

ATTACHMENTS IN SUPPORT OF AN APPLICATION FOR A WASTE LICENCE REVIEW **FOR AES**

KYLETALESHA, CO. LAOIS

For Prepared for: AES (Ireland) ltd Portlaoise Co. Laois

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Abstract: This document contains the attachments to the application for a waste

licence review to the EPA for the extension of AES's waste management facility at Kyletalesha, Co. Laois. The application is made by Fehily Timoney & Company on behalf of the facility owners AES. The application is being made to extend the facility into adjacent lands for the establishment of a treatment facility for source separated and

extraction and treatment of biodegradable waste from MSW.

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LIST OF DRAWINGS

Drawing 2006-081-01-101 - Land Ownership Plan

Drawing 2006-081-01-102 Site Plan

Drawing 2006-081-01-103 – Site Location Map with 500 m Boundary offset Drawing 2006-081-01-104 – Site Services Plan with 250 m Boundary offset

ATTACHMENT A - NON TECHNICAL SUMMARY

This Non-Technical Summary has been prepared in accordance with Article 12(1)(u) of the Waste Management (Licensing) Regulations S.I. 395 of 2004. Sub-articles (a) to (t) of Article 12 are addressed below.

For clarity, the paragraph numbering is in accordance with the numbering of Article 12(1), (a) to (t).

Article 12(1)

(a) General Details

AES

Unit 1 Monread Commercial Park

Monread Road

Naas

Co. Kildare

Tel: 045 843 800 Fax: 045 981 621

Registered Company No: 2241

(b) Planning Authority

The development is proposed for a site in the functional area of Laois County Council:

Aras an Chontae Portlaoise Co. Laois

(c) Sanitary Authority

Not Applicable

(d) Location

The proposed facility will be located in the townlands of Kyletalesha and Kyleclonhobert, Portlaoise, Co. Laois. The National Grid reference for the site is:

E 2455 N 2024

(e) Nature of the Development

The review application is for the extension of the existing AES Waste Transfer Station at Kyletalesha into the lands to the northeast of the facility and along the third class road (L-2117-0) approximately 600 m from the junction with the N80. The town of Portlaoise lies *c.*4 km to the south of the site, with Mountmellick *c.* 5 km to the north. The site location is illustrated in Figure 1.1 of the EIS. The applicant proposes to extend the existing waste management facility from 0.8 ha to 4.7 ha with an additional 1.5 ha of screen/buffer.

The current AES facility accepts 40,000 tonnes per annum. It is intended that the proposed facility will deal with up to 99,000 tonnes per annum. This will include an extension to the existing waste transfer station building for the temporary storage of hazardous waste i.e. waste electrical and electronic equipment (WEEE).

There is a critical need to provide infrastructure for the treatment of biodegradable waste diverted from landfill in accordance with EU and national requirements. AES proposes to extend the existing transfer facility with provision of infrastructure to treat biodegradable waste. It is intended to accept both residual municipal waste and source separated waste and to process the streams separately at the facility.

Source separated biodegradable waste will be treated in a Bedminster Digester followed by composting or by anaerobic digestion. Mechanical biological treatment, using a second Bedminster Digester, will be used to separate the biodegradable fraction from the residual municipal waste. The resulting fraction will then be processed by composting or by anaerobic digestion. The actual process to be undertaken will be dependant on the commercial viability of anaerobic digestion.

A Bedminster Digester is essentially a long, almost-horizontal tube that turns slowly as waste is fed into the upper end. The conditions within the tube are such that rapid biological breakdown of the biodegradable fraction enable screening and separation of the components of the waste immediately after the Bedminster Digester process.

The main elements of the proposed extension as illustrated on Figures 2.1 and 2.2 and will comprise of the following:

- Administration area, including stores, equipment and welfare facilities
- Waste intake area, tipping hall, pre-treatment and storage areas
- Bedminster system
- Compost process or anaerobic digestion
- Post-treatment, storage and loading area for treated compost
- Biofilter for the treatment of air used during the stage 1 and 2 process
- Services, including, surface and foul drainage systems, leachate collection and storage system, electricity supply, lighting, telecoms and security fencing
- Weighbridge
- Wheelwash

(f) **Class of Activity**

In accordance with the Third and Fourth Schedules of the Waste management Ats, 1996 to 2003, it is proposed to carry out the following classes of activity at eh facility:

Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003

Class 6.	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule.	
Class 11.	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	
Class 13.	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.	
1	Ose of to any	

dioral Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
	This is the Principal Activity
Class 3.	Recycling or reclamation of metals and metal compounds.
Class 4.	Recycling or reclamation of other inorganic materials.
Class 9.	Use of any waste principally as a fuel or other means to generate energy.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage.

