

This report has been cleared for submission to the Board of Directors by Frank Clinton, Programme Manager

Signed: Grainne Dg Tesby Date: 29/3/12



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

**REPORT OF THE TECHNICAL COMMITTEE ON
OBJECTIONS TO LICENCE CONDITIONS**

TO: Directors

FROM: Technical Committee

**- Environmental
Licensing
Programme**

DATE: 29th March 2012

RE: Objection to Proposed Determination for Queally Pig Slaughtering Limited, IPPC Register No: P0175-02

Application Details

Location of activity:	Grannagh, Co. Kilkenny
Class of activity:	7.4.1: The operation of slaughterhouses with a carcass production greater than 50 tonnes per day.
Section 87(1)(b) notice issued:	28 July 2011
Licence review form received:	4 October 2011
Section 90(7) notice issued:	24 November 2011
Information under Section 90(7) received:	29 November 2011
PD issued:	16 December 2011
First party objection received:	23 January 2012
Third party objections received:	Not applicable
Submissions on objections received:	Not applicable

Environmental Objectives Regulations Review

Reason for Licence Review

On the 28 July 2011, the Environmental Protection Agency initiated a review of the IPPC licence held by Queally Pig Slaughtering Ltd. (QPS) for the installation located at Grannagh Co. Kilkenny, IPPC licence register number P0175-01.

The reasons for initiating the review are in light of the requirements under the following regulations:

- (1) The European Communities Environmental Objectives (Surface Waters) Regulations 2009.
- (2) The European Communities Environmental Objectives (Ground Water) Regulations 2010.

Company

Queally Pig Slaughtering Limited operates an IPPC licenced pig slaughtering installation at Grannagh, Co. Kilkenny. The installation is located on a site of approximately 30 acres on the main Waterford to Limerick Road, approximately 4 miles outside Waterford City. Tidal stretches of the River Suir (Middle Suir Estuary) are located to the east of the plant and run into Waterford Harbour.

The activity has the capacity to slaughter 240 pigs per hour. The average daily kill at the installation is 2,000. Treated effluent from the Wastewater Treatment Plant (WWTP) discharges (at EW-1) to the Middle Suir Estuary (WFD code: IE_SH_25_335).

Consideration of the Objection

The Technical Committee, comprising of Jennifer Cope (Chair) and Marie O'Connor, has considered all of the issues raised in the Objections and this report details the Committee's comments and recommendations following the examination of the objections together with discussions with the inspector, Gavin Clabby, who also provided comments on the points raised. The Technical Committee consulted with Agency Senior Inspector Patrick Byrne.

This report considers the first party objection. No third party objections were received. The main issues raised in the objections are summarised below. However, the original objection should be referred to for greater detail and further expansion of particular points.

First Party Objection

The applicant makes eight points of objection.

A.1. Introduction

The introduction states:

"Hours of production at the plant are 0600hrs to 1700 hrs Monday to Friday."

The licensee wishes to clarify that the operation hours at the plant can vary according to process requirements. Typical operating times are 0600hrs to 1800hrs Monday to Friday but cleaning and maintenance can take place outside of these hours.

Technical Committee's Evaluation: The introduction is not part of the licence and does not purport to be a legal interpretation of the licence. The TC notes that the introduction refers to the 'hours of production' and does not include cleaning and maintenance. For clarity the TC recommends that the hours of production are amended to be 06.00 to 18.00.

Recommendation: Amend the last sentence in paragraph 3 of the Introduction to read:

Typical hours of production are **06.00** to **18.00** Monday to Friday.

A.2. Condition 3.8 – Silt Traps and Oil Separators

Condition 3.8 states:

Silt Traps and Oil Separators

The licensee shall, within six months of date of grant of this licence, install and maintain silt traps and oil separators at the installation:

- (i) Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;
- (ii) An oil separator on the storm water discharge from yard areas. The separator shall be a Class I full retention separator.

