapour condenser and boiler combustion plant.

5. EMISSION LIMITS, MONITORING AND OTHER PROVISIONS

Table 2: Emission limits, monitoring and other requirements

Row	Odour	Emission Limits/ Requirement	Monitoring (subject to paragraph 5.20)
1	Odour emissions from contained and fugitive sources	Free from offensive odour at any location at or beyond the site boundary	Determination by process assessment (see 5.11)
2	Contained High/low Odour Intensity Process Releases	Carbon monoxide from thermal oxidisers/combustion equipment. 100mg/m3 expressed as a 30 minute mean at 273K and 101.3kPa	Determination by continuous monitoring
3	Contained Odour High/Low Intensity Process Releases	As above	As above
	Sulphur Dioxide	**Maximum concentration of Sulphur in fuel**	
4	All processes where oil-fired thermal oxidisers or combustion plant are used for odour control	1% wt/wt	Certification by supplier using test method ASTM D86 distillation
5	All processes where oil-fired thermal oxidisers or combustion plant are used for odour control and the fuel used is gas oil as defined in the Sulphur Content of Certain Liquid Fuels Directive (1999/32/EC)	0.2% wt/wt (before 01/01/2008) 0.1% wt/wt (from 01/01/2008)	
6	Particulate emissions from product coolers and grinders used for meal processing (except where the	20 mg/m^3	Continuous indicative monitoring plus annual extractive test to BS EN 13526:2002

final discharge of the abatement equipment is within buildings)

MONITORING, INVESTIGATIONS AND RECORDING

5.5 The operator shall keep records of inspections, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments. The records should be:

kept on site
kept by the operator for at least two years; and
made available for the regulator to examine

INFORMATION REQUIRED BY THE REGULATOR

5.6 The regulator needs to be informed of monitoring to be carried out and the results; the results shall include process conditions at the time of monitoring.

A summary of the data from continuous monitoring of the performance of the odour control system and the particulate matter control equipment in accordance with paragraphs 5.14 and 5.15 respectively should be submitted to the regulator at least every 6 months, identifying the times, dates and duration of alarm events.

The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values. The operator should state the provisional time and date monitoring, pollutants to be tested and the methods to be used.

The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of the completion of the sampling.

Adverse results from **any** monitoring activity (both continuous and non-continuous) shall be investigated by the operator as soon as the monitoring data has been obtained/received. The operator should:

identify the cause and take corrective action
record as much detail as possible regarding the cause and extent of the problem, and the action taken by the operator to rectify the situation
re-test to demonstrate compliance as soon as possible; and
notify the regulator

The operator should provide a list of key abatement plant and should have a written procedure for dealing with its failure, in order to minimise any adverse effects

ODOROUS EMISSIONS - GENERAL

5.8 Whilst it is possible to measure the odour strength using a standardised method (dynamic olfactometry as detailed in BS EN 13725:2003), it is not possible to use dynamic olfactometry to quantify the offensiveness of the odour. It is also not possible to use dynamic olfactometry as a field measurement.

In general odour effects are not caused by one single pollutant or chemical species, odour is a 'cocktail' of chemical species emitted from a process. The nose is an extremely sensitive receptor of odour - it can respond to small variations in concentration over periods of a few seconds and at concentrations of fractions of a part per billion.

Different people respond differently to the same odour, and the nature of any odour can vary (because of meteorology, process changes etc.) both in time and between different areas very close to one another.

Assessment of offensiveness of odour shall take account of the nature of the odour, the frequency with which it arises, and its persistence. .

ODOUR EMISSIONS - MONITORING INSTALLATION PERFORMANCE

5.9 The operator shall monitor the performance of the installation to ensure that emissions which may result in offensive odours beyond the boundary of the site are not released. This assessment shall include inspections of the process, buildings and equipment to check that emissions are being contained and treated to meet the standards of this note.

In addition to the continuous indicative monitoring outlined in paragraph 5.14, the odour control equipment shall be inspected at least once a day to verify correct operation and to identify any malfunctions. This inspection should include:

Identification of any leaks in air handling equipment and ductwork.
In the case of scrubbing equipment, thermal oxidisers and other combustion equipment, the inspection should include verification of the operation of the continuous monitoring equipment, any blockages and also identification of any leaks of either odorous air or liquid.
In the case of biofilters, the surface should be inspected to identify any cracking of the surface or voids in the bed, leaks around the edge of the filter or air handling equipment, review of the moisture content (considering both flooding and drying out) and looking for signs of compaction or uneven flow.
In the specific case of soil biofilters, the growth of plants and weeds should be inspected as any excessive flow or odour escape is often indicated by scorching of the earth or plant growth dying off.

The results of all inspections should be recorded and action should be taken immediately in the case of abnormal emissions. Additional guidance on abnormal emissions is included in paragraphs 5.11 and 5.12.

VISIBLE EMISSIONS

5.10 Visible emissions shall be limited and monitored as follows. Abnormal emissions require action as described in paragraph 5.11.

Emissions from combustion processes used for abatement of odour should be free from visible smoke.

All releases to air, other than condensed water vapour, should be free from persistent visible emissions.

Scrubbing equipment should be fitted with a mist eliminator.

All emissions to air should be free from droplets.

ABNORMAL EVENTS

5.11 The regulator needs to be notified about certain events, whether or not there is related monitoring showing an adverse result, and the operator shall respond to problems which may have an adverse effect on emissions to air.

In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator shall:

investigate and undertake remedial action **immediately**
adjust the process or activity to minimise those emissions; and
promptly record the events and actions taken

The regulator shall be informed without delay:

If there is an emission that is likely to have an effect on the local community.

A simple wind direction indicator (such as a windsock or wind vane) should be installed in order that likely emission paths and areas of potential odour impact can be identified in the case of abnormal emissions.

INDICATIVE TEST FOR ODOUR ARRESTMENT PLANT.

