

This report has been cleared for  
 Submission to the Board by the  
 Programme Manger Frank Clinton  
 Signed: *F. Clinton* Date: 16/04/09

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



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

<b>TO:</b>	Directors	
<b>FROM:</b>	Technical Committee	- LICENSING UNIT
<b>DATE:</b>	15 <sup>th</sup> April 2009	
<b>RE:</b>	Objection to Proposed Decision for a Waste Licence from <b>Waterford City Council</b> , Wallace House, Maritana Gate, Canada Street, Waterford, Licence Register W0244-01.	

**Application Details**

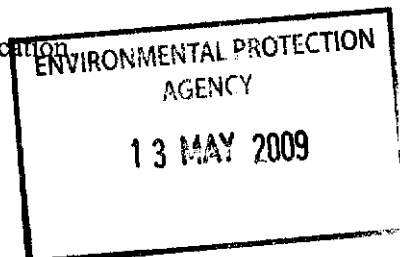
Classes of activity: (P: principal activity)	Waste Management Acts 1996-2008 3 <sup>rd</sup> Schedule: Class 6(P) 4 <sup>th</sup> Schedule: Class 2
Location of activity:	Springfield House, Gorteens, Co. Kilkenny
Licence application received:	13/05/2008
PD issued:	12/12/2008
First party objection received:	19/01/2009
Third Party Objection received	None received
Additional Information received:	None

**Company**

The application relates to a wastewater treatment plant for Waterford City and its Environs, which is currently under construction at Gorteens, Co. Kilkenny. The plant will provide secondary treatment and cater for domestic and industrial wastewater. The infrastructure includes anaerobic digestion for the treatment of sludge generated by the wastewater treatment process. The facility is to be operated by Celtic Anglian Water on behalf of Waterford City Council, as part of a Design Build and Operate contract.

Under the Waste Management Acts 1996 to 2008, the treatment of sewage sludge from municipal wastewater treatment plants, where the residual sludge is sent for disposal, is a licensable activity. The residual or final sludge produced by the facility (sludge bio-cake) is, at this time, proposed to be sent for disposal to landfill.

No submissions were received in relation to the licence application.



## Consideration of the Objection

The Technical Committee, comprising of Aoife Loughnane (Chair) and Loretta Joyce has considered all of the issues raised in the first party objection and this report details the Committee's comments and recommendations following the examination of the objection together with discussions with the Inspector, Marian Doyle. The Committee consulted Agency Inspector Dr. Ian Marnane in relation to air emissions issues.

### First Party Objection

The applicant makes 17 points of objection to the Proposed Decision (PD), a number of which are requests for clarification. The wastewater treatment plant is currently constructed and is in the process of being commissioned. The date of grant of the licence could potentially be earlier than completion of the commissioning period.

#### 1. Condition 2.1.1 Facility Manager

Condition 2.1.1 states:

**The licensee shall employ a suitable qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.**

*The applicant objects to the condition on the grounds that the plant will operate 24 hours per day, 365 days per year, the plant is automatic and alarm signals are sent to suitably trained persons in the event of a plant malfunction. The requirement to have a nominated suitably qualified deputy present on the facility at all times would greatly increase the staffing levels beyond what is considered reasonable for an automatic plant. This is not considered necessary and is not the practice in similar plants such as Limerick or Dungarvan. They request that the last sentence is replaced by the following:*

*'The Facility Manager or a suitably qualified deputy shall be present on the facility during the normal working week. A standby rota system shall be in place to respond to call outs and SCADA systems alarms. The standby staff shall receive training to a level agreed with the Agency'.*

#### Technical Committee's Evaluation:

The wastewater treatment plant will operate automatically, with alarm systems in place to alert relevant staff in the event of a plant malfunction. The facility will be manned by four staff on Monday to Friday from 08:00 to 17:00 hrs. This can be considered as the 'normal working week' for the purposes of this licence and the definition of 'normal working week' should be inserted into the licence glossary of terms. The TC recommends amending the condition to require the facility manager or deputy to be present at all times during the normal working week, with a system in place at all times for staff to respond to call outs and SCADA systems alarms. Staff training is adequately addressed under Condition 2.1.2.

**Recommendation:** Amend Condition 2.1.1 to read as follows:

54 ✓  
2.1.1 ~~The licensee shall employ a suitably qualified and experienced facility manager who shall be~~  
designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced deputy shall be present on the facility at all times during the normal working week. A system shall be in place at all times, for suitably qualified and experienced staff to respond to call outs and SCADA systems alarms. ✓ AB.

57 ✓  
Insert definition of 'normal working week' into the licence Glossary of Terms:

**Normal Working Week** 08:00 to 17:00 hours, Monday to Friday inclusive. ✓ AB

## 2. Condition 2.1.2 Training

Condition 2.1.2 states:

**The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence. In addition, the facility manager and his/her deputy shall successfully complete the FAS waste management training programme or equivalent agreed by the Agency.**

*The applicant objects to the condition on the grounds that the training given to the manager and deputies shall be appropriate for the functions required. It is expected that the training provided to the manager and deputies will be acceptable to the Agency. It is also possible that the FAS training course may not be available at a suitable time. The applicant proposes an amendment to the last sentence as follows:*

*'In addition the Facility Manager and a person who deputises for the manager shall have successfully completed an appropriate waste management training course such as the course provided by FAS or an equivalent appropriate course agreed between the Licensee and the Agency'.*

### Technical Committee's Evaluation:

A training programme dedicated to the operation and management of waste water treatment plants would be more appropriate in this case than the FAS waste management training programme. The first part of the condition adequately covers staff training requirements.