The silt traps and separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids)

The licensee requests that this condition be amended as it may not be possible, due to the surface areas involved, to install full retention Class 1 oil separator. The licensee states that full retention separators may not be necessary as the area in question contains only a forecourt which is covered by a canopy and therefore partially sheltered during rain events. According to the licensee a Class 1 by-pass separator may be sufficient and proposes that the condition be amended as follows:

"Risk Assessment to be undertaken, which shall determine the environmental risk associated with each catchment within the plant's surface water drainage system. The output of the risk assessment will be ranking of the risks associated with each catchment within the surface water drainage system, together with recommendations for implementation of suitable controls. Such controls may contain silt traps and oil separator(s) as appropriate. The design and specification of any control measures to be implemented will be to the satisfaction of the agency."

Technical Committee's Evaluation: According to the UK Environmental Agency Guidance Note - PPG3 Use and Design of Oil Separators in Surface Water Drainage Systems (April 2006), full retention separators treat the full flow that can be delivered by the drainage system. The 'full flow' is normally equivalent to the flow generated by a rainfall intensity of 65mm/hr. However, bypass separators are designed to fully treat flows generated by rainfall rates of up to 6.5mm/hour, which covers most rainfall events. According to the guidance note if the risk of regular contamination of surface water run off with oil and/or risk of large spills, e.g, vehicle maintenance area, goods vehicle parking or vehicle manoeuvring a 'class one full retention separator with alarm' is required.

The Middle Suir Estuary has been identified as a waterbody 'at risk' from IPPC discharges. The TC considers that based on the above a Class I full retention separator may be required. However, the TC recommends that the term 'unless otherwise agreed with the Agency' be included to enable the licensee to agree alternative options with the office of environmental enforcement inspector.

The TC notes a clerical error in the last sentence and recommends that the brackets are closed as below.

Recommendation: For the purposes of clarity the condition should be amended to read as follows:

Silt Traps and Oil Separators

The licensee shall, within six months of date of grant of this licence, install and maintain silt traps and oil separators at the installation:

- (iii) Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;
- (iv) An oil separator on the storm water discharge from yard areas. The separator shall be a Class I full retention separator, **unless otherwise agreed by the Agency.**

The silt traps and separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids).

A.2. Condition 3.10 & 6.11 – Catchment Collection System and Inspection

Condition 3.10 states:

The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2 of this licence for the reduction in fugitive emissions.

Condition 6.11 states:

An Inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections, shall be maintained.

The licensee acknowledges that the requirement to ensure pipes transporting liquids with the potential to cause a negative environmental impact are operated in a manner which does not lead to any losses to ground.

However the licensee objects to Condition 3.10 and 6.11 for the reasons outlined below:

1. *All lines are thoroughly cleaned after used, which is typically on a daily basis.*
2. *Other over ground lines transporting non-water streams are restricted to oil transfer lines, which are subject to regular preventative maintenance, such as a thorough integrity checks of all valves and connections on the line.*
3. *The majority of lines transporting material are within bunded areas, where, if a leak occurs, it is collected in the foul water drainage system which runs to the WWTP for treatment prior to discharge.*
4. *Full time maintenance workers are present during production cycles to repair/replace any leaking flanges or valves.*

5. *The installation has a preventative maintenance system in place, which includes checks on valves on lines transporting materials across the facility.*

In addition, the licensee also outlines a number of non-environmental reasons to ensure there are no system losses which include corrosion due to chemical leakage, contamination of product, increased energy demand, etc.

The licensee requests that the frequency of inspections be reduced from weekly to monthly

Technical Committee's Evaluation: Condition 3.10 is intended to prevent adverse environmental impact from materials transported on site. The condition requires the licensee to examine the requirement for the provision of a catchment system to collect leaks from flanges and valves of all over-ground pipes used to transport material other than water. The Schedule of Environmental Objectives and Targets, provides for a review of all operations and processes. It is appropriate to include the examination for the requirement of a catchment system in the Schedule.

If, as the licensee states, the majority of the pipe work in question runs within bunded areas that collect and drain towards the effluent treatment plant, and providing that the waste water treatment plant can treat the substance arising from the leak, then the requirement of the catchment system has been largely met. However, the licensee is required to examine on-site arrangements for a catchment system and incorporate it into the Schedule of Objectives and Targets. The TC recommends no change to this condition.