5.12 The operator shall respond to any odour control equipment malfunction, any incident of odours being detected during the site inspection and to complaints. In cases where offensive odours are detected beyond the process boundary the operator should undertake an assessment of process operations and odour controls. If, after this assessment, there is no obvious cause of odour release it may be necessary to check the odour abatement plant performance. The following are examples of suitable indicative testing:

In the case of thermal oxidisers or combustion equipment, the combustion efficiency is a good indication of performance. Emissions will be tested for

carbon monoxide and the indicative guide value in Row 4 of Table 3 should be used. If emissions exceed this indicative guide value it is likely that the odour destruction efficiency of the thermal oxidiser will be reduced and the oxidiser should be further investigated to identify reasons for the reduced performance.

In the case of biofilters or scrubbers, emissions may be tested for ammonia, amines/amides or mercaptans/hydrogen sulphide and the indicative guide values in Rows 1, 2 and 3 of Table 3 should be used. If emissions exceed this indicative guide value it is likely that the odour destruction efficiency of the odour control system will be reduced and the scrubber/biofilter should be further investigated to identify reasons for the reduced performance. This testing can be carried out using gas detection tubes (further guidance on gas detection tubes is included in Appendix 2, paragraph 5).

In the case of open top biofilters, the sampling method detailed in Appendix 2 of this note should be used.

Table 3: Indicative Guide Values

Row □Odour Indicators
□Indicative Guide Values□□1□Ammonia
□1 ppm v/v□□2□Amines and amides
□1 ppm v/v□□3□Organic and inorganic sulphides including mercaptans and hydrogen sulphide (as total sulphur)
□1 ppm v/v□□4□Emissions of carbon monoxide from thermal oxidisers or combustion equipment□100 mg/m^3 expressed as a 30-minute mean at 273K and 101.3kPa.□□
N.B. The above values are only to be used in conjunction with the provisions of paragraph 5.12

CONTINUOUS MONITORING - GENERAL

5.13 Whilst there are no reliable continuous emission monitoring options for odours, where thermal oxidation or combustion equipment is used for odour control, continuous monitoring of carbon monoxide is an option (see paragraph 5.14). Where continuous monitoring (as described in 5.14, 5.15 and 5.16) is required it shall be carried out as follows:

The activation of alarms should be automatically recorded.

All continuous monitors should be operated, maintained and calibrated (or referenced) in accordance with the manufacturer's instructions, which should be made available for inspection by the regulator. The relevant maintenance and calibration (or referencing) should be recorded.

All continuous monitoring readings should be on display to appropriately trained staff.

Instruments should be fitted with audible and visual alarms, situated appropriately to warn the operator of abatement plant failure or malfunction.

Purchasers of new or replacement monitoring equipment should specify the requirement for less than 5% downtime over any 3-month period, on ordering.

CONTINUOUS MONITORING - ODOUR CONTROL EQUIPMENT

5.14 Continuous monitoring of the performance of the odour control system linked to alarms is required to demonstrate compliance with the requirements of this Note.

In the case of thermal oxidisers or combustion equipment, emissions shall be continuously monitored and continuously recorded for carbon monoxide, or the operating temperature may be used as a surrogate measurement. The monitor should be fitted with an audible and visual alarm to activate if the operating temperature falls below 1023K (750^{o}C) at the rear of the furnace and the carbon monoxide level exceeds the indicative guide value in Row 4 of Table 3.

In the case of scrubbing equipment, pH or Redox of the liquor and liquor flow should be continuously monitored. All liquid scrubbers shall be fitted with an audible and visual alarm to activate if the liquor circulation fails or if the pH or Redox falls outside the operating range established during commissioning testing.

If a bioscrubber is used, in addition to flow and pH or Redox monitoring, the pressure drop across the scrubber packing should be continuously monitored. The monitor shall be fitted with an audible and visual alarm to activate if the pressure drop falls outside the operating range established during commissioning testing.

If a biofilter is used the pressure drop across the biofilter shall be continuously monitored. This can be achieved by measuring the delivery pressure on the main fan. The monitor shall be fitted with an audible and visual alarm to activate if the pressure drop falls outside the operating range established during commissioning testing. If the process has more than one fan for different process areas and these fans are not operated when the areas are not in use (for example during the winter period when production levels are low) the value used for alarming may need to be variable depending upon the volume of air being treated and process conditions. In this case, where the alarm level is carried, the set point of the alarm should be recorded.

The operating levels of the pH, Redox and pressure drop where monitored shall be recorded daily.

The cooling liquid flow of all direct or indirect condensers used for pre-treatment of emissions (including spray tower scrubbers) shall be continuously monitored for temperature.

CONTINUOUS MONITORING - PARTICULATE ABATEMENT EQUIPMENT

5.15 Emissions from particulate abatement plant (except where the final discharge of the abatement equipment is within buildings) where the exhaust airflow exceeds 100 m^3/min shall be continuously indicatively monitored for particulate matter. (By continuous indicative monitoring is meant monitoring to indicate the relative performance and/or process variation. Such monitoring does not provide data to demonstrate compliance with a numerical emission limit.) The indicative monitor shall be fitted with a visual and audible alarm which activates at a reference level agreed with the regulator.

It should be noted that not all monitors provide a linear response to an increase in particulate matter. The monitor should be set up to provide a baseline output when the plant is known to be operating under the best possible conditions; i.e. such that emissions are fully compliant with the requirements. The instrument manufacturer should be able to set an output level which corresponds to around 75% of the emission limit, to trigger alarms. Thus the alarms are activated in response to this significant increase in particulate loading above the baseline, so that warning of the changed state is given before an unacceptable emission occurs.

CONTINUOUS MONITORING - VOC CONTROL EQUIPMENT

5.16 Continuous monitoring of the performance of the volatile organic compound abatement plant system linked to alarms is required to demonstrate compliance with the requirements of this Note.

