

Document Control Sheet

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Point 1:

Clarify the estimated annual electricity usage.

Response:

Electrical consumption of the facility is directly related to the volume of material processed. As the facility is not expected to reach full capacity prior to year four, consumption for the first number of years shall be reduced. Table 1.1 below provides a breakdown of the installed capacity of the main areas of the facility and the percentage load based on 50% capacity and 100% capacity.

Facility Capacity	Sludge Dryer. (kw/hr)	Material Recovery. (kw/hr)	Wastewater Treatment. (kw/hr)	Office/Admin. Building (kw/hr)	Misc. (kw/hr)	Annual Kwhrs.
50%	210	45	12	10	20	1,865,000
100%	390	90	15	10	30	3,750,000

Table 1.1 Electrical usage

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Point 2:

Clarify the proposed source of wood for wood-chipping and use as a fuel in the boiler. Clarify, providing justification, whether EC Directive No. 76 of 2000 on the incineration of waste applies to your proposed use of wood as a fuel.

Response:

Only clean non contaminated wood will be used as fuel for the boiler. The proposed fuel sources are clean woodchip, sawdust and bark which will be sourced from the timber processing industry and also from the recovery of clean segregated wood from licensed transfer stations. No contaminated wood shall be utilised as fuel for the boiler.

Directive 2000/76/EC on the incineration of waste excludes certain plants from the scope of the Directive. Article 2(iv) provides for the exclusion of *“Wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood-preservatives or coating, and which includes in particular such wood waste originating from construction and demolition waste”*

Within this specification biomass wood sources as outlined above are excluded from the waste incineration directive.

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Point 3:

Confirm the proposed hours of operation and hours of waste acceptance and handling.

Response:

It is proposed to operate the transfer station from 07:30hours to 21:00hours Monday to Saturday inclusive for fifty weeks per year

It is proposed to operate the sludge drying facility on a continuous basis 24hours per day, seven days per week, and fifty weeks per year.

It is proposed to accept waste from 07:30hours to 21:00hours Monday to Saturday inclusive for fifty weeks per year.

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Point 4:

Re-submit Table H. 1 (B) and provide an estimate of at least the next five years' tonnages of waste to be handled at the facility.

TABLE H.1(B) ANNUAL QUANTITIES AND NATURE OF WASTE**AS SUBMITTED:**

Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2007	40,000	not applicable	40,000
2011	110,500	not applicable	110,500

Response:**Materials Recovery Facility Projections:**

Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2005	-	not applicable	-
2006	-	not applicable	
2007	20,000	not applicable	20,000
2008	30,000	not applicable	30,000
2009	40,000	not applicable	40,000
2010	50,000	not applicable	50,000
2011	70,000	not applicable	70,000

** Target of 85,000 in waste licence application

Sludge Drying Facility Projections:

Year	Non-hazardous waste (tonnes per annum)	Hazardous waste (tonnes per annum)	Total annual quantity of waste (tonnes per annum)
2005	-	not applicable	-
2006	-	not applicable	
2007	10,000	not applicable	10,000
2008	15,000	not applicable	15,000
2009	25,000	not applicable	25,000
2010	30,000	not applicable	30,000
2011	30,000	not applicable	30,000

Point 5:

Complete Section 1.5. Provide details of known ground and/or groundwater contamination, historical or current, on or under the site. Include all relevant investigative studies, assessments, or reports, baseline groundwater monitoring results, location and design of monitoring installations, plans and drawings.

Response:

In order to assess the existing ground conditions on the site a site investigation was undertaken were carried out in compliance with the above request in November 2005. The site at Foxhole is a brownfield site, having historically comprised part of the lands at Youghal Landfill (now adjacent to the site). As such, a varied level of man-made fill is present at the site. The purpose of this report is to determine the nature and extent of the fill material and, to ascertain the final end use of the material. A geotechnical investigation was conducted by IGSL at Foxhole in November 2005 in response to the request or additional information. This assessment comprised a walkover reconnaissance to assess site conditions, an excavation of trial pits to determine the depth of fill and an analysis of fill material.

Details of this report are attached in **appendix 1**. The trial pits confirmed that the deposited material is not extensive across the site; rather instead it is confined to localised pockets and is generally of shallow depth (0.5 – 1.6 m). The waste, where encountered, is typically degraded domestic and builders' type wastes with plastics and ferrous objects being the only clearly identifiable features. It is proposed that during site excavation works associated with this development that this material will be removed, where necessary, to the Youghal Landfill. To this end, agreement has been reached with Youghal Town Council, owners of the site, and Cork County Council, operators of the landfill.