Condition 6.11 reflects the situation that exists on other licensed installations of a similar nature. One of the core principles of BAT is the use of preventative measures to identify and reduce risks before they occur. The practice of a weekly visual inspection for leaks on all flanges and valves on over ground pipes used for the transport of materials other than water is one such simple preventative measure. The TC considers this condition shall be maintained unchanged, for the purpose of providing an appropriate level of protection to the receiving environment. The inspection could involve one person from each area inspecting their location or one person walking around each area where there are over-ground pipes to determine if there are any leaks.

Recommendation: No change

A.3. Condition 4.3 - Noise

Condition 4.3 states:

Noise

Noise from the installation shall not give rise to sound pressure levels (Leq, T) measured at the NSLs and boundary of the installation which exceed the limit value(s).

The licensee requests that the words 'boundary of the installation' be removed from the proposed licence as per their current licence due to the fact that noise levels at boundary measurement points are naturally higher due to their proximity to plant and equipment. They state that under the requirements of the current licence, which excludes boundary points, they have exhibited consistent compliance.

Technical Committee's Evaluation: The Technical Committee considers that applying noise limits at noise sensitive locations (NSLs) provides adequate protection. Condition 6.13 of the PD requires that a noise survey of site operations be carried out annually (Objection A.5, considered below, recommends the frequency is reduced to every two years). A new noise sensitive location may arise closer to the installation and the licensee will be required to keep to the specified noise limits regardless of the distance of any new noise sensitive location from the installation. The *Agency's Guidance Note for Noise in Relation to Scheduled Activities, 2nd Edition, 2006*, suggests that daytime (08:00-22:00) and night-time (22:00-08:00) noise levels should not exceed the levels below at NSLs: Daytime L_{Ar,T} 55 dB(A) free-field and Night-time L_{Aeq,T} 45 dB(A) free-field. The TC recommends that the words 'and the boundary' shall be deleted from Condition 4.3.

Recommendation: Amend Condition 4.3 to read as follows:

Noise

Noise from the installation shall not give rise to sound pressure levels (L_{eq, T}) measured at the **noise sensitive locations (NSLs)** of the installation which exceed the limit value(s).

A.4. Condition 6.10 – Inspection of Drainage System

Condition 6.10 states:

The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, silt traps and oil interceptors shall be properly maintained at all times.

The licensee describes the drainage system as being "designed and laid...to prevent settlement within pipes and manholes" and inspections undertaken since the granting of the licence have confirmed the effectiveness of the system. Therefore the licensee requests that the frequency of inspection be changed from weekly to quarterly.

Technical Committee's Evaluation: This is a standard condition in IPPC licences, intended to provide a check on drainage infrastructure to ensure that it is maintained in good condition. It is not intended to be an exhaustive examination, and as such, only those parts of the drainage system which are readily visible are required to be inspected. The condition provides examples of parts of the drainage system that should be considered in the weekly inspection programme. It is for the licensee to ensure the drainage system is inspected and properly maintained at all times. The TC considers that the wording of the condition provides the flexibility for the licensee to decide how the drainage system is to be monitored to ensure it is properly maintained at all times. In addition, Condition 6.7 provides for the frequency of monitoring to be reduced with the agreement of the Agency, based on evaluation of results.

Recommendation: No change.

A.5. Condition 6.13 – Noise Monitoring

Condition 6.13 states:

Noise

The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

The licensee requests that the frequency of the noise survey be amended from annually to every two years. The licensee states that the Agency had agreed to this amendment (EPA Reference No: P0715-01/ap13dm) for P0175-01 as noise levels on site have been relatively constant and unchanging.

Technical Committee's Evaluation: The TC notes that the licensee has obtained approval from the Office of Environmental Enforcement (EPA Reference No: P0175-01/ap13dm) to reduce the frequency of the noise survey from annually to every two years. The TC recommends that Condition 6.13 be amended as below.

Recommendation: Amend condition 6.13 to read as follows:

Noise

The licensee shall carry out a noise survey of the site operations **every two years**. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

A.6. Condition 8.14 – Organic Waste Management

Condition 8.14 states:

'Organic waste/organic fertiliser shall only be recovered by landspreading subject to the following conditions and the prior agreement of the Agency:.....'