In the case of thermal oxidisers or combustion equipment, scrubbers or biofilters the requirements of 5.14 shall apply.

In the case of carbon adsorption equipment used for solvent recovery, the pressure drop across the carbon bed should be continuously monitored. The monitor shall be fitted with an audible and visual alarm to activate if the pressure drop falls outside the operating range established during commissioning testing.

In order to review adsorption equipment efficiency, particularly in respect of solvent breakthrough, emissions from the recovery equipment should either be continuously monitored for volatile organic compounds or concentrations should be measured in waste gases prior to and after the adsorption bed on a weekly basis to indicate adsorption efficiency of the plant. This efficiency measure will identify potential adsorption media deterioration.

The cooling liquid flow of all direct or indirect condensers used for solvent recovery should be continuously monitored.

CALIBRATION AND COMPLIANCE MONITORING

5.17 Calibration and compliance monitoring shall meet the following requirements as appropriate:

The combustion efficiency of the odour abatement equipment required to meet the emission limits/requiments in Table 2 should serviced and calibrated in accordance with the manufactures instructions.

5.18 Where oil-fired thermal oxidisers or combustion equipment is used for abatement of odours, a fuel supplier's certificate of fuel analysis shall be submitted to the regulator, where the oil supplier remains constant, and as soon as possible following a change in oil supplier.

Where waste or recovered oil is burned it may be necessary to specify additional controls depending upon fuel quality. In this case a certificate of fuel analysis from the supplier together with the necessary calculations, should be submitted to the regulator where the oil supplier remains constant, and as soon as possible following a change in oil supplier, receipt of oils should be logged. To enable calculation of the emission to be carried out from the analysis it will also be necessary to undertake some stack gas sampling at the installation for metals, chlorides, sulphur dioxide and fluorides.

In the event of a change in oil supplier, the regulator shall be notified in writing forthwith.

5.19 Exhaust flow rates should be consistent with efficient capture of emissions, good operating practice and meeting the requirements of the legislation relating to the workplace environment.

The introduction of dilution air to achieve emission concentration limits should not be permitted.

VARYING MONITORING FREQUENCY

5.20 Where non-continuous quantitative monitoring is required, the frequency may be varied. Where there is consistent compliance with emission limits, regulators may consider reducing the frequency. When determining "consistent compliance" factors to consider include:

The number of abatement plant continuous indicative monitor alarms.
The number and frequency of complaints regarding offensive odour.
How the indicative surrogate performance monitoring of the odour abatement equipment reflects actual equipment performance, for example, the operating temperature and carbon monoxide emissions of a thermal oxidiser or combustion equipment are a good surrogate indicator compared to the pressure drop across a biofilter which is a less reliable surrogate indicator.
The variability of monitoring results, for example, results which range from 5-19 mg/m^3, against an emission limit of 20 mg/m^3 might not qualify for a reduction in monitoring.

As the odour abatement performance of a biofilter is very dependant upon operating conditions and biomass loading, it is not appropriate that reduced monitoring be applied.

Consistent compliance shall be demonstrated using the results from at least three or more monitoring exercises carried out over a period of at least two years.

Any significant process or abatement equipment changes which might have affected the destruction efficiency of the equipment should be taken into account.

The continuous indicative monitoring required by paragraph 5.10 is to demonstrate correct functioning of the odour abatement equipment. In this context it is not appropriate that reduced monitoring be applied.

Where emission limit values for particulate matter are consistently met without the use of abatement equipment, the annual monitoring requirements for those pollutants should be dispensed with, subject to the caveats of this paragraph.

5.21 The frequency of testing should be increased, for example, as part of the commissioning of new or substantially changed processes, or where emission levels are near to or approach the emission concentration limits.

SAMPLING PROVISIONS

5.22 Care is needed in the design and location of sampling systems in order to obtain representative samples for all release points.

Sampling points on new plant should be designed to comply with the British or equivalent standards e.g. BS ISO 9096:2003, BS EN 13284-1 or BS ISO 12141:2002 for sampling particulate matter in stacks.

The operator shall ensure that adequate facilities for sampling are provided on stacks or ducts.

Where monitoring is not in accordance with the main procedural requirements of the relevant standard, deviations should be reported as well as an estimation of any error invoked.

EMISSIONS FROM FISH MEAL SILOS

5.23 During silo filling it is most likely that any emissions would be released during the first and last five minutes of the delivery. The first few minutes are when emissions due to leaks or split hoses would first be noticed. The last few minutes is when excess pressure from the tanker/blowing system may cause an emission through the pressure relief valve if the delivery is not controlled correctly. During silo filling procedures isokinetic monitoring of

emissions from the arrestment plant is not likely to be possible as the delivery period is so short. For this reason there is no numerical emission limit for such plant. It is important however that the plant is designed to cope with the delivery flow rate that is used for the silo.

All new or replacement silo filtration plant should be designed to operate to an emission standard of less than 10 mg/m^3 for particulate matter.

5.24 Silo systems require appropriate inspections and assessments to minimise potential for emissions during the filling process. The following measures relating to arrestment plant on silos and other silo management techniques are only applicable where the silo vents to the external environment or where silo emissions may escape from inside a building into the external environment.

Operators shall have a procedure in place to ensure that visual assessment of emissions from silo inlet connections and the silo arrestment plant are undertaken throughout the duration of all bulk deliveries.

INSPECTION OF FILTRATION PLANT

Silo arrestment plant and arrestment plant serving other process operations shall be inspected at the frequency specified below.