Amendments of classes of waste activity to that provided in existing Waste Licence Reg. No. 194-1, are addition of Class 6 of the Third Schedule and Class 9 of the Fourth Schedule to reflect proposed waste activities. Class 12 of the Fourth Schedule, which is covered in Waste Licence Reg. No. 194-1 has been omitted as this waste activity will not be undertaken at the facility.

(g) Quantity of Nature of Waste (EWC Code)

The proposed extension to the Kyletalesha facility will increase the annual tonnage from 40,000 tpa (as per the existing waste licence) to 99,000 tpa. The proposed quantities are given below in tonnes per annum.

Waste Type	Max Tonnes Per Annum
Household, Commercial &	80,000
Industrial	
Non-Hazardous Industrial	3,000
Sludges	
Hazardous Waste	5,000
C & D	5,000
Sewage Sludge	6,000
Total	99,000

The bulk of the 80,000 tonnes of household, commercial and industrial waste will consist of mixed residual waste and organic waste (Brown bin) from AES customers.

Non-hazardous industrial sludges and sewage sludges will be accepted at the treatment facility.

As described above, hazardous waste will originate from civic waste facilities and any hazardous waste items quarantined from households. In general it is expected that this will be waste electrical and electronic equipment (WEEE goods).

(h) Raw Materials

The facility will use materials, substances, fuels and energy during construction and during operation. During construction materials will be used to build all the components of the facility e.g. tipping area, Bedminster Digester, maturation hall, and biofilter. The facility will use diesel fuel, electricity, and water during construction and operation and small amounts of vermin controls will be used during operation. Annual audits will be carried out to ensure that energy is being used efficiently.

The following are estimates for the annual consumption of material and energy on-site:

Diesel Oil 150,000 Litres
Lubricant Oil 12,700 Litres
Coolant/Antifreeze 405 Litres
Electricity 7,500,000 kW/h

Water 16,050 Cleaning chemicals 1,000 Litres

(i) Plant, Processes and Operating Procedures

Existing Development

All waste accepted at the waste transfer station is subject to waste acceptance measures, which have been approved by the EPA. When waste arrives on-site, visual

inspection of loads is conducted by one of the weighbridge officers. If the waste is deemed acceptable, the driver is directed to the waste recycling/transfer building for sorting.

Wastes that are deemed suitable for recycling include metals, timber, glass, paper and cardboard, C&D waste and glass. The categories of waste suitable for segregation and recycling are very much dependent on the availabilities of end markets at the time of processing.

Proposed Extension

All treatment processes will be carried out within dedicated buildings. The main processes include:

- Waste Acceptance and Inspection
- Pre-treatment of the waste
- Bedminster Digester
- Post-composting treatment, storage and loading

Each of these stages is briefly described below.

Waste Acceptance and Inspection

Only waste from permitted haulers will be accepted at the site. There will be no acceptance of waste delivered by individual householders. Details of all wastes accepted (type, nature, weight, origin etc) at the site will be recorded by the weighbridge operator and directed to the appropriate location on site e.g. MSW to the biodegradable waste treatment facility. The waste will be visually inspected at the tipping floor. If the waste is deemed suitable, it will be processed at the facility. All waste deemed unsuitable or not in compliance will be guarantined for off-site recovery or disposal at an authorised outlet.

Pre-treatment of the waste

The incoming waste may have some large components which need to be removed. The waste will pass through bag splitters, which will enable the Animal By-Products Regulation particle size requirement of 400 mm to be achieved. Metals will be removed by ferrous and non-ferrous separators prior to loading into the Bedminster Digesters.

Bedminster Digester

The core of the Bedminster process is the 'Eweson Digester', a revolving drum that accelerates the natural process of biological decomposition. Two digesters will be provided, with one dedicated to the processing of source separated waste (brown bin) and the other for residual municipal waste. Temperature and moisture are controlled to encourage a dense and varied microbial population. A time temperature regime of 1 hour at greater than 70°C can be achieved.