No historical groundwater monitoring has been carried out on the site – the nearest monitoring results relate to the adjacent landfill site operated under a Waste Licence by Cork County Council where eight (8) groundwater monitoring wells are installed between August 1998 and May 2001.

With respect to the site itself, groundwater flow was determined to be in a northerly direction and is likely to be strongly influenced by the tidal regime. Two temporary groundwater monitoring wells have been installed (November 2004) on the site as indicated in the site layout drawing (fig 1) attached as requested for point 12 of the EPA request for additional information response. This shows the location of MW 1 (temporary well E209588 N 79762) located in the north western section of the site and MW 2 temporary well located along the south eastern section of the site (grid ref E209689 N79750), as per Figure 2 Appendix 1 where referenced as

BH4 and BH6 respectively. The purpose of these temporary wells is to establish the baseline groundwater chemistry prior to the development commencing.

It is proposed that two permanent wells will be established on the site relative to MW1 & 2 to effectively monitor groundwater quality prior to the operations commencing. The proposed locations of these permanent wells are indicated in the site layout drawing in Appendix 5.

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Point 6:

Submit revised proposals for your proposed trade effluent discharge in light of Cork County Council's letter, dated 10/06/2005 (copy attached for your information), which was submitted in response to a Section 52 Notice issued by the Agency. Complete Sections E.3, F.4 and associated tables, as necessary.

Response:

A waste water treatment facility is being designed for the proposed development. We are in consultation with Cork County Council with regard to the proposed emission limits from the trade effluent discharge (as outlined in **appendix 2**). The proposed emission levels which represent a worst case scenario in terms of discharge to the receiving waters have been modelled and results of this which are included for reference in **appendix 3**.

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TABLE E.3(i): EMISSIONS TO SEWER(One page for each emission)**Emission Point:**

Emission Point Ref. N ^o :	SE 1
Location of connection to sewer :	Exact location to be agreed with Youghal Town Council but in close proximity to waste water treatment plant and storm water retention tank
Grid Ref. (10 digit, 5E,5N):	20973E 07986N
Name of sewage undertaker:	Sanitary Authority Youghal Town Council

Emission Details:

(i) Volume to be emitted			
Normal/day	132m ³	Maximum/day	168m ³
Maximum rate/hour	7m ³ *		

* this includes for any additional cooling water required - modelling carried out on worst case scenario discharge without this additional cooling/dilution water

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>350</u> day/yr
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TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)**Emission point reference number : SE1**

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
<u>Suspended solids</u>	<u>4410</u>		<u>582</u>	<u>13971</u>	<u>30</u>		<u>582</u>	<u>13971</u>	
<u>BOD</u>	<u>1135</u>		<u>150</u>	<u>3595</u>	<u>25</u>		<u>150</u>	<u>3595</u>	<u>95%ile</u>
<u>COD</u>	<u>21950</u>		<u>2897</u>	<u>69537</u>	<u>125</u>		<u>2897</u>	<u>69537</u>	<u>95%ile</u>
<u>Total Solids</u>	<u>2842</u>		<u>375</u>	<u>9003</u>	<u>30</u>		<u>375</u>	<u>9003</u>	<u>95%ile</u>
<u>Turbidity</u>	<u>4860</u>								<u>95%ile</u>
<u>Total Nitrogen</u>	<u>6</u>		<u>0.792</u>	<u>19</u>	<u>6</u>		<u>0.792</u>	<u>19</u>	
<u>Chloride</u>	<u>61</u>		<u>8</u>	<u>193</u>	<u>61</u>		<u>8</u>	<u>193</u>	<u>0</u>
<u>Sulphate</u>	<u>14</u>		<u>18</u>	<u>443.5</u>	<u>14</u>		<u>18</u>	<u>443.5</u>	<u>0</u>
<u>Phosphate</u>	<u>45.5</u>		<u>6</u>	<u>144</u>	<u>42</u>		<u>6</u>	<u>144</u>	<u>0</u>
<u>pH</u>	<u>7.2</u>				<u>6.5-8</u>				<u>1%</u>
<u>Potassium</u>	<u>2</u>		<u>0.264</u>	<u>6.336</u>	<u>2</u>		<u>0.264</u>	<u>6.336</u>	<u>0</u>
<u>Sodium</u>	<u>4.7</u>		<u>0.62</u>	<u>14.89</u>	<u>4.7</u>		<u>0.62</u>	<u>14.89</u>	<u>0</u>
<u>Calcium</u>	<u>8</u>		<u>1.056</u>	<u>25.3</u>	<u>8</u>		<u>1.056</u>	<u>25.3</u>	<u>0</u>
<u>Magnesium</u>	<u>1.2</u>		<u>0.158</u>	<u>3.8</u>	<u>1.2</u>		<u>0.158</u>	<u>3.8</u>	<u>0</u>
<u>Lead</u>	<u><0.03</u>		<u>0.00396</u>	<u>0.0095</u>	<u><0.03</u>		<u>0.00396</u>	<u>0.0095</u>	<u>0</u>
<u>Nickel</u>	<u>0.01</u>		<u>0.00132</u>	<u>0.032</u>	<u>0.01</u>		<u>0.00132</u>	<u>0.032</u>	<u>0</u>