**Recommendation:** Amend Condition 2.1. read as follows:

SH ✓  
2.1.2 ✓  
V AS  
The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

## 3. Condition 2.2.2.3 Environmental Management Programme

Condition 2.2.2.3 states:

**The licensee shall, not later than six months from the date of grant of this licence, submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be established and maintained by the licensee. It shall include:**

- Designation of responsibility for targets;
- The means by which they may be achieved;
- The time within which they may be achieved.

**The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).**

**A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.**

The applicant objects to the timing of this requirement. Submission of the EMP to the Agency within six months from the date of grant of licence may be possible, but depends on the date of grant of licence. The licence could be issued at an early date while the commissioning period after the grant of the licence could restrict the time available to prepare the programme. The applicant proposes amending the wording as follows:

'The submittal of the EMP to the Agency shall be within six months of the completion of commissioning of the facility, or the date of grant of this licence. There shall be agreement on the timing between the licensee and the Agency'.

Technical Committee's Evaluation:

The WWTP is currently being commissioned. The TC contacted Ray Mannix, Senior Engineer, Environmental Services, Waterford City Council, to establish the proposed timescale for the commissioning process. There are set timelines in the DBO contract for plant commissioning, with performance tests due to run until handover on 7<sup>th</sup> August 2009. Then the plant will be handed back to the DBO contractor to commence the operational part of the contract.

The TC recommends a timeframe of nine months from the date of grant of licence for submission of the EMP. This will allow a sufficient period after the commissioning process for the licensee to prepare the programme.

SM ✓ ✓  
✓ AB  
**Recommendation:** Amend Condition 2.2.2.3 to read as follows:

2.2.2.3 The licensee shall, not later than **nine months** from the date of grant of this licence, submit to the Agency for agreement an EMP, including a time schedule for the achievement of the Environmental Objectives and Targets prepared under Condition 2.2.2.2...

**4. Condition 2.2.2.7 Communications Programme**

Condition 2.2.2.7 states:

**The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.**

The applicant objects to the requirement to maintain this programme 'at the facility' and proposes that it be replaced by 'at the offices of the licensee'. The licensee has access to the SCADA system and is better placed to provide appropriate staff so that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

Technical Committee's Evaluation:

Public accessibility to information relating to the environmental performance of a facility is an important aspect of the waste licensing system. The TC notes that while Waterford City Council is the applicant, the facility will be operated under DBO contract by Celtic Anglian Water. The TC considers it acceptable, in this case, that the Public Awareness and Communications Programme be maintained at the facility or the offices of the licensee. Condition 3.2.2 (vi) of the PD requires the facility notice board to clearly show where environmental information relating to the facility can be obtained.

SM ✓ ✓  
✓ AB  
**Recommendation:** Amend Condition 2.2.2.7 to read as follows:

2.2.2.7 The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain information **at the facility, or at the offices of the licensee**, at all reasonable times, concerning the environmental performance of the facility.

5. Condition 3.1

Condition 3.1 states:

**The licensee shall establish and maintain, for each component of the facility, all infrastructure referred to in this licence in advance of the commencement of the licensed activities in that component, or as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.**

*The applicant objects to the timing of this requirement on the grounds that if the Agency makes a decision that requires additional infrastructure, it is likely to take some time to procure same, particularly where agreement with the Agency is required. The applicant proposes to add an additional sentence as follows:*

*“The infrastructure shall be provided in a time period agreed between the licensee and the Agency in advance of the commencement of the licensed activities where this is feasible.”*

Technical Committee’s Evaluation:

This is a standard licensing condition requiring infrastructure to be established in advance of the commencement of a licensable activity. The applicant may have misinterpreted this condition, as the infrastructure referenced in the condition relates only to items of plant proposed in the application or required by the conditions of the licence.

SM ✓

**Recommendation:** No change.

6. Condition 3.3.1 Facility Security

Condition 3.3.1 states:

**Security and stockproof fencing and gates shall be installed and maintained. The base of the fencing shall be set in the ground.**

*The applicant seeks clarification of what is required with respect to fencing, 90% of which has already been installed and is generally in accordance with this condition. They require confirmation that the fencing installed is acceptable to the Agency, or that any proposed additional works satisfy the requirements of the Agency. They propose to add a sentence as follows:*

*‘The details of the fencing shall be agreed between the licensee and the Agency.’*

Technical Committee’s Evaluation:

This requirement is designed to ensure the facility is secure from unauthorised access. The exact details of fencing provisions can be agreed with OEE.