Digesters of approximately 5.4 m diameter and 70 m in length will be provided. Within 3 days (the average time the waste remains in the Digester), the rough compost is automatically unloaded onto a conveyor and is screened through a trommel screen to remove large residues, which will go for further recycling or disposal to an appropriate facility. The cleaned rough compost will then be transferred to the aeration hall for maturation (refer to Figure 2.1) or to the anaerobic digester (refer to Figure 2.2). Both processes are described but only one will be implemented.

Compost Process - Maturation Area

For approximately three weeks, the product will undergo controlled secondary composting in the aeration hall before final screening. The material will be turned frequently, ensuring that air is circulated through the compost heaps. The temperature and moisture content levels of the composting material will be monitored and adjusted to obtain optimum maturation.

The maturation hall will comprise a steel framed and cladded building approximately 10 m high. The floor of the building will be divided into bays. The floor will be fitted with ventilation pipes so that air can be forced up or down through the compost heaps. A dedicated area will be provided for the maturation of source separated waste. As with the waste reception building, the maturation area will be maintained under negative air pressure and will be provided with automatic roller shutter doors.

Compost Process – Storage Area

This will comprise of a sheds separated into bays located around two sides of a flat slab. The building will be open at the side facing the flat slab. The building will be divided into bays approximately 6 miles to accommodate storage of final product. Air will be forced up or down through the compost piles to prevent odour emissions.

Compost Process – Biofilte

The biofilters are used for the treatment of air which passes through the buildings to remove odorous compounds. It will comprise of four discrete cells in a concrete box, approximately 1 -2 m in depth. This concrete box will be filled with wood chips or similar material which will act as a filter media.

Anaerobic Digestion

If the preferred process is anaerobic digestion, the proposed layout of the process will be as detailed in Figure 2.2. The anaerobic digesters will be reactor, with a height of approximately 10 m high, to minimise the visual impact on the surrounding environment.

Anaerobic digestion (AD) is a process whereby biodegradable waste is broken down in the absence of oxygen to produce a mixture of biogas, solid digestate and nutrient rich wastewater. Biogas can be used to produce electricity either through a gas engine, gas turbine or steam boiler. Excess electricity can be sold to national grid.

The solid digestate is an organic material which resembles domestic compost and can be used as a soil improver.

The nutrient rich wastewater can be an excellent fertilizer or soil conditioner.

The main elements of an AD processing facility are:

- Pre treatment area for shredding or mixing of the material
- Digestors where the digestion of waste occurs in the absence of air
- Gas engines, turbines and electricity generators
- Steam generators to provide heat to the digester
- Digestate dewatering equipment
- Post treatment equipment
- Composting area
- Odour control systems

Once the digestate is removed from the digester, some further processing will be required such as moisture reduction.

The separated solids which are often referred to assibres can be directly applied to land or can be matured to compost, as proposed in this application, with the liquid removed and re-used in the reactor.

Any additional wastewater generated at the site will be tankered off-site to an appropriate wastewater treatment plant.

The digestate will be stored on an inclosed slab operating under negative aeration to prevent odour emissions.

(j) Regarding Paragraphs (a) to (g) of section 40 (4) of the Waste Management Act

The information contained within the waste licence application form and its attachments including the enclosed Environmental Impact Statement demonstrates that the proposed facility meets the above requirements of the Act.

(K) Emissions from the Site

Air

All waste acceptance and processing activities will take place within dedicated buildings.

The proposed buildings will operate under negative pressure which will prevent emissions to the atmosphere via the entrances and exits to the building. Process air will be passed through an air cleaning system whereby a wet scrubber will remove dust particles and a biofilter unit will minimise bioaerosol and odour emissions.

The compost storage area will be open to the air (for the aerobic process) and therefore has a potential for the generation of dust emissions. These emissions will be minimised through the regular wetting of the compost heaps and the negative aeration of the compost heaps (i.e. pulling or pushing air through the piles).

If anaerobic digestion is chosen as the preferred technology, a gas engine will be used to generate electricity and to control volatile emissions. Processing of digestate into compost will be carried out within a building with air pressure control.