Table 4: Filtration plant inspection frequency

Filter cleaning method□Frequency of visual inspection
□□Fitted with reverse jets□At least once a month
□□Fitted with mechanical shakers□At least once a week
□□Requiring manual shaking□Daily inspection or prior to any delivery being made if deliveries are not daily
□□

The outlet shall be checked for signs that emissions have occurred. The equipment should also be checked for defects in the air flow or the cam shakers. If emissions or defects are detected then corrective action should be taken promptly and before another delivery takes place. Any failure of the silo management system (e.g. high level alarms, filter, and pressure relief valve) shall lead to full investigation of the operation of the plant and equipment.

Reduced inspection frequency of bag filter (or cartridge) arrestment plant may be appropriate, as follows:

Where pressure drop sensors or other continuous monitors are used to monitor the arrestment plant, such monitors should be inspected according to manufacturer's recommendations to ensure their proper operation.
Where continuous camera operation enables observation of all emission points from the arrestment plant and pressure relief valves.

For filters fitted with reverse jets or with mechanical shakers where operating experience has demonstrated satisfactory operation of the arrestment plant. Where the process operation is infrequent.

6. CONTROL TECHNIQUES

6.1 The process is largely carried out in process equipment and hence good equipment design, materials handling and spillage prevention can greatly reduce the volumes of air necessary for odour containment by avoiding odour release into the building. However, the containment of potentially odorous emissions is the key to effective control. The effectiveness of containment and treatments measures should finally be judged by the perception of offensive odours in the environment by the regulator. The operator shall be advised of these odours perceived by the regulator as soon as possible.

6.2 The following are examples of relevant odour control techniques:

containment of odours within process buildings by good design and extract ventilation
good housekeeping and raw material handling practices
containment of odours within process equipment by maintaining material handling and storage facilities leak proof and spill proof as far as possible
control and minimisation of odours from residual materials, effluent and waste
containment of strong odour sources and treatment in odour control equipment.

SUMMARY OF BEST AVAILABLE TECHNIQUES

6.3 The following Table provides a summary of the best available techniques that can be used to control the process in order to meet the emission limits and provisions in Section 5. Provided that it is demonstrated to the satisfaction of the regulator that an equivalent level of control will be achieved, then other techniques may be used.

Table 5: Summary of control techniques

Sources of Odour□Substance□Control Techniques
□□Raw material, effluent and waste storage□Odour□Control of raw material quality
Within buildings under negative pressure and vented to odour abatement equipment or preservation.
Within enclosed silos or stored under negative pressure and vented to odour abatement equipment
Refrigeration of raw materials unless used within 12 hours of arrival at site
Spillage management including tank level management
□□Loading and unloading processes□Odour□Within buildings under negative pressure and vented to odour abatement equipment
Enclosed vehicles and containers

□□Cooking process□Odour□Within equipment under negative pressure and vented to odour abatement equipment
Spillage management
Appropriate construction
Impervious and easy to clean surfaces
□□Vehicles□Odour□Washing of vehicle surfaces (material contact) within buildings as above

□□Ventilated air (from both wet and dry process operations)□Odour□Vent to suitable abatement plant:
biofilters
thermal oxidisers/ combustion plant
scrubbers
located to take account of sensitive receptors
□□Meal storage□Particulate Matter□Potentially dusty materials should be stored in buildings, silos or appropriate containers
□□Cooling and grinding processes□Particulate Matter□Process control
Spillage management
Dust abatement
- bag/cartridge filters
□□Waste gas from odour abatement equipment□Odour□Odour - Final dispersion to ensure no offensive odour at sensitive receptors
Sulphur oxides - Limit sulphur in fuel
Carbon monoxide - Good combustion
□□

FISH MEAL SILOS

6.4 The silo management system includes the high level alarms, arrestment plant and pressure relief valve. If best practice is being applied then any failure of the silo management system leads to full investigation of the operation of the plant and equipment. Continuous high level monitoring systems are currently available for use in storage silos. They may be used telemetrically to monitor stock within the silo. They may also be used to automatically stop delivery of material to the silo. It is expected that such systems will become more widely used in the future.

6.5 Careful delivery by trained personnel will avoid materials being blown into silos at a rate which is likely to result in pressurisation of the silo, especially towards the end of the delivery when the quantity of material entering the ducting is reduced. If deliveries are accepted from tankers without on board relief valve and filtration systems, particular care to avoid pressurisation of silos when venting air through the silo at the end of the delivery is needed.

6.6 The following measures relating to arrestment plant on silos and other silo management techniques are only applicable where the silo vents to the external environment or where silo emissions may escape from inside a building into the external environment.

All dusty or potentially dusty materials shall be stored in silos, in confined

storage areas within buildings, or in fully enclosed containers/ packaging. Where the storage is open within a building, then suitable precautions shall be taken to prevent wind whipping.

When delivery to a silo or bulk storage tank takes place, displaced air should either be vented to suitable arrestment plant (for example cartridge/bag filters) or back vented to the delivery tanker, in order to minimise emissions. Arrestment plant fitted to silos shall be of sufficient size (and kept clean) to avoid pressurisation during delivery.

In order that fugitive emissions are minimised during the charging of silos, transfer lines shall be securely connected to the silo delivery inlet point and the tanker discharge point, in that order. Tanker drivers shall be informed of the correct procedures to be followed.

Bulk storage tanks and silos containing dry materials shall be equipped with audible and/or visual high level alarms, or volume indicator, to warn of overfilling. The correct operation of such alarms should be checked in accordance with manufacturer's instructions. If manufacturer's instructions do not specify, then the check should be weekly or before a delivery takes place, whichever is the longer interval.

If emissions of particulate matter are visible from ducting, pipe work, the pressure relief valve or dust arrestment plant during silo filling, the operation should cease; the cause of the problem should be rectified prior to further deliveries taking place. Tanker drivers should be informed of the correct procedure to be followed.

Seating of pressure relief valves on silos should be checked at least once a week, or before a delivery takes place until corrective action has been taken. The pressure relief valve should be examined to check for defects before being re-set and a replacement valve fitted if necessary. Tanker drivers should be informed of the correct procedure to follow.