SM ✓

**Recommendation:** No change.

7. Condition 3.4.2 Facility Roads and Site Surfaces

Condition 3.4.2 states:

The licensee shall provide and maintain an impermeable concrete surface in the areas of the facility shown on Drawing No. D.k.1.2; the surfaces shall be concreted and constructed to British Standard 8110 or an alternative as agreed by the Agency. The licensee shall remedy any defect in concrete surfaces within five working days.

The applicant objects to this condition on the grounds that large areas of concrete may contribute to additional stormwater volumes and the associated management thereof without increasing the environmental protection afforded. They propose the following wording:

'The precise extent of concrete to be provided shall be subject to agreement between the licensee and the Agency following a risk assessment.'

Technical Committee's Evaluation:

It should not be necessary to provide an impermeable concrete surface over areas of the site where there is no risk of contamination of soils, surface water or groundwater. The extent of concrete surfacing at the facility can be agreed with OEE, following a risk assessment.

SH ✓

**Recommendation:** Amend Condition 3.4.2 as follows: *See email and minutes*

3.4.2 The licensee shall provide and maintain an impermeable concrete surface in the areas of the facility shown on Drawing No. D.k.1.2. **The extent of concrete surfacing shall be subject to agreement between the licensee and the Agency following a risk assessment.** The surfaces shall be concreted and constructed to British Standard 8110 or an alternative as agreed by the Agency. The licensee shall remedy any defect in concrete surfaces within five working days.

✓ to

8. Conditions 3.11.1 & 3.11.2 Tank, Container and Drum Storage Areas

*See email + minutes.*

Conditions 3.11.1 & 3.11.2 state:

3.11.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

3.11.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
- (ii) 25% of the total volume of substance that could be stored within the bunded area.

The applicant has no objection to these conditions provided that it is made clear that the interpretation does not relate to a requirement to bund large predominantly concrete tanks and containers.

Technical Committee's Evaluation:

Guidance on bund requirements may be obtained from the Agency's *Guidance Note on Storage and Transfer of Materials for Scheduled Activities* (2004). Section 5.3.6 deals with retention requirements for wastewater treatment plants. In general, retention will not be required for standard activated sludge systems which are

considered non-hazardous to waters. However, for volumes greater than 100m<sup>3</sup> a risk assessment is necessary to determine if retention is required. The test methodology and bunding requirements (if applicable) should be agreed with OEE.

SH ✓

**Recommendation:** Insert new Condition 3.11.3 as follows:

3.11.3 **Bunding of tanks and containers shall be subject to a risk assessment, which shall be submitted to the Agency for agreement within three months of the date of grant of this licence.**

Renumber the existing Conditions 3.11.3 to 3.11.6 accordingly.

*No change as per email and minutes (Note: minutes mention 3.11 + 3.12 instead of 3.11.3, etc.)*

9. **Condition 3.15** ✓ AB

Condition 3.15 states:

**All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high level liquid alarms (or oil detectors as appropriate) within three months from the date of grant of this licence. In particular high-level alarms shall be fitted prior to utilisation of the picket fence thickener, sludge-blending tank, digesters, and sludge storage tanks. Where over ground storage facilities are utilised, the licensee shall with the agreement of the Agency:**

- (i) **provide tanks with lockable valves,**
- (ii) **provide external safety ladders and railed platform to facilitate inspection,**
- (iii) **undertake measures as necessary for the protection of tanks from damage by vehicles.**

*The applicant objects to the timeframe in the second sentence of this condition and requests that it is changed to 'within three months of the date of grant of this licence' in order to allow time for procurement and installation of alarms in agreement with the Agency.*

Technical Committee's Evaluation:

The TC agrees to the requested three month timeframe for installation of high level alarms on the picket fence thickener, sludge blending tank, digesters and sludge storage tanks. This timeframe ties in with the first part of the condition and doesn't need to be restated.

SH ✓  
AB

**Recommendation:** Amend Condition 3.15 to read as follows:

3.15 **All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high level liquid alarms (or oil detectors as appropriate) within three months from the date of grant of this licence. In particular high-level alarms shall be fitted on the picket fence thickener, sludge-blending tank, digesters, and sludge storage tanks. Where over ground storage facilities are utilised, the licensee shall with the agreement of the Agency:**

- (i) **provide tanks with lockable valves,**
- (ii) **provide external safety ladders and railed platform to facilitate inspection,**
- (iii) **undertake measures as necessary for the protection of tanks from damage by vehicles.**

**10. Condition 4.1.2 Non Continuous Monitoring of Emissions to Atmosphere**

Condition 4.1.2 states:

**Non Continuous Monitoring:**

- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
- (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
- (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.

*The applicant objects to this condition on the grounds that the proposed sampling for this will comprise discrete sampling so reference to time averages is not appropriate.*

Technical Committee's Evaluation:

This condition is required as it defines the sampling period which applies in the case of annual monitoring of the boiler and gas flare, under Schedule C.1.2 *Monitoring of Emissions to Air*.

SAV ✓ **Recommendation:** No change.