A wheelwash system will operate at the proposed facility to prevent vehicles exiting the site depositing dust and mud on the surrounding roads. The entire site of the waste transfer station has a hardstanding finish which minimise dust and mud formation from vehicles using the facility. Dust control measures will be implemented to ensure dust does not give rise to nuisance

Noise

Piling, erecting of the structural steel and the cladding of the new buildings are the major activities associated with the construction phase of the project. In addition, fill material will be imported into the site to raise the formation level for construction.

There will be a variety of plant involved in the construction operations, including dump trucks, compressors, pneumatic rollers, cranes and cutting equipment. There will be vehicular movements to and from the site, which will use the existing road networks. The level of movement during construction will be consistent to that when the facility is fully operational.

All construction operations will be carried out in accordance with BS5228: Part 1:1997:Noise & Vibration Control Construction and Open Sites. If specific activities on site are leading to a noise nuisance there are several approaches which can be taken to reduce the noise sources on site, such as temporary noise barriers and selective location of noisy equipment to minimise impacts. There may be noise emissions from the plant and machinery

The noise sources associated with the operation of the facility at Kyletalesha include:

- the deliveries of material to the site for treatment
- loading of waste within the tipping hall
- the pre-processing of the waste
- material handling within the facility
- plant and air handling equipment
- collection of final product from the site

The loudest noise and the noise with the most potential for nuisance at the site will be the reversing sirens located on the waste handling loaders and vehicles entering the facility. These are however required for safety.

The noise modeling has predicted that the noise levels at noise sensitive locations will not increase significantly as a result of this project.

Surface Water

Surface water runoff will be generated from the hardstanding areas and building onsite. This clean run-off will be collected in a network of drains and conveyed to two "aquacell" surface water holding systems. Prior to discharge to the nearby stream, the water will pass through a flow control device and oil interceptor.

Foul water generated in the administration buildings will be directed to an appropriate packaged biological waste water treatment plant and a constructed percolation area in keeping with EPA Guidance Wastewater Treatment Manuals-Treatment Systems for Small Communities, Businesses, Leisure Centres and Hotels.

Groundwater

There will be no direct emissions to groundwater from the proposed operations at the Kyletalasha site.

(I) Effects of Emissions

An assessment of the effects of the above listed emissions on the environment has been carried out and it has been concluded that the proposed technology and management practices at the facility will ensure the effects of emissions on the environment will not be significant. Further details on emissions can found in Sections 2.6 of the EIS and attachment E of the Waste Licence Application. The facility has been designed to minimise the emission of pollutants and operational procedures will be implemented to reinforce these design features.

(m) Monitoring and Sampling Points

A complete and comprehensive regime of regular environmental monitoring will be implemented at the site by the Applicant. At a minimum the Applicant proposes the establishment of the monitoring locations shown on Figure 2.7 of the EIS. These include air, surface water and noise monitoring locations. Further details on monitoring are provided in Section 2 of the EIS and Attachment F of the Waste Licence Application. All environmental monitoring will be carried out by qualified persons and any laboratory analysis that is required will be carried out at an approved laboratory.

All monitoring will be carried out according to established procedures, approved by the Agency.

Annual reports containing details of environmental monitoring will be prepared and presented to the Agency.

(n) Arrangements for Waste Arising from Activity

A small quantity of waste will be generated on site from the use of the canteens, offices, etc and from the maintenance of plant and machinery. Source segregation of this waste will be carried out to recover as many recyclable materials as possible.

Wastewater from the administration area and welfare facilities will be treated in an onsite proprietary treatment unit, with the effluent being discharged to a percolation area. The wastewater treatment unit will be in accordance with the EPA Guidance on Wastewater Treatment Manuals-Treatment Systems for Small Communities, Businesses, Leisure Centres and Hotels.

The composting/anaerobic digestion processes will produce a minimal amount of leachate. In general this leachate will be re-circulated back into the process via a storage/buffer tank.

(o) Arrangements for Off-Site Treatment or Disposal of Wastes

Solid waste for recovery or disposal offsite will be sent to appropriate (licensed or permitted) outlets.

In general, leachate produced during the process will be re-circulated back into the process via a storage/buffer tank. However, on occasion it may be necessary to remove leachate from the system. This will be done under properly controlled conditions to rule out the possibility of spillages. A leachate tanker will transport the leachate to an appropriate wastewater treatment plant.