Deliveries to silos from road vehicles should only be made using tankers with an on-board (truck mounted) relief valve and filtration system. This means that venting air from the tanker at the end of a delivery will not take place through the silo. Use of alternative techniques may be acceptable provided that they achieve an equivalent level of control with regard to potential for emissions to air.

Care should be taken to avoid delivering materials to silos at a rate which is likely to result in pressurisation of the silo. If compressed air is being used to blow powder into a silo then particular care is required towards the end of the delivery when the quantity of material entering the ducting is reduced and hence the air flow is increased.

All new silos shall be fitted with an automatic system to cut off delivery in the event of pressurisation or overfilling. Use of alternative techniques may be acceptable provided that they achieve an equivalent level of control with

regard to potential for emissions to air.

TECHNIQUES TO CONTROL FUGITIVE EMMISSIONS

Raw Materials Handling

6.7 Ensuring that raw materials are processed before significant deterioration occurs can reduce odour generation throughout the process. The emission of odours from raw material handling and storage operations can be effectively managed by control of the time that raw materials are held at ambient temperature, control of storage temperature or by the use of chemical additions such as acetic acid to reduce material deterioration.

All fish matter shall be transported from the source of arising to the processing site as quickly as necessary to avoid material deterioration. Where delivery cannot be affected within this timescale, consideration should be given to freezing or cooling material at source or a detailed review of the materials and measures to delay decomposition should be undertaken as outlined in 6.8 below.

6.8 The delay between raw material arriving at the site and processing shall be minimised. As a guide, the aim should be to process raw materials within 24 hours of arrival at site. However, other methods of odour reduction in raw material storage and handling can be used depending upon raw material quality. An assessment of each load should be undertaken to assess quality. The issues which should be considered are:

temperature, appearance and freshness on delivery,
proposed method of temperature control in storage,
any chemical treatment already undertaken on the raw material or proposed by the operator,
How quickly the material will be processed.

6.9 The review of raw materials shall include assessment of the material quality and any steps needed to delay decomposition and minimise odours such as addition of cooling water or ice or chemical treatment. The assessment may involve the measurement of total volatile nitrogen (TVN) which is a good indicator of the potential for the short-term release of decomposition products such as ammonia, hydrogen sulphide and mercaptans. As an indicative value TVN values of below 50 mgN/100g of raw material are acceptable, above 50 mgN/100g but below 100 mgN/100g may require further chemical treatment and above 100 mgN/100g of raw material should lead to rejection of the material for processing.

6.10 Raw materials shall be received and stored prior to processing in defined designated enclosed tanks, silos or buildings. The integrity of these areas should be maintained to prevent the uncontrolled escape of odours or shall be equipped with extraction to suitable abatement plant. All storage facilities for raw materials should be sited to minimise the effect of heating by

direct sunlight.

All tanks for material storage shall be fitted with level indicators or high level alarms to warn of potential overfilling. All such tanks shall be vented to odour abatement equipment where necessary to meet the requirements of Row 1 of Table 2.

Where odour emissions occur during tanker loading, displaced air shall be vented to suitable odour abatement equipment or back-vented to the storage tank in order to meet the requirements of Row 1 of Table 2.

6.11 The design and use of vehicles and containers shall be such as to prevent the emission of any offensive odour. Totally enclosed containers or vehicles should be used for the collection of fish matter.

All vehicles, containers, trailers, tarpaulins and equipment used for the collection, transfer and handling of the aforementioned raw materials and for holding waste should be readily cleansable, impervious and kept clean.

Empty vehicles and containers should be thoroughly cleaned as soon as possible after delivery of raw materials in a designated area.

6.12 Adequate provision shall be made for the containment of liquid and solid spillages. All spillages shall be cleared as soon as possible and in the case of solid materials this should be achieved by the use of vacuum cleaning, wet methods, or other appropriate techniques. Dry sweeping of dusty spillages shall not be permitted in circumstances where it may lead to the deposition of dust outside the site boundary.

BUILDING CONSTRUCTION

6.13 All internal surfaces of buildings where raw materials are received, transferred or processed and all surfaces and equipment liable to come into contact with raw or processed material shall be impervious, capable of being readily cleansed and should be kept clean.

All floors of fish material reception, storage and processing areas, yards and designated vehicle or container cleaning areas shall be of impervious construction laid to fall to trapped drainage inlets. Drains shall be provided where necessary, with sedimentation tanks and interceptors to prevent the transmission of material likely to impair the free flow of any receiving sewerage system.

Buildings shall be constructed of suitable materials (for example brick or concrete walls and sealed metal sheet roofing) and the integrity of the buildings should be regularly inspected and maintained to prevent the uncontrolled escape of air from the raw material receipt, processing and storage areas. All doors for personnel access and egress shall be self-closing and doors for vehicle access should only be opened to allow vehicles to enter or exit.

Areas of the building into which vehicles enter shall be of sufficient size to accommodate the whole vehicle, including lowered tailgates, and to allow doors to close once the vehicle is inside the building. Where this cannot be achieved, consideration should be given to the installation of an airlock or additional localised ventilation shall be provided to ensure that offensive odours beyond the process boundary do not occur during the vehicle access.

Doors may be kept open during the delivery of raw materials to a hopper or storage area subject to the provision of adequate exhaust ventilation to odour abatement plant to meet the requirements of Table 2.

Where vehicle access doors are automatically operated, an audible alarm shall sound when the door is open to warn of the potential for odour escape.

PROCESS OPERATIONS

6.14 Process operations shall be carried out to minimise releases of odour.

Process tanks and vessels shall be enclosed to minimise emissions.

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Provision shall be made for effective and rapid cleaning of any area of spillage. High pressure jetting, steam cleaning or mechanical cleaning with foaming chemical systems are effective methods of cleaning and, where used, sufficient hosing points should be made available. Spillages should be contained and cleared as soon as reasonably practicable.