**11. Condition 6.1.1 Test Programme**

Condition 6.1.1 states:

**The licensee shall prepare to the satisfaction of the Agency, a test programme for each of the following: wastewater treatment plant, anaerobic digesters, odour control units and associated equipment. These programmes shall be submitted to the Agency in advance of implementation of each.**

*The applicant objects to this condition on the grounds that it refers to test programmes for all components of the wastewater treatment plant and associated equipment. The individual items of equipment and the plant as a whole process are subject to a series of tests during construction and commissioning to ensure their correct operation prior to the plant as a whole being put into operation. The tests to be carried out during operation are prescribed by the licence.*

*Condition 6.1.2 to 6.1.4 refer specifically to the abatement equipment and it would appear to be consistent that 6.1.1 is primarily intended to apply to the abatement equipment.*

*Records of tests that have already been carried out on equipment during construction and commissioning can be made available should the Agency require.*

Technical Committee's Evaluation:

In general, a test programme is required when new or additional abatement equipment is proposed. A test programme provides for the establishment of all criteria for the operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in a licence and allows for the assessment by the licensee of the performance of any monitors on the abatement equipment and establishment of a maintenance and calibration programme.



In this case, the entire wastewater treatment plant could be considered as abatement equipment. By its nature, some of the work of the test programme will need to be carried out during the wastewater treatment plant commissioning process. Therefore it is unreasonable to require a test programme for plant that is already being commissioned.

The TC recommend including a new condition 6.1.6 specifically in relation to the facility commissioning process. The existing test programme conditions 6.1.1 to 6.1.5 should then be amended to relate specifically to abatement equipment installed to abate emissions to atmosphere (emissions limits to air are the only limits specified in Schedule B of the licence, emission limits for treated effluent are outside the scope of this waste licence, and will be specified under the remit of a wastewater discharge licence).

The new condition 6.1.6 'Facility Commissioning Process' requires the licensee to establish the criteria for operation, control and management of the wastewater treatment plant, anaerobic digesters and associated equipment within six months of the date of grant of the licence, and to maintain records of equipment testing during construction and commissioning works.

*S* ✓ **Recommendation:** Amend Condition 6.1.1 to read as follows:

*Sh* ✓ *S* ✓ 6.1.1 The licensee shall prepare to the satisfaction of the Agency, **a test programme for abatement equipment installed to abate emissions to atmosphere.** This programme shall be submitted to the Agency in advance of implementation.

Amend Condition 6.1.2 to read as follows:

*Sh* ✓ *S* ✓ 6.1.2 The programme, following agreement *by TB* with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.

Amend Condition 6.1.5 to read as follows:

*Sh* ✓ *S* ✓ 6.1.5 A report on the test programme shall be submitted to the Agency within one month of completion.

Insert new Condition 6.1.6 as follows:

*Sh* ✓ *S* ✓ **6.1.6 Facility Commissioning Process**

**Within six months of the date of grant of this licence, the licensee shall:**

- (i) establish all criteria for operation, control and management of the wastewater treatment plant, anaerobic digesters and associated equipment; and
- (ii) assess the performance of any monitors on the plant and establish a maintenance and calibration programme for each monitor.

The licensee shall maintain records of the tests carried out on equipment during construction and commissioning works. These records shall be available for inspection by authorised persons of the Agency.

12. Condition 6.10 Integrity and Water Tightness Testing

Condition 6.10 states:

**The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water of other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use (for newly installed equipment/structures) or within six months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.**

*The applicant objects to this condition only to the extent that it applies to all underground pipes, tanks, bunding structures and containers. The grounds of objection are that all liquid containing elements have already been tested for water tightness and records have been retained and can be made available to the Agency. Once the plant is in 24-hour, 365 day operation, it may not be possible to take out of service some of the above elements for additional testing because this will compromise the environmental performance of the plant. The applicant proposes the addition of the following sentence:*

*'The scope of testing to be carried out every 3 years shall be agreed with the Agency.'*

Technical Committee's Evaluation:

Periodic integrity testing of vessels and piping systems containing potentially polluting substances is a standard requirement of a waste licence in order to ensure adequate protection of soils, surface water and groundwater. Guidance on this topic is available in the Agency's *Guidance Note on Storage and Transfer of Materials for Scheduled Activities* (2004). Appendix G to the guidance note states, in relation to large concrete tanks used as aeration systems in biological waste water treatment plants, that it may not prove possible to take these out of service to complete the necessary testing. An alternative testing protocol can be substituted with the agreement of the Agency. The TC considers it reasonable that the scope of testing can be agreed with the Agency.

SA *[Signature]*

**Recommendation:** Amend Condition 6.10 to read as follows:

6.10 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water of other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use (for newly installed equipment/structures) or within six months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. **The scope of testing shall be agreed with the Agency** and this testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

*No change as per email & minutes.*

*[Signature]*

**13. Condition 6.15.1 Annual Noise Survey**

Condition 6.15.1 states:

**The licensee shall carry out a noise survey of the site operations annually. The survey shall include a night-time survey. 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 applicant objects to this condition on the grounds that it is unnecessary if there are no noise problems or complaints, or no modifications to the plant. They propose the addition of the following sentence:*

*'The Agency will review the need for, and frequency of, further surveys if the first survey is satisfactory and if there are no complaints from the public with respect to noise, otherwise noise surveys will be carried out as described elsewhere in the licence.'*

Technical Committee's Evaluation:

The noise modelling report concluded that noise from the facility may be audible during quiet periods at some locations, but is not expected to be unduly intrusive. Given the nature of waste activities at this facility, the TC recommends that a noise survey be carried out within one year of the date of grant of the licence, and thereafter as required by the Agency.