There may be some residual waste generated from the composting processes. Any residual waste generated will sent to the waste transfer station and transported to an appropriate facility.

(p) Unauthorised or Unexpected Emissions

Staff will be present on site at all times during opening hours to supervise and carry out operations and to deal with any emergencies. The CCTV security system will be extended to include the proposed extension area. Key staff will be on-call to respond to any emergency situation outside of normal working hours e.g. night-time, Sundays and Public Holidays.

An Emergency Procedure will be developed prior to facility operation and will deal with unexpected emissions such as odour/dust emissions to air, noise or emission to water and other eventualities e.g. fire or plant breakdown. The above-unexpected emissions/eventualities are not anticipated, however if they do arise they will be dealt with as per the procedure.

The Emergency procedure will include details of persons to contact, emergency services numbers and actions to be taken.

(q) Closure and Restoration

It is anticipated that the plant will be operated indefinitely. However if the facility should close for some unforeseen reason all waste and all equipment will be removed from the facility. Waste would be removed to authorised facilities. Equipment would be recycled where possible. The building where waste activities are proposed would, (if permissible) remain and would likely be used again.

An environmental liabilities risk assessment has been prepared for the existing waste transfer station. This plan will be revised to include the proposed extension area. This Plan will be re-submitted to the Agency once the facility is operational.

(r) – relates to landfilling of waste and is not relevant to this development.

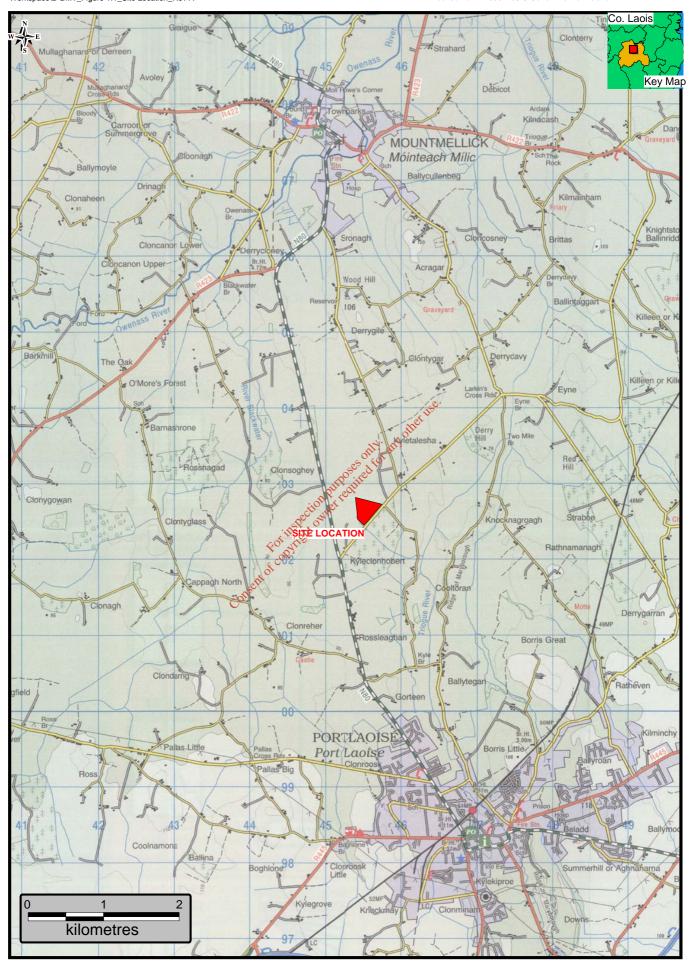
(s) European communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulation 2000

The above Regulations do not apply to the proposed activity.

(t) Geological & hydrogeological nature of the land

There will be no direct discharge to groundwater as all proposed waste activities shall take place on hard standing surfaces and indoors. The site is underlain by some 1 m to 7 m of overburden overlying limestone bedrock, which is a locally important aquifer.

All sewage will be directed to an appropriate packaged biological waste water treatment plant and a constructed percolation area in keeping with EPA Guidance Wastewater Treatment Manuals-Treatment Systems for Small Communities, Businesses, Leisure Centres and Hotels.



Site Location