<u>Copper</u>	<u>0.057</u>		<u>0.0075</u>	<u>0.181</u>	<u>0.057</u>		<u>0.0075</u>	<u>0.181</u>	
<u>Aluminium</u>	<u>2.23</u>		<u>0.294</u>	<u>7.064</u>	<u>2.23</u>		<u>0.294</u>	<u>7.064</u>	<u>0</u>
<u>Zinc</u>	<u>0.437</u>		<u>0.0576</u>	<u>1.38</u>	<u>0.437</u>		<u>0.0576</u>	<u>1.38</u>	<u>0</u>
<u>Boron</u>	<u>0.0667</u>		<u>0.0088</u>	<u>0.211</u>	<u>0.0667</u>		<u>0.0088</u>	<u>0.211</u>	<u>0</u>
<u>Chromium</u>	<u>0.16</u>		<u>0.021</u>	<u>0.5</u>	<u>0.16</u>		<u>0.021</u>	<u>0.5</u>	<u>0</u>
<u>Iron</u>	<u>4.23</u>		<u>0.558</u>	<u>13.4</u>	<u>4.23</u>		<u>0.558</u>	<u>13.4</u>	<u>0</u>
<u>Cobalt</u>	<u><0.01</u>		<u>0.00132</u>	<u>0.031</u>	<u><0.01</u>		<u>0.00132</u>	<u>0.031</u>	<u>0</u>
<u>Arsenic</u>	<u>0.035</u>		<u>0.0046</u>	<u>0.11</u>	<u>0.035</u>		<u>0.0046</u>	<u>0.11</u>	<u>0</u>
<u>Mercury</u>	<u>0.045</u>		<u>0.00594</u>	<u>0.143</u>	<u>0.045</u>		<u>0.00594</u>	<u>0.143</u>	<u>0</u>
<u>Cadmium</u>	<u>0.01</u>		<u>0.00132</u>	<u>0.032</u>	<u>0.01</u>		<u>0.00132</u>	<u>0.032</u>	<u>0</u>
<u>Total Phosphorous</u>	<u><1</u>		<u>0.132</u>	<u>3.168</u>	<u><1</u>		<u>0.132</u>	<u>3.168</u>	<u>0</u>
<u>Total VOC's</u>	<u>350</u>		<u>46.2</u>	<u>11088</u>	<u>350</u>		<u>46.2</u>	<u>11088</u>	<u>0</u>
<u>Micro</u>					<u>Log 4-6 reduction.</u>				<u>0</u>

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Point 7:

Provide a complete impact assessment of your proposed discharge to sewer on the environment. This should include relevant estuarine modelling or dispersion studies of the effluent emission and should show the adequacy of the outfall to ensure that the location and extent of the mixing zone is compatible with the protection of the receiving water and habitats. An assessment should be made of the receiving water with particular reference to any biological species sensitive to any substance within the proposed emission.

Response:

The impact of the proposed discharge to sewer on the environment was assessed via an estuarine dispersion model carried out based on the chemistry of the proposed waste water and a biological impact assessment on the mixing zone. Results of this assessment are included in **Appendix 2**. These results indicate that based on the chemistry of the discharge on the receiving environment no significant impact is associated with the discharge receiving waters and no significant impact on the receiving water habitat. No sensitive species were recorded during the baseline survey carried out for the proposed development. The results of the sublittoral survey reveal that the seafloor environment in the vicinity of the proposed outfall is both poor in species numbers and diversity. No unusual or rare species were recorded from any of the stations analysed.