The licensee requests that Condition 8.14 be removed from the licence. The licensee states that they have an arrangement with neighbouring Dawn Meats (Exports) Ltd (Licence Reg. No.P0179-01):

- *The licensee treats waste water from Dawn Meat (Exports) Limited's installation.*
- *Dawn Meat (Exports) Limited manages the land spreading of organic wastes and sludges (from the waste water treatment plant) generated at the licensee's installation (Queally Pig Slaughtering Limited).*

The licensee states that the conditions and the requirements regarding landspreading, Nutrient Management Plan, record keeping and reporting is covered by Dawn Meat (Exports) Limited IPPC licence (Reg. No. 179-01).

Technical Committee's Evaluation: The TC acknowledges that Dawn Meat (Exports) Limited (IPPC licence register no: P0179-01) manages the landspreading of organic waste/organic fertiliser arising from the Queally Pig Slaughtering Ltd installation. The TC recommends that a new condition 8.14 is inserted to require the licensee to maintain on-site a record of the agreement with Dawn Meat (Exports) Limited for the control and management of organic waste/organic fertiliser from the installation. The TC considers that Condition 8.15 (Condition 8.14 of the PD) should be maintained in the licence, to provide flexibility to Queally Pig Slaughtering Limited, as they may choose to undertake the transfer of the organic waste/organic fertiliser to customer farmers for their use in the future. The TC recommends that Condition 8.15 (Condition 8.14 of the PD) be amended to enable the licensee to landspread their organic waste/fertiliser in the future, if required. The TC recognises that Condition 8.15 (Condition 8.14 of the PD) and sub-conditions could be re-worded to provide greater clarity in relation to the licensee's responsibilities and requirements. The recommended associated changes outlined below include definitions for 'customer farmers' and 'customer farmers' lands' to be included in the glossary and 'Client List' and 'Buffer zone' to be deleted from the Glossary. The TC recommends the deletion of condition 8.15.6 and the deletion of the last sentence of Condition 8.15.4 (8.14.6 and 8.14.4 of the PD) as they apply to the customer farmers and/or are controlled by S.I. No. 610 of 2010.

The licensee is required to maintain an organic waste/organic fertiliser register in compliance with Condition 11.10. This record shall include details of organic waste/organic fertiliser sent off-site including the quantities sent to Dawn Meat (Exports) Limited.

Recommendation: Insert a new condition 8.14 to read as follows and renumber the following conditions accordingly:

8.14 The licensee shall maintain on-site a record of the agreement with Dawn Meat (Exports) Limited, IPPC licence Register No: P0179-01, for the control and management of organic waste/organic fertiliser from the installation.

Amend Condition 8.15 and renumber accordingly as follows:

8.15 In the event that the agreement for the control and management of organic waste/organic fertiliser between the licensee and Dawn Meat (Exports) Limited outlined in Condition 8.14 is terminated the licensee shall notify the Agency immediately and organic waste/organic fertiliser shall only be recovered by landspreading subject to the following conditions and the prior agreement of the Agency:

8.15.1 The licensee shall, prior to the first of January each year, submit to the Agency and maintain on-site for inspection by authorised persons the following information:

(i) The projected figures for annual production of organic waste/organic fertiliser and the nitrogen and phosphorus content of the organic waste/organic fertiliser;

(ii) A summary table of customer farmers **who may receive**

organic waste/organic fertiliser. This table shall be updated based on a Nutrient Management Plan, as required to include additional lands acquired during the year. The table shall include as a minimum 'Customer Code' (name to be maintained on site), Townlands and Quantity of Organic Waste.

(iii) A map (scale of 1:50,000) showing the location of farms where organic waste/organic fertiliser may be **used**.

(iv) A declaration by suitable qualified person that lands, for **receipt** of organic waste/organic fertiliser have been inspected and are suitable for landspreading; and

(v) A Nutrient Management Plan for all lands demonstrating adequate capacity for **use** of organic waste/organic fertiliser generated at the installation. Nutrient management plans shall be to the satisfaction of the Agency and shall be agreed prior to the movement of organic waste/organic fertiliser off site. Nutrient Management Plans may be based on the 'Nitrogen and Phosphorus' Statements issued by the Department of Agriculture, Food and the Marine. Nutrient Management Plans shall be maintained on site for inspection by authorised persons.

8.15.2 The licensee shall ensure, in all cases where there is a transfer of organic waste/organic fertiliser from the installation to storage provided on the farms in the **customer farmers' lands**, that the **customer** farmer is advised of the need to store the organic waste/organic fertiliser in a purpose – built holding structure adequate for the protection of groundwater and surface water.