The transfer of fish material to the processing equipment and during processing shall be undertaken in such a manner as to prevent spillage and minimise disturbance of material, and such areas should be enclosed. All points of transfer shall be designed to be leak-proof with suitable means for cleaning.

Ventilation should be provided to maintain an adequate negative pressure within the raw material reception and storage areas, processing areas and meal storage areas where necessary to meet the requirements of Row 1 of Table 2. The ventilation equipment should be vented to suitable abatement plant. As regards the exhaust flow rate within the building, attention is drawn to the need to ensure compliance with the requirements of the legislation and standards applicable to the workplace environment, particularly with respect to occupational exposure limits. Maintaining the process equipment leak-proof and under negative pressure is the most effective method of containment of odours.

6.15 The bulk transfer of dry raw materials shall be by suitable mechanical handling systems, for example, screw feeder, gravity or pneumatic means. All internal transport of dusty materials should be carried out to prevent, or where prevention is not practicable, minimise airborne dust emissions. Where

conveyors are used they should be of sufficient capacity to handle maximum loads. Conveyor discharges should be arranged to minimise free fall at all times. Where necessary, in order to minimise emissions of dust, extraction shall be provided from transfer points to abatement plant, for example a bag filter.

All dusty, or potentially dusty, materials shall be stored in covered containers, sealed bags or purpose built sheds or silos.

Where the packing of meal into bags necessitates the installation of local exhaust ventilation for dust control, the extracted air shall be vented to suitable abatement plant, for example bag filters.

6.16 Good housekeeping shall be practised at all times. The adoption of good cleaning and working practices as a routine will reduce process odour emissions and consequently lead to higher nominal abatement efficiency.

A proper cleaning programme shall be instituted. This should cover all structures, equipment and internal surfaces and containers used for fish matter processing and collection and waste storage.

The cleaning and disinfecting of all drainage areas and collecting tanks, yards and roads shall be undertaken regularly.

The cleaning of pumped and other fully enclosed systems, when used with unprocessed fish materials, shall be carried out as soon as possible after pumping has finished or the vessel has been emptied, and should usually be undertaken within three hours of the completion of pumping or vessel emptying.

6.17 A senior manager who recognises the importance of controlling the odours produced by the fish oil and fish meal process shall be designated to be specifically responsible for all aspects of liaison with the regulator and where applicable with members of the general public.

EFFLUENT AND WASTE

The effluent produced has the potential to generate a significant odour. All effluent shall therefore be handled and treatment should be carried out in a manner which will minimise the emission of offensive odours and will render any emission inoffensive and harmless.

All effluent arising outside buildings that contain processing and treatment plant shall be drained via an interceptor traps to the normal sewerage system or to an effluent treatment plant or storage tank.

It is essential during handling of liquid spillages and effluent that acid and sulphide effluents produced is separated to prevent the uncontrolled reaction and liberation of substances prescribed for air to air.

All effluent arising within buildings including floor washings shall be drained to an effluent treatment plant or storage tank.

Any waste material which is minced on-site ((such as fleshings) and discharged with effluent shall not be discharged to the normal sewerage system but should be discharged to an effluent treatment plant or storage tank.

All effluent storage tanks shall be vented to suitable odour abatement equipment where necessary to meet the requirements of Row 1 of Table 2. A minimum extracted air volume should be maintained to the tank at all times (depending upon the tank design it may be necessary to isolate the tank from the odour abatement equipment during emptying to avoid tank damage). Care should be taken in emptying the effluent tanks to minimise odour release - consideration should be given to venting the collecting tanker to the odour abatement plant.

All effluent storage tanks shall be emptied regularly.

All effluent tanks shall be fitted with level indicators or high level alarms to warn of potential overfilling.

All tanks and effluent storage systems including cesspits and septic tanks shall be adequately covered and effluent treatment systems should be properly maintained in accordance with the maintenance programme included in the Odour Response Procedure (paragraph 6.29).

All effluent tanks shall be protected by a bund where appropriate to contain spillages and the tanker connection point should also be provided with bundling or spillage containment kerbs. Provision should be made for effective and rapid cleaning of any area of spillage. High pressure jetting or steam cleaning is effective methods of cleaning and, where used, sufficient hosing points should be made available. Spillages should be contained and cleared immediately.

6.19 All potentially odorous wastes shall be stored within an enclosed storage area, tank or container whilst awaiting removal for either disposal or further processing.

The storage area shall be provided with extract ventilation to suitable abatement plant where necessary to meet the requirements of Row 1 of Table 2.

Where necessary all waste shall be removed as soon as the waste container is full. High odour intensity waste should be moved more frequently where necessary to ensure compliance with Row 1 of Table 2.

Waste shall not be moved from process buildings to another building or outside unless in sealed containers. (Covered skips should not be regarded as sealed containers.)

AIR QUALITY

AMBIENT AIR QUALITY MANAGEMENT

6.20 In areas where air quality standards or objectives are being breached or are in serious risk of breach and it is clear from the detailed review and assessment work under Local Air Quality Management that the Part A2 process itself is a significant contributor to the problem, it may be necessary to impose tighter emission limits. If the standard that is in danger of being exceeded is not an EC Directive requirement, then industry is not expected to go beyond BAT to meet it. Decisions should be taken in the context of a local authority's Local Air Quality Management action plan. For example, where a Part B process is only responsible to a very small extent for an air quality problem, the authority should not unduly penalise the operator of the process by requiring disproportionate emissions reductions. More guidance on this is provided in paragraph 360 of the Air Quality Strategy which gives the following advice:

DISPERSION AND DILUTION

6.21 Pollutants that are emitted via a stack require sufficient dispersion and dilution in the atmosphere to ensure that they ground at concentrations that are harmless. This is the basis upon which stack heights are calculated using HMIP Technical Guidance Note D1 (D1). The stack height so obtained is adjusted to take into account local meteorological data, local topography, nearby emissions and the influence of plant structure. It is necessary that the assessment also take into account the relevant air quality standards that apply for the emitted pollutants.