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Point 8:

Provide details of the proposed air emission abatement plant (biofilter/thermal oxidiser) to be installed to treat emissions from the waste water treatment plant.

Response

The proposed air emission abatement plant shall consist of a packaged biological filtration unit supplied by Bord na Móna Environmental Ltd utilising their "Mónashell" biofilter technology. The unit shall have sufficient capacity to cater for the total maximum off-gas extracted from the waste water treatment plant and the wet sludge reception units. Extracted off-gas shall be transported via ducting to the inlet flange of the biofilter, located adjacent to the waste water treatment plant.

Filter media shall be of a 100% natural type, selected to insure a high surface area to maximise biological activity. The unit shall be fitted with a pumped irrigation system to maintain the correct atmosphere within the filter media and maintain biological activity. A standby / duty pump shall be included along with connection to the site back-up electrical generator to insure continuous operation in the event of pump failure or electrical outages.

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Point 9:

Complete Tables E.1(ii) and E.1(iii) for proposed emission point reference A2 (Biofilter/Thermal Oxidiser).

TABLE E.1(ii) FUGITIVE EMISSION TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. N ^o :	A2
Source of Emission:	Biofilter
Location :	Adjacent to WWTP
Grid Ref. (12 digit, 6E,6N):	209731E, 79775N
Vent Details Diameter:	
Height above Ground(m):	3m
Date of commencement:	Q 4 2006 .

Characteristics of Emission :

(i) Volume to be emitted			
Average/day	800m ³ /d	Maximum/day	36000m ³ /d
Maximum rate/hour	1500m ³ /h	Min efflux velocity	m.sec ⁻¹
(ii) Other factors			
Temperature	°C(max)	°C(min)	°C(avg)
For Combustion Sources:			
Volume terms expressed as :	<input type="checkbox"/> wet.	<input type="checkbox"/> dry.	_____ % O ₂

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>360</u> day/yr
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TABLE E.1(iii): FUGATIVE EMISSION TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: A2

Parameter	Prior to treatment ⁽¹⁾				Brief Description of treatment	As discharged ⁽¹⁾					
	mg/Nm ³		kg/h			mg/Nm ³		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
<u>Hydrogen sulphide</u>	<u>100</u>	<u>180</u>			As described in point 8 above	<u>1</u>	<u>1.8</u>				
<u>VOC</u>	200	<u>500</u>				40	<u>50</u>				

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1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

Point 10:

In relation to the Air Quality & Modelling report submitted (Appendix 5 of the EIS) provide a technical description of the model used. Clarify whether or not terrain data was used and, if not, provide justification. Submit in electronic form, copies of the complete input and output files (.dat files or similar) and meteorological data used in the air emission modelling assessments. in Article 6 of the Licensing Regulations.

Response:

Air Dispersion modelling was conducted by using (MAPMOS) the **Advanced Gaussian Plume Model**. The purpose of the dispersion model is to provide a means of calculating air pollution concentrations given information about the pollutant emissions and the nature of the atmosphere. Numerical data from the model were incorporated into a Geographic Information System to produce air quality maps. This allows for analysis of results directly or in combination with other forms of spatial data. The model was initially run in long term mode using a 20 – 20 km grid with grid spacing 38m centred on the source in order to identify the locations of the highest modelled concentrations (annual mean and percentile). The grid used consisted of 40,000 receptor points spaced at 38m intervals. The model was then used in short term mode to calculate hourly concentrations at each of these receptors.

The concentration of pollutants at ground level are determined in order to calculate compliance with air quality standards.

The modelling was carried out by *Imperial College of Science, Technology and Medicine, London, United Kingdom*. A technical description of the model used is enclosed in **Appendix 3**. Terrain data in the form of contours and a derived digital terrain model were used in the modelling process. The contour data was purchased from the Ordnance Survey of Ireland.

The electronic data files of the modelling are enclosed on the CD-ROM.

Point 11:

The applicant shall provide a copy of a notice given to the planning authority under Article 9 of the Waste Management (Licensing) Regulations 2004. The notice shall contain the information specified in Article 6 of the Licensing Regulations.