8.15.3 Soil monitoring shall be undertaken as outlined in *Schedule C6. Ambient Monitoring, Land Used for Landspreading* of this licence and a summary report included as part of the Nutrient Management Plan.

8.15.4 Landspreading shall, as a minimum, be carried out in accordance with S.I. No. 610 of 2010 European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2010.

8.15.5 Landspreading from this activity shall take place only on lands agreed in advance in writing by the Agency. Alterations to this landbank are subject to prior written agreement with the Agency.

8.14.6 Organic waste/organic fertiliser monitoring at the site shall be analysed in accordance with Schedule C4: Waste/Material Analysis, of this licence.

Include the following additional terms:

Customer Farmers: Farmers who may use organic waste/organic fertiliser generated at the installation as fertiliser on their lands.

Customer Farmers' Lands: The lands owned/managed by customer

farmers.

Delete the following terms:

Buffer Zone Area: excluded from landspreading of organic waste/organic fertiliser.

Client List: A list of farmers and associated farmlands used for the landspreading of organic waste/organic fertiliser.

A.7. Schedule B.2- Emissions to Water

Schedule B.2 states:

B.2 Emissions to Water

Emission Point Reference No: EW-1
Name of Receiving Waters: Middle Suir estuary
Location: E256851 N114197
Volume to be emitted: Maximum in any one day: 1800 m³
 Maximum in any one hour: 90 m³

Parameter	Emission Limit Value
Temperature ^{Note 1}	25 °C
pH	6 - 9
	mg/l
COD	100
BOD	40
Suspended Solids	60
Total Nitrogen	15
Ammonia (as N)	10
Total Phosphorus (as P)	2
Orthophosphate (as P)	1
Detergents	5
Fats, Oils and Grease	15

The licensee objects to the limit set for Total Nitrogen. Currently, the licensee's WWTP operates at a limit of 20mg/l for nitrates and has consistently displayed compliance with the current licence requirements. However, the licensee states that replacing the nitrates limit with a total nitrogen emission limit value may lead to instances of non-compliance as the very nature of their activities leads to significant levels of ammonia and nitrogen being discharged to WWTP. The licensee requests that the limit value for total Nitrogen be increased to 30mg/l which is in line with BAT for the slaughtering sector. According to the licensee, this amendment will have little environmental impact given that they discharge to a tidal estuary.

Technical Committee's Evaluation: The BAT Guidance Note on the Best Available Techniques for the Slaughtering Sector (2008) sets out limit values for emissions to waters, expressed in terms of mg/l. The guidance note states that 15-40mg/l for total nitrogen is achievable using BAT for waste water treatment. However, establishing emission limit values within a licence for direct discharges to surface water from a WWTP and storm water discharges must ensure that the quality of the receiving water is not impaired or that the current environmental quality standards are not exceeded. The receiving water (Middle Suir Estuary) is part of the Suir Estuary (Upper) which is designated as a sensitive area 'from Coolnamuck Weir to Newtownr', under the First Schedule, Part 2 of the Urban Waste Water Treatment Regulations, 2010. According to the EPA 'Water Quality in Ireland 2007 – 2009 Report' (2010), the outcome of the most recent trophic status assessment of estuarine and

coastal waters for the period 2007-2009 designates the receiving water as eutrophic. The TC consulted with Shane O'Boyle in the Office of Environmental Assessment, in relation to the Middle Suir waterbody and the point of discharge from the installation. According to Shane O'Boyle, the section of the waterbody (Middle Suir) is less sensitive and is light limited, therefore unlikely to get phytoplankton growth. Phosphorus is more likely to be the limiting nutrient in the estuary. The TC notes that the WWTP has an anoxic zone to facilitate the removal of nitrates and ammonia. The TC notes that according to the 2010 Annual Environmental Report the monthly average was less than 4 mg/l for ammonia and less than 6 mg/l for nitrates in the 2010. The TC considers that based on the above and as the installation is an existing activity that the Total Nitrogen emission limit value be amended to 25mg/l. The TC notes a clerical error in *Schedule B.2 Emissions to Water* and recommends that 'Note 1' be deleted from the table.