**Recommendation:** Amend Condition 6.15.1 to read as follows:

Sh ✓

6.15.1  
AB ✓

The licensee shall carry out a noise survey of the site operations **within one year of the date of grant of this licence, and thereafter as requested by the Agency.** The survey shall include a night-time survey. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

**14. Condition 8.17.9 Landspreading Methods**

Condition 8.17.9 states:

**Landspreading shall be undertaken using soil injection, bandspreading, or low trajectory splashplate methods. Any other method must receive prior agreement from the Agency.**

*The applicant requests clarification in relation to this condition. The landspreading methods mentioned may not be appropriate for sludge bio-cake. They propose the following wording:*

*"The method of landspreading of sludge bio-cake shall be in compliance with statutory regulations and guidelines and shall be arrived at in advance by agreement between the licensee and the Agency".*

Technical Committee's Evaluation:

The landspreading methods referred to in the condition are more appropriate for liquid material. The sludge bio-cake produced by this facility should be landspread using rotary spreaders or similar methods agreed in advance by the Agency.

**Recommendation:** Amend Condition 8.17.9 to read as follows:

SN ✓

AB ✓

8.17.9 Landspreading shall be undertaken using **rotary spreaders or similar methods agreed in advance by the Agency.**

**15. Schedule B.1 Emissions to Air – Odour Control Equipment**

Schedule B.1 of the PD specifies the following emission limit values for the odour control units:

**B.1. Emissions to Air**

<b>Emission Point Reference No:</b>	<b>OCU-1 (Odour Control Unit)</b>	
<b>Location:</b>	Inlet Works	
<b>Volume to be emitted:</b>	Maximum in any one day:	331,560m <sup>3</sup>
	Maximum rate per hour:	54,000 m <sup>3</sup>
<b>Minimum discharges height:</b>	10m above ground	
<b>Parameter</b>	<b>Emission Limit Value</b>	
Ammonia	50 ppm (v/v)	
Amines	5 ppm (v/v)	
Hydrogen Sulphide	5 ppm (v/v)	
Mercaptans	5 ppm (v/v)	



<b>Emission Point Reference No:</b>	<b>OCU-2 (Odour Control Unit)</b>	
<b>Location:</b>	Sludge Treatment Area	
<b>Volume to be emitted:</b>	Maximum in any one day:	121,008 m <sup>3</sup>
	Maximum rate per hour:	50,760 m <sup>3</sup>
<b>Minimum discharges height:</b>	8m above ground	
<b>Parameter</b>	<b>Emission Limit Value</b>	
Ammonia	50 ppm (v/v)	
Amines	5 ppm (v/v)	
Hydrogen Sulphide	5 ppm (v/v)	
Mercaptans	5 ppm (v/v)	



*The applicant requests that the conditions in relation to the odour control system are reworded on the grounds that the performance criteria for the odour control equipment related to hydrogen sulphide concentration and odour units. They request that the conditions relating to the odour control system are reworded to reflect these parameters following agreement between the licensee and the Agency.*

**Technical Committee's Evaluation:**

The applicant objects to the limits for some of the parameters - Ammonia, Amines and Mercaptans - specified in Schedule B.1 of the licence, on the basis that the odour control units are designed to abate hydrogen sulphide and odour units.

The odour control units are designed to achieve a 99% reduction in hydrogen sulphide, equivalent to 95% - 97% odour removal. Data on H<sub>2</sub>S concentrations provided in the original application shows that the 5ppm H<sub>2</sub>S limit will be achieved. The TC recommends removing the emission limit values for Ammonia, Amines and Mercaptans, however these parameters should be monitored bi-annually, as required in Schedule C.1.2 of the licence.

Recommendation: Replace Schedule B.1 of the licence with the following:

**B.1. Emissions to Air**

sh

No change as per email & minutes  
AB

<b>Emission Point Reference No:</b>	<b>OCU-1 (Odour Control Unit)</b>	
<b>Location:</b>	Inlet Works	
<b>Volume to be emitted:</b>	Maximum in any one day:	331,560m <sup>3</sup>
	Maximum rate per hour:	54,000 m <sup>3</sup>
<b>Minimum discharges height:</b>	10m above ground	
Parameter	Emission Limit Value	
Hydrogen Sulphide	5 ppm (v/v)	



<b>Emission Point Reference No:</b>	<b>OCU-2 (Odour Control Unit)</b>	
<b>Location:</b>	Sludge Treatment Area	
<b>Volume to be emitted:</b>	Maximum in any one day:	121,008 m <sup>3</sup>
	Maximum rate per hour:	50,760 m <sup>3</sup>
<b>Minimum discharges height:</b>	8m above ground	
Parameter	Emission Limit Value	
Hydrogen Sulphide	5 ppm (v/v)	