Response:

The applicants have made known to the Planning Authority, Cork County Council, their application to the EPA for a waste licence application at several stages as follows:

- Public consultation information was issued on 11th August 2004 including a briefing document which clearly set out the intention to apply for a waste licence from the EPA and that an EIS was in preparation in its Scope of Work section. This was issued to both John Ronayne in the Planning Dept and Katherine Walshe of the Environmental Dept of Cork County Council.
- Both the site notice and press notice for the planning application stated the intention to apply for a waste licence.
- The cover letter for the planning application (30th September 2004) and the planning application form clearly stated that a waste licence was being applied for.
- Furthermore, in a response to a request for further information in Dec 1st 2004, it was clearly stated that the EPA would be setting limits for effluent discharge and refers to the application for a waste licence application submitted to same.

Therefore the Planning Authority is well advised of:

- the name and address of the applicant,
- the postal address/location of the facility,
- the nature of the development, type of plant and activities,
- that the application was accompanied by an EIS, which was also submitted to the Planning Authority with the planning application,
- and that the EPA are in the process of examining the licence application

in keeping with the recommendations of Article 6. Copies of correspondence with the Planning Authority are enclosed in **Appendix 4**.

Point 12:

The applicant shall provide a site plan(s) at an appropriate scale, (preferably at A3 size), to show the location of all proposed emission and monitoring/sampling points.

Response

Attached as appendix 5 is an A3 site plan showing all proposed emission and monitoring /sampling points as follows:

SE1, - emission to sewer

MW 1 - groundwater monitoring well - permanent

MW 2 – groundwater monitoring well – permanent

SW 1 – surface water discharge point -209721E, 79862N

A1 - stack emission

A2 - fugitive emission boifilter

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Point 13:

Provide details of the composition of the made ground, i.e. characterise and quantify the material and provide details of any proposed on-site treatment and appropriate disposal.

Response:

As per point 5, a site investigation report is enclosed in **Appendix 1**. As already outlined eight boreholes were constructed on the site to assess the nature and extent of the made ground and to establish the groundwater chemistry. Fill material was characterised as C&D material and, also, metal, plastic and some ferrous material. It is proposed that the C&D material remain in situ and that during the site excavation phase associated with the development that where necessary fill material will be removed for disposal/ use as capping material in the adjacent landfill operated by Cork County Council.

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Point 14:

Complete Section L of the Application Form and provide details of how the proposed facility will meet the requirements of Section 40(4)[(a) to (i)] of the Waste Management Acts 1996 to 2003. Furthermore, the applicant shall describe how the facility will meet BAT, making particular reference to the considerations referred to in Annex IV of the IPPC Directive.

Response:

1. Section L of the application form regarding the waste licence application statutory requirements of the application form is included as **appendix 5**.

2. The Waste Management Act Section 40 (4 (a- i) states as follows:

Section 40

(a) any emissions from the recovery or disposal activity in question (“the activity concerned”) will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment,

(b) the activity concerned, carried on in accordance with such conditions as may be attached to the licence, will not cause environmental pollution.

With specific reference to Section 40 (a) and (b),

In keeping with the requirements of the Waste Management Acts 1996 to 2003 the proposed facility will not discharge any emissions which will be “in contravention of and relevant standard or any relevant emission limit value”. Compliance of this included by way of establishing emission limit values for all emission sources (air, water, noise, waste) and carrying out assessments of the impacts of these emissions to ensure that that meet all statutory requirements. The proposed facility has been engineered and designed to an extremely high level to minimise the opportunity for environmental pollution.

Specific measures taken to the limit pollution potential include:

Measure	Reason(s)
The bunding of the site surface area	To ensure capture of surface waters & minimise potential for contamination of groundwater.
Installation of WWTP as part of the plant design	To ensure that effluent emissions are within legal standards To ensure that effluent emissions do not significantly degrade water quality in the receiving environment

Monitoring well & sluice valve control at emission point to local sewer network	To ensure that effluent & surface water emissions will not significantly degrade existing water quality in the receiving waters
Installation of air abatement technology	To ensure that atmospheric emissions are within all relevant standards To ensure that emissions do not degrade existing air quality in the receiving environment
Installation of Fire Water Retention tanks	To ensure that, in the event of an emergency, the potential for contamination of waters is minimised
Erection of solid wall on boundary of Waste Recovery & Transfer building and 2m planting buffer around majority of site	To ensure that noise levels from the facility remain within acceptable limit values To limit the potential for dust emissions from the facility

Environmental considerations have been included in all draft tender documentation and environmental limits established based on all relevant standards. The purpose of this is to ensure that emissions will be eliminated where practicable or to reduce emissions to ensure compliance with all related standards or limits. An environmental management system will be developed for the proposed development which will take account of all environmental stipulations such as:

- (Use of Cleaner technology, cleaner production and reduction and minimisation of waste)
- Surface and Groundwater Protection
- Air Emissions
- Waste Reduction
- Resource Minimisation
- Noise Reduction
- Emergencies.