Recommendation: Amend *Schedule B.2 Emissions to Water* to read as follows:

Schedule B.2 states:

B.2 Emissions to Water

Emission Point Reference No: EW-1
Name of Receiving Waters: Middle Suir estuary
Location: E256851 N114197
Volume to be emitted: Maximum in any one 1800 m³ day:

Maximum in any one 90 m³ hour:

Parameter	Emission Limit Value
Temperature	25 °C
pH	6 - 9
	mg/l
COD	100
BOD	40
Suspended Solids	60
Total Nitrogen	25
Ammonia (as N)	10
Total Phosphorus (as P)	2
Orthophosphate (as P)	1
Detergents	5
Fats, Oils and Grease	15

A.8. Schedule C.6 - Ambient Monitoring

Schedule C.6:

Land used for Landspreading

Monitoring Location: All lands included in the landbank ^{Note 1}

Conditions	Monitoring Frequency Note 2 & 5	Analysis Method/Techniques ^{Note} 3/4
Soil Sampling ^{Note1}	Prior to the preparation of an NMP or Every six years	Morgan's P test Morgan's P test

Note 1: Each sample should be representative of a maximum area of 4 ha except where uniform cropping and land use has been in place for the previous five years or more. In the latter situation a sample of 12 ha is acceptable.

Note 2: the licensee may assume 'Index 3' for preparation of nutrient management plans where no soil samples are available.

Note 3: Peach, M. and English, L. (1944) 'Rapid micro chemical test'. Soil Science 57: 167.

Note 4: Soil analysis shall only be conducted by Department of Agriculture, Food and the Marine approved laboratories.

Note 5: The above requirements may be substituted by the transitional provisions of Article 34 of S.I. 610 of 2010.

The licensee wishes to remove this schedule from their licence due to their agreement with Dawn Meat (Exports) Limited (see Objection A.6) to carry out all land spreading of organic waste.

Technical Committee's Evaluation: As per Objection A.6, the TC acknowledges that Dawn Meat (Exports) Limited (IPPC licence register no: P0179-01) manages the landspreading of organic waste/organic fertiliser arising from the Queally Pig Slaughtering Ltd installation. The TC considers that *Schedule C.6 Land used for Landspreading* should be maintained in the licence, to provide flexibility to Queally Pig Slaughtering Limited, as they may choose to undertake the transfer of the organic waste/organic fertiliser to customer farmers for their use in the future. The TC recommends that *Schedule C.6 Land used for Landspreading* be maintained in the licence to enable the licensee to landspread their organic waste/fertiliser in the future, if required. The TC recommends that *Schedule C.6* be amended as per *Schedule 1* of S.I. No. 610 of 2010, whereby the maximum sampling area for lands, in exceptional cases where soil types and cropping of lands were similar during the previous five years, is reduced from 12 hectares to 8 hectares.

Recommendation: Amend Schedule C.6 Land used for Landspreading to read as follows:

C.6 Land used for Landspreading

Monitoring Location: All lands included in the landbank

Conditions	Monitoring Frequency <small>Note 2</small>	Analysis Method/Technique <small>Note 3 & 4</small>
Soil Sampling <small>Note 1</small>	Prior to the preparation of an NMP or Every six years	Morgan's P test

Note 1: The sampling area shall not exceed 4 hectares. Exceptionally, where soil types and cropping of lands were similar during the previous five years, a sample area of up to 8 hectares shall be deemed acceptable.

Note 2: The licensee may assume 'Index 3' for preparation of nutrient management plans.

Note 3: Peach, M. and English, L. (1944) 'Rapid micro chemical test'. *Soil Science* 57:167 or as otherwise specified by the Department of Agriculture, Food and the Marine.

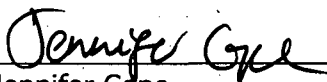
Note 4: Soil analysis shall only be carried out by a soil-testing laboratory that meets the requirements of the Department of Agriculture, Food and the Marine.

Overall Recommendation

It is recommended that the Board of the Agency grant a licence to the licensee

- (i) for the reasons outlined in the proposed determination and
- (ii) subject to the conditions and reasons for same in the Proposed Determination, and
- (iii) subject to the amendments proposed in this report.

Signed



Jennifer Cope

for and on behalf of the Technical Committee