**16. Schedule B.1 Emissions to Air from the Boilers**

Schedule B.1 of the PD specifies the following emission limit values for the boilers:


<b>Emission Point Reference No:</b>	<b>A-01(a) - Boiler 1, A-01(b) - Boiler 2</b>	
<b>Location:</b>	Sludge Building	
<b>Volume to be emitted for each:</b>	Maximum rate per hour:	936m <sup>3</sup>
<b>Minimum discharges height:</b>	14.3 m above ground	
Parameter	Emission Limit Value	
Nitrogen oxides (as NO <sub>2</sub> )	100mg/Nm <sup>3</sup>	
Oxides of sulphur (as SO <sub>2</sub> )	350mg/Nm <sup>3</sup>	
Carbon Monoxide (CO)	60mg/m <sup>3</sup>	
Particulates	5mg/m <sup>3</sup>	

*The applicant objects to this provision on the grounds that the composition of feed biogas will be variable and it is not possible to predict the concentration of oxides of sulphur in the exhaust gas with any degree of certainty. The applicant proposes that an appropriate emission limit value is agreed with the Agency in due course.*

**Technical Committee's Evaluation:**

The 350mg/m<sup>3</sup> boiler emission limit for SO<sub>x</sub> is based on TA Luft Standards (2002), while limits for NO<sub>x</sub> and CO are based on data provided by the applicant. The two boilers are small in scale, at 625 kW each. The biogas to be used as fuel in the boilers will be produced by the anaerobic digesters. The biogas composition is reported as 60-65% methane and 30-35% carbon dioxide with small amounts of hydrogen sulphide (0-2,000ppm, i.e., 0-0.2%). Biogas scrubbing was not considered necessary as the gas is predominantly methane and not hydrogen sulphide.

Having consulted with Agency Inspector Dr. Ian Marnane, expert for air emissions issues, it is likely that at the stated constituent biogas volumes, flue gas SO<sub>2</sub> concentrations would exceed the 350mg/m<sup>3</sup> limit. However, based on the boiler size and low levels of hydrogen sulphide in the fuel, it is anticipated that emissions of SO<sub>2</sub> will have minimal environmental impact. Monitoring of combustion efficiency is the main control parameter for boiler emissions, as required under Schedule C.1.2 of the licence. The TC recommends removing the emission limit value for SO<sub>2</sub> in the boiler flue gases, however the annual SO<sub>2</sub> monitoring requirement should remain in Schedule C.1.2.

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**Recommendation:** Replace the third table in Schedule B.1 *Emissions to Air* with the following:

<b>Emission Point Reference No:</b>	A-01(a) - Boiler 1, A-01(b) - Boiler 2	
<b>Location:</b>	Sludge Building	
<b>Volume to be emitted for each:</b>	Maximum rate per hour:	936m <sup>3</sup>
<b>Minimum discharges height:</b>	14.3 m above ground	
<b>Parameter</b>	<b>Emission Limit Value</b>	
Nitrogen oxides (as NO <sub>2</sub> )	100mg/Nm <sup>3</sup>	
Carbon Monoxide (CO)	60mg/m <sup>3</sup>	
Particulates	5mg/m <sup>3</sup>	

## 17. Schedule C Control and Monitoring

*The applicant objects to the control and monitoring procedures insofar as there are a number of minor differences from the monitoring procedures embodied in the design of the treatment plants, as per Department of Environment Guidelines (PMS) for procedures for operation of such plants.*

*The applicant provides a table highlighting the PD requirements and the procedures that are embodied in the plant design. They propose that the schedules are revised to accommodate these changes.*

### Technical Committee's Evaluation:

*Schedule C.2.1 Control of Process Parameters* of the licence sets out a number of parameters to be monitored to assess the efficiency of operation of the wastewater treatment plant. The following table summarises the parameters under objection by the applicant, the monitoring frequencies set in the PD and proposed in the objection, and the TC's recommendations. As a new facility, it is important for the licensee to initially establish good control of the process and monitoring of a wide range of process parameters would assist in this regard. Condition 6.8 of the licence provides for the frequency, methods or scope of monitoring to be reduced in the future, with OEE agreement, following evaluation of test results.

	<b>Control Parameter</b>	<b>Monitoring specified in PD</b>	<b>Monitoring request in objection</b>	<b>TC's Recommendation</b>
(a)	<b>Screening &amp; grit removal</b> Screenings: % Total dry solids Grit: % Total dry solids % Volatile solids	Monthly Monthly Monthly	Quarterly Quarterly Quarterly	Quarterly
(b)	<b>Screened Sewage</b> pH COD	Weekly 5 times/week	Not required Weekly	Not required Five times/week (reducing to twice weekly)
(c)	<b>Aeration Tanks</b> Settled sludge volume: SSV Sludge floc microscopy MLSS	Daily Twice weekly Continuous	Twice weekly Once weekly Daily	Daily Twice weekly Daily
(d)	<b>Pasteurised Sludge</b> pH Alkalinity % Total dry solids % Volatile solids	Continuous Monthly Monthly Monthly	Not proposed Not proposed Not proposed Not proposed	Monitoring to be agreed with the Agency
(e)	<b>Return Liquors</b> pH liquor from GBT1 & GBT2	Weekly	Monthly	Weekly
(f)	<b>Anaerobic Digesters</b> Flow in inlet	Continuous	Not proposed	Not required