With reference to Section 40 (c) of the *Waste Management Acts 1996 to 2003*

(c) the best available technology not entailing excessive costs will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned,

(d) if the applicant is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to subsection (8), he or she is a fit and proper person to hold a waste licence,

(e) the applicant has complied with any requirements under section 53.

(f) energy will be used efficiently in the carrying on of the activity concerned,

(g) any noise from the activity concerned will comply with, or will not result in the contravention of, any regulations under section 106 of the Act of 1992,

(h) necessary measures will be taken to prevent accidents in the carrying on of the activity concerned and, where an accident occurs, to limit its consequences for the environment,
(i) necessary measures will be taken upon the permanent cessation of the activity concerned (including such a cessation resulting from the abandonment of the activity) to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state.

Response:

BAT selection has been applied to the technology selection and will also apply to the design, build, maintenance operation and, if required, any decommissioning of equipment at the site.

Annex IV of the IPPC Directive states:

Considerations to be taken into account generally or in specific cases when determining best available techniques, as defined in Article 2 (11), bearing in mind the likely costs and benefits of a measure and the principles of precaution and prevention:

- the use of low-waste technology;
- the use of less hazardous substances;
- the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;
- comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
- technological advances and changes in scientific knowledge and understanding;
- the nature, effects and volume of the emissions concerned;
- the commissioning dates for new or existing installations;
- the length of time needed to introduce the best available technique;
- the consumption and nature of raw materials (including water) used in the process and their energy efficiency;
- the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
- the need to prevent accidents and to minimise the consequences for the environment;
- the information published by the Commission pursuant to Article 16 (2) or by international organisations.

The proposed facility is designed to recover waste. The Materials Recovery Facility is intended to sort commercial and industrial waste for reuse where possible. Non-recoverables will be removed to licensed/permitted disposal facilities. Likewise, the sludge drying technology is a proven technology to create a recoverable product from waste sludge and reduce the volume of

waste materials requiring disposal. Therefore the nature of the processes at this facility is in keeping with 1 and 3 of article 2 (11).

The proposed facility is not intended to deal with hazardous substances either as waste input streams to the facility nor as components in the processes at the facility, in keeping with point 2.

The technologies which have been selected for use at the site have been chosen taking into account the requirements of BAT. The intended technology of the Materials recovery facility, e.g. screener, trommel, etc, is both established and industry-proved on a national and international scale. The main activity of this process will take place with a covered building, thereby mitigating against potential for nuisances.

The sludge drying technology chosen for the facility is a leading technology in the thermal drying of de-watered sludge. After a detailed tendering and evaluation process, Vomm impresia were chosen as the preferred supplier. Vomm have been involved in the sludge drying industry for over 35 years and have numerous installations throughout Europe Asia and South America. The Vomm system offers a number of advantages over other drying systems, including a high level of thermal efficiency (>90%), low electrical consumption (0.09kw/kg of evaporated water) and minimising the amount of material in the dryer to 50kg – 60kg thus substantially reducing the environmental risks.

Coupled to the dryer is a wood biomass steam boiler. By utilising biomass, the need for fossil fuels as the primary fuel as been eliminated thus reducing the site CO₂ emissions by 7,500t/a. In selecting the biomass boiler priority was given to suppliers who demonstrated the highest levels of combustion efficiency with minimal emission concentrations. Therefore the facility will be both energy-efficient and has taken into account the requirement to reduce emissions (here atmospheric) where possible.

Sludge drying treatment is an emerging technology. A comprehensive review of sludge treatment type processes was considered in the technology selection and evaluation process (EIS section 2.2.2). The preferred chosen technology is thermal treatment using an indirect fully enclosed method of drying. The benefits of thermal treatment include:

- Proven in the field of industrial, pharmaceutical and municipal sludge drying nationally (sewage sludge) and internationally (all sludge types),
- High sludge volume reduction,
- Pathogen-free, sterile product,
- An end product with a market use,
- In-line with regional sludge management policy.