Revised stack height calculations should not be required unless it is considered necessary because of a breach or serious risk of breach of an EC Directive limit value and because it is clear from the detailed review and assessment work that the Part B process itself is a significant contributor to the problem.

The calculation procedure of D1 is usually used to calculate the required stack height but alternative dispersion models may be used in agreement with the regulator. D1 relies upon the unimpeded vertical emission of the pollutant. A cap or other restriction over the stack impedes the vertical emission and hinders dispersion. For this reason where dispersion is required such flow impeders should not be used. A cone may sometimes be useful to increase the exit velocity and achieve greater dispersion.

An operator may choose to meet tighter emission limits in order to reduce the required stack height.

6.22 The assessment of stack or vent height should take into account the need to ensure that no offensive odour is emitted beyond the boundary.

STACKS, VENTS AND PROCESS EXHAUSTS

6.23 Liquid condensation on internal surfaces of stacks and exhaust ducts might lead to corrosion and ductwork failure or to droplet emission. Adequate insulation will minimise the cooling of waste gases and prevent liquid condensation by keeping the temperature of the exhaust gases above the dewpoint. Stacks and ductwork should be leak proof.

6.24 Unacceptable emissions of droplets could possibly occur from wet arrestment plant where the linear velocity within the associated ductwork exceeds 9 m/sec. The use of mist eliminators reduces the potential for droplet emissions.

Where a linear velocity of 9 m/sec is exceeded in the ductwork of existing wet arrestment plant, it should be reduced to the extent that is practicable to ensure that droplet fallout does not occur.

Flues and ductwork shall be cleaned to prevent accumulation of materials, as part of the routine maintenance programme.

Exhaust gases discharged through a stack or vent shall achieve an exit velocity greater than 15 m/sec during normal operating conditions to achieve adequate dispersion.

Stacks or vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone which may be necessary to increase the exit velocity of the emissions.

MANAGEMENT

MANAGEMENT TECHNIQUES

6.25 Important elements for effective control of emissions include:

proper management, supervision and training for process operations;
proper use of equipment;
effective preventative maintenance on all plant and equipment concerned with the control of emissions to the air; and
It is good practice to ensure that spares and consumables are available at short notice in order to rectify breakdowns rapidly. This is important with respect to abatement plant and other necessary environmental controls. It is useful to have an audited list of essential items.

Spares and consumables - in particular, those subject to continual wear - should be held on site, or should be available at short notice from guaranteed local suppliers, so that plant breakdowns can be rectified rapidly.

APPROPRIATE MANAGEMENT SYSTEMS

6.26 Effective management is central to environmental performance; it is an important component of BAT and of achieving compliance with permit conditions. It requires a commitment to establishing objectives, setting targets, measuring progress and revising the objectives according to results. This includes managing risks under normal operating conditions and in accidents and emergencies. It is therefore desirable that processes put in place some form of structured environmental management approach, whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an environmental management system (EMS) tailored to the nature and size of the particular process. Operators may also find that an EMS will help identify business savings.

Regulators should use their discretion, in consultation with individual operators, in agreeing the appropriate level of environmental management. Simple systems which ensure that LAPC considerations are taken account of in the day-to-day running of a process may well suffice, especially for small and medium-sized enterprises. While authorities may wish to encourage wider adoption of EMS, it is outside the legal scope of an LAPC authorisation/LAPPC permit to require an EMS for purposes other than LAPC/LAPPC compliance. For further information/advice on EMS refer to EMS Additional Information in Section 8.

TRAINING

6.27 Staff at all levels need the necessary training and instruction in their duties relating to control of the process and emissions to air. In order to minimise risk of emissions, particular emphasis should be given to control procedures during start-up, shut down and abnormal conditions.

Training may often sensibly be addressed in the EMS referred to above.

Training of all staff with responsibility for operating the process should include:

awareness of their responsibilities under the permit,
minimising emissions on start-up and shut down,
action to minimise emissions during abnormal conditions

The operator shall maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment. These documents should be made available to the regulator on request.

MAINTENANCE

6.28 Effective preventative maintenance shall be employed on all aspects of the process including all plant, buildings and the equipment concerned with

the control of emissions to air. In particular:

A written maintenance programme shall be provided to the regulator with respect to pollution control equipment; and

All external pipe work used for scrubbing liquor, cleaning water, irrigation water and process liquid transfer should be protected against frost.

ODOUR RESPONSE PLAN

6.29 The operator shall prepare an Odour Response Plan as outlined in Appendix 3. This is a summary of the foreseeable situations which may compromise his ability to prevent and/or minimise odorous releases from the process and the actions to be taken to minimise the impact. It is intended to be used by operational staff on a day-to-day basis and should detail the person responsible for initiating the action.

The Odour Response Plan shall include a list of essential spares for the odour control equipment. The equipment manufacturer should recommend which spares are subject to wear and foreseeable failure and are critical for the correct operation of the odour abatement equipment (such as pumps, nozzles etc.) and these should be held on site. It may be acceptable for certain spares to be available on guaranteed short delivery if the absence of a supply at the site would not lead to complete failure of the odour abatement equipment or to offensive odours beyond the site boundary.

The Environment Agency considers that the following discharge limit values or conditions are necessary for United Fish Industries at Grimsby, as to their application to operate A2 fishmeal installation.

Discharge of Cooling Tower Blowdown Water and/or Site Drainage Water from a 23.5 Centimetre Diameter Pipe.

Nature

The discharge shall consist of cooling tower blowdown water and/or site drainage water.

Place of Discharge

The discharge shall be made through an outlet at National Grid Reference TA 2570 1085 into the New Cut Drain.