- (a) Screenings and grit removed from the wastewater influent are sent for disposal to landfill. Quarterly sampling for solids content of these waste streams is considered an acceptable spot check frequency.
- (b) Pre-treatment pH is required to be measured in the wastewater influent on a weekly basis, therefore it is not considered necessary to repeat this measurement on the screened sewage, which is also in the pre-biological treatment stage. The TC recommends that screened sewage COD be measured initially five times per week, with the timeframe reducing to twice weekly with Agency agreement, upon evaluation of test results.
- (c) Settled sludge volume or settleability (cone test) should be carried out daily as it is good indicator of how the plant is operating and it is important to note significant day-to-day changes in the clarity of supernatant liquid. Sludge floc microscopy should be done twice weekly in order to detect any significant changes in floc size, shape, structure, strength, presence or absence of filaments and higher life forms. Mixed Liquor Suspended Solids should be measured daily.
- (d) The applicant initially proposed to sample pasteurised sludge at the pasteuriser slab. However in their objection, they state that monitoring at this location presents technical difficulties. Sludge pasteurisation is an intermediate sludge treatment process, followed by anaerobic digestion, polyelectrolyte dosing and sludge dewatering. Monitoring of digested sludge and the final (dewatered) sludge is also required in Schedule C.2.1. The TC agrees that appropriate monitoring of pasteurised sludge should be agreed with the Agency.
- (e) The measurement of pH is very quick and easily done. The pH of return liquors from the gravity belt thickeners should be measured weekly.
- (f) The TC considers that flow measurement at the anaerobic digester outlets is sufficient.

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**Recommendation:** Replace *Schedule C.2.1 Control of Process Parameters* with the following:

**C.2.1. Control of Process Parameters**

Description of Treatment		Wastewater Treatment Plant	
Control Parameter	Monitoring	Key Equipment <sup>Note 5</sup>	
<b>Influent</b>			
Main Inlet Channel Flow	Continuous, on-line flow meter with recorder	On-line flow meter with recorder, Inlet channel, flume, Inlet sump, Automatic sampler.	
Main inlet Volume	Continuous		
Temperature	Weekly, Standard Methods		
pH	Weekly, Standard Methods		
Chemical Oxygen Demand	Weekly <sup>Note 2</sup> , Standard Methods		
Biochemical Oxygen Demand	Monthly <sup>Note 2</sup> , Standard Methods		
Suspended Solids	Weekly <sup>Note 2</sup> , Standard Methods		
Belview Inlet Flow	Continuous, Flow meter		
<b>Screenings &amp; Grit Removal</b>			
Screenings: % Total Dry Solids	Quarterly, Standard Methods	Automatic screens (3), bypass screen, blowers, aerated grit separators, scrapers, grit traps, pumps, compactors, grit classifier.	
Grit: % Total Dry Solids	Quarterly, Standard Methods		
% Volatile Solids	Quarterly, Standard Methods		
	Daily, manual checks of equipment		
<b>Screened Sewage</b>			
Flow (Post grit channel)	Continuous, on-line flow meter with recorder	Flow meter post grit channel, Automatic sampler.	
	Daily <sup>Note 1</sup>		
Temperature	Weekly, Standard Methods		
pH	<del>Weekly, Standard Methods</del>		
Chemical Oxygen Demand	5 times per week (reducing to twice weekly) <sup>Note 2, Note 3</sup> , Standard Methods		
Biochemical Oxygen Demand	Weekly <sup>Note 2, Note 3, Note 4</sup> , Standard Methods		
Suspended Solids	Weekly <sup>Note 2, Note 3</sup> , Standard Methods		
Total Nitrogen (as N)	Weekly <sup>Note 2, Note 3</sup> , Standard Methods		
Total Phosphorus (as P)	Weekly <sup>Note 2, Note 3</sup> , Standard Methods		
Oils, Fats and Grease	Weekly, Standard Methods		
<b>Storm Water</b>			
Storm overflow: Flow	Continuous, on-line flow meter with recorder	Storm tanks (2), Jet mixers, Storm water return pumps, Automatic sampler.	
COD	Daily- when in operation, Standard Methods		
BOD	Daily- when in operation, Standard Methods		
Storm return: Flow	Continuous, on-line flow meter with recorder		
Total flow to Storm	Calculated from above storm flow meters		
<b>Aeration Selector Tank</b>			
Flow	Continuous, on-line flow meter with recorder	Selector tank mixer, Automatic sampler, flow meter at selector tank, Return Activated Sludge (RAS) Transfer pumps.	
Chemical Oxygen Demand	Weekly <sup>Note 2</sup> , Standard Methods		
Biochemical Oxygen Demand	Weekly <sup>Note 2</sup> , Standard Methods		
Suspended Solids	Weekly <sup>Note 2</sup> , Standard Methods		
RAS Flow to Selector Tank	Continuous, on-line flow meter with recorder		
<b>Aeration Tanks</b>			
Dissolved Oxygen (DO)	Continuous, DO in aeration tanks	Fixed DO meters, submerged diffusers, tank mixers.	
Suspended Solids	Five times per week, Standard Methods		
Settled Sludge Volume (SSV)	Daily, Standard Methods		
Sludge Settled Index (SSI)	Twice weekly, Standard Methods		
Sludge floc microscopy	Twice weekly, Standard Methods		
Mixed Liquor Suspended Solids	Daily, Standard Methods	MLSS meter.	
F/M ratio	Calculation (weekly)		
<b>Return Liquors</b>			
Flow to PST splitter	Continuous (On-line flow meter & recorder)	Flow meter at PST splitter, Liquor returns sump (storage), Liquor returns pump station, pumps.	
At Liquor chamber:			
Chemical Oxygen Demand	Monthly, Standard Methods		
Biochemical Oxygen Demand	Monthly, Standard Methods		
Suspended Solids	Monthly, Standard Methods		
In Sludge building:			
pH Liquor from GBT 1 & GBT2	Weekly, Standard Methods		