Therefore the thermal treatment of sludge is a cost-effective, energy efficient method of recovering a waste product to a re-usable commodity. It is recognised that this treatment of sludge produces effluent emissions which require treatment prior to discharge to surface waters. Therefore a Waste Water Treatment Plant has been included in the design for this facility. A Biofilter has also been included to improve atmospheric emissions from the plant. Thus the facility design complies with the requirement to limit, abate and reduce emissions from the activities of the site.

The applicants have completed section L and corresponding Attachment L to demonstrate that the applicants have appropriate qualifications to manage such a facility and that adequate measures have been taken to ensure to cover the environmental liabilities of the operations. The applicants do not have prior convictions under the Waste Management Regulations. Therefore it has been demonstrated that the applicants are fit and proper persons to hold a waste licence.

Section 53 of the Acts requires the applicant to demonstrate that financial provisions have been made. As per response above, the applicants have included correspondence from their insurance brokers regarding the insurance cover available to them should the facility receive a licence.

Calculations of construction noise were made, following the procedures set out in BS 5228 Part 1:1997. Typical noise levels from representative pieces of equipment and calculated noise levels at the nearest sensitive location are summarised in Appendix 6 of the EIS submitted with the Waste Licence Application.

The overall noise level, at the nearest noise sensitive location, can be predicted (BS 4142 1997 Method of Rating Industrial Noise affecting Mixed Residential and Industrial Areas) using the noise level contribution from the facility and the measured background noise levels at the nearest dwelling house. The noise generated by the proposed development at the nearest dwelling house is predicted to be more than 10dBA below the existing background noise levels; therefore there will not be any significant impact at the nearest noise sensitive location. Therefore this is in keeping with the EPA Standard Limits and in compliance with section 106 of the 1992 Act.

Procedures for waste handling and operations at the site were included with the Waste Licence Application (attachment H2). Emergency Response and Accident Prevention measures have been outlined in Attachment J of the application previously submitted to the Agency. A firewater retention tank has been designed for the facility with sufficient capacity to contain firewaters to prevent pollution of waters from the facility. A sluice valve has been installed to ensure that waters from the site can be contained in the event of an accident. Therefore the applicants

have given appropriate consideration to accident and emergency provisions for the site to prevent environmental pollution and ensure the health & safety of employees is considered. A decommissioning plan has been included with the waste licence application (Attachment K). This plan outlines measures to ensure that the facility is decommissioned in an environmentally considerate fashion ensuring that pollution potential is minimised and that outlets for recoverable materials from the facility are sourced. The plan also outlines financial provisions required to cater for the decommissioning. In the event of a licence being granted for this facility, the applicants will revise the decommissioning plan to take into consideration any technical, health & safety or financial requirements which may have arisen in the interim.

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Point 15:

The applicant shall submit the outstanding fee amount of €2,000 bringing the total fee to €22,000, (i.e. €12,000 for the disposal of 25,000-100,000 tonnes per annum non-hazardous waste & €10,000 for the recovery of waste). A cheque (No. 060058) for €20,000 was tendered with the application.

Response:

A cheque for the outstanding fee amount is enclosed with the cover letter to this report.

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Response to Article 13 Request for Additional Information**(a)**

Provide details of abatement technology proposed for the Waste Water Treatment Plant.

Response:

Details of the technology of the Waste Water Treatment Plant (WWTP) are enclosed in Appendix 2(iv) .

(b)

In relation to the Air Quality & Modelling report submitted (Appendix 5 of the EIS) provide a technical description of the model used. Clarify whether or not terrain data was used and, if not, provide justification. Submit in electronic form, copies of the complete input and output files (.dat files or similar) and meteorological data used in the air emissions modelling assessments.

Response:

This is addressed under point 10 under Article 12 request.

(c)

Submit revised proposals for your trade effluent discharge in light of Cork County Council's letter, dated 10/06/2005 (copy attached for your information), which was submitted in response to a Section 52 Notice issued by the Agency. S Complete Sections E.3, F.4 and associated tables, as necessary.

Response:

This is addressed under point 6 of Article 12 request.

(d)

Provide a complete impact assessment of your proposed discharge to sewer on the environment. This should include relevant estuarine modelling or dispersion studies of the effluent emission and should show the adequacy of the outfall to ensure that the location and extent of the mixing zone is compatible with the protection of the receiving water and habitats. An assessment should be made of the receiving water with particular reference to any biological species sensitive to any substance within the proposed emission.

Response:

See point 7 under Article 12 request.