1.3 **Sampling Point Requirements**

The outlet to controlled waters shall be constructed and maintained so that a representative sample of the discharge may be obtained at National Grid Reference TA 2570 1085.

1.4 Volume of Cooling Tower Blowdown Water

The volume of cooling tower blowdown water discharged shall not exceed

135.0 cubic metres in any period of 24 hours.

The discharge shall be made in such a way to prevent scouring of the bed or banks of the watercourse.

1.5 Flow Monitoring Requirements

1.5.1 The Operator shall use a flow meter to a specification required by the Authority at TA 2563 1092, to enable the daily volume of cooling tower blowdown water to be measured.

1.5.2. The Operator shall calibrate, operate and maintain the flow meter and recording system to a standard agreed or specified by the Authority. The volume and maintenance records shall be provided to the Authority as and when requested.

1.6 Composition

1.6.1 (a) The discharge shall not contain any poisonous, noxious, or polluting matter or solid waste matter.

(b) Provided that the discharge hereby permitted is made in accordance with conditions 1.6.2 to 1.6.7 of this permit, it shall not be taken to be in breach of condition 1.6.1 (a) above by reason of containing substances or having properties identified in and controlled by those conditions.

The discharge shall not contain more than 20 milligrams per litre of biochemical oxygen demand (measured after 5 days at 20^0C with nitrification suppressed by the addition of allyl-thiourea).

The discharge shall not contain more than 5 milligrammes per litre of ammonia (expressed as N).

The discharge shall not contain more than 10mg/l total hydrocarbon oils.

1.6.5 The discharge shall have a pH value of not less than 5.0 nor greater than 9.0.

The temperature of the discharge shall not exceed 28 degrees Celsius.

The discharge shall contain no visible oil or grease.

The discharge shall at no time contain any matter to such an extent as to cause the receiving waters to be poisonous or injurious to fish, the spawn of fish or the food of fish, or otherwise cause damage to the ecology of those waters.

Discharge of Machinery Cooling Water and/or Site Drainage Water from a 39 Centimetre Diameter Pipe.

Nature

The discharge shall consist of machinery cooling water and/or site drainage water.

Place of Discharge

The discharge shall be made through an outlet at National Grid Reference TA 2573 1088 into the New Cut Drain.

Sampling Point Requirements

The outlet to controlled waters shall be constructed and maintained so that a representative sample of the discharge may be obtained at National Grid Reference TA 2573 1088.

2.4 Volume of Machinery Cooling Water

The volume of machinery cooling water discharged shall not exceed 97.0 cubic metres in any period of 24 hours.

The discharge shall be made in such a way to prevent scouring of the bed or banks of the watercourse.

2.5 Flow Monitoring Requirements

2.5.1 The Operator shall use a flow meter to a specification required by the Authority at TF2573 1096, to enable the daily volume of machinery cooling water to be measured.

2.5.2. The Operator shall calibrate, operate and maintain the flow meter and recording system to a standard agreed or specified by the Authority. The volume and maintenance records shall be provided to the Authority as and when requested.

2.6 Composition

2.6.1 (a) The discharge shall not contain any poisonous, noxious, or polluting matter or solid waste matter.

(b) Provided that the discharge hereby permitted is made in accordance with conditions 2.6.2 to 2.6.7 of this permit, it shall not be taken to be in breach of condition 2.6.1 (a) above by reason of containing substances or having properties identified in and controlled by those conditions.

2.6.2 The discharge shall not contain more than 20 milligrams per litre of biochemical oxygen demand (measured after 5 days at 20^0C with nitrification suppressed by the addition of allyl-thiourea).

The discharge shall not contain more than 5 milligrammes per litre of ammonia (expressed as N).

The discharge shall not contain more than 10mg/l total hydrocarbon oils.

2.6.5 The discharge shall have a pH value of not less than 5.0 nor greater

than 9.0.

2.6.6 The temperature of the discharge shall not exceed 28 degrees Celsius.

2.6.7 The discharge shall contain no visible oil or grease.

2.6.8 The discharge shall at no time contain any matter to such an extent as to cause the receiving waters to be poisonous or injurious to fish, the spawn of fish, or the food of fish, or otherwise cause damage to the ecology of those waters.

Sampling, analysis, recording and reporting

The Operator shall maintain and implement a monitoring programme in order to measure the concentration within the discharges of the parameters defined in conditions 1.6.2 to 1.6.6 and 2.6.2 to 2.6.6 and to record compliance against conditions 1.6.7 and 2.6.7. The frequency of monitoring shall be undertaken on a monthly basis, or as otherwise stated in writing by the Authority. A laboratory suitably accredited by UKAS (or subsequent equivalent) shall carry out the analysis.

The Operator shall notify the Authority if the limits defined in conditions 1.6.2 to 1.6.7 and 2.6.2 to 2.6.7 are exceeded, and shall confirm the circumstances and actions taken to investigate and ameliorate the situation, in writing, as soon as practically possible thereafter, and in any event within seven days of finding such an occurrence.

The Operator shall maintain records in such a form as the Authority may require of analytical data and these records shall be kept conveniently available for inspection by the Authority's Officers at all reasonable times.

For the purposes of calculating annual subsistence charges, under the Environment Agency's current "Discharges to Controlled Waters" charging scheme, the permit and emission limit values described above would have the following bands:

1.Discharge of Cooling Tower Blowdown Water and / or Site Drainage from a 23.5 cm

3rd July 2005	**diameter pipe.** Content C Receiving waters S **ling Water and / or Site Drainage from a 39 cm diameter pipe.** Content C Receiving waters S

Simon Nugent, Team Leader Regulatory (Water Quality)

Authorised to sign on behalf of the Environment Agency

Date of signing

The Environment Agency
Waterside House
Waterside North
Lincoln
LN2 5HA

END OF PERMIT