**Note 1:** Total effluent volume over the 24-hour period in which the composite sample is collected shall be recorded.

**Note 2:** The licensee shall install a composite sampler within three months of date of grant of this licence. All samples thereafter shall be collected on a 24-hour flow proportional composite sampling basis.

**Note 3:** Mass loadings and removal efficiencies for BOD, COD, SS, TN and TP shall be calculated monthly or as agreed by the Agency.

**Note 4:** A BOD: COD ratio shall be established and submitted to the Agency for agreement. This shall be used to calculate daily BOD.

**Note 5:** The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



Description of Treatment Control Parameter	Sludge Treatment (including Anaerobic Digestion)	
	Monitoring	Key Equipment <sup>Note 1</sup>
<u>Sludge Thickening</u> <b>Primary Sludge to PFT:</b> Flow % Total Dry Solids at PFT  <b>SAS to Gravity Belt (GBT):</b> Flow % Total Dry Solids at GBT  <b>GBT to Sludge Blending Tank</b> Flow % Total Dry Solids at Blending  <u>Blended Sludge to Pasteuriser</u> Flow to Pasteuriser pH Alkalinity (mg CaCO <sub>3</sub> /l) % Total Dry Solids % Volatile Solids FE return from Pasteuriser Cooler  <u>Pasteurised Sludge</u> pH Alkalinity (mg CaCO <sub>3</sub> /l) % Total Dry Solids % Volatile Solids  <u>Anaerobic Digesters (2 no.)</u> <del>Flow to digester</del> Sludge Level Temperature (mesophilic) Gas pressure  <u>Control System in Gas holder</u> Biogas production  <u>Digested Sludge</u> % Total Dry Solids % Volatile Solids Flow to Dewaterers  <u>Polyelectrolyte Dosing</u> Polymer use: Mixed Polymer to GBT 1802A Mixed Polymer to GBT 1802B Mixed Polymer to dewaterer 1 Mixed Polymer to dewaterer 2  <u>Dewatered (Final) Sludge</u> % Total Dry Solids % Volatile Solids	Continuous, On-line flow meter & recorder Monthly, Standard Methods  Continuous, On-line flow meter & recorder Monthly, Standard Methods  Continuous, On-line flow meter & recorder Monthly, Standard Methods  Continuous, On-line flow meter & recorder Monthly, Standard Methods  <del>Monitoring to be agreed with the Agency</del> <i>changed to per email &amp; minutes</i> <i>28.</i>  Continuous, Flow meters in pipework Continuous, in-tank sludge level Continuous, temperature probe high/low levels Continuous, Pressure probes  Continuous, Gas meter  Monthly, Standard Methods Monthly, Standard Methods Continuous, On-line flow meter & recorder  Dose per tonne of dry solids Continuous, flow rate Continuous, flow rate Continuous, flow rate Continuous, flow rate  Weekly, Standard Methods Weekly, Standard Methods	SCADA Control system Distribution chamber, Primary sludge pumps hoppers, Picket Fence Thickener (PFT) Sludge pumps, duty and standby thickeners.  Gravity Belt Thickener (GBT) SAS Pumps. FST distribution chamber.  Pumps to pasteurisation system/Pasteuriser feed pumps (2).  Pasteuriser feed pumps, heat exchangers (heating), pasteurisation tanks (3), pasteurised sludge pumps, heat exchangers (cooling).  Temperature controls, Heat exchangers, pumps, digester tank mixer, digester plant pressure relief valves.  Gas holder and equipment, ultrasonic monitor.  Flow meter in sludge building. Digested sludge tank, Dewatering feed pumps (2), Dewaterers (2).  Sludge dewaterer feed pumps, Belt presses, polymer storage, polymer preparation plant.
Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.		

### Overall Recommendation

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

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

Signed

  
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Aoife Loughnane

For and on behalf of the Technical